

November 16th, 2018
RFP 18- HHFDEMO-4-Dec
Request for Qualifications and Cost Proposal
Deconstruction and Demolition Services
Muskegon County Land Bank / City of Muskegon Heights

Bidder's Name: _____

Address: _____

Telephone Number: _____

E-Mail: _____

The Muskegon County Land Bank / City of Muskegon Heights invite all interested companies and individuals to submit qualifications and a cost proposal for the Hardest Hit Program. A set of conditions, specifications, and requirements are enclosed.

Sealed proposals clearly marked with “**RFP 18- HHFDEMO4-Dec**” will be accepted at the **Muskegon County Land Bank**, 173 East Apple Avenue, Suite 104. Muskegon, Michigan 49442 until 3:00 p.m. November 28, 2018.

Voluntary Pre- Bid meeting on November 29, 2018 @ 3:00PM, at the Muskegon Heights City Hall, 2724 Peck Street, Muskegon Heights, MI 49444 Bids will be opened and tabulated on November 28, 2018, at 3:15 p.m., the bid will be awarded on December 4, 2018.

No Late Bids will be accepted

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This project is funded through the Michigan Hardest Hit Fund.

Project Purpose

The Muskegon County Land Bank / City of Muskegon Heights is accepting qualifications and cost proposal for the site demolition and removal of thirty one (31) residential structures located in Muskegon Heights, MI 49444

Bid Packet

Bid packets will be available starting November 16, 2018. The completed bid packet must be returned to the **Muskegon County Land Bank**, 173 East Apple Avenue, Suite 104. Muskegon, Michigan 49442 until 3:00 p.m. November 28, 2018.

Bid documents may be obtained at www.cityofmuskegoheights.org or the Builders Exchange of Michigan. A pre-bid voluntary conference will be held on November 23, 2018 at 11:30 AM at Muskegon Heights, City Hall, Council Chambers (2724 Peck, Muskegon Heights, MI). Inquiries can be made by the following means: Phone 231-724-6170 Timothy Burgess or via email at BurgessTi@co.muskegon.mi.us

No late bids will be accepted. The Muskegon County Land Bank / the City of Muskegon Heights reserves the right to accept or reject any or all bids and reserves the right to waive formalities and to take such actions as it deems necessary in the best interest of Muskegon County Land Bank / the City of Muskegon Heights. Both the Muskegon County Land Bank / City of Muskegon Heights operates on an equal opportunity / affirmative action basis in its bidding policy (Title VII of the Civil Rights Act of 1964, Equal Opportunity Clause, Executive Order 11246, Chapter 60, Subpart A. 60-1.4, Revised Order No. 4)

Christopher J. Dean Fire Chief

Publish: September 12th, 2018

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Section I.
Bid Certification
(Page 1 of Bid Document)

I certify that this bid is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same materials, supplies, equipment or service, that it meets or exceeds all specifications contained herein, and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of state and federal law and can result in fines, prison sentence, and civil damage awards. I agree to abide by all conditions of this bid, all specifications as stated and certify that I am authorized to sign for the bidder.

Bidder: _____

Street Address: _____

City/State/Zip Code _____

Phone Number: _____

FAX: _____

E- Mail: _____

Signature: _____

Title: _____

Date Certified: _____

Bid Breakdown

Asbestos Abatement Total: _____

Demolition Total: _____

Disposal Total: _____

Fill: _____

Landscaping Total: _____

Total Bid Amount: _____

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CONFLICT OF INTEREST DISCLOSURE FORM
(Page 2 of Bid Document)

For purposes of determining any possible conflict of interest, all bidders/proposers, must disclose if any City of Muskegon Heights or County of Muskegon employee(s), elected officials(s), of if any of its agencies is also an owner, corporate officer, agency, employee, etc., of their business.

Indicate either "yes" (a city employee or county, elected official, or employee also associated with your business), or "no." If yes, give person(s) name(s) and position(s) with your business.

YES _____

NO _____

NAME(S)

POSITION(S)

FIRM NAME: _____

BY (PRINTED): _____

BY (SIGNATURE): _____

TITLE: _____

ADDRESS: _____

PHONE NO. _____

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**CERTIFICATION REGARDING DEBARMENT, SUSPENSION,
INELIGIBILITY AND VOLUNTARY EXCLUSION**

(Page 3 of Bid Document)

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 13 CFR Part 145. The regulations were published as Part VII of the May 26, 1988, *Federal Register* (pages 19160-19211).

Bidder certifies to the best of its knowledge and belief, that it and its principals:

(a) Are are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have have not within a three-year period preceding award of this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are are not presently indicted for or otherwise criminally charged by a governmental entity (Federal, State or Local) with commission of any of the offenses enumerated in paragraph (b) above; and

(d) Have have not within a three-year period preceding bid had one or more public transactions (Federal, State or Local) terminated for cause or default.

Bidder Signature

Date

Typed or Printed

Company Name

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A. General Bid Conditions/Instruction to Bid

These conditions are an integral part of this bid, and as such, the bidder must comply with them.

1. The prospective bidder must use Local Governmental Units bid documents.
2. Alternatives must be placed on a separate sheet of paper.

B. Federal and State Regulation Compliance

1. In accordance with the Housing and Urban Development Act of 1968, as amended (12USC1701 u) and stated in the City of Muskegon Heights, Section 3 Employment Plan 10% of the grant dollars/ contract will be used to directly employ Muskegon Heights residents or businesses in the deconstruction or demolition of buildings funded under this program.
2. At the time of the solicitation, the Prime Demolition Contractor must identify and enter into a partnership with a deconstruction company for the purpose of providing services for this contract. The Prime Demolition Contractor will be responsible for the deconstruction activities on the site. The deconstruction company will be employed and the responsibility of the Prime Demolition Contractor.

C. Project Submission Schedule

The payment time or closing dates, as stated in the bid form, shall be required to deliver and complete items after the receipt of the award. Where multiple items appear on a bid request, the bidder shall, unless otherwise stated by the City, show the closing time in each item separately. The payment schedule must be included in and restated in each bid and adhered to as the following:

- | | |
|---|-------------------|
| 1. Request for Qualifications and Cost Proposal Available to the Public | November 16, 2018 |
| 2. Pre-bid Meeting | November 23, 2018 |
| 3. Submission of Request for Qualifications and Cost Proposal Due | November 28, 2018 |
| 4. Bid Awarded by the Muskegon County Land Bank | December 4, 2018 |
| 5. Work commence by | January 4, 2018 |
| 6. Work completed by | March 29, 2018 |

If there are any questions concerning the specifications contained in this bid request, please contact Timothy Burgess phone 231-724-6170 or via email at BurgessTi@co.muskegon.mi.us

The Muskegon County Land Bank / the City of Muskegon Heights reserves the right to accept or reject any and all bid requests, all rights granted to it by law, the right to waive formalities and take such action as it deems necessary in the best interest of the Muskegon County Land Bank / City of Muskegon Heights.

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D. Bidder/Offeror Representation

1. Each bidder/offer must sign the bid with his or her signature and shall give his or her full business address on the form provided in this bid.
2. The County of Muskegon and the City of Muskegon Heights operates on an equal opportunity / affirmative action basis in its bidding policy (Title VII of the Civil Rights Act of 1964. Equal Opportunity Clause, Executive Order 11246, Chapter 60, Subpart A, 60-1.4, Revised Order No 4.) Bidding is open to all interested parties, in compliance with national, state and local laws.
3. This award will be made to that responsible bidder whose bid conforms to this solicitation and will be most advantageous to the County and City in price and number of items purchased.

E. Bid / Offer Qualifications

~Proof of qualification must be submitted with bid~

1. Debit to City or County: No bid shall be accepted, and no contract will be awarded to any person, firm or corporation that is in arrears to the City or County, upon debt or contract that is a defaulter as surety or otherwise, upon any obligation to the City or County, or that is deemed irresponsible or unreliable by the City or County. If requested, bidder/offer shall be required to submit satisfactory evidence that they have a practical knowledge of the particular sale/supply/service bid and that they have the necessary financial resources to provide the proposed supply/service as described in the specifications.
2. Experience: All contractors have a minimum of five (5) years of proven experience providing professional licensed demolition services or similar scope/scale. Failure to provide documented experience may result in disqualification from the bid process.

F. Vendor /Bidder Complaints or Protests

The Muskegon County Land Bank / City of Muskegon Heights have established administrative procedures for handling bidder complaints in a fair and timely manner.

Step 1: Bidders should inform the Muskegon County Treasure's Office in writing within five days of the incident that he or she has a complaint. The County Treasure will investigate the complaint and make a decision concerning the matter.

Step 2: If the bidder is dissatisfied with the Muskegon County Treasure's reply, an appeal must be made in writing within seven days to the Muskegon County Board of Commissioners

G. Errors / Omissions / Discrepancies

Any errors, omissions or discrepancies in the specifications discovered by a prospective bidder shall be brought to the attention of the Muskegon County Land Bank as soon after discovery. Further, the bidder shall not be allowed to take advantage of errors, omissions or discrepancies in the specifications.

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H. Bid Submission

Prospective bidders will be expected to allow adequate time for the delivery of their bid by mail. Faxed bids will **not** be accepted.

I. Bid Awards

1. No bid award will be made at the time of the bid opening.
2. Individuals submitting bids, who wish to know the results before the award is made, may contact the Muskegon County Land Bank 5 business days following the bid opening.

J. Termination for Convenience

The Muskegon County Land Bank / the City of Muskegon Heights may terminate a contract, in whole or in part, whenever the City / County Land Bank determines that such termination is in the best interest of the City / County Land Bank, without showing cause, upon given notice to the contractor.

K. Termination for Default

When the bidder/contractor has not performed, or has unsatisfactorily performed the contract, the Muskegon County Land Bank may terminate the contract for default.

Bid conditions/instructions to the bidder, specifications/requirements may become part of the service contract.

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Section II
Terms and Conditions

1. Scope of Services.

The Contractor shall perform and carry out in a satisfactory and proper manner, as determined by the Local Governmental Units, the following:

- A.** Act as Prime Contract on this demolition project.
- B.** Perform, partner with or subcontract all deconstruction activities if required
- C.** Remove and dispose of asbestos materials in accordance with Environmental Protection Agency, Michigan Occupational Safety and Health Administration and Michigan Department of Environmental Quality regulations.
- D.** Demolition and removal of all structures located on property
- E.** Break up and removal of all concrete, i.e., basements, driveways, walkways, slabs, etc

2. Time and Performance.

The services of the Contractor shall commence by October 9st, 2018, and shall be completed by **November 26th, 2018**. All requests for payment along with approved completion inspection reports shall be submitted to the Muskegon County Land Bank no later than **December 3rd, 2018**. A 10% retainage will be held by the Muskegon County Land Bank until all waivers and inspections are submitted.

3. Relationship Between Parties.

The Contractor is engaged by the Local Governmental Units only for the purposes and to the extent set forth in this Contract, and his relationship the Local Governmental Units during the term of this contract shall be that of an independent contractor. The Contractor shall be free to dispose of such portion of his entire time, energy, and skill during regular business hours as he is not obligated to devote hereunder to the Local Governmental Units in such manner as he sees fit and to such persons, firms, or corporations as he deems advisable. The Contractor shall not be considered as having employee status or as being entitled to participate in any plans, arrangements, or distributions by the Local Governmental Units pertaining to or in connection with any vacation, sick leave, insurance, retirement, longevity, or similar benefits for the Local Governmental Units' regular employees.

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4. Insurance

All Prime and Subcontractors, working under this contract, must include the Local Governmental Units as co-insured and furnish evidence of comprehensive public liability general liability insurance coverage in the amount of **\$2,000,000**. The contractor must also comply with local laws governing the workplace including Workers Compensation Insurance. Unemployment insurance is also required to participate in this project.

The Contractor shall indemnify and hold harmless the Local Governmental Units, its officers and employees from and against all claims, damages, losses and expenses, including attorney fees, arising out of or resulting from the performance of services under this Contract, provided any such claim, damage, loss or expense that is (a) attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom, and (b) is caused in whole or in part by a negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable regardless of whether or not it is caused in part by a party indemnified hereunder.

5. Permits and Codes

The Prime and Subcontractor shall obtain and pay for all permits and license necessary for the completion and execution of the work and labor performed. All work performed must conform to applicable local codes and requirements.

6. Assignment of Contract

The Prime and Subcontractor shall not assign this contract without the prior written consent of the Local Governmental Units.

7. Work Force

A. Project Management

The demolition contractor will act as the prime contractor for the project. He / She, herein called the prime demolition contractor, will be responsible for all activities on the demolition site.

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8. Penalty for Unexcused Delays

If the work is not completed within the time stipulated in this contract, including any time for excusable delays as provided below, the Contractor and or his sureties shall be liable for and shall pay to the Local Governmental Units the sum of \$200 for each calendar day of the delay as a fixed surcharge to cover the costs of additional administration and re-inspection, commencing from the time stipulated for the completion until such work is satisfactorily completed and accepted. Any such surcharge levied shall be certified by Muskegon County Land Bank and deducted from the final payment.

The rights of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with surcharge for any delays in the completion of work due to:

- a. Any acts of government, including controls or restrictions upon or requisitioning of materials, equipment, tools or labor by reason of war, national defense or other national emergency.
- b. Causes not responsible or foreseeable by the parties to this contract at the time of execution of this contract, which are beyond the control and without fault or negligence of the Contractor, such as extreme weather conditions, fires, epidemic, quarantine strikes, freight embargo, and acts of another contractor in the performance of some other contract. Note: Seasonal load and speed restrictions are not considered an unforeseeable item or covered as a weather limitation.

9. Default

In the event of default by the Contractor in the observance or performance of any covenant, condition, or agreement on his part to be observed or performed under this Contract, and the continuance of such default for seven (7) days after written notice thereof by the City to the Contractor. Any notice given hereunder shall be sufficiently given if delivered to the Contractor personally or mailed to him by United States Postal Service with certified mail/ return receipt requested at the address set forth in the heading of this contract.

10. Compensation

- A. The Local Governmental Units shall pay compensation to the Contractor for his services under this contract as follows:
 1. Compensation for completion of the work shall be payable monthly upon a billing from the Contractor describing in detail the services performed by the Contractor during the preceding month.
 2. Local Governmental Units will only be billed monthly for each completed demolition that has passed city inspections.

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3. It is expressly understood and agreed that in no event will the total compensation to be paid hereunder exceed the maximum sum for all services under this Contract.

11. Michigan Law

The laws of the State of Michigan shall govern this Agreement. Any litigation regarding this Agreement or its contents shall be filed in the County of Muskegon, if in State court, or in the Federal District Court nearest to Muskegon County, if in Federal Court.

12. Terms and Conditions

The terms and conditions used in this Agreement shall be given their common and ordinary definition and will not be construed against either party.

13. Severability

If anyone or more of the provisions contained herein shall for any reason be held to be invalid, illegal or unenforceable in any respect, then such provision or provisions shall be deemed severable from the remaining provisions hereof, and such invalidity, illegality or unenforceability shall not affect any other provisions hereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision has never been contained herein.

14. Surety: Bid and Performance Bond

Bidders are required to submit proof of a bid bond for 100% of the project cost at the time the bid is submitted

Within five business days of being awarded the project, contractors must secure a performance bond in an amount equal to one hundred percent (100%) of the total contract amounts. Bonds must be issued by a bona fide company authorized to do business in the State of Michigan and to comply with state regulations. The contractor the performance bond is to ensure abatement of potential impacts to public health and safety resulting from demolition as well as ensure general cleanup of the demolition site.

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Section IV
Work Elements

A. Work Site / Structure Addresses

2332 Leahy St
2345 Maffett
2032 Ray
501 E Apple
2037 Hoyt
367 E Holbrook
2611 Hoyt
2420 Manz
2809 8th
2124 Sanford
3213 6th
2908 7th
2425 Manz
1874 Manz
2736 8th

2531 James Ave
1679 Park
2245 Sanford
2344 6th
2545 Baker
2501 Wood
1932 Reynolds
1967 Reynolds
2041 Riordan
2201 Reynolds
2412 Wood
2312 Hoyt
2929 5th
3237 Leahy
3031 Merriam
3109 Highland
2336 8th St

See attached asbestos surveys for more detailed information

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B. General Statement of Work

Requirements The principal items of work

consist of:

1. Remove asbestos removal and disposal as required by law.
2. Deconstruction of the structure when appropriated.
3. Demolition of all structures located on the property.
4. Break up and remove all concrete, i.e., driveways, walkways, slabs, etc.
5. Remove the basement and footings.
6. Removal of lead-based paint-containing materials according to the appropriate regulations.
7. Fill basement with clean backfill with 3 inches of clean topsoil and **seed with clover.**
 - a. Clover shall be evenly applied at a rate of 8 lbs of seed per 50x100 city lot
 - b. Approved types of clover include (common name): New Zealand White Clover, Ladino Clover or Dutch White or Sweet Clover. (A 50% -50% blend of any two approved clover types is preferred)
8. Top soil requirements:
 - a. Topsoil shall contain not less than 3% or more that 20% organic matter, by weight as determined by loss-on-ignition of oven-dried samples in accordance with ATM T-6.
 - b. Organic material shall be decomposed and free of wood.
9. Protect all trees not being removed as part of the project.
10. Remove **all** trash and debris on the work site.

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C. Technical Specifications

Before commencing demolition work:

1. Execute rodent extermination procedures as specified by and to the satisfaction of the Muskegon County Health Authority.
2. Disconnect, or arrange for the disconnection of, utility service connections, such as water, sewers, steam, and telephone, to building to be demolished in accordance
 - a. **Note:** Natural gas and electrical disconnects have be done before the pre-bid conference and cost should **not** be included in the bid. However, the contractor is responsible for confirming service disconnections before commencing work.
3. Seal storm and sanitary sewers leading from structures to be demolished. (Note: Sanitary Sewer lateral to be plugged within five (5) feet of property line.) Also, all water services to be cut at curb box and plugged. These services cut and caps must inspected in accordance with local ordinances.
4. Preserve in operating condition active utilities traversing the project site; protect property, including but not limited to mains, manholes, catch basins, valve boxes, poles, gigs, and other appurtenances.
5. Provide adequate time for deconstruction contractors to evaluate and remove salvageable materials and equipment from the structure. (if applicable)
6. Assist when necessary the deconstruction contractor in removal of salvageable materials.

During demolition:

1. Provide adequate protection to persons and property.
2. Execute the work in such a manner as to avoid interference with the use of or passage to and from adjoining buildings and facilities.
3. Except as otherwise shown or specified, demolish structures and foundations, and remove complete steps, posts, porches, and similar construction.
4. Demolish masonry walls in small sections.

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5. Remove, regardless of elevation, all floor construction over basements and cellars.
6. Remove structural steel, cast iron, and heavy timbers by individual pieces and lower carefully (if applicable).
7. Remove partitions, stairways, furnaces, piping, apparatus, and debris from within existing basements.
8. Wet down masonry thoroughly during demolition; prevent the spread of dust; provide water and necessary connections, therefore.
9. Do no blasting on the project site.
10. Provide substantial barricades around all basements and cellars, as soon as such openings are uncovered, adequate to block access, and to afford protection to workers and the public.
11. Leave no demolished material of any sort in any basement.
12. Remove from the site rubbish and debris found thereon and or resulting from the work of demolition. At completion, leave the site in a safe and clean condition, free of materials or equipment.
13. It shall be the Contractor's responsibility to properly dispose of **all** demolition materials. This includes regulated materials (i.e. asbestos, mercury, lead base paint, etc).
14. Properly grade soil to match existing surrounding neighborhood topography.

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Section V
Bid Submission

The following information must be included in the bid package. Any omission of the requested information may cause you to forfeit the bid.

- Page 1: Bid certification
- Page 2: Conflict of interest disclosure form
- Page 3: Certification regarding debarment and suspension
- Page 4: Copy of deconstruction and or residential demolition license
- Page 5: Proof of comprehensive liability insurance
- Page 6: Total cost proposal for deconstruction and demolition of 4 units.
- Page 8: **Per location itemization of the bid**
- Page 7: Copy of bid bond**
- Page 8: Copies of asbestos abatement contractor license(s).
- Pages 9+ Business History/ Experience in Deconstruction and Demolition.
Project list references, with contact person's name and telephone numbers.
- ** Evidence of a minimum of five (5) years of proven experience providing professional licensed demolition services or similar scope/scale must be provided in this section.**



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

October 29, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
367 E Holbrook Ave., Muskegon MI 49442
Parcel ID: 61-24-763-001-0026-10***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 367 E Holbrook Ave., Muskegon Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 a 360 sq. ft. detached garage and approximate 978 square foot residential building (the Building) with an unknown construction date. The Building was constructed on a concrete block basement with one aboveground floor. The exterior walls of the Building were finished with aluminum over fiberboard over wood lap and 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 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 October 11, 2018 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
- Window Glazing
- Linoleum
- 12"x12" Vinyl Floor Tile
- 1'x1' Ceiling Tile
- Flashing
- Drywall and Joint Compound
- 12"x24" Ceiling Tile
- 9"x9" Vinyl Floor Tile
- Plaster
- Texture

Red Cedar staff collected thirty four samples of suspect ACBM separated into fourteen 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 thirty four samples is included as Attachment A.

Hazardous Materials Inspection

On October 11, 2018 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, thirty four 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

Window glazing samples collected from windows in the Building and Garage were found to contain up to 5% asbestos following analysis. The assessment to quantify the extent of this material identified thirty six windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- Garage (3 windows 28" wide x 46" tall)
- Interior (12 windows 26" wide x 54" tall)
- Interior (9 windows 28" wide x 54" tall)
- Interior (1 window 44" wide x 44" tall)
- Interior (3 windows 26" wide x 28" tall)
- Interior (1 window 24" wide x 36" tall)
- Interior (1 window 32" wide x 48" tall)
- Basement (6 windows 23" wide x 20" tall)

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 identified HVAC Duct Wrap at the following locations within the basement and first floor:

- Living (2 registers, 20 sq. ft.)
- Dining (1 register, 10 sq. ft.)
- S Bedroom (1 register, 10 sq. ft.)

- Basement (16 pieces of 3" HVAC Tape on 6" dia. Ductwork)(8 sq. ft.)

- Basement (HVAC Tape on Cold Air Return Ductwork and Wood Framing, 10 sq. ft.)

Category I ACM

One type of resilient floor covering (White and Brown 9"x9" Vinyl Tile) located within the basement was found to contain up to 5% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 851 sq. ft. of this material within the Building.

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 (2 registers, 20 sq. ft.)
- Dining (1 register, 10 sq. ft.)
- S Bedroom (1 register, 10 sq. ft.)

- Basement (16 pieces of 3” HVAC Tape on 6” dia. Ductwork)(8 sq. ft.)

- Basement (HVAC Tape on Cold Air Return Ductwork and Wood Framing, 10 sq. ft.)

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

- Garage (3 windows 28” wide x 46” tall)
- Interior (12 windows 26” wide x 54” tall)
- Interior (9 windows 28” wide x 54” tall)
- Interior (1 window 44” wide x 44” tall)
- Interior (3 windows 26” wide x 28” tall)
- Interior (1 window 24” wide x 36” tall)
- Interior (1 window 32” wide x 48” tall)
- Basement (6 windows 23” 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.

The Category I resilient floor covering (White and Brown 9”x9” Vinyl Tile) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-24-763-001-0026-10

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:

- 5-Gallon Container Tar (4)
- Gallon Container Misc. Paint (7)
- 5-Gallon Container Misc. Paint (2)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
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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 Muskegon 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 : 367 E. Holbrook Ave.



Report To:

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

ARI Report # 18-80293
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 01 Cust. #: HA-HM-01A Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80293 - 01a Cust. #: HA-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80293 - 01b Cust. #: HA-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 5	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 01c Cust. #: HA-HM-01A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 4 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80293 - 01d Cust. #: HA-HM-01A Material: Membrane Location: Appearance: black, fibrous, homogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80293 - 02 Cust. #: HA-HM-01B Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 02a Cust. #: HA-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80293 - 02b Cust. #: HA-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80293 - 02c Cust. #: HA-HM-01B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 65% Other - 35%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 03 Cust. #: HA-HM-02A Material: Fiberboard Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80293 - 03a Cust. #: HA-HM-02A Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80293 - 04 Cust. #: HA-HM-02B Material: Fiberboard Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 04a Cust. #: HA-HM-02B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80293 - 05 Cust. #: HA-HM-03A Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80293 - 05a Cust. #: HA-HM-03A Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 05b Cust. #: HA-HM-03A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80293 - 06 Cust. #: HA-HM-03B Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80293 - 06a Cust. #: HA-HM-03B Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 06b Cust. #: HA-HM-03B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80293 - 07 Cust. #: HA-HM-04A Material: Window Glazing Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 1.25% POINT COUNT RESULT	Other - 98.75%
Lab ID #: 80293 - 08 Cust. #: HA-HM-04B Material: Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 09 Cust. #: HA-HM-05A Material: Grey Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80293 - 09a Cust. #: HA-HM-05A Material: Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80293 - 10 Cust. #: HA-HM-05B Material: Grey Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 10a Cust. #: HA-HM-05B Material: Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80293 - 11 Cust. #: HA-HM-06A Material: White 12x12 VFT Location: Appearance: black, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80293 - 11a Cust. #: HA-HM-06A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 12 Cust. #: HA-HM-06B Material: White 12x12 VFT Location: Appearance: black,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80293 - 12a Cust. #: HA-HM-06B Material: Tar Paper Location: Appearance: black,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80293 - 13 Cust. #: HA-HM-07A Material: Brown 12x12 VFT Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 13a Cust. #: HA-HM-07A Material: Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80293 - 14 Cust. #: HA-HM-07B Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80293 - 14a Cust. #: HA-HM-07B Material: Brown 12x12 VFT Location: Appearance: beige, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 15 Cust. #: HA-HM-08A Material: 1x1 White Pitted Ceiling Tile Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Fiberglass - 20% Other - 50%
Lab ID #: 80293 - 16 Cust. #: HA-HM-08B Material: 1x1 White Pitted Ceiling Tile Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Fiberglass - 20% Other - 50%
Lab ID #: 80293 - 17 Cust. #: HA-HM-09A Material: Glazing Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 18 Cust. #: HA-HM-09B Material: Glazing Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80293 - 19 Cust. #: HA-HM-10A Material: Flashing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 80293 - 20 Cust. #: HA-HM-10B Material: Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%

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 : 367 E. Holbrook Ave.



Report To:

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

ARI Report # 18-80293
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 21 Cust. #: HA-HM-11A Material: Joint Compound Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80293 - 21a Cust. #: HA-HM-11A Material: Drywall Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80293 - 22 Cust. #: HA-HM-11B Material: Joint Compound Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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ARI Report # 18-80293
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 22a Cust. #: HA-HM-11B Material: Drywall Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80293 - 23 Cust. #: HA-HM-13A Material: White 12x24 Ceiling Tile Location: Appearance: grey, nonfibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80293 - 24 Cust. #: HA-HM-13B Material: White 12x24 Ceiling Tile Location: Appearance: brown, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%

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 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 25 Cust. #: HA-HM-12A Material: White/Brown 9x9 VFT Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80293 - 25a Cust. #: HA-HM-12A Material: Mastic Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO Chrysotile - Trace POINT COUNT RESULT	Other - 100%
Lab ID #: 80293 - 26 Cust. #: HA-HM-12B Material: White/Brown 9x9 VFT/Mastic Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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

Robert T. Letarte Jr., Laboratory Director

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 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 27 Cust. #: HA-HS-01A Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80293 - 27a Cust. #: HA-HS-01A Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80293 - 28 Cust. #: HA-HS-01B Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 28a Cust. #: HA-HS-01B Material: Mortar Location: Appearance: grey, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80293 - 29 Cust. #: HA-HS-01C Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80293 - 29a Cust. #: HA-HS-01C Material: Mortar Location: Appearance: grey, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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

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 Project : 367 E. Holbrook Ave.



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 P.O. Box 13216
 Lansing, MI 48901

ARI Report # 18-80293
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 30 Cust. #: HA-HS-01D Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80293 - 30a Cust. #: HA-HS-01D Material: Mortar Location: Appearance: grey,fibrous,nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80293 - 31 Cust. #: HA-HS-01E Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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 Lansing, MI 48901

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 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 31a Cust. #: HA-HS-01E Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80293 - 32 Cust. #: HA-HS-02A Material: Texture Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80293 - 33 Cust. #: HA-HS-02B Material: Texture Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80293 - 34 Cust. #: HA-HS-02C Material: Texture Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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Apex # 80293

pg 1 of 4

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-11-18

Project: 367 E. H. Brook Ave.

Project #:

Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
apauquet@redcedarconsulting.net

Asbestos: Bulk Wipe Point Count PCM

Rush 24 hour

48 hour 72 hour

Other: 5 Day All Samples

Lead: Bulk Wipe Air Paint Soil

Mold: Bulk Tape BioSIS Other Viable

TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	HA-HM-01A	Asphalt Shingle			
2	HA-HM-01B	" "			
3	HA-HM-02A	Fiberboard Vapor Barrier			
4	HA-HM-02B	" "			
5	HA-HM-03A	Asphalt Shingle			
6	HA-HM-03B	" "			
7	HA-HM-04A	Window Glazing			
8	HA-HM-04B	" "			
9	HA-HM-05A	Gray Linoleum			
10	HA-HM-05B	" "			
11	HA-HM-06A	White Vinyl EIF JFT			

RECEIVED

Relinquished by: [Signature] Received by: URS

Date: 10-11-18 Date: 10-11-18

Relinquished by: _____

Date: _____

Received by: S. Talley OCT 12 2018

Date: 10/12/18 11:28



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-11-18

Project: 367 E. 42nd Ave.

Project #:

Contact Person: Aaron Paquet

PLM EPA 600, PC all samples with a detection of <5% ACM.
 apaquet@redcedarconsulting.net

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: 5 Day All Samples

Asbestos: Bulk Wipe Point Count PCM

Lead: Bulk Wipe Air Paint Soil

Mold: Bulk Tape BioSIS Other Viable

TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
 Log-In _____
 Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	HA-HM-06B	white 12x12 VFT			
13	HA-HM-07A	Brown 12x12 VFT			
14	HA-HM-07B	" "			
15	HA-HM-08A	1x1 white Pothole CT			
16	HA-HM-08B	" "			
17	HA-HM-09A	Glazing			
18	HA-HM-09B	" "			
19	HA-HM-10A	Flashing			
20	HA-HM-10B	" "			
21	HA-HM-11A	Drywell & Compacted			
22	HA-HM-11B	" "			

RECEIVED

Relinquished by: [Signature] Received by: URS
 Date: 10-11-18 Date: 10-11-18
 Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 12 2018

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-11-18
 Project: 367 E. Holbrook Ave.
 Project #: _____
 Contact Person: Aaron Paquet
 apaqet@redcedarconsulting.net

Lab Use Only
 Log-In _____
 Report _____

Turn Around Times: (Circle One)

Rush 24 hour
 48 hour
 72 hour

Other: 5 Day TTP All Samples

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	HA-HM-13A	Whole 12x24 CT			
24	HA-HM-13B	" "			
25	HA-HM-12A	White Brown 9x9 VST			
26	HA-HM-12B	" "			
27	HA-HS-01A	Plaster			
28	HA-HS-01B	" "			
29	HA-HS-01C	" "			
30	HA-HS-01D	" "			
31	HA-HS-01E	" "			
32	HA-HS-02A	Texture			
33	HA-HS-02B	" "			

Relinquished by: [Signature] Received by: [Signature]
 Date: 10-11-18 Date: 10-11-18

Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 12 2018

RECEIVED

Tables

Table 1 - Summary of Hazardous Materials, 367 E Holbrook Ave., Muskegon Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Exterior	5-Gallon Container Tar	4
Living	Gallon Container Misc. Paint	1
Basement	5-Gallon Container Misc. Paint	2
Basement	Gallon Container Misc. Paint	6

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 367 E Holbrook Ave., Muskegon Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
HA-HM-01A	Asphalt Shingle	No	M	Category I	ND/ND/ND/ ND/ND	Exterior	NA
HA-HM-01B	Asphalt Shingle	No	M	Category I	ND/ND/ND/ND	Exterior	NA
HA-HM-02A	Fiberboard and Vapor Barrier	Yes	M	Category II	ND/ND	Exterior	NA
HA-HM-02B	Fiberboard and Vapor Barrier	Yes	M	Category II	ND/ND	Exterior	NA
HA-HM-03A	Asphalt Shingle	No	M	Category I	ND/ND/ND	Garage Exterior	NA
HA-HM-03B	Asphalt Shingle	No	M	Category I	ND/ND/ND	Garage Exterior	NA
HA-HM-04A	Window Glazing	Yes	M	Category II	1.25%CH-PC	Garage	3 Windows
HA-HM-04B	Window Glazing	Yes	M	Category II	NA	Garage	NA
HA-HM-05A	Gray Linoleum	No	M	Category I	ND/ND	Front Entry	NA
HA-HM-05B	Gray Linoleum	No	M	Category I	ND/ND	Front Entry	NA
HA-HM-06A	White 12"x12" Vinyl Tile	No	M	Category I	ND/ND	Kitchen	NA
HA-HM-06B	White 12"x12" Vinyl Tile	No	M	Category I	ND/ND	Kitchen	NA
HA-HM-07A	Brown 12"x12" Vinyl Tile	No	M	Category I	ND/ND	Bathroom	NA
HA-HM-07B	Brown 12"x12" Vinyl Tile	No	M	Category I	ND/ND	Bathroom	NA
HA-HM-08A	1'x1' White Pitted Ceiling Tile	Yes	M	Category II	ND	Dining	NA
HA-HM-08B	1'x1' White Pitted Ceiling Tile	Yes	M	Category II	ND	N Bedroom	NA
HA-HM-09A	Glazing	Yes	M	Category II	ND	Front Porch	NA
HA-HM-09B	Glazing	Yes	M	Category II	5%CH	Dining	33 Windows
HA-HM-10A	Flashing	No	M	Category II	ND	Exterior	NA
HA-HM-10B	Flashing	No	M	Category II	ND	Exterior	NA
HA-HM-11A	Drywall and Compound	No	M	Category II	ND/ND	Rear Entry	NA
HA-HM-11B	Drywall and Compound	No	M	Category II	ND/ND	Kitchen	NA
HA-HM-12A	White and Brown 9"x9" Vinyl Tile	No	M	Category I	5%CH/ Trace CH-PC	Basement	851 sq. ft.
HA-HM-12B	White and Brown 9"x9" Vinyl Tile	No	M	Category I	NA	Basement	NA
HA-HM-13A	White 12"x24" Ceiling Tile	Yes	M	Category II	ND	Basement	NA
HA-HM-13B	White 12"x24" Ceiling Tile	Yes	M	Category II	ND	Basement	NA
HA-HS-01A	Plaster	No	S	Category II	ND/ND	S Bedroom Ceiling	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 367 E Holbrook Ave., Muskegon Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
HA-HS-01B	Plaster	No	S	Category II	ND/ND	Dining Ceiling	NA
HA-HS-01C	Plaster	No	S	Category II	ND/ND	Dining Wall	NA
HA-HS-01D	Plaster	No	S	Category II	ND/ND	Living Wall	NA
HA-HS-01E	Plaster	No	S	Category II	ND/ND	S Bedroom Wall	NA
HA-HS-02A	Texture	No	S	Category II	ND	Dining Ceiling	NA
HA-HS-02B	Texture	No	S	Category II	ND	Living Ceiling	NA
HA-HS-02C	Texture	No	S	Category II	ND	N Bedroom Ceiling	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 367 E Holbrook Ave., Muskegon Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Living (2 registers, 20 sq. ft.) Dining (1 register, 10 sq. ft.) S Bedroom (1 register, 10 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	50 sq. ft.
Basement (16 pieces of 3" HVAC Tape on 6" dia. Ductwork)(8 sq. ft.)	3" HVAC Tape	Yes	Fair	TSI	8 sq. ft.
Basement (HVAC Tape on Cold Air Return Ductwork and Wood Framing, 10 sq. ft.)	HVAC Tape	Yes	Fair	TSI	10 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

Table 4 - Summary of All Asbestos Containing Materials, 367 E Holbrook Ave., Muskegon Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement	White and Brown 9"x9" Vinyl Tile	No	851 sq. ft.
Total			851 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Living (2 registers, 20 sq. ft.) Dining (1 register, 10 sq. ft.) S Bedroom (1 register, 10 sq. ft.)	HVAC Duct Wrap	Yes	40 sq. ft.
Total			40 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement (16 pieces of 3" HVAC Tape on 6" dia. Ductwork)(8 sq. ft.)	3" HVAC Tape	Yes	8 sq. ft.
Total			8 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement (HVAC Tape on Cold Air Return Ductwork and Wood Framing, 10 sq. ft.)	HVAC Tape	Yes	10 sq. ft.
Total			10 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Garage (3 windows 28" wide x 46" tall)	Glazing	Yes	3 Windows
Interior (12 windows 26" wide x 54" tall)	Glazing	Yes	12 Windows
Interior (9 windows 28" wide x 54" tall)	Glazing	Yes	9 Windows
Interior (1 window 44" wide x 44" tall)	Glazing	Yes	1 Window
Interior (3 windows 26" wide x 28" tall)	Glazing (Storm and Regular)	Yes	3 Windows
Interior (1 window 24" wide x 36" tall)	Glazing	Yes	1 Window
Interior (1 window 32" wide x 48" tall)	Glazing (Storm and Regular)	Yes	1 Window
Basement (6 windows 23" wide x 20" tall)	Glazing	Yes	6 Windows
Total			36 Windows

Table 4 - Summary of All Asbestos Containing Materials, 367 E Holbrook Ave., Muskegon Michigan

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 29, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
501 E Apple Ave., Muskegon, MI 49442
Parcel ID: 61-24-205-066-0004-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 501 E Apple Ave., Muskegon, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .20 acre residential parcel which contains an approximate 2,600 square foot residential building (the Building) with an unknown construction date. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with vinyl over foamboard over wood lap and felt while the roof was sealed with asphalt shingles. The Building can be further divided into three apartments for inspection purposes.

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 October 11, 2018 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
- Rolled Roofing
- Chimney Flashing
- Linoleum
- Glazing
- Felt Paper
- Plaster

Red Cedar staff collected twenty seven 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 seven samples is included as Attachment A.

Hazardous Materials Inspection

On October 11, 2018 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 seven 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 Basement was found to contain up to 1.25% asbestos following analysis. The assessment to quantify the extent of this material identified two windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- Basement (2 windows 32" wide x 14" tall)

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 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- N Apt. Living (1 register, 15 sq. ft.)
- N Apt. Kitchen (1 register, 15 sq. ft.)
- N Apt. Bathroom (1 register, 15 sq. ft.)
- N Apt. Bedroom (1 register, 15 sq. ft.)
- S Apt. Living (1 register, 15 sq. ft.)
- 2nd Fl. Living (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2nd Fl. Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2nd Fl. Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2nd Fl. Bathroom (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

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.

- N Apt. Living (1 register, 15 sq. ft.)
- N Apt. Kitchen (1 register, 15 sq. ft.)
- N Apt. Bathroom (1 register, 15 sq. ft.)
- N Apt. Bedroom (1 register, 15 sq. ft.)
- S Apt. Living (1 register, 15 sq. ft.)
- 2nd Fl. Living (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2nd Fl. Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2nd Fl. Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2nd Fl. Bathroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)

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

- Basement (2 windows 32” wide x 14” 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.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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:

- Spray Can Misc. Paint (4)
- Smoke Detector (2)
- Gallon Container Misc. Paint (7)
- 2’ Fluorescent Light (Fixture and Ballast Only) (1)
- 2’ Fluorescent Bulb (2)
- 5 Gallon Container Misc. Paint (1)

REGULATORY REQUIREMENTS

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.

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.

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-24-205-066-0004-00

- 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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov


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 Muskegon 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 : 501 E. Apple Ave.



Report To:

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

ARI Report # 18-80291
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 01 Cust. #: AA-HM-01A Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80291 - 01a Cust. #: AA-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80291 - 01b Cust. #: AA-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 02 Cust. #: AA-HM-01B Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80291 - 02a Cust. #: AA-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80291 - 02b Cust. #: AA-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Test Method, Polarized Light Microscopy (PLM)

Project : 501 E. Apple Ave.

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Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 03 Cust. #: AA-HM-02A Material: Rolled Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80291 - 04 Cust. #: AA-HM-02B Material: Rolled Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80291 - 05 Cust. #: AA-HM-03A Material: Chimney Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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 Project : 501 E. Apple Ave.



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 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 06 Cust. #: AA-HM-03B Material: Chimney Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80291 - 07 Cust. #: AA-HM-04A Material: Beige Linoleum Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Fiberglass - 10% Other - 65%
Lab ID #: 80291 - 08 Cust. #: AA-HM-04B Material: Beige Linoleum Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Fiberglass - 10% Other - 60%

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 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 09 Cust. #: AA-HM-05A Material: Tan Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Fiberglass - 10% Other - 65%
Lab ID #: 80291 - 09a Cust. #: AA-HM-05A Material: Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80291 - 10 Cust. #: AA-HM-05B Material: Tan Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

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 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 10a Cust. #: AA-HM-05B Material: Linoleum Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80291 - 11 Cust. #: AA-HM-06A Material: Green Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80291 - 12 Cust. #: AA-HM-06B Material: Green Linoleum Location: Appearance: green, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 13 Cust. #: AA-HM-07A Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80291 - 14 Cust. #: AA-HM-07B Material: Glazing Location: Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80291 - 15 Cust. #: AA-HM-08A Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO 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 Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 16 Cust. #: AA-HM-08B Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80291 - 17 Cust. #: AA-HM-09A Material: Glazing Location: Appearance: grey,fibrous,homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 1.25% POINT COUNT RESULT	Other - 98.75%
Lab ID #: 80291 - 18 Cust. #: AA-HM-09B Material: Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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

Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 19 Cust. #: AA-HM-10A Material: Felt Paper Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80291 - 20 Cust. #: AA-HM-10B Material: Felt Paper Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80291 - 21 Cust. #: AA-HS-01A Material: Plaster Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)



Project : 501 E. Apple Ave.

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 Date Analyzed: 10/16/18
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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 21a Cust. #: AA-HS-01A Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80291 - 22 Cust. #: AA-HS-01B Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80291 - 22a Cust. #: AA-HS-01B Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 501 E. Apple Ave.



Report To:

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

ARI Report # 18-80291
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 23 Cust. #: AA-HS-01C Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80291 - 23a Cust. #: AA-HS-01C Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80291 - 24 Cust. #: AA-HS-01D Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 501 E. Apple Ave.



Report To:

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

ARI Report # 18-80291
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 24a Cust. #: AA-HS-01D Material: Mortar Location: Appearance: grey, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80291 - 25 Cust. #: AA-HS-01E Material: Plaster Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Hair - 5% Other - 95%
Lab ID #: 80291 - 26 Cust. #: AA-HS-01F Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 501 E. Apple Ave.



Report To:

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

ARI Report # 18-80291
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/16/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80291 - 26a Cust. #: AA-HS-01F Material: Mortar Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80291 - 27 Cust. #: AA-HS-01G Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80291 - 27a Cust. #: AA-HS-01G Material: Mortar Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex # **80291**

PS 1 of 3



APEX Research, Inc. 11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739
Date of Survey: 10-11-18
Project: 501 E. Apple Ave.
Project #: _____
Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: 5 Day All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	AA-HM-01A	Asphalt Shingle.			
2	AA-HM-01B	" "			
3	AA-HM-02A	Redwood Postings			
4	AA-HM-02B	" "			
5	AA-HM-03A	Chimney Flashing			
6	AA-HM-03B	" "			
7	AA-HM-04A	Beige Linoleum			
8	AA-HM-04B	" "			
9	AA-HM-05A	Tan Linoleum			
10	AA-HM-05B	" "			
11	AA-HM-06A	Green Linoleum			

RECEIVED

Relinquished by: [Signature] Received by: [Signature]
Date: 10-11-18 Date: 10-11-18

Relinquished by: _____ Received by: [Signature] OCT 12 2018
Date: _____ Date: 10/12/18

APEX RESEARCH

Pg 2 of 3



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-11-18
Project: 501 E. Apple Ave.
Project #:

Contact Person: Aaron Paquet
apquet@redcedarconsulting.net
with a detection of <5% ACM.

Lab Use Only
Log-In _____
Report _____

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: 5 Day All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	AA-HM-06B	Green Linoleum			
13	AA-HM-07A	Coloring			
14	AA-HM-07B	"			
15	AA-HM-08A	Coloring			
16	AA-HM-08B	"			
17	AA-HM-09A	Coloring			
18	AA-HM-09B	"			
19	AA-HM-10A	Felt Paper			
20	AA-HM-10B	"			
21	AA-HS-01A	Plaster			
22	AA-HS-01B	"			

RECEIVED

Relinquished by: [Signature] Received by: UPS
Date: 10-11-18 Date: 10-11-18

Relinquished by: _____ Received by: _____
Date: _____ Date: _____
OCT 12 2018
APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 501 E Apple Ave., Muskegon, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Exterior	Spray Can Misc. Paint	4
N Apt. N Bedroom	Smoke Detector	1
N Apt. S Bedroom	Smoke Detector	1
N Apt. Living	Gallon Container Misc. Paint	1
S Apt. Bathroom	2' Fluorescent Light (Fixture and Ballast Only)	1
S Apt. Bathroom	2' Fluorescent Bulb	2
2 nd Fl. Apt. Rear Entry	Gallon Container Misc. Paint	5
Basement	5 Gallon Container Misc. Paint	1
Basement	Gallon Container Misc. Paint	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 501 E Apple Ave., Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
AA-HM-01A	Asphalt Shingle	No	M	Category I	ND/ND/ND	Exterior	NA
AA-HM-01B	Asphalt Shingle	No	M	Category I	ND/ND/ND	Exterior	NA
AA-HM-02A	Rolled Roofing	No	M	Category I	ND	Exterior	NA
AA-HM-02B	Rolled Roofing	No	M	Category I	ND	Exterior	NA
AA-HM-03A	Chimney Flashing	No	M	Category II	ND	Exterior	NA
AA-HM-03B	Chimney Flashing	No	M	Category II	ND	Exterior	NA
AA-HM-04A	Beige Linoleum	No	M	Category I	ND	N Apt. Bathroom	NA
AA-HM-04B	Beige Linoleum	No	M	Category I	ND	S Apt. Kitchen	NA
AA-HM-05A	Tan Linoleum	Yes	M	Category II	ND/ND	S Apt. Side Entry	NA
AA-HM-05B	Tan Linoleum	Yes	M	Category II	ND/ND	2 nd Fl. Apt. Bathroom	NA
AA-HM-06A	Green Linoleum	Yes	M	Category II	ND	2 nd Fl. Apt. S Bedroom	NA
AA-HM-06B	Green Linoleum	Yes	M	Category II	ND	2 nd Fl. Apt. S Bedroom	NA
AA-HM-07A	Glazing	Yes	M	Category II	ND	2 nd Fl. Apt. SW Bedroom	NA
AA-HM-07B	Glazing	Yes	M	Category II	ND	N Apt. S Bedroom	NA
AA-HM-08A	Glazing	Yes	M	Category II	ND	Sunroom	NA
AA-HM-08B	Glazing	Yes	M	Category II	ND	Sunroom	NA
AA-HM-09A	Glazing	Yes	M	Category II	1.25%CH-PC	Basement	2 Windows
AA-HM-09B	Glazing	Yes	M	Category II	NA	Basement	NA
AA-HM-10A	Felt Paper	Yes	M	Category II	ND	Exterior	NA
AA-HM-10B	Felt Paper	Yes	M	Category II	ND	Exterior	NA
AA-HS-01A	Plaster	No	S	Category II	ND/ND	N Apt. S Bedroom Ceiling	NA
AA-HS-01B	Plaster	No	S	Category II	ND/ND	N Apt. Kitchen Ceiling	NA
AA-HS-01C	Plaster	No	S	Category II	ND/ND	N Apt. S Bedroom Wall	NA
AA-HS-01D	Plaster	No	S	Category II	ND/ND	N Apt. Kitchen Wall	NA
AA-HS-01E	Plaster	No	S	Category II	ND	S Apt. Ceiling	NA
AA-HS-01F	Plaster	No	S	Category II	ND/ND	S Apt. Living Wall	NA
AA-HS-01G	Plaster	No	S	Category II	ND/ND	2 nd Fl. Apt. Wall	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 501 E Apple Ave., Muskegon, Michigan

Notes:

Material Types

M = Miscellaneous building material
TSI = Thermal System Insulation
S = Surfacing Material
PC = Point Count Analysis
CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 501 E Apple Ave., Muskegon, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
N Apt. Living (1 register, 15 sq. ft.) N Apt. Kitchen (1 register, 15 sq. ft.) N Apt. Bathroom (1 register, 15 sq. ft.) N Apt. Bedroom (1 register, 15 sq. ft.) S Apt. Living (1 register, 15 sq. ft.) 2 nd Fl. Living (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 nd Fl. Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 nd Fl. Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 nd Fl. Bathroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	215 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

Table 4 - Summary of All Asbestos Containing Materials, 501 E Apple Ave., Muskegon, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
N Apt. Living (1 register, 15 sq. ft.)			
N Apt. Kitchen (1 register, 15 sq. ft.)			
N Apt. Bathroom (1 register, 15 sq. ft.)			
N Apt. Bedroom (1 register, 15 sq. ft.)			
S Apt. Living (1 register, 15 sq. ft.)			
2 nd Fl. Living (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)	HVAC Duct Wrap	Yes	215 sq. ft.
2 nd Fl. Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)			
2 nd Fl. Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)			
2 nd Fl. Bathroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)			
		Total	215 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement (2 windows 32" wide x 14" tall)	Glazing	Yes	2 Windows
		Total	2 Windows

Notes:

Abbreviations

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

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 29, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
1679 Park St., Muskegon, MI 49441
Parcel ID: 61-24-205-438-0008-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 1679 Park St., Muskegon, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 1,274 square foot residential building (the Building) with an unknown construction date. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with vinyl over asphalt siding and 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, bath, two bedrooms, a pantry and rear entry on the first floor while the second floor contains three 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 October 10, 2018 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
- Asphalt Siding
- Vapor Barrier
- Flashing
- Sheet Vinyl
- Linoleum
- 12"x12" Vinyl Floor Tile
- Glazing
- Drywall and Joint Compound
- Mastic
- Plaster
- Texture

Red Cedar staff collected thirty six samples of suspect ACBM separated into fifteen 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 thirty six samples is included as Attachment A.

Hazardous Materials Inspection

On October 10, 2018 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, thirty six 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 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Kitchen (1 register, 15 sq. ft.)
- Living (1 register, 15 sq. ft.)
- Dining (1 register, 15 sq. ft.)
- 2nd Fl. Hallway (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- Basement (misc. HVAC Wrap on Framing, 6 sq. ft.)

Category I ACM

One type of resilient floor covering (Tan Sheet Vinyl) located within the kitchen was found to contain up to 30% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 228 sq. ft. of this material within the Building.

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.

- Kitchen (1 register, 15 sq. ft.)
- Living (1 register, 15 sq. ft.)
- Dining (1 register, 15 sq. ft.)
- 2nd Fl. Hallway (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- Basement (misc. HVAC Wrap on Framing, 6 sq. ft.)

The Category I resilient floor covering (Tan Sheet Vinyl) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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:

- Thermostat (1)
- Smoke Detector (6)
- Quart Container Misc. Paint (24)
- Spray Can Misc. Paint (13)
- Gallon Container Misc. Paint (28)
- 5 Gallon Container Mis. Paint (1)
- Automobile Tire (1)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-24-205-438-0008-00

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 Muskegon 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 : 1679 Park St.



Report To:

Mr. Aaron Paquet
 Red Cedar Consulting
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ARI Report # 18-80290
 Date Collected: 10/10/18
 Date Received: 10/12/18
 Date Analyzed: 10/18/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 01 Cust. #: PS-HM-01A Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80290 - 02 Cust. #: PS-HM-01B Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80290 - 03 Cust. #: PS-HM-02A Material: Asphalt Siding Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 03a Cust. #: PS-HM-02A Material: Backing Location: Appearance: brown, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 65% Other - 35%
Lab ID #: 80290 - 03b Cust. #: PS-HM-02A Material: Paper Location: Appearance: brown, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80290 - 04 Cust. #: PS-HM-02B Material: Asphalt Siding Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 04a Cust. #: PS-HM-02B Material: Asphalt Shingle Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 65% Other - 35%
Lab ID #: 80290 - 05 Cust. #: PS-HM-03A Material: Chimney/Vent Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80290 - 06 Cust. #: PS-HM-03B Material: Chimney/Vent Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 07 Cust. #: PS-HM-04A Material: Tan Sheet Vinyl Location: Appearance: yellow, fibrous, homogenous Layer: 1 of 3	Asbestos Present: YES Chrysotile - 30%	Other - 70%
Lab ID #: 80290 - 07a Cust. #: PS-HM-04A Material: Floor Tile Location: Appearance: beige, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 07b Cust. #: PS-HM-04A Material: Linoleum Location: Appearance: beige, nonfibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 08 Cust. #: PS-HM-04B Material: Tan Sheet Vinyl Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80290 - 09 Cust. #: PS-HM-05A Material: Tan Linoleum Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 09a Cust. #: PS-HM-05A Material: Tan Linoleum Location: Appearance: brown,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 10 Cust. #: PS-HM-05B Material: Tan Linoleum Location: Appearance: grey, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80290 - 10a Cust. #: PS-HM-05B Material: Tan Linoleum Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 65% Other - 35%
Lab ID #: 80290 - 11 Cust. #: PS-HM-06A Material: Beige 12x12 VFT Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 12 Cust. #: PS-HM-06B Material: Beige 12x12 VFT Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80290 - 13 Cust. #: PS-HM-07A Material: 8" Square Linoleum Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 14 Cust. #: PS-HM-07B Material: 8" Square Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 15 Cust. #: PS-HM-08A Material: Old Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80290 - 16 Cust. #: PS-HM-08B Material: Old Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80290 - 17 Cust. #: PS-HM-09A Material: Block Linoleum Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 18 Cust. #: PS-HM-09B Material: Block Linoleum Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80290 - 19 Cust. #: PS-HM-10A Material: Floral Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80290 - 20 Cust. #: PS-HM-10B Material: Floral Linoleum Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 21 Cust. #: PS-HM-11A Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 22 Cust. #: PS-HM-11B Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 23 Cust. #: PS-HM-12A Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 23a Cust. #: PS-HM-12A Material: Drywall Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80290 - 24 Cust. #: PS-HM-12B Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 24a Cust. #: PS-HM-12B Material: Drywall Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 25 Cust. #: PS-HM-13A Material: Parove Floor Mastic Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 26 Cust. #: PS-HM-13B Material: Parove Floor Mastic Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 27 Cust. #: PS-HS-01A Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 27a Cust. #: PS-HS-01A Material: Mortar Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 80290 - 28 Cust. #: PS-HS-01B Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 28a Cust. #: PS-HS-01B Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 29 Cust. #: PS-HS-01C Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 29a Cust. #: PS-HS-01C Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80290 - 30 Cust. #: PS-HS-01D Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 30a Cust. #: PS-HS-01D Material: Mortar Location: Appearance: grey, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80290 - 31 Cust. #: PS-HS-01E Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 31a Cust. #: PS-HS-01E Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 32 Cust. #: PS-HS-01F Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 32a Cust. #: PS-HS-01F Material: Mortar Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 33 Cust. #: PS-HS-01G Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 33a Cust. #: PS-HS-01G Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80290 - 34 Cust. #: PS-HS-02A Material: Texture Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80290 - 35 Cust. #: PS-HS-02B Material: Texture Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 1679 Park St.



Report To:

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

ARI Report # 18-80290
 Date Collected: 10/10/18
 Date Received: 10/12/18
 Date Analyzed: 10/18/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80290 - 36 Cust. #: PS-HS-02C Material: Texture Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.





APEX Research, Inc. 11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
 Log-In _____
 Report _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739
 Date of Survey: 10-10-18
 Project: 1679 Park St.
 Project #: _____
 Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
 Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: 5 Day All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	PS-HM-01A	Asphalt Shingle			
2	PS-HM-01B	" "			
3	PS-HM-02A	Asphalt Siding / Vapor Barrier			
4	PS-HM-02B	" "			
5	PS-HM-03A	Chimney / Vent Flashing			
6	PS-HM-03B	" "			
7	PS-HM-04A	Tan Sheet Vinyl			
8	PS-HM-04B	" "			
9	PS-HM-05A	Tan Linoleum			
10	PS-HM-05B	" "			
11	PS-HM-06A	Beige 12x12 V.F.T.			

RECEIVED

Relinquished by: Cumpr Received by: S. Tracey Date: 10-11-18
 Relinquished by: _____ Received by: _____ Date: 10-12-18
 Date: 10-11-18 Date: 10-12-18

pg 2 of 4

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-10-18
Project: 1679 Park St.
Project #:
Contact Person: Aaron Paquet

Lab Use Only
Log-In _____
Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe _____ Point Count _____ PCM _____

Rush 24 hour
48 hour 72 hour
Other: SDay **TTP** All Samples
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	PS-Hm-06B	Beige 12x12 VFT			
13	PS-Hm-07A	8" square Linoleum			
14	PS-Hm-07B	" "			
15	PS-Hm-08A	old Linoleum			
16	PS-Hm-08B	" "			
17	PS-Hm-09A	Black Linoleum			
18	PS-Hm-09B	" "			
19	PS-Hm-10A	Floor Linoleum			
20	PS-Hm-10B	" "			
21	PS-Hm-11A	Coloring			
22	PS-Hm-11B	" "			

Relinquished by: [Signature] Received by: WPS Relinquished by: _____ Received by: _____
Date: 10-11-18 Date: 10-11-18 Date: _____ Date: OCT 12 2018

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-10-18
 Project: 1679 Park St.
 Project #:

Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM
 Lead: Bulk Wipe Air Paint Soil
 Mold: Bulk Tape BioSIS Other Viable
 TEM: AHERA 7400 Bulk/NOB EPA Level II
 Other: 5 Day **(TTP)** All Samples

Lab Use Only
 Log-In _____
 Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	PS-HM-12A	Drywall Compound			
24	PS-HM-12B	"			
25	PS-HM-13A	Parave Floor Mastic			
26	PS-HM-13B	"			
27	PS-HS-01A	Plaster			
28	PS-HS-01B	"			
29	PS-HS-01C	"			
30	PS-HS-01D	"			
31	PS-HS-01E	"			
32	PS-HS-01F	"			
33	PS-HS-01G	"			

RECEIVED

Relinquished by: Cumpr Received by: URS
 Date: 10-11-18 Date: 10-11-18

Relinquished by: _____ Received by: _____ OCT 12 2018
 Date: _____ Date: _____ APEX RESEARCH

Pg 4 of 4



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-10-18
 Project: 1679 Park St.
 Project #:

Contact Person: Aaron Paquet
 apaqnet@redcedarconsulting.net
 with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM
 Lead: Bulk Wipe Air Paint Soil
 Mold: Bulk Tape BioSIS Other Viable
 TEM: AHERA 7400 Bulk/NOB EPA Level II

Other: Sidy TTP ALL samples

Lab Use Only
 Log-In _____
 Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
34	PS-145-02A	Texture			
35	PS-145-02B	"			
36	PS-145-02C	"			
					RECEIVED

OCT 12 2018

Relinquished by: [Signature] Received by: UPS
 Date: 10-11-18 Date: 10-11-18

Relinquished by: _____ Received by: APEX RESEARCH
 Date: _____ Date: _____

Tables

Table 1 - Summary of Hazardous Materials, 1679 Park St., Muskegon, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Living	Thermostat	1
SE Bedroom	Smoke Detector	1
Basement Entry	Smoke Detector	2
Kitchen	Quart Container Misc. Paint	1
Kitchen	Spray Can Misc. Paint	3
Rear Entry	Gallon Container Misc. Paint	1
Rear Entry	Quart Container Misc. Paint	4
2 nd Fl. S Bedroom	Smoke Detector	1
2 nd Fl. E Bedroom	Smoke Detector	1
2 nd Fl. N Bedroom	Smoke Detector	1
Basement	Automobile Tire	1
Basement	5 Gallon Container Misc. Paint	1
Basement	Gallon Container Misc. Paint	27
Basement	Quart Container Misc. Paint	19
Basement	Spray Can Misc. Paint	10

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1679 Park St., Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
PS-HM-01A	Asphalt Shingle	No	M	Category I	ND	Exterior	NA
PS-HM-01B	Asphalt Shingle	No	M	Category I	ND	Exterior	NA
PS-HM-02A	Asphalt Siding/Vapor Barrier	No	M	Category I	ND/ND/ND	Exterior	NA
PS-HM-02B	Asphalt Siding/Vapor Barrier	No	M	Category I	ND/ND/ND	Exterior	NA
PS-HM-03A	Chimney/Vent Flashing	No	M	Category II	ND	Exterior	NA
PS-HM-03B	Chimney/Vent Flashing	No	M	Category II	ND	Exterior	NA
PS-HM-04A	Tan Sheet Vinyl	No	M	Category I	30%CH/ND/ND	Kitchen	228 sq. ft.
PS-HM-04B	Tan Sheet Vinyl	No	M	Category I	NA	Kitchen	NA
PS-HM-05A	Tan Linoleum	No	M	Category I	ND/ND	SW Bedroom	NA
PS-HM-05B	Tan Linoleum	No	M	Category I	ND/ND	SE Bedroom Closet	NA
PS-HM-06A	Beige 12"x12" Vinyl Tile	No	M	Category I	ND	Rear Entry	NA
PS-HM-06B	Beige 12"x12" Vinyl Tile	No	M	Category I	ND	Rear Entry	NA
PS-HM-07A	8" Square Linoleum	No	M	Category I	ND	Bathroom	NA
PS-HM-07B	8" Square Linoleum	No	M	Category I	ND	Bathroom	NA
PS-HM-08A	Old Linoleum	No	M	Category I	ND	Pantry	NA
PS-HM-08B	Old Linoleum	No	M	Category I	ND	Pantry	NA
PS-HM-09A	Block Linoleum	No	M	Category I	ND	2 nd Fl. N Bedroom Closet	NA
PS-HM-09B	Block Linoleum	No	M	Category I	ND	2 nd Fl. S Bedroom Closet	NA
PS-HM-10A	Floral Linoleum	No	M	Category I	ND	2 nd Fl. E Bedroom	NA
PS-HM-10B	Floral Linoleum	No	M	Category I	ND	2 nd Fl. E Bedroom	NA
PS-HM-11A	Glazing	Yes	M	Category II	ND	Kitchen	NA
PS-HM-11B	Glazing	Yes	M	Category II	ND	2 nd Fl. E Bedroom	NA
PS-HM-12A	Drywall and Joint Compound	No	M	Category II	ND/ND	Basement Ceiling	NA
PS-HM-12B	Drywall and Joint Compound	No	M	Category II	ND/ND	Basement Wall	NA
PS-HM-13A	Parove Floor Mastic	No	M	Category I	ND	Basement	NA
PS-HM-13B	Parove Floor Mastic	No	M	Category I	ND	Basement	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1679 Park St., Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
PS-HS-01A	Plaster	No	S	Category II	ND/ND	Kitchen Ceiling	NA
PS-HS-01B	Plaster	No	S	Category II	ND/ND	Living Ceiling	NA
PS-HS-01C	Plaster	No	S	Category II	ND/ND	Kitchen Wall	NA
PS-HS-01D	Plaster	No	S	Category II	ND/ND	Living Wall	NA
PS-HS-01E	Plaster	No	S	Category II	ND/ND	2 nd Fl. S Bedroom Ceiling	NA
PS-HS-01F	Plaster	No	S	Category II	ND/ND	2 nd Fl. E Bedroom Wall	NA
PS-HS-01G	Plaster	No	S	Category II	ND/ND	2 nd Fl. N Bedroom Wall	NA
PS-HS-02A	Texture	No	S	Category II	ND	SE Bedroom Ceiling	NA
PS-HS-02B	Texture	No	S	Category II	ND	Living Ceiling	NA
PS-HS-02C	Texture	No	S	Category II	ND	SE Bedroom Ceiling	NA

Notes:

Material Types

- M = Miscellaneous building material
- TSI = Thermal System Insulation
- S = Surfacing Material
- PC = Point Count Analysis
- CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 1679 Park St., Muskegon, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Kitchen (1 register, 15 sq. ft.) Living (1 register, 15 sq. ft.) Dining (1 register, 15 sq. ft.) 2 nd Fl. Hallway (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) Basement (misc. HVAC Wrap on Framing, 6 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	86 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

Table 4 - Summary of All Asbestos Containing Materials, 1679 Park St., Muskegon, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen	Tan Sheet Vinyl	No	228 sq. ft.
Total			228 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen (1 register, 15 sq. ft.) Living (1 register, 15 sq. ft.) Dining (1 register, 15 sq. ft.) 2 nd Fl. Hallway (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) Basement (misc. HVAC Wrap on Framing, 6 sq. ft.)	HVAC Duct Wrap	Yes	86 sq. ft.
Total			86 sq. ft.

Notes:

Abbreviations

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

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 29, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
1874 Manz St., Muskegon, MI 49442
Parcel ID: 61-24-890-000-0020-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 1874 Manz St., Muskegon, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 1,100 square foot residential building (the Building) constructed in 1946. The Building was constructed on a concrete block foundation with one aboveground floor. The exterior walls of the Building were finished with vinyl over fiberboard and 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, three 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 October 10, 2018 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
- Rolled Roofing
- Linoleum
- 9"x9" Vinyl Floor Tile
- Drywall and Joint Compound
- Flashing
- Glazing
- Caulk
- Texture
- Plaster

Red Cedar staff collected twenty eight 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 eight samples is included as Attachment A.

Hazardous Materials Inspection

On October 10, 2018 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 eight 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

One type of resilient floor covering (Red 9"x9" Vinyl Tile) located within the rear entry was found to contain up to 5% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 99 sq. ft. of this material within the Building.

Category II ACM

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

RECOMMENDATIONS

Asbestos Containing Materials

The Category I resilient floor covering (Red 9"x9" Vinyl Tile) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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:

- Thermostat (1)
- Television (2)
- Air Conditioner (1)
- Gallon Container Misc. Paint (9)
- Quart Container Contents Unknown (5)
- Gas Container $\frac{3}{4}$ Full (1)
- Pint Container Misc. Paint (5)

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-24-890-000-0020-00

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-24-890-000-0020-00

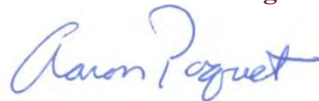
DISCLAIMER

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 Muskegon 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 : 1874 Manz St.



Report To:

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

ARI Report # 18-80292
 Date Collected: 10/10/18
 Date Received: 10/12/18
 Date Analyzed: 10/19/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 01 Cust. #: MS-HM-01A Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80292 - 01a Cust. #: MS-HM-01A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80292 - 02 Cust. #: MS-HM-01B Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 1874 Manz St.



Report To:

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

ARI Report # 18-80292
 Date Collected: 10/10/18
 Date Received: 10/12/18
 Date Analyzed: 10/19/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 02a Cust. #: MS-HM-01B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80292 - 03 Cust. #: MS-HM-02A Material: Fiberboard/Vapor Paper Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80292 - 04 Cust. #: MS-HM-02B Material: Wrap Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Fiberglass - 20% Other - 40%

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 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 04a Cust. #: MS-HM-02B Material: Fiberboard/Vapor Paper Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80292 - 05 Cust. #: MS-HM-03A Material: Porch Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80292 - 06 Cust. #: MS-HM-03B Material: Porch Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%

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 Lansing, MI 48901

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 Date Collected: 10/10/18
 Date Received: 10/12/18
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 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 07 Cust. #: MS-HM-04A Material: Rolled Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80292 - 08 Cust. #: MS-HM-04B Material: Rolled Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80292 - 09 Cust. #: MS-HM-05A Material: Floor Tile Location: Appearance: grey, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO 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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Test Method, Polarized Light Microscopy (PLM)

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 Date Analyzed: 10/19/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 09a Cust. #: MS-HM-05A Material: Brown Linoleum Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80292 - 10 Cust. #: MS-HM-05B Material: Floor Tile Location: Appearance: grey, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80292 - 10a Cust. #: MS-HM-05B Material: Brown Linoleum Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 11 Cust. #: MS-HM-06A Material: Red 9x9 VFT Location: Appearance: red, fibrous, homogenous Layer: 1 of 3	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80292 - 11a Cust. #: MS-HM-06A Material: Floor Tile Location: Appearance: white, fibrous, homogenous Layer: 2 of 3	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80292 - 11b Cust. #: MS-HM-06A Material: Mastic Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: YES Chrysotile - 5%	Other - 95%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 12 Cust. #: MS-HM-06B Material: Red 9x9 VFT Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80292 - 13 Cust. #: MS-HM-07A Material: Joint Compound Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80292 - 13a Cust. #: MS-HM-07A Material: Drywall Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 14 Cust. #: MS-HM-07B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80292 - 14a Cust. #: MS-HM-07B Material: Drywall Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80292 - 15 Cust. #: MS-HM-08A Material: Flashing Vent Location: Appearance: black,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 16 Cust. #: MS-HM-08B Material: Flashing Vent Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80292 - 17 Cust. #: MS-HM-09A Material: Glazing Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - Trace POINT COUNT RESULT	Other - 100%
Lab ID #: 80292 - 18 Cust. #: MS-HM-09B Material: Glazing Location: Appearance: grey, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - Trace POINT COUNT RESULT	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 19 Cust. #: MS-HM-10A Material: Glazing Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80292 - 20 Cust. #: MS-HM-10B Material: Glazing Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80292 - 21 Cust. #: MS-HM-11A Material: Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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 Lansing, MI 48901

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 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 22 Cust. #: MS-HM-11B Material: Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80292 - 23 Cust. #: MS-HS-01A Material: Texture Location: Appearance: beige,nonfibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80292 - 24 Cust. #: MS-HS-01B Material: Texture Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 25 Cust. #: MS-HS-01C Material: Texture Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80292 - 26 Cust. #: MS-HS-02A Material: Plaster Location: Appearance: white,nonfibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80292 - 27 Cust. #: MS-HS-02B Material: Plaster Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80292 - 28 Cust. #: MS-HS-02C Material: Plaster Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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Apex 80292

Page 1 of 3



APEX Research, Inc. 11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-10-18
Project: 1874 Manz St.
Project #: _____
Contact Person: Aaron Paquet

Lab Use Only
Log-In _____
Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
48 hour 72 hour
Other: 5 Day (TTP) All samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	MS-14M-01A	Asphalt Shingle			
2	MS-14M-01B	" "			
3	MS-14M-02A	Fiberboard & Vapor Barrier			
4	MS-14M-02B	" "			
5	MS-14M-03A	Roof Shingle			
6	MS-14M-03B	" "			
7	MS-14M-04A	Rolling Roofing			
8	MS-14M-04B	" "			
9	MS-14M-05A	Brown Linoleum			
10	MS-14M-05B	" "			
11	MS-14M-06A	Rad 2x9 VFT			

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Log-In _____
Report _____

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City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-10-18
Project: 1874 Manz St.
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: 5 Days TTP All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	MS-HM-06B	Road GYA VFT			
13	MS-HM-07A	Drywall Compound			
14	MS-HM-07B	" "			
15	MS-HM-08A	Flashing Vent			
16	MS-HM-08B	" "			
17	MS-HM-09A	Ceiling			
18	MS-HM-09B	" "			
19	MS-HM-10A	Ceiling			
20	MS-HM-10B	" "			
21	MS-HM-11A	Caulk			
22	MS-HM-11B	" "			

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City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-10-18
Project: 1874 Manz St.
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour

Other: 5 Day All Samples

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	MS-115-01A	Texture			
24	MS-115-01B	"			
25	MS-115-01C	"			
26	MS-115-02A	Plaster			
27	MS-115-02B	"			
28	MS-115-02C	"			

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Date: _____ Date: OCT 12 2018

APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 1874 Manz St., Muskegon, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Living	Thermostat	1
Living	Television	1
W Bedroom	Television	1
W Bedroom	Air Conditioner	1
E Bedroom	Gallon Container Misc. Paint	1
W Bedroom	Gallon Container Misc. Paint	3
W Bedroom	Quart Container Contents Unknown	5
W Bedroom	Gas Container $\frac{3}{4}$ Full	1
Closet	Pint Container Misc. Paint	5
Rear Entry	Gallon Container Misc. Paint	5

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1874 Manz St., Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
MS-HM-01A	Asphalt Shingle	No	M	Category I	ND/ND	Exterior	NA
MS-HM-01B	Asphalt Shingle	No	M	Category I	ND/ND	Exterior	NA
MS-HM-02A	Fiberboard/Vapor Paper	Yes	M	Category II	ND	Exterior	NA
MS-HM-02B	Fiberboard/Vapor Paper	Yes	M	Category II	ND/ND	Exterior	NA
MS-HM-03A	Porch Shingle	No	M	Category I	ND	Exterior	NA
MS-HM-03B	Porch Shingle	No	M	Category I	ND	Exterior	NA
MS-HM-04A	Rolled Roofing	No	M	Category I	ND	Exterior	NA
MS-HM-04B	Rolled Roofing	No	M	Category I	ND	Exterior	NA
MS-HM-05A	Brown Linoleum	No	M	Category I	ND/ND	Kitchen	NA
MS-HM-05B	Brown Linoleum	No	M	Category I	ND/ND	Kitchen	NA
MS-HM-06A	Red 9"x9" Vinyl Tile	No	M	Category I	5%CH/5%CH/ 5%CH	Rear Entry	99 sq. ft.
MS-HM-06B	Red 9"x9" Vinyl Tile	No	M	Category I	NA	Rear Entry	NA
MS-HM-07A	Drywall and Joint Compound	No	M	Category II	ND/ND	Kitchen Ceiling	NA
MS-HM-07B	Drywall and Joint Compound	No	M	Category II	ND/ND	Front Entry Wall	NA
MS-HM-08A	Flashing Vent	No	M	Category II	Trace CH-PC	Exterior	NA
MS-HM-08B	Flashing Vent	No	M	Category II	Trace CH-PC	Exterior	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	Center Bedroom	NA
MS-HM-10B	Glazing	Yes	M	Category II	ND	W Bedroom	NA
MS-HM-11A	Caulk	No	M	Category I	ND	N Wall	NA
MS-HM-11B	Caulk	No	M	Category I	ND	N Wall	NA
MS-HS-01A	Texture	No	S	Category II	ND	Center Bedroom Ceiling	NA
MS-HS-01B	Texture	No	S	Category II	ND	Center Bedroom Wall	NA
MS-HS-01C	Texture	No	S	Category II	ND	Center Bedroom Wall	NA
MS-HS-02A	Plaster	No	S	Category II	ND	Front Entry Ceiling	NA
MS-HS-02B	Plaster	No	S	Category II	ND	Living Ceiling	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1874 Manz St., Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
MS-HS-02C	Plaster	No	S	Category II	ND	Living Ceiling	NA

Notes:

Material Types

- M = Miscellaneous building material
- TSI = Thermal System Insulation
- S = Surfacing Material
- PC = Point Count Analysis
- CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 1874 Manz St., Muskegon, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 1874 Manz St., Muskegon, Michigan

Interior - Asbestos Containing Materials				
Location	Material Description	Friable	Approx. Quantity	
Rear Entry	Red 9"x9" Vinyl Tile	No	99 sq. ft.	
			Total	99 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 31, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
1932 Reynolds St., Muskegon, MI 49442
Parcel ID: 61-24-796-002-0019-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 1932 Reynolds St., Muskegon, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 a 412 sq. ft. detached garage and approximate 684 square foot residential building (the Building) with an unknown construction date. The Building was constructed on a concrete block basement with one aboveground floor. The exterior walls of the Building were finished with a vapor barrier while the roof was sealed with asphalt shingles. The Building can be further divided into a front entry, living room, kitchen, bath, 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 October 16, 2018 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
- Rolled Roofing
- Linoleum
- 9"x9" Vinyl Floor Tile
- 1'x1' Ceiling Tile
- Window Glazing
- Caulk
- Vapor Barrier
- Roofing Materials
- Glue
- Tar Coating
- Plaster

Red Cedar staff collected forty samples of suspect ACBM separated into twenty one 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 forty samples is included as Attachment A.

Hazardous Materials Inspection

On October 16, 2018 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, forty 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

A window glazing sample collected from a window in the Kitchen was found to contain up to 5% asbestos following analysis. The assessment to quantify the extent of this material identified fourteen windows within the Building that would fall into the same homogenous group. The quantity and dimensions of the windows are listed below:

- 1 window 27" wide x 62" tall
- 2 windows 24" wide x 40" tall
- 3 windows 24" wide x 53" tall
- 4 windows 22" wide x 53" tall
- 1 window 27" wide x 53" tall
- 1 window 24" wide x 33" tall
- 1 window 27" wide x 33" tall
- 1 window 27" wide x 28" tall

Category I ACM

Two types of resilient floor covering (Gray Linoleum and 9"x9" Tan Speck Vinyl Floor Tile) located within the bathroom and NW bedroom were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 190 sq. ft. of this material within the Building.

Category II ACM

Caulk samples collected from the roof vent and soffit were found to contain up to 10% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 121 lin. ft. of caulk within the Building.

Flashing samples collected from the Building were found to contain up to 10% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 10 sq. ft. of flashing within the Building.

Tar Coating samples collected from the exterior heat vent were found to contain up to 10% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 30 sq. ft. of Tar Coating within the Building.

RECOMMENDATIONS

Asbestos Containing Materials

Friable asbestos containing window glazing was identified on fourteen windows throughout the Building. The quantity and dimensions of these windows that should be abated prior to demolition/renovation activities are listed below:

- 1 window 27" wide x 62" tall
- 2 windows 24" wide x 40" tall
- 3 windows 24" wide x 53" tall
- 4 windows 22" wide x 53" tall
- 1 window 27" wide x 53" tall
- 1 window 24" wide x 33" tall
- 1 window 27" wide x 33" tall
- 1 window 27" wide x 28" 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.

Caulk identified on the exterior 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.

Flashing identified on the exterior 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.

Tar Coating identified on the exterior 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 (Gray Linoleum and 9"x9" Tan Speck Vinyl Floor Tile) are non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-24-796-002-0019-00

the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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)
- Round Fluorescent Light (1)
- Round Fluorescent Bulb (2)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-24-796-002-0019-00

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 Muskegon 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 : 1932 Reynolds St.



Report To:

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

ARI Report # 18-80442
 Date Collected: 10/16/18
 Date Received: 10/18/18
 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 01 Cust. #: RE-HM-01A Material: House Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80442 - 01a Cust. #: RE-HM-01A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80442 - 02 Cust. #: RE-HM-01B Material: House Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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 : 1932 Reynolds St.



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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 02a Cust. #: RE-HM-01B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80442 - 03 Cust. #: RE-HM-02A Material: Garage Rolled Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - 0.25% POINT COUNT RESULT	Cellulose - 30% Other - 69.75%
Lab ID #: 80442 - 04 Cust. #: RE-HM-02B Material: Garage Rolled Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO Chrysotile - 0.25% POINT COUNT RESULT	Cellulose - 30% Other - 69.75%

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

Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 04a Cust. #: RE-HM-02B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80442 - 05 Cust. #: RE-HM-03A Material: White Diamond Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80442 - 06 Cust. #: RE-HM-03B Material: White Diamond Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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 Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 07 Cust. #: RE-HM-04A Material: Grey Linoleum, Layered Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80442 - 07a Cust. #: RE-HM-04A Material: Floor Tile Location: Appearance: beige, fibrous, homogenous Layer: 2 of 3	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80442 - 07b Cust. #: RE-HM-04A Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 3 of 3	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 08 Cust. #: RE-HM-04B Material: Grey Linoleum, Layered Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80442 - 08a Cust. #: RE-HM-04B Material: Floor Tile Location: Appearance: Layer: 2 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80442 - 08b Cust. #: RE-HM-04B Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 3 of 3	Asbestos Present: NO 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 Collected: 10/16/18
 Date Received: 10/18/18
 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 09 Cust. #: RE-HM-05A Material: 9x9 Tan Speck VFT Location: Appearance: yellow, fibrous, homogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80442 - 09a Cust. #: RE-HM-05A Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 10 Cust. #: RE-HM-05B Material: 9x9 Tan Speck VFT Location: Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 10a Cust. #: RE-HM-05B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 11 Cust. #: RE-HM-06A Material: Flower Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80442 - 12 Cust. #: RE-HM-06B Material: Flower Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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 : 1932 Reynolds St.



Report To:

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

ARI Report # 18-80442
 Date Collected: 10/16/18
 Date Received: 10/18/18
 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 13 Cust. #: RE-HM-07A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80442 - 14 Cust. #: RE-HM-07B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80442 - 15 Cust. #: RE-HM-08A Material: 1x1 Textured Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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Robert T. Letarte Jr., Laboratory Director

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 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 16 Cust. #: RE-HM-08B Material: 1x1 Textured Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80442 - 17 Cust. #: RE-HM-09A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80442 - 18 Cust. #: RE-HM-09B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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 Collected: 10/16/18
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 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 19 Cust. #: RE-HM-10A Material: 1x1 Lite Texture Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80442 - 19a Cust. #: RE-HM-10A Material: Glue Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 20 Cust. #: RE-HM-10B Material: 1x1 Lite Texture Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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Robert T. Letarte Jr., Laboratory Director

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 Date Collected: 10/16/18
 Date Received: 10/18/18
 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 20a Cust. #: RE-HM-10B Material: Glue Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 21 Cust. #: RE-HM-11A Material: Window Glazing Location: Appearance: white,fibrous,homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80442 - 22 Cust. #: RE-HM-11B Material: Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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Robert T. Letarte Jr., Laboratory Director

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 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 23 Cust. #: RE-HM-12A Material: Window Caulk Location: Appearance: clear,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 24 Cust. #: RE-HM-12B Material: Window Caulk Location: Appearance: clear,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 25 Cust. #: RE-HM-13A Material: Door Caulk Location: Appearance: yellow,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO 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

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Project : 1932 Reynolds St.



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 Date Collected: 10/16/18
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 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 26 Cust. #: RE-HM-13B Material: Door Caulk Location: Appearance: yellow,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 27 Cust. #: RE-HM-14A Material: House Vapor Barrier Location: Appearance: brown,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80442 - 28 Cust. #: RE-HM-14B Material: House Vapor Barrier Location: Appearance: brown,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 29 Cust. #: RE-HM-15A Material: Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80442 - 30 Cust. #: RE-HM-15B Material: Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80442 - 31 Cust. #: RE-HM-16A Material: Roof Vent Caulk Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 32 Cust. #: RE-HM-16B Material: Roof Vent Caulk Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80442 - 33 Cust. #: RE-HM-17A Material: Soffit Caulk Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80442 - 34 Cust. #: RE-HM-17B Material: Soffit Caulk Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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Robert T. Letarte Jr., Laboratory Director

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 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 35 Cust. #: RE-HM-18A Material: Rear Porch Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80442 - 35a Cust. #: RE-HM-18A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80442 - 36 Cust. #: RE-HM-18B Material: Rear Porch Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%

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Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 36a Cust. #: RE-HM-18B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80442 - 37 Cust. #: RE-HS-01A Material: Tan Glue Location: Appearance: yellow, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 38 Cust. #: RE-HS-01B Material: Tan Glue Location: Appearance: yellow, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 39 Cust. #: RE-HS-01C Material: Tan Glue Location: Appearance: yellow,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 40 Cust. #: RE-HS-02A Material: Brown Glue Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 41 Cust. #: RE-HS-02B Material: Brown Glue Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 42 Cust. #: RE-HS-02C Material: Brown Glue Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80442 - 43 Cust. #: RE-HS-03A Material: Tar Coat Location: Appearance: black,fibrous,homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80442 - 44 Cust. #: RE-HS-03B Material: Tar Coat Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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

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 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 45 Cust. #: RE-HS-03C Material: Tar Coat Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80442 - 46 Cust. #: RE-HS-04A Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80442 - 47 Cust. #: RE-HS-04B Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80442 - 48 Cust. #: RE-HS-04C Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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Apex # 80442

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APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739
 Date of Survey: 10-16-18
 Project: 1932 Reynolds St
 Project #: _____
 Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: Slag All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	RE-MM-21A	House Shingle			
2	21B	" "			
3	02A	Garage Rolled Roofing			
4	02B	" "			
5	03A	White Diamond Gravel			
6	03B	" "			
7	04A	Grey Gravel / Gray sand			
8	04B	" "			
9	05A	9x9 Tan speck VFT			
10	05B	" "			
11	06A	flower Gravel			

Relinquished by: APR/Waters Received by: UPS Relinquished by: A. Tracey
 Date: 10-16-18 Date: 10-16-18 Date: 10-18-18 11:34

RECEIVED

295



APEX Research, Inc. 11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-16-18
Project: 1932 Reynolds St
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II
Rush 24 hour
48 hour 72 hour
Other: Sdey All samples

Lab Use Only
Log-in _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	RG-HM-06B	Below Sencolium			
13	07A	1x1 white smooth CT			
14	07B	" " " "			
15	08A	1x1 textured CT			
16	08B	" " " "			
17	09A	Apartment (No Joint Compound)			
18	09B	" " " "			
19	10A	1x1 white textured CT w/ glue			
20	10B	" " " "			
21	11A	Window Siding			
22	11B	" " " "			

Relinquished by: AP Paquet Received by: VPB
Date: 10-16-18 Date: 10-16-18
Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 18 2018
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APEX RESEARCH

345



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-16-18
Project: 1932 Reynolds St
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II
Other: Slag All Samples

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	RE-MM-12A	Window Cank			
24	12B	"			
25	13A	Door Cank			
26	13B	"			
27	14A	House Vapor Barrier			
28	14B	"			
29	15A	Fleshing			
30	15B	"			
31	16A	Roof Vent Cank			
32	16B	"			
33	17A	Soffit Cank			

Relinquished by: A. DeWester Received by: VPS
Date: 10-16-18 Date: 10-16-18

Relinquished by: _____ Received by: _____
Date: _____ Date: _____

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OCT 18 2018

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APEX Research, Inc. 11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
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Lab Use Only
 Log-In: _____
 Report: _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
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Date of Survey: 10-16-18
 Project: 1932 Reynolds St
 Project #: _____
 Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)
 Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: Sday ALL samples

Rush 24 hour
 48 hour 72 hour

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
34	RF-4M-17B	Asphalt Caulk			
35	18A	Rear Porch Roofing			
36	18B	" "			
37	RF-HS-01A	Jan Blue			
38	01B	↓ ↓			
39	01C	↓ ↓			
40	02A	Brown Blue			
41	02B	↓ ↓			
42	02C	↓ ↓			
43	03A	Jan Coat			
44	03B	" "			

Relinquished by: Alex Heaters Received by: UPS
 Date: 10-16-18 Date: 10-16-18
 Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 18 2018

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APEX RESEARCH

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APEX Research, Inc.



11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-16-18
Project: 1932 Reynolds St
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II
Rush 24 hour
48 hour 72 hour
Other: Safety **TTP** All samples

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
45	RE-HS-03C	Iron Coat			
46	RE-HS-04A	Plaster			
47	RE-HS-04B	"			
48	RE-HS-04C	"			

Relinquished by: AK [Signature] Received by: VPS
Date: 10-16-18 Date: 10-16-18
Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 18 2018
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Tables

Table 1 - Summary of Hazardous Materials, 1932 Reynolds St., Muskegon, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Kitchen	Smoke Detector	1
Kitchen	Round Fluorescent Light	1
Kitchen	Round Fluorescent Light Bulb	2

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1932 Reynolds St., Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
RE-HM-01A	House Shingle	No	M	Category I	ND/ND	House Roof	NA
RE-HM-01B	House Shingle	No	M	Category I	ND/ND	House Roof	NA
RE-HM-02A	Garage Rolled Roofing	No	M	Category I	0.25%CH-PC	Garage Roof	NA
RE-HM-02B	Garage Rolled Roofing	No	M	Category I	0.25%CH-PC/ND	Garage Roof	NA
RE-HM-03A	White Diamond Linoleum	No	M	Category I	ND	Kitchen	NA
RE-HM-03B	White Diamond Linoleum	No	M	Category I	ND	Kitchen	NA
RE-HM-04A	Grey Linoleum Layered	No	M	Category I	ND/5%CH/ND	Bathroom	40 sq. ft.
RE-HM-04B	Grey Linoleum Layered	No	M	Category I	ND/NA/ND	Bathroom	NA
RE-HM-05A	9x9 Tan Speck VFT	No	M	Category I	10%CH/ND	NW Bedroom	150 sq. ft.
RE-HM-05B	9x9 Tan Speck VFT	No	M	Category I	NA/ND	NW Bedroom	NA
RE-HM-06A	Flower Linoleum	No	M	Category I	ND	Rear Entry	NA
RE-HM-06B	Flower Linoleum	No	M	Category I	ND	Rear Entry	NA
RE-HM-07A	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Living Room	NA
RE-HM-07B	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Living Room	NA
RE-HM-08A	1x1 Textured Ceiling Tile	Yes	M	Category II	ND	Front Entry	NA
RE-HM-08B	1x1 Textured Ceiling Tile	Yes	M	Category II	ND	Front Entry	NA
RE-HM-09A	Drywall	No	M	Category II	ND	Living Room	NA
RE-HM-09B	Drywall	No	M	Category II	ND	Kitchen	NA
RE-HM-10A	1x1 Lite Texture Ceiling Tile	Yes	M	Category II	ND/ND	Kitchen	NA
RE-HM-10B	1x1 Lite Texture Ceiling Tile	Yes	M	Category II	ND/ND	Kitchen	NA
RE-HM-11A	Window Glazing	Yes	M	Category II	5%CH	Kitchen Window	14 Windows
RE-HM-11B	Window Glazing	Yes	M	Category II	NA	NE Bedroom Window	NA
RE-HM-12A	Window Caulk	No	M	Category II	ND	Kitchen Window	NA
RE-HM-12B	Window Caulk	No	M	Category II	ND	NE Bedroom Window	NA
RE-HM-13A	Door Caulk	No	M	Category II	ND	Rear Entry Door	NA
RE-HM-13B	Door Caulk	No	M	Category II	ND	Rear Entry Door	NA
RE-HM-14A	House Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1932 Reynolds St., Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
RE-HM-14B	House Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
RE-HM-15A	Flashing	No	M	Category II	10%CH	House Roof	10 sq. ft.
RE-HM-15B	Flashing	No	M	Category II	NA	House Roof	NA
RE-HM-16A	Roof Vent Caulk	No	M	Category II	10%CH	Roof Vent	5 lin. ft.
RE-HM-16B	Roof Vent Caulk	No	M	Category II	NA	Roof Vent	NA
RE-HM-17A	Soffit Caulk	No	M	Category II	5%CH	Roof Soffit	116 lin. ft.
RE-HM-17B	Soffit Caulk	No	M	Category II	NA	Roof Soffit	NA
RE-HM-18A	Rear Porch Roofing	No	M	Category I	ND/ND	Rear Porch Roof	NA
RE-HM-18B	Rear Porch Roofing	No	M	Category I	ND/ND	Rear Porch Roof	NA
RE-HS-01A	Tan Glue	No	S	Category II	ND	Kitchen	NA
RE-HS-01B	Tan Glue	No	S	Category II	ND	Kitchen	NA
RE-HS-01C	Tan Glue	No	S	Category II	ND	Kitchen	NA
RE-HS-02A	Brown Glue	No	S	Category II	ND	Bathroom	NA
RE-HS-02B	Brown Glue	No	S	Category II	ND	Bathroom	NA
RE-HS-02C	Brown Glue	No	S	Category II	ND	Bathroom	NA
RE-HS-03A	Tar Coat	No	S	Category II	10%CH	Exterior Heating Unit	30 sq. ft.
RE-HS-03B	Tar Coat	No	S	Category II	NA	Exterior Heating Unit	NA
RE-HS-03C	Tar Coat	No	S	Category II	NA	Exterior Heating Unit	NA
RE-HS-04A	Plaster	No	S	Category II	ND	Kitchen Ceiling	NA
RE-HS-04B	Plaster	No	S	Category II	ND	NE Bedroom Ceiling	NA
RE-HS-04C	Plaster	No	S	Category II	ND	NW Bedroom Ceiling	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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, 1932 Reynolds St., Muskegon, Michigan

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 1932 Reynolds St., Muskegon, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 1932 Reynolds St., Muskegon, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Bathroom	Gray Linoleum	No	40 sq. ft.
NW Bedroom	9x9 Tan Speck VFT	No	150 sq. ft.
Total			190 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Exterior	Roof Vent Caulk	No	5 lin. ft.
Building Exterior	Soffit Caulk	No	116 lin. ft.
Total			121 lin. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Exterior	Flashing	No	10 sq. ft.
Total			10 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
External Heat Unit	Tar Coat	No	30 sq. ft.
Total			30 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
1 window 27" wide x 62" tall	Glazing	Yes	1 Windows
2 windows 24" wide x 40" tall	Glazing	Yes	2 Windows
3 windows 24" wide x 53" tall	Glazing	Yes	3 Windows
4 windows 22" wide x 53" tall	Glazing	Yes	4 Windows
1 window 27" wide x 53" tall	Glazing	Yes	1 Window
1 window 24" wide x 33" tall	Glazing	Yes	1 Window
1 window 27" wide x 33" tall	Glazing	Yes	1 Window
1 window 27" wide x 28" tall	Glazing	Yes	1 Window
Total			14 Windows

Table 4 - Summary of All Asbestos Containing Materials, 1932 Reynolds St., Muskegon, Michigan

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 31, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
1967 Reynolds St., Muskegon, MI 49442
Parcel ID: 61-24-796-003-0009-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 1967 Reynolds St., Muskegon, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains a 504 sq. ft. detached garage and approximate 1,096 square foot residential building (the Building) with an unknown construction date. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with asphalt siding over wood lap and 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, bath, bedroom and rear entry on the first floor while the second floor contains four 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 October 16, 2018 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 Siding
- Vapor Barrier
- Asphalt Shingle
- Linoleum
- 9"x9" Vinyl Floor Tile
- Drywall and Joint Compound
- Window Glazing
- Tarpaper
- Plaster
- Textured Surfacing

Red Cedar staff collected thirty eight samples of suspect ACBM separated into seventeen 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 thirty eight samples is included as Attachment A.

Hazardous Materials Inspection

On October 16, 2018 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, thirty eight 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 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Living (1 register, 15 sq. ft.)
- Front Entry (1 register, 10 sq. ft.)
- Kitchen (1 register, 15 sq. ft.)
- Bathroom (1 register, 15 sq. ft.)
- 2nd Fl. SW Bedroom (1 vertical chase to basement, 25 sq. ft.)

- Basement (6" to 12" in. dia. HVAC Wrapped Ductwork, 37 lin. ft.)

Category I ACM

Three types of resilient floor covering (Layered Gray Linoleum, Yellow Linoleum and 9"x9" Gray Vinyl Floor Tile) located within the front entry, kitchen and hallway were found to contain up to 30% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 269 sq. ft. of this material within the Building.

Asphalt roof samples collected during the completion of the inspection were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material identified 1,152 sq. ft. of asphalt roofing materials on the Garage.

Category II ACM

Plaster samples collected from the 2nd floor SW bedroom ceiling were found to contain up to 1.50% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 4,041 sq. ft. of plaster within the Building.

Textured Surfacing samples collected from the 2nd floor NE bedroom ceiling were found to contain up to 5% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 486 sq. ft. of textured surfacing 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, 15 sq. ft.)
- Front Entry (1 register, 10 sq. ft.)
- Kitchen (1 register, 15 sq. ft.)
- Bathroom (1 register, 15 sq. ft.)
- 2nd Fl. SW Bedroom (1 vertical chase to basement, 25 sq. ft.)

- Basement (6" to 12" in. dia. HVAC Wrapped Ductwork, 37 lin. 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.

Textured surfacing 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 roofing materials and resilient floor coverings (Layered Gray Linoleum, Yellow Linoleum and 9"x9" Gray Vinyl Floor Tile) are non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-24-796-003-0009-00

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 Muskegon 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 : 1967 Reynolds St.



Report To:

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

ARI Report # 18-80446
 Date Collected: 10/16/18
 Date Received: 10/18/18
 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 01 Cust. #: RS-HM-01A Material: Asphalt Siding Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80446 - 02 Cust. #: RS-HM-01B Material: Asphalt Siding Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80446 - 03 Cust. #: RS-HM-02A Material: Black Vapor Barrier Location: House Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 85% Other - 15%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 1967 Reynolds St.



Report To:

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

ARI Report # 18-80446
 Date Collected: 10/16/18
 Date Received: 10/18/18
 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 04 Cust. #: RS-HM-02B Material: Black Vapor Barrier Location: House Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 85% Other - 15%
Lab ID #: 80446 - 05 Cust. #: RS-HM-03A Material: Brown Vapor Barrier Location: Garage Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80446 - 06 Cust. #: RS-HM-03B Material: Brown Vapor Barrier Location: Garage Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 07 Cust. #: RS-HM-04A Material: Black Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: YES Chrysotile - 5%	Cellulose - 25% Other - 70%
Lab ID #: 80446 - 07a Cust. #: RS-HM-04A Material: Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80446 - 07b Cust. #: RS-HM-04A Material: Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 08 Cust. #: RS-HM-04B Material: Black Shingle Location: Garage Appearance: Layer: 1 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80446 - 08a Cust. #: RS-HM-04B Material: Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80446 - 08b Cust. #: RS-HM-04B Material: Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 09 Cust. #: RS-HM-05A Material: Layered Grey Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80446 - 09a Cust. #: RS-HM-05A Material: Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: YES Chrysotile - 30%	Other - 70%
Lab ID #: 80446 - 09b Cust. #: RS-HM-05A Material: Fiberboard Location: Appearance: brown, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 10 Cust. #: RS-HM-05B Material: Layered Grey Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80446 - 10a Cust. #: RS-HM-05B Material: Linoleum Location: Appearance: Layer: 2 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80446 - 10b Cust. #: RS-HM-05B Material: Fiberboard Location: Appearance: brown, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 11 Cust. #: RS-HM-06A Material: Yellow Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 30%	Other - 70%
Lab ID #: 80446 - 12 Cust. #: RS-HM-06B Material: Yellow Linoleum Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80446 - 13 Cust. #: RS-HM-07A Material: Charcoal Linoleum Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 14 Cust. #: RS-HM-07B Material: Charcoal Linoleum Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80446 - 15 Cust. #: RS-HM-08A Material: Green Marble Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80446 - 16 Cust. #: RS-HM-08B Material: Green Marble Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 17 Cust. #: RS-HM-09A Material: 9x9 Grey VFT Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80446 - 17a Cust. #: RS-HM-09A Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80446 - 18 Cust. #: RS-HM-09B Material: 9x9 Grey VFT Location: Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 18a Cust. #: RS-HM-09B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80446 - 19 Cust. #: RS-HM-10A Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80446 - 19a Cust. #: RS-HM-10A Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 20 Cust. #: RS-HM-10B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80446 - 20a Cust. #: RS-HM-10B Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80446 - 21 Cust. #: RS-HM-11A Material: Window Glazing Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 22 Cust. #: RS-HM-11B Material: Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80446 - 23 Cust. #: RS-HM-12A Material: Layered Yellow Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80446 - 23a Cust. #: RS-HM-12A Material: Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 24 Cust. #: RS-HM-12B Material: Layered Yellow Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80446 - 24a Cust. #: RS-HM-12B Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80446 - 25 Cust. #: RS-HM-13A Material: Shingle Roof Location: House Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 25a Cust. #: RS-HM-13A Material: Shingle Location: House Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80446 - 25b Cust. #: RS-HM-13A Material: Shingle Location: House Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80446 - 26 Cust. #: RS-HM-13B Material: Shingle Roof Location: House Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 26a Cust. #: RS-HM-13B Material: Shingle Location: House Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80446 - 26b Cust. #: RS-HM-13B Material: Shingle Location: House Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80446 - 27 Cust. #: RS-HM-14A Material: Tar Paper Location: House Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 28 Cust. #: RS-HM-14B Material: Tar Paper Location: House Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80446 - 29 Cust. #: RS-HM-15A Material: Shingle Roof- Red Location: Garage Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80446 - 29a Cust. #: RS-HM-15A Material: Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 29b Cust. #: RS-HM-15A Material: Shingle Location: Garage Appearance: black, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: YES Chrysotile - 10%	Cellulose - 25% Other - 65%
Lab ID #: 80446 - 30 Cust. #: RS-HM-15B Material: Shingle Roof- Red Location: Garage Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80446 - 30a Cust. #: RS-HM-15B Material: Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 30b Cust. #: RS-HM-15B Material: Shingle Location: Garage Appearance: Layer: 3 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80446 - 31 Cust. #: RS-HS-01A Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80446 - 31a Cust. #: RS-HS-01A Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 1967 Reynolds St.



Report To:

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

ARI Report # 18-80446
 Date Collected: 10/16/18
 Date Received: 10/18/18
 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 32 Cust. #: RS-HS-01B Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80446 - 32a Cust. #: RS-HS-01B Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80446 - 33 Cust. #: RS-HS-01C Material: Plaster Finish Coat Location: Appearance: green,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 : 1967 Reynolds St.



Report To:

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

ARI Report # 18-80446
 Date Collected: 10/16/18
 Date Received: 10/18/18
 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 33a Cust. #: RS-HS-01C Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80446 - 34 Cust. #: RS-HS-01D Material: Plaster Texture Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 1.50% POINT COUNT RESULT	Other - 98.50%
Lab ID #: 80446 - 34a Cust. #: RS-HS-01D Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 1967 Reynolds St.



Report To:

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

ARI Report # 18-80446
 Date Collected: 10/16/18
 Date Received: 10/18/18
 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 35 Cust. #: RS-HS-01E Material: Plaster Location: Appearance: white, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80446 - 36 Cust. #: RS-HS-02A Material: Textured Surfacing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80446 - 37 Cust. #: RS-HS-02B Material: Textured Surfacing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 1967 Reynolds St.



Report To:

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

ARI Report # 18-80446
 Date Collected: 10/16/18
 Date Received: 10/18/18
 Date Analyzed: 10/23/18
 Date Reported: 10/25/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80446 - 38 Cust. #: RS-HS-02C Material: Textured Surfacing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex #

80446

1 of 4



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-16-18

Project: 1967 Reynolds St

Project #: _____

Contact Person: Aaron Paquet

apaaquet@redcedarconsulting.net
PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: 5 day All samples

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	RS-HM-01A	Asphalt Aiding			
2	RS-HM-01B			
3	RS-HM-02A	Black Vapor Barrier (House)			
4	RS-HM-02B			
5	RS-HM-03A	Brown Vapor Barrier (Garage)			
6	RS-HM-03B			
7	RS-HM-04A	Black Shingle (Garage)			
8	RS-HM-04B			
9	RS-HM-05A	Layered Grey Linoleum			
10	RS-HM-05B			
11	RS-HM-06A	Yellow Linoleum			

RECEIVED

Relinquished by: [Signature] Received by: B. T. Narey
Date: 10-16-18 Date: OCT 18 2018
Date: 10-16-18 Date: 10-18-18 1134

2 of 4



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-16-18
Project: 1967 Reynolds St
Project #: _____
Contact Person: Aaron Paquet

Lab Use Only
Log-In _____
Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: Slag All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	RS-HM-06B	Yellow Limestone			
13	RS-HM-07A	Phasical Limestone			
14	RS-HM-07B	" "			
15	RS-HM-08A	Green Marble Limestone			
16	RS-HM-08B	" "			
17	RS-HM-09A	9x9 Gray VFT			
18	RS-HM-09B	" "			
19	RS-HM-10A	Asphalt Joint Compound			
20	RS-HM-10B	" "			
21	RS-HM-11A	Window Glazing			
22	RS-HM-11B	" "			

RECEIVED

Relinquished by: APM Received by: VPS
Date: 10-16-18 Date: 10-16-18

Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 18 2018

APEX RESEARCH

3 of 4



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Lab Use Only
Log-In _____
Report _____

Date of Survey: 10-16-18
Project: 1967 Reynolds St
Project #: _____
Contact Person: Aaron Paquet
apaket@redcedarconsulting.net

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: Sdoy **(TTP)** All samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	RS-HM-12A	Layered Yellow Gypsum			
24	RS-HM-12B	" "			
25	RS-HM-13A	Shingle Roof (House)			
26	RS-HM-13B	" "			
27	RS-HM-14A	Tarpaper (House)			
28	RS-HM-14B	" "			
29	RS-HM-15A	Shingle Roof - Red (Garage)			
30	RS-HM-15B	" "			
31	RS-H5-01A	Plaster			
32	RS-H5-01B	" "			
33	RS-H5-01C	" "			

Relinquished by: [Signature] Received by: UPS
Date: 10-16-18 Date: 10-16-18
Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 18 2018

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4 of 4



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739
Date of Survey: 10-16-18
Project: 1967 Reynolds St
Project #: _____
Contact Person: Aaron Paquet
apquet@redcedarconsulting.net

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
48 hour 72 hour

Other: Sdey **TTP** All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
34	RS-HS-01D	Plester			
35	RS-HS-01E	"			
36	RS-HS-02A	Leptured Surfacing			
37	RS-HS-02B	"			
38	RS-HS-02C	"			

Relinquished by: Alex Martens Received by: UPS
Date: 10-16-18 Date: 10-16-18
Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 18 2018
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APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 1967 Reynolds St., Muskegon, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
2 nd Floor SW Bedroom	Smoke Detector	1
2 nd Floor NE Bedroom Closet	Smoke Detector	1
Basement	Smoke Detector	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1967 Reynolds St., Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
RS-HM-01A	Asphalt Siding	No	M	Category I	ND	House Exterior	NA
RS-HM-01B	Asphalt Siding	No	M	Category I	ND	House Exterior	NA
RS-HM-02A	Black Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
RS-HM-02B	Black Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
RS-HM-03A	Brown Vapor Barrier	Yes	M	Category II	ND	Garage Exterior	NA
RS-HM-03B	Brown Vapor Barrier	Yes	M	Category II	ND	Garage Exterior	NA
RS-HM-04A	Black Shingle	No	M	Category I	5%CH/ND/ND	Garage Exterior	576 sq. ft.
RS-HM-04B	Black Shingle	No	M	Category I	NA/ND/ND	Garage Exterior	NA
RS-HM-05A	Layered Grey Linoleum	No	M	Category I	ND/30%CH/ND	Front Entry	84 sq. ft.
RS-HM-05B	Layered Grey Linoleum	No	M	Category I	ND/NA/ND	Front Entry	NA
RS-HM-06A	Yellow Linoleum	No	M	Category I	30%CH	Kitchen	176 sq. ft.
RS-HM-06B	Yellow Linoleum	No	M	Category I	NA	Kitchen	NA
RS-HM-07A	Charcoal Linoleum	No	M	Category I	ND	Bathroom	NA
RS-HM-07B	Charcoal Linoleum	No	M	Category I	ND	Bathroom	NA
RS-HM-08A	Green Marble Linoleum	No	M	Category I	ND	SE Bedroom Closet	NA
RS-HM-08B	Green Marble Linoleum	No	M	Category I	ND	SE Bedroom Closet	NA
RS-HM-09A	9x9 Grey VFT	No	M	Category II	5%CH/ND	Hallway	9 sq. ft.
RS-HM-09B	9x9 Grey VFT	No	M	Category II	NA/ND	Hallway	NA
RS-HM-10A	Drywall and Joint Compound	No	M	Category II	ND/ND	Front Entry Ceiling	NA
RS-HM-10B	Drywall and Joint Compound	No	M	Category II	ND/ND	Kitchen Wall	NA
RS-HM-11A	Window Glazing	Yes	M	Category II	ND	Front Entry	NA
RS-HM-11B	Window Glazing	Yes	M	Category II	ND	SE Bedroom	NA
RS-HM-12A	Layered Yellow Linoleum	No	M	Category I	ND/ND	2 nd Fl. Bathroom	NA
RS-HM-12B	Layered Yellow Linoleum	No	M	Category I	ND/ND	2 nd Fl. Bathroom	NA
RS-HM-13A	Shingle Roof	No	M	Category I	ND/ND/ND	House Exterior	NA
RS-HM-13B	Shingle Roof	No	M	Category I	ND/ND/ND	House Exterior	NA
RS-HM-14A	Tar Paper	Yes	M	Category II	ND	House Exterior	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 1967 Reynolds St., Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
RS-HM-14B	Tar Paper	Yes	M	Category II	ND	House Exterior	NA
RS-HM-15A	Shingle Roof- Red	No	M	Category I	ND/ND/10%CH	Garage Exterior	576 sq. ft.
RS-HM-15B	Shingle Roof- Red	No	M	Category I	ND/ND/NA	Garage Exterior	NA
RS-HS-01A	Plaster	No	S	Category II	ND/ND	Living Ceiling	NA
RS-HS-01B	Plaster	No	S	Category II	ND/ND	Living Wall	NA
RS-HS-01C	Plaster	No	S	Category II	ND/ND	Dining Wall	NA
RS-HS-01D	Plaster	No	S	Category II	1.50%CH/ND	2 nd Fl. SW Bedroom Ceiling	4,041 sq. ft.
RS-HS-01E	Plaster	No	S	Category II	ND	2 nd Fl. SE Bedroom Wall	NA
RS-HS-02A	Textured Surfacing	No	S	Category II	5%CH	2 nd Fl. NE Bedroom Ceiling	486 sq. ft.
RS-HS-02B	Textured Surfacing	No	S	Category II	NA	2 nd Fl. SE Bedroom Ceiling	NA
RS-HS-02C	Textured Surfacing	No	S	Category II	NA	2 nd Fl. SW Bedroom Ceiling	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 1967 Reynolds St., Muskegon, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Living (1 register, 15 sq. ft.) Front Entry (1 register, 10 sq. ft.) Kitchen (1 register, 15 sq. ft.) Bathroom (1 register, 15 sq. ft.) 2 nd Fl. SW Bedroom (1 vertical chase to basement, 25 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	80 sq. ft.
Basement (6" to 12" in. dia. HVAC Wrapped Ductwork, 37 lin. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	37 lin. ft.

Notes:

Material Types

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

Abbreviations

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

Table 4 - Summary of All Asbestos Containing Materials, 1967 Reynolds St., Muskegon, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Garage Roof	Black Asphalt Shingles	No	576 sq. ft.
Garage Roof	Red Asphalt Shingles	No	576 sq. ft.
Total			1,152 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Front Entry	Layered Gray Linoleum	No	84 sq. ft.
Kitchen	Yellow Linoleum	No	176 sq. ft.
Hallway	9x9 Gray VFT	No	9 sq. ft.
Total			269 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Living (1 register, 15 sq. ft.)	HVAC Duct Wrap	Yes	80 sq. ft.
Front Entry (1 register, 10 sq. ft.)			
Kitchen (1 register, 15 sq. ft.)			
Bathroom (1 register, 15 sq. ft.)			
2 nd Fl. SW Bedroom (1 vertical chase to basement, 25 sq. ft.)			
Total			80 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement (6" to 12" in. dia. HVAC Wrapped Ductwork, 37 lin. ft.)	HVAC Duct Wrap	Yes	37 lin. ft.
Total			37 lin. ft.

Table 4 - Summary of All Asbestos Containing Materials, 1967 Reynolds St., Muskegon, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
1 st Floor	Wall Plaster	No	1,120 sq. ft.
1 st Floor	Ceiling Plaster	No	443 sq. ft.
2 nd Floor	Wall Plaster	No	1,808 sq. ft.
2 nd Floor	Ceiling Plaster	No	670 sq. ft.
Total			4,041 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
2 nd Fl. NE Bedroom Ceiling	Textured Surfacing	No	168 sq. ft.
2 nd Fl. SE Bedroom Ceiling	Textured Surfacing	No	110 sq. ft.
2 nd Fl. SW Bedroom Ceiling	Textured Surfacing	No	208 sq. ft.
Total			486 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
2032 Ray St., Muskegon Heights, MI 49444
Parcel ID: 61-26-650-017-0028-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2032 Ray St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 675 square foot residential building (the Building) constructed in 1920. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with fiber lap over wood lap while the roof was sealed with asphalt shingles. The Building can be further divided into a living room, dining room, kitchen, bath, bedroom and rear entry 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 October 24, 2018 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
- Chimney Flashing
- Fiberboard
- Linoleum
- 12x12 Vinyl Floor Tile
- Drywall and Joint Compound
- 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 October 24, 2018 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.

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

Chimney flashing samples collected during the completion of the inspection were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material identified 10 sq. ft. of chimney flashing materials on the Building.

RECOMMENDATIONS

Asbestos Containing Materials

Chimney flashing identified on the exterior 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.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 (5)
- 2' Fluorescent Light (Fixture and Ballast Only) (1)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-650-017-0028-00

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 Muskegon 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 : 2032 Ray St.

**Report To:**

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

ARI Report # 18-80577
Date Collected: 10/24/18
Date Received: 10/25/18
Date Analyzed: 10/30/18
Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 01 Cust. #: RS-HM-01A Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%
Lab ID #: 80577 - 01a Cust. #: RS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%
Lab ID #: 80577 - 01b Cust. #: RS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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: 10/30/18
Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 02 Cust. #: RS-HM-01B Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%
Lab ID #: 80577 - 02a Cust. #: RS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%
Lab ID #: 80577 - 02b Cust. #: RS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 03 Cust. #: RS-HM-02A Material: Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80577 - 04 Cust. #: RS-HM-02B Material: Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80577 - 05 Cust. #: RS-HM-03A Material: Asphalt Siding Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 06 Cust. #: RS-HM-03B Material: Asphalt Siding Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80577 - 07 Cust. #: RS-HM-04A Material: Brown Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80577 - 08 Cust. #: RS-HM-04B Material: Brown Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 09 Cust. #: RS-HM-05A Material: Blue 12x12 VFT Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80577 - 10 Cust. #: RS-HM-05B Material: Blue 12x12 VFT Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80577 - 11 Cust. #: RS-HM-06A Material: Green Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 12 Cust. #: RS-HM-06B Material: Green Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80577 - 13 Cust. #: RS-HM-07A Material: Brown Stone Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80577 - 14 Cust. #: RS-HM-07B Material: Brown Stone Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 15 Cust. #: RS-HM-08A Material: Wallboard Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Synthetic - 5% Other - 85%
Lab ID #: 80577 - 16 Cust. #: RS-HM-08B Material: Wallboard Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Synthetic - 5% Other - 85%
Lab ID #: 80577 - 17 Cust. #: RS-HM-09A Material: Window Glazing Location: House Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - Trace POINT COUNT RESULT	Other - 100%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 18 Cust. #: RS-HM-09B Material: Window Glazing Location: House Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80577 - 19 Cust. #: RS-HM-10A Material: Pebbled Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80577 - 20 Cust. #: RS-HM-10B Material: Pebbled Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 21 Cust. #: RS-HM-11A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80577 - 21a Cust. #: RS-HM-11A Material: Joint Compound Location: Appearance: green, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80577 - 21b Cust. #: RS-HM-11A Material: Textured Paint Location: Appearance: white, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Vermiculite - 10% Other - 90%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 22 Cust. #: RS-HM-11B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80577 - 22a Cust. #: RS-HM-11B Material: Joint Compound Location: Appearance: green, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80577 - 22b Cust. #: RS-HM-11B Material: Textured Paint Location: Appearance: white, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Vermiculite - 10% Other - 90%

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

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 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 23 Cust. #: RS-HM-12A Material: Window Glazing Location: Basement Appearance: beige,nonfibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80577 - 24 Cust. #: RS-HM-12B Material: Window Glazing Location: Basement Appearance: beige,nonfibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80577 - 25 Cust. #: RS-HS-01A Material: Plaster Location: Appearance: grey,fibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 25a Cust. #: RS-HS-01A Material: Plaster Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80577 - 26 Cust. #: RS-HS-01B Material: Texture Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80577 - 26a Cust. #: RS-HS-01B Material: Plaster Location: Appearance: grey, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 26b Cust. #: RS-HS-01B Material: Plaster Location: Appearance: beige,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80577 - 27 Cust. #: RS-HS-01C Material: Texture Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80577 - 27a Cust. #: RS-HS-01C Material: Plaster Location: Appearance: grey,fibrous,homogenous Layer: 2 of 3	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2032 Ray St.



Report To:

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

ARI Report # 18-80577
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 27b Cust. #: RS-HS-01C Material: Plaster Location: Appearance: beige, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Hair - 1% Other - 99%
Lab ID #: 80577 - 28 Cust. #: RS-HS-01D Material: Texture Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80577 - 28a Cust. #: RS-HS-01D Material: Plaster Location: Appearance: grey, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2032 Ray St.

**Report To:**

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

ARI Report # 18-80577
Date Collected: 10/24/18
Date Received: 10/25/18
Date Analyzed: 10/30/18
Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80577 - 28b Cust. #: RS-HS-01D Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Hair - 5% Other - 95%
Lab ID #: 80577 - 29 Cust. #: RS-HS-01E Material: Plaster Location: Appearance: grey, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80577 - 29a Cust. #: RS-HS-01E Material: Plaster Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex #

80577

pg 1 of 3



APEX Research, Inc. 11054 Hi Tech Drive, Whitmore Lake, MI 48139 Phone: 734-449-9990

E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-24-18

Project: 2032 Ray St.

Project #: _____

Contact Person: Aaron Paquet

apaquet@redcedarconsulting.net

Lab Use Only
Log-In _____
Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Rush 24 hour

48 hour 72 hour

Other: TTP All Samples

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____

Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____

Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____

TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	RS-HM-01A	Asphalt Shingle			
2	RS-HM-01B	" "			
3	RS-HM-02A	Flashing			
4	RS-HM-02B	" "			
5	RS-HM-03A	Fibertap Siding			
6	RS-HM-03B	" "			
7	RS-HM-04A	Brown Linoleum			
8	RS-HM-04B	" "			
9	RS-HM-05A	Blue 12x12 VFT			
10	RS-HM-05B	" "			
11	RS-HM-06A	Green Linoleum			

Relinquished by: [Signature] Received by: [Signature]

Date: 10-24-18 Date: 10-24-18

Relinquished by: _____ Received by: S. Tracey

Date: _____ Date: OCT 25 2018 10/25/18

RECEIVED

APEX RESEARCH



APEX Research, Inc. 11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-24-18
 Project: 2032 Ray St.
 Project #: _____
 Contact Person: Aaron Paquet

Lab Use Only
 Log-In _____
 Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
 Rush 24 hour
 48 hour 72 hour
 Other: _____ **(TTP)** All Samples
 Asbestos: Bulk x Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	RS-HM-06B	Green Linoleum			
13	RS-HM-07A	Brown Stone Linoleum			
14	RS-HM-07B	" "			
15	RS-HM-08A	Wall Board			
16	RS-HM-08B	" "			
17	RS-HM-09A	Window Glazing - House			
18	RS-HM-09B	" "			
19	RS-HM-10A	Pebbled Linoleum			
20	RS-HM-10B	" "			
21	RS-HM-11A	Drywall & compound			
22	RS-HM-11B	" "			

RECEIVED

Relinquished by: [Signature] Received by: UPS
 Date: 10-24-18 Date: 10-24-18

Relinquished by: _____ Received by: OCT 25 2018
 Date: _____ Date: _____

APEX RESEARCH



APEX Research, Inc. 11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-24-18
 Project: 2032 Bay St
 Project #: _____
 Contact Person: Aaron Paquet

Lab Use Only
 Log-In _____
 Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
 Rush _____ 24 hour _____
 48 hour _____ 72 hour (circled)
 Other: _____ **TTP** All Samples

Asbestos: Bulk x Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	RS-HM-12A	Window Glazing - Bsmt			
24	RS-HM-12B	" " "			
25	RS-HS-01A	Plaster			
26	RS-HS-01B	"			
27	RS-HS-01C	"			
28	RS-HS-01D	"			
29	RS-HS-01E	"			

RECEIVED

Relinquished by: [Signature] Received by: [Signature]
 Date: 10-24-18 Date: 10-24-18

Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 25 2018

Tables

Table 1 - Summary of Hazardous Materials, 2032 Ray St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Living Room	Smoke Detector	1
Kitchen	Smoke Detector	1
Kitchen	2' Fluorescent Light (Fixture and Ballast Only)	1
Bedroom	Smoke Detector	1
Stairwell to 2 nd Floor	Smoke Detector	1
2 nd Floor Main Room	Smoke Detector	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2032 Ray St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
RS-HM-01A	Asphalt Shingle	No	M	Category I	ND/ND/ND	House Roof	NA
RS-HM-01B	Asphalt Shingle	No	M	Category I	ND/ND/ND	House Roof	NA
RS-HM-02A	Chimney Flashing	No	M	Category II	10% CH	Chimney	10 sq. ft.
RS-HM-02B	Chimney Flashing	No	M	Category II	NA	Chimney	NA
RS-HM-03A	Fiberlap Siding	Yes	M	Category II	ND	House Exterior	NA
RS-HM-03B	Fiberlap Siding	Yes	M	Category II	ND	House Exterior	NA
RS-HM-04A	Brown Linoleum	No	M	Category I	ND	Kitchen/Dining	NA
RS-HM-04B	Brown Linoleum	No	M	Category I	ND	Kitchen/Dining	NA
RS-HM-05A	Blue 12x12 VFT	No	M	Category I	ND	Bathroom	NA
RS-HM-05B	Blue 12x12 VFT	No	M	Category I	ND	Bathroom	NA
RS-HM-06A	Green Linoleum	No	M	Category I	ND	Bedroom	NA
RS-HM-06B	Green Linoleum	No	M	Category I	ND	Bedroom	NA
RS-HM-07A	Brown Stone Linoleum ML	No	M	Category I	ND	Rear Entry	NA
RS-HM-07B	Brown Stone Linoleum ML	No	M	Category I	ND	Rear Entry	NA
RS-HM-08A	Wallboard	No	M	Category II	ND	Rear Entry	NA
RS-HM-08B	Wallboard	No	M	Category II	ND	Rear Entry	NA
RS-HM-09A	Window Glazing-House	Yes	M	Category II	ND	Kitchen Window	NA
RS-HM-09B	Window Glazing-House	Yes	M	Category II	ND	Bathroom Window	NA
RS-HM-10A	Pebbled Linoleum	No	M	Category I	ND	2 nd Floor Main Room	NA
RS-HM-10B	Pebbled Linoleum	No	M	Category I	ND	2 nd Floor Main Room	NA
RS-HM-11A	Drywall and Joint Compound	No	M	Category I	ND/ND/ND	2 nd Floor Main Room	NA
RS-HM-11B	Drywall and Joint Compound	No	M	Category I	ND	2 nd Floor Main Room	NA
RS-HM-12A	Window Glazing-Basement	Yes	M	Category II	ND	Basement Window	NA
RS-HM-12B	Window Glazing-Basement	Yes	M	Category II	ND	Basement Window	NA
RS-HS-01A	Plaster	No	S	Category II	ND/ND	Kitchen Ceiling	NA
RS-HS-01B	Plaster	No	S	Category II	ND/ND/ND	Living Room Ceiling	NA
RS-HS-01C	Plaster	No	S	Category II	ND/ND/ND	Living Room Wall	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2032 Ray St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
RS-HS-01D	Plaster	No	S	Category II	ND/ND/ND	Bedroom Wall	NA
RS-HS-01E	Plaster	No	S	Category II	ND/ND	Bathroom Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2032 Ray St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 2032 Ray St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof	Chimney Flashing	No	10 sq. ft.
		Total	10 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2037 Hoyt St., Muskegon Heights, MI 49444
Parcel ID: 61-26-595-034-0010-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2037 Hoyt St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains a 360 sq. ft. detached garage and approximate 872 square foot residential building (the Building) constructed in 1930. The Building was constructed on a concrete foundation with one aboveground floor. 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, 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 October 24, 2018 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
- Chimney Flashing
- Vapor Barrier
- Linoleum
- 12x12 Vinyl Floor Tile
- 1x1 Ceiling Tile
- Glazing
- Plaster

Red Cedar staff collected fifteen 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 fifteen samples is included as Attachment A.

Hazardous Materials Inspection

On October 24, 2018 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, fifteen 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 living room was found to contain up to 2.25% asbestos following analysis. The assessment to quantify the extent of this material identified eight windows that would fall into the same homogenous group. The windows are listed below:

- (5 windows 28" wide x 64" tall)
- (1 window 24" wide x 46" tall)
- (2 windows 24" wide x 34" tall)

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 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.)
- Kitchen (1 register, 10 sq. ft.)
- Bathroom (1 register, 10 sq. ft.)
- NW Bedroom (1 register, 10 sq. ft.)
- NE Bedroom (1 register, 10 sq. ft.)
- Basement (misc. HVAC wrap on Cold Air Ductwork, 20 sq. ft.)
- Basement (misc. HVAC wrap debris on floor, 50 sq. ft.)

Category I ACM

One type of resilient floor covering (Yellow Linoleum Multi Layered) located within the kitchen was found to contain up to 1.5% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 168 sq. ft. of this material within the Building.

Category II ACM

Chimney Flashing samples collected during the completion of the inspection were found to contain up to 1.75% Chrysotile asbestos. The assessment to quantify the extent of this material identified 10 sq. ft. of chimney flashing materials on the Building.

Plaster samples, collected from the Living Room, NW Bedroom, Dining Room, Bathroom, and NE Bedroom were each found to contain up to 2.25% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 3,604 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.)
- Kitchen (1 register, 10 sq. ft.)
- Bathroom (1 register, 10 sq. ft.)
- NW Bedroom (1 register, 10 sq. ft.)
- NE Bedroom (1 register, 10 sq. ft.)
- Basement (misc. HVAC wrap on Cold Air Ductwork, 20 sq. ft.)
- Basement (misc. HVAC wrap debris on floor, 50 sq. ft.)

Friable asbestos containing window glazing was identified on eight windows throughout the Building. The windows that should be abated prior to demolition/renovation activities are listed below:

- (5 windows 28" wide x 64" tall)
- (1 window 24" wide x 46" tall)
- (2 windows 24" wide x 34" 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.

Chimney flashing 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.

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 covering (Yellow Linoleum Multi Layered) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 Tire (12)
- Thermostat (1)

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-595-034-0010-00

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-595-034-0010-00

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 Muskegon 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 : 2037 Hoyt St.



Report To:

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

ARI Report # 18-80580
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 01 Cust. #: HS-HM-01A Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80580 - 01a Cust. #: HS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80580 - 01b Cust. #: HS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 5	Asbestos Present: NO 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 01c Cust. #: HS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80580 - 01d Cust. #: HS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80580 - 02 Cust. #: HS-HM-01B Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 02a Cust. #: HS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80580 - 02b Cust. #: HS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80580 - 02c Cust. #: HS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 03 Cust. #: HS-HM-02A Material: Flashing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 1.75% POINT COUNT RESULT	Cellulose - 20% Other - 78.25%
Lab ID #: 80580 - 04 Cust. #: HS-HM-02B Material: Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80580 - 05 Cust. #: HS-HM-03A Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 06 Cust. #: HS-HM-03B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80580 - 07 Cust. #: HS-HM-04A Material: Yellow Mottled Linoleum Location: Appearance: yellow, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 8% Wollastonite - 2% Other - 70%
Lab ID #: 80580 - 07a Cust. #: HS-HM-04A Material: Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Synthetic - 10% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 08 Cust. #: HS-HM-04B Material: Yellow Mottled Linoleum Location: Appearance: yellow, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Wollastonite - 2% Other - 68%
Lab ID #: 80580 - 08a Cust. #: HS-HM-04B Material: Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Synthetic - 10% Other - 70%
Lab ID #: 80580 - 09 Cust. #: HS-HM-05A Material: Floor Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Synthetic - 10% Other - 90%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 09a Cust. #: HS-HM-05A Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80580 - 09b Cust. #: HS-HM-05A Material: Flooring Location: Appearance: black,fibrous,homogenous Layer: 3 of 4	Asbestos Present: YES Chrysotile - 1.50% POINT COUNT RESULT	Other - 98.50%
Lab ID #: 80580 - 09c Cust. #: HS-HM-05A Material: Tar Paper Location: Appearance: black,fibrous,homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 10 Cust. #: HS-HM-05B Material: Floor Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Synthetic - 20% Other - 80%
Lab ID #: 80580 - 10a Cust. #: HS-HM-05B Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80580 - 10b Cust. #: HS-HM-05B Material: Flooring Location: Appearance: Layer: 3 of 4	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 10c Cust. #: HS-HM-05B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80580 - 11 Cust. #: HS-HM-06A Material: Blue 12x12 VFT Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80580 - 11a Cust. #: HS-HM-06A Material: Mastic Location: Appearance: clear, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 11b Cust. #: HS-HM-06A Material: Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 5% Fiberglass - 10% Wollastonite - 2% Other - 83%
Lab ID #: 80580 - 12 Cust. #: HS-HM-06B Material: Blue 12x12 VFT Location: Appearance: blue, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80580 - 12a Cust. #: HS-HM-06B Material: Mastic Location: Appearance: clear, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 12b Cust. #: HS-HM-06B Material: Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Wollastonite - 2% Other - 78%
Lab ID #: 80580 - 13 Cust. #: HS-HM-07A Material: White Linoleum Multilayer Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80580 - 13a Cust. #: HS-HM-07A Material: Linoleum Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Wollastonite - 2% Other - 73%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 14 Cust. #: HS-HM-07B Material: White Linoleum Multilayer Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80580 - 14a Cust. #: HS-HM-07B Material: Linoleum Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Wollastonite - 2% Other - 68%
Lab ID #: 80580 - 15 Cust. #: HS-HM-08A Material: White 1x1 Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Fiberglass - 2% Other - 8%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 16 Cust. #: HS-HM-08B Material: White 1x1 Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Fiberglass - 2% Other - 8%
Lab ID #: 80580 - 17 Cust. #: HS-HM-09A Material: Glazing Location: House Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80580 - 18 Cust. #: HS-HM-09B Material: Glazing Location: House Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 2.25% POINT COUNT RESULT	Other - 97.75%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 19 Cust. #: HS-HM-10A Material: Glazing Location: Basement Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80580 - 20 Cust. #: HS-HM-10B Material: Glazing Location: Basement Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80580 - 21 Cust. #: HS-HS-01A Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 21a Cust. #: HS-HS-01A Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: YES Chrysotile - 2.25% POINT COUNT RESULT	Hair - 2% Other - 95.75%
Lab ID #: 80580 - 22 Cust. #: HS-HS-01B Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80580 - 22a Cust. #: HS-HS-01B Material: Plaster Base Coat Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 23 Cust. #: HS-HS-01C Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80580 - 23a Cust. #: HS-HS-01C Material: Plaster Base Coat Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80580 - 24 Cust. #: HS-HS-01D Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2037 Hoyt St.



Report To:

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

ARI Report # 18-80580
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80580 - 24a Cust. #: HS-HS-01D Material: Plaster Base Coat Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80580 - 25 Cust. #: HS-HS-01E Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80580 - 25a Cust. #: HS-HS-01E Material: Plaster Base Coat Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex # **80580**

Page 1 of 3



APEX Research, Inc. 11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990

E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-24-18

Project: 2037 Hoyt St.

Project #:

Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM. apaquet@redcedarconsulting.net

Asbestos: Bulk Wipe Point Count PCM

Rush 24 hour

48 hour 72 hour

Other: TYP ALL samples

Lead: Bulk Wipe Air Paint Soil

Mold: Bulk Tape BioSIS Other Viable

TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	HS-HM-01A	Asphalt Subgrade			
2	HS-HM-01B	" "			
3	HS-HM-02A	Flushing			
4	HS-HM-02B	" "			
5	HS-HM-03A	Vapor Barrier			
6	HS-HM-03B	" "			
7	HS-HM-04A	Yellow Method Lindens			
8	HS-HM-04B	" "			
9	HS-HM-05A	Yellow Lindens Multi-layer			
10	HS-HM-05B	" "			
11	HS-HM-06A	Blue 12x12 VFT			

Relinquished by: [Signature] Received by: WPS

Date: 10-24-18 Date: 10-24-18

Relinquished by: _____

Date: _____

RECEIVED
Received by: G. Tracey
Date: 10/25/18 1118



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739
 Date of Survey: 10-24-18
 Project: 2-057 Hxtst
 Project #: _____
 Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 with a detection of <5% ACM.

Lab Use Only
 Log-in _____
 Report _____

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
 48 hour 72 hour
 Other: _____ ALL samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	HS-HM-06B	Blue 12x12 JFT			
13	HS-HM-07A	White Linden-multilayer			
14	HS-HM-07B	" "			
15	HS-HM-08A	White w/ CT			
16	HS-HM-08B	" "			
17	HS-HM-09A	Ceiling House			
18	HS-HM-09B	" "			
19	HS-HM-10A	Ceiling Bmnt.			
20	HS-HM-10B	" "			
21	HS-HS-01A	Plaster			
22	HS-HS-01B	" "			

Relinquished by: Chris P... Received by: UPS
 Date: 10-24-18 Date: 10-24-18
 Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 25 2018

RECEIVED

29 3 of 3

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 2 hour

Other: TTP All samples

Lab Use Only
Log-In _____
Report _____

Date of Survey: 10-24-18

Project: 2037 Hayt St.

Project #:

Contact Person: Aaron Paquet

PLM EPA 600, PC all samples with a detection of <5% ACM.
apaquet@redcedarconsulting.net

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSJS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	HS-MS-01C	Plaster			
24	HS-MS-01D	11			
25	HS-MS-01E	11			

RECEIVED

Relinquished by: Campbell Received by: UPS
Date: 10-24-18 Date: 10-24-18

Relinquished by: _____ Received by: _____
Date: _____ Date: 10-25-2018

Tables

Table 1 - Summary of Hazardous Materials, 2037 Hoyt St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Exterior	Automobile Tire	12
Dining Room	Thermostat	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2037 Hoyt St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
HS-HM-01A	Asphalt Shingle	No	M	Category I	ND/ND/ND/ ND/ND	House Roof	NA
HS-HM-01B	Asphalt Shingle	No	M	Category I	ND/ND/ND/ ND	House Roof	NA
HS-HM-02A	Flashing	No	M	Category II	1.75% CH	Chimney	10 sq. ft.
HS-HM-02B	Flashing	No	M	Category II	NA	Chimney	NA
HS-HM-03A	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
HS-HM-03B	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
HS-HM-04A	Yellow Mottled Linoleum	No	M	Category I	ND/ND	Dining Room	NA
HS-HM-04B	Yellow Mottled Linoleum	No	M	Category I	ND/ND	Dining Room	NA
HS-HM-05A	Yellow Linoleum ML	No	M	Category I	ND/ND/ 1.5% CH/ND	Kitchen	168 sq. ft.
HS-HM-05B	Yellow Linoleum ML	No	M	Category I	ND/ND/NA/ ND	Kitchen	NA
HS-HM-06A	Blue 12x12 VFT	No	M	Category I	ND/ND/ND	Bathroom	NA
HS-HM-06B	Blue 12x12 VFT	No	M	Category I	ND/ND/ND	Bathroom	NA
HS-HM-07A	White Linoleum ML	No	M	Category I	ND/ND	Rear Entry	NA
HS-HM-07B	White Linoleum ML	No	M	Category I	ND/ND	Rear Entry	NA
HS-HM-08A	White 1x1 CT	Yes	M	Category II	ND	Living Room	NA
HS-HM-08B	White 1x1 CT	Yes	M	Category II	ND	Living Room	NA
HS-HM-09A	Glazing House	Yes	M	Category II	ND	Bathroom Window	NA
HS-HM-09B	Glazing House	Yes	M	Category II	2.25% CH	Living Room Window	8 Windows
HS-HM-10A	Glazing Bsmt.	Yes	M	Category II	ND	Basement Window	NA
HS-HM-10B	Glazing Bsmt.	Yes	M	Category II	ND	Basement Window	NA
HS-HS-01A	Plaster	No	S	Category II	ND/2.25% CH	Living Room Ceiling	3,604 sq. ft.
HS-HS-01B	Plaster	No	S	Category II	ND/NA	NW Bedroom Ceiling	NA
HS-HS-01C	Plaster	No	S	Category II	ND/NA	Dining Room Wall	NA
HS-HS-01D	Plaster	No	S	Category II	ND/NA	Bathroom Wall	NA
HS-HS-01E	Plaster	No	S	Category II	ND/NA	NE Bedroom Wall	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2037 Hoyt St., Muskegon Heights, Michigan

Notes:

Material Types

M = Miscellaneous building material
TSI = Thermal System Insulation
S = Surfacing Material
PC = Point Count Analysis
CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2037 Hoyt St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Living (1 register, 10 sq. ft.) Dining (1 register, 10 sq. ft.) Kitchen (1 register, 10 sq. ft.) Bathroom (1 register, 10 sq. ft.) NW Bedroom (1 register, 10 sq. ft.) NE Bedroom (1 register, 10 sq. ft.) Basement (misc. HVAC wrap on Cold Air Ductwork, 20 sq. ft.) Basement (misc. HVAC wrap debris on floor, 50 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

Table 4 - Summary of All Asbestos Containing Materials, 2037 Hoyt St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof	Chimney Flashing	No	10 sq. ft.
	Total		10 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen	Yellow Linoleum ML	No	168 sq. ft.
	Total		168 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Living (1 register, 10 sq. ft.) Dining (1 register, 10 sq. ft.) Kitchen (1 register, 10 sq. ft.) Bathroom (1 register, 10 sq. ft.) NW Bedroom (1 register, 10 sq. ft.) NE Bedroom (1 register, 10 sq. ft.) Basement (misc. HVAC wrap on Cold Air Ductwork, 20 sq. ft.) Basement (misc. HVAC wrap debris on floor, 50 sq. ft.)	HVAC Duct Wrap	Yes	130 sq. ft.
	Total		130 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
(5 windows 28" wide x 64" tall)	Glazing	Yes	5 Windows
(1 window 24" wide x 46" tall)	Glazing	Yes	1 Window
(2 windows 24" wide x 34" tall)	Glazing	Yes	2 Windows
	Total		8 Windows
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
1 st Floor	Wall Plaster	No	2,736 sq. ft.
1 st Floor	Ceiling Plaster	No	868 sq. ft.
	Total		3,604 sq. ft.

Table 4 - Summary of All Asbestos Containing Materials, 2037 Hoyt St., Muskegon Heights, Michigan

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
2041 Riordan St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-031-0010-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2041 Riordan St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 840 square foot residential building (the Building) constructed in 1925. The Building was constructed on a concrete block basement with one aboveground floor. The exterior walls of the Building were finished with aluminum lap while the roof was sealed with asphalt shingles. The Building can be further divided into a front entry, living room, dining/kitchen, bath, 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 October 23, 2018 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:

- Vapor Barrier
- Shingle Roof
- Vinyl Flooring
- 1'x1' Ceiling Tile
- Drywall
- 2'x4' Ceiling Tile
- Wall Panel Glue
- Window Glazing
- Linoleum
- Roof Flashing
- Plaster

Red Cedar staff collected thirty five samples of suspect ACBM separated into sixteen 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 thirty five samples is included as Attachment A.

Hazardous Materials Inspection

On October 23, 2018 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, thirty five 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

One type of resilient floor covering (Gray Layered Vinyl) located within the bathroom was found to contain up to 30% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 88 sq. ft. of this material within the Building.

Category II ACM

Roof Flashing samples collected during the completion of the inspection were found to contain up to 20% Chrysotile asbestos. The assessment to quantify the extent of this material identified 10 sq. ft. of roof flashing materials on the Building.

Black Wall Panel Glue samples, collected from the Living Room and NW Bedroom were found to contain up to 10% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 1,312 sq. ft. of black wall panel glue within the Building.

RECOMMENDATIONS

Asbestos Containing Materials

Roof Flashing identified on the exterior 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.

Black Wall Panel Glue 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 (Gray Layered Vinyl) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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:

- 1-Quart Container Misc. (5)
- 4' Fluorescent Bulb (9)
- Smoke Detector (2)
- Old Thermostat (1)
- Thermostat (1)
- 4' Fluorescent Light (Fixture and Ballast Only) (1)
- 1-Gallon Container Misc. (4)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-031-0010-00

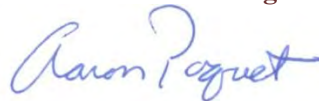
DISCLAIMER

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 Muskegon 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 : 2041 Riordan St.



Report To:

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

ARI Report # 18-80578
 Date Collected: 10/23/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 01 Cust. #: RS-HM-01A Material: Brown Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80578 - 02 Cust. #: RS-HM-01B Material: Brown Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80578 - 03 Cust. #: RS-HM-02A Material: Black Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2041 Riordan St.



Report To:

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

ARI Report # 18-80578
 Date Collected: 10/23/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 04 Cust. #: RS-HM-02B Material: Black Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80578 - 05 Cust. #: RS-HM-03A Material: Shingle Roof Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80578 - 05a Cust. #: RS-HM-03A Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%

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 : 2041 Riordan St.



Report To:

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

ARI Report # 18-80578
 Date Collected: 10/23/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 06 Cust. #: RS-HM-03B Material: Shingle Roof Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80578 - 06a Cust. #: RS-HM-03B Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80578 - 07 Cust. #: RS-HM-04A Material: Lite Grey Vinyl Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 08 Cust. #: RS-HM-04B Material: Lite Grey Vinyl Location: Appearance: grey,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80578 - 09 Cust. #: RS-HM-05A Material: Beige Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80578 - 09a Cust. #: RS-HM-05A Material: Yellow Linoleum Location: Appearance: yellow,fibrous,nonhomogenous Layer: 2 of 4	Asbestos Present: YES Chrysotile - 30%	Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 09b Cust. #: RS-HM-05A Material: Floor Tile Location: Appearance: beige,nonfibrous,homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80578 - 09c Cust. #: RS-HM-05A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80578 - 10 Cust. #: RS-HM-05B Material: Beige Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 10a Cust. #: RS-HM-05B Material: Yellow Linoleum Location: Appearance: Layer: 2 of 4	Asbestos Present: NOT ANALYZED	
Lab ID #: 80578 - 10b Cust. #: RS-HM-05B Material: Floor Tile Location: Appearance: beige,nonfibrous,homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80578 - 10c Cust. #: RS-HM-05B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 11 Cust. #: RS-HM-06A Material: Brown Vinyl Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80578 - 12 Cust. #: RS-HM-06B Material: Brown Vinyl Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80578 - 13 Cust. #: RS-HM-07A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%

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Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 14 Cust. #: RS-HM-07B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80578 - 15 Cust. #: RS-HM-08A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80578 - 16 Cust. #: RS-HM-08B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 17 Cust. #: RS-HM-09A Material: 2x4 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80578 - 18 Cust. #: RS-HM-09B Material: 2x4 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80578 - 19 Cust. #: RS-HM-10A Material: Black Wall Panel Glue Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 20 Cust. #: RS-HM-10B Material: Black Wall Panel Glue Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80578 - 21 Cust. #: RS-HM-11A Material: Brown Wall Panel Glue Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80578 - 22 Cust. #: RS-HM-11B Material: Brown Wall Panel Glue Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 23 Cust. #: RS-HM-12A Material: House Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80578 - 24 Cust. #: RS-HM-12B Material: House Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80578 - 25 Cust. #: RS-HM-13A Material: Storm Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 1% Other - 99%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 26 Cust. #: RS-HM-13B Material: Storm Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 1% Other - 99%
Lab ID #: 80578 - 27 Cust. #: RS-HM-14A Material: Charcoal Linoleum Location: Appearance: brown,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80578 - 28 Cust. #: RS-HM-14B Material: Charcoal Linoleum Location: Appearance: brown,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 29 Cust. #: RS-HM-15A Material: Roof Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 20%	Other - 80%
Lab ID #: 80578 - 30 Cust. #: RS-HM-15B Material: Roof Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80578 - 31 Cust. #: RS-HS-01A Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 31a Cust. #: RS-HS-01A Material: Plaster Base Coat Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80578 - 32 Cust. #: RS-HS-01B Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80578 - 32a Cust. #: RS-HS-01B Material: Plaster Base Coat Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 1% Other - 99%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 33 Cust. #: RS-HS-01C Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80578 - 33a Cust. #: RS-HS-01C Material: Plaster Base Coat Location: Appearance: brown,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80578 - 34 Cust. #: RS-HS-01D Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80578 - 34a Cust. #: RS-HS-01D Material: Plaster Base Coat Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80578 - 35 Cust. #: RS-HS-01E Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80578 - 35a Cust. #: RS-HS-01E Material: Plaster Base Coat Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%

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Apex # 80578

1 of 4



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18

Project: 2041 Rindler St

Project #:

Contact Person: Aaron Paquet

apaquet@redcedarconsulting.net
PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: TTP All Samples

Asbestos: Bulk Wipe Point Count PCM

Lead: Bulk Wipe Air Paint Soil

Mold: Bulk Tape BioSIS Other Viable

TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	RS-FM-01A	Brown Vapor Barrier			
2	01B	" "			
3	02A	Black Vapor Barrier			
4	02B	" "			
5	03A	Shingle Roof			
6	03B	" "			
7	04A	Light Gray Vinyl			
8	04B	" "			
9	05A	Gray Sealed Vinyl			
10	05B	" "			
11	06A	Brown Vinyl			

Relinquished by: A. Paquet Received by: UPS Relinquished by: RECEIVED A. Paquet

Date: 10-23-18 Date: 10-23-18 Date: 10/25/18 11:18

2 of 4



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E-mail: apexresearch@chartermi.net Fax: 734-449-9991

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Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739
Date of Survey: 10-23-18
Project: 2041 Riederer St
Project #: _____
Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk x Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
48 hour 72 hour
Other: _____

TTP All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	RS-HM-08B	Brown Vinyl			
13	07A	(x1) White Smooth CT			
14	07B	" " " "			
15	08A	Asphalt			
16	08B	" " " "			
17	09A	2x4 White Smooth CT			
18	09B	" " " "			
19	10A	Black Half Panel Blue			
20	10B	" " " "			
21	11A	Brown Sill Panel Blue			
22	11B	" " " "			

RECEIVED

Relinquished by: A. Paquet Received by: UPS
Date: 10-23-18 Date: 10-23-18

Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 25 2018

APEX RESEARCH

3 of 4



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18
Project: 2041 Rinden
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour
Other: TTP All Samples

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	RS-HM-12A	House Window Siding			
24	12B	"			
25	13A	Stone Window Siding			
26	13B	"			
27	14A	Charcoal Siding			
28	14B	"			
29	15A	Roof Bleaching			
30	15B	"			
31	RS-HS-01A	Plaster			
32	01B	"			
33	01C	"			

RECEIVED

Relinquished by: Aaron Paquet Received by: JPS
Date: 10-23-18 Date: 10-23-18

Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 25 2018

APEX RESEARCH

4674

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18

Project: 2041 Rindan St

Project #:

Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk x Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Rush 24 hour
48 hour 72 hour

Other: (TTP) All samples

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
34	RS-HS-01D	Plaster			
35	RS-HS-01E	..			

Relinquished by: *[Signature]* Received by: *[Signature]*
Date: 10-23-18 Date: 10-23-18

Reinquired by: _____ Received by: _____
Date: _____ Date: 10-25-2018

RECEIVED

Tables

Table 1 - Summary of Hazardous Materials, 2041 Riordan St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Bathroom	1-Quart Container Misc.	5
NW Bedroom	4' Fluorescent Light Bulb	7
NE Bedroom	Smoke Detector	1
Living Room	Old Thermostat	1
Living Room	Thermostat	1
Living Room	4' Fluorescent Light (Fixture and Ballast Only)	1
Living Room	4' Fluorescent Light Bulb	2
Living Room	Smoke Detector	1
Basement	1-Gallon Container Misc.	4

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2041 Riordan St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
RS-HM-01A	Brown Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
RS-HM-01B	Brown Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
RS-HM-02A	Gray Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
RS-HM-02B	Gray Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
RS-HM-03A	Shingle Roof	No	M	Category I	ND/ND	House Roof	NA
RS-HM-03B	Shingle Roof	No	M	Category I	ND/ND	House Roof	NA
RS-HM-04A	Light Gray Vinyl	No	M	Category I	ND	Kitchen	NA
RS-HM-04B	Light Gray Vinyl	No	M	Category I	ND	Kitchen	NA
RS-HM-05A	Gray Layered Vinyl	No	M	Category I	ND/30% CH/ ND/ND	Bathroom	88 sq. ft.
RS-HM-05B	Gray Layered Vinyl	No	M	Category I	ND/NA/ND/ ND	Bathroom	NA
RS-HM-06A	Brown Vinyl	No	M	Category I	ND	Rear Entry	NA
RS-HM-06B	Brown Vinyl	No	M	Category I	ND	Rear Entry	NA
RS-HM-07A	1x1 White Smooth CT	Yes	M	Category II	ND	Bathroom	NA
RS-HM-07B	1x1 White Smooth CT	Yes	M	Category II	ND	NE Bedroom	NA
RS-HM-08A	Drywall	No	M	Category II	ND	Kitchen Ceiling	NA
RS-HM-08B	Drywall	No	M	Category II	ND	Kitchen Wall	NA
RS-HM-09A	2x4 White Smooth CT	Yes	M	Category II	ND	Living Room	NA
RS-HM-09B	2x4 White Smooth CT	Yes	M	Category II	ND	Living Room	NA
RS-HM-10A	Black Wall Panel Glue	No	M	Category II	10% CH	Living Room	1,312 sq. ft.
RS-HM-10B	Black Wall Panel Glue	No	M	Category II	NA	NW Bedroom	NA
RS-HM-11A	Brown Wall Panel Glue	No	M	Category II	ND	Bathroom	NA
RS-HM-11B	Brown Wall Panel Glue	No	M	Category II	ND	Bathroom	NA
RS-HM-12A	House Window Glazing	Yes	M	Category II	ND	Living Room Window	NA
RS-HM-12B	House Window Glazing	Yes	M	Category II	ND	W Bedroom Window	NA
RS-HM-13A	Storm Window Glazing	Yes	M	Category II	ND	Storm Window	NA
RS-HM-13B	Storm Window Glazing	Yes	M	Category II	ND	Storm Window	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2041 Riordan St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
RS-HM-14A	Charcoal Linoleum	No	M	Category I	ND	Basement	NA
RS-HM-14B	Charcoal Linoleum	No	M	Category I	ND	Basement	NA
RS-HM-15A	Roof Flashing	No	M	Category II	20% CH	House Roof	10 sq. ft.
RS-HM-15B	Roof Flashing	No	M	Category II	NA	House Roof	NA
RS-HS-01A	Plaster	No	S	Category II	ND/ND	Living Room Ceiling	NA
RS-HS-01B	Plaster	No	S	Category II	ND/ND	NW Bedroom Ceiling	NA
RS-HS-01C	Plaster	No	S	Category II	ND/ND	NW Bedroom Wall	NA
RS-HS-01D	Plaster	No	S	Category II	ND/ND	Living Room Wall	NA
RS-HS-01E	Plaster	No	S	Category II	ND/ND	Bathroom Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2041 Riordan St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 2041 Riordan St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof	Roof Flashing	No	10 sq. ft.
Total			10 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Bathroom	Gray Layered Vinyl	No	88 sq. ft.
Total			88 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Living Room, NW Bedroom, and NE Bedroom Wall Panels	Black Wall Panel Glue	No	1,312 sq. ft.
Total			1,312 sq. ft.

Notes:

Abbreviations

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

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 29, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
2201 Reynolds St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-066-0001-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2201 Reynolds St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 1,056 square foot residential building (the Building) constructed in 1920. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with Transite 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, bath, two bedrooms and rear entry on the first floor while the second floor contains three 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 October 11, 2018 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
- Rolled Roofing
- Vapor Barrier
- 12"x12" Vinyl Floor Tile
- Fiberboard
- Felt
- Drywall and Joint Compound
- Glazing
- Caulk
- Linoleum
- Flashing
- Plaster

Red Cedar staff collected thirty three samples of suspect ACBM separated into fifteen 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 thirty three samples is included as Attachment A.

Hazardous Materials Inspection

On October 11, 2018 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, thirty 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 HVAC Duct Wrap located in the Building and 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

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 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Living (1 register, 10 sq. ft.)
- Basement (misc. HVAC Wrap on Ductwork and Framing, 5 sq. ft.)

Category I ACM

Two types of resilient floor covering (Brown 12"x12" Vinyl Tile Multilayer and 12"x12" Vinyl Tile Multilayer) located within the kitchen and bathroom were found to contain up to 30% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 177 sq. ft. of this material within the Building.

Rolled Roofing samples collected during the completion of the inspection were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material identified 364 sq. ft. of asphalt roofing materials on 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 identified 1,506 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.)
- Basement (misc. HVAC Wrap on Ductwork and Framing, 5 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.

The Category I roofing materials and resilient floor coverings (Brown 12"x12" Vinyl Tile Multilayer and 12"x12" Vinyl Tile Multilayer) are non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-066-0001-00

the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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:

- No Hazardous Materials Identified

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-066-0001-00

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 Muskegon 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 : 2201 Reynolds



Report To:

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

ARI Report # 18-80288
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 01 Cust. #: RS-HM-01A Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80288 - 01a Cust. #: RS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80288 - 01b Cust. #: RS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
Project : 2201 Reynolds



Report To:

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

ARI Report # 18-80288
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 01c Cust. #: RS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80288 - 02 Cust. #: RS-HM-01B Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80288 - 02a Cust. #: RS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2201 Reynolds



Report To:

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

ARI Report # 18-80288
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 02b Cust. #: RS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80288 - 02c Cust. #: RS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80288 - 03 Cust. #: RS-HM-02A Material: Rolled Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Cellulose - 20% 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2201 Reynolds



Report To:

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

ARI Report # 18-80288
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 04 Cust. #: RS-HM-02B Material: Rolled Roofing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80288 - 05 Cust. #: RS-HM-03A Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 06 Cust. #: RS-HM-03B Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Robert T. Letarte Jr., Laboratory Director

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Mr. Aaron Paquet
 Red Cedar Consulting
 P.O. Box 13216
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ARI Report # 18-80288
 Date Collected: 10/11/18
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 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 07 Cust. #: RS-HM-04A Material: Brown 12x12 VFT ML Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 07a Cust. #: RS-HM-04A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 07b Cust. #: RS-HM-04A Material: Floor Tile Location: Appearance: beige,nonfibrous,homogenous Layer: 3 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 07c Cust. #: RS-HM-04A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 4 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 07d Cust. #: RS-HM-04A Material: Floor Tile Location: Appearance: yellow,nonfibrous,homogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%
Lab ID #: 80288 - 07e Cust. #: RS-HM-04A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 6 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 08 Cust. #: RS-HM-04B Material: Brown 12x12 VFT ML Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 8	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%
Lab ID #: 80288 - 08a Cust. #: RS-HM-04B Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 8	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%
Lab ID #: 80288 - 08b Cust. #: RS-HM-04B Material: Floor Tile Location: Appearance: beige,nonfibrous,homogenous Layer: 3 of 8	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 08c Cust. #: RS-HM-04B Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 4 of 8	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%
Lab ID #: 80288 - 08d Cust. #: RS-HM-04B Material: Floor Tile Location: Appearance: beige,nonfibrous,homogenous Layer: 5 of 8	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%
Lab ID #: 80288 - 08e Cust. #: RS-HM-04B Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 6 of 8	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 08f Cust. #: RS-HM-04B Material: Floor Tile Location: Appearance: beige, fibrous, homogenous Layer: 7 of 8	Asbestos Present: YES Chrysotile - 5%	Cellulose - 95%
Lab ID #: 80288 - 08g Cust. #: RS-HM-04B Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 8 of 8	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%
Lab ID #: 80288 - 09 Cust. #: RS-HM-05A Material: 12x12 VFT ML Location: Bath Appearance: grey, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 09a Cust. #: RS-HM-05A Material: Mastic Location: Bath Appearance: clear,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%
Lab ID #: 80288 - 09b Cust. #: RS-HM-05A Material: Linoleum Location: Bath Appearance: yellow,fibrous,nonhomogenous Layer: 3 of 3	Asbestos Present: YES Chrysotile - 30%	Cellulose - 70%
Lab ID #: 80288 - 10 Cust. #: RS-HM-05B Material: 12x12 VFT ML Location: Bath Appearance: grey,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 10a Cust. #: RS-HM-05B Material: Mastic Location: Bath Appearance: clear,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 100%
Lab ID #: 80288 - 10b Cust. #: RS-HM-05B Material: Linoleum Location: Bath Appearance: Layer: 3 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80288 - 11 Cust. #: RS-HM-06A Material: Tar Paper Location: Appearance: black,fibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 11a Cust. #: RS-HM-06A Material: Fiberboard Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80288 - 12 Cust. #: RS-HM-06B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 12a Cust. #: RS-HM-06B Material: Fiberboard Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 13 Cust. #: RS-HM-07A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 5% Other - 80%
Lab ID #: 80288 - 13a Cust. #: RS-HM-07A Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 14 Cust. #: RS-HM-07B Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 15 Cust. #: RS-HM-08A Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 16 Cust. #: RS-HM-08B Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 17 Cust. #: RS-HM-09A Material: Tan Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 18 Cust. #: RS-HM-09B Material: Tan Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 19 Cust. #: RS-HM-10A Material: White Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 20 Cust. #: RS-HM-10B Material: White Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 21 Cust. #: RS-HM-11A Material: Floor Tile Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 21a Cust. #: RS-HM-11A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 21b Cust. #: RS-HM-11A Material: Linoleum Location: Appearance: green,fibrous,nonhomogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 21c Cust. #: RS-HM-11A Material: Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80288 - 22 Cust. #: RS-HM-11B Material: Floor Tile Location: Appearance: grey, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 22a Cust. #: RS-HM-11B Material: Mastic Location: Appearance: clear, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 22b Cust. #: RS-HM-11B Material: Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80288 - 23 Cust. #: RS-HM-12A Material: Vent Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80288 - 24 Cust. #: RS-HM-12B Material: Vent Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 25 Cust. #: RS-HM-13A Material: Grey Mottled Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 25a Cust. #: RS-HM-13A Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 25b Cust. #: RS-HM-13A Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 25c Cust. #: RS-HM-13A Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 26 Cust. #: RS-HM-13B Material: Grey Mottled Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 26a Cust. #: RS-HM-13B Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
Project : 2201 Reynolds



Report To:

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

ARI Report # 18-80288
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 26b Cust. #: RS-HM-13B Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 26c Cust. #: RS-HM-13B Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 27 Cust. #: RS-HM-14A Material: Stone Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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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 Lansing, MI 48901

ARI Report # 18-80288
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 27a Cust. #: RS-HM-14A Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 27b Cust. #: RS-HM-14A Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 28 Cust. #: RS-HM-14B Material: Stone Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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 : 2201 Reynolds



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 Red Cedar Consulting
 P.O. Box 13216
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ARI Report # 18-80288
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 28a Cust. #: RS-HM-14B Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 28b Cust. #: RS-HM-14B Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80288 - 29 Cust. #: RS-HS-01A Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
Project : 2201 Reynolds



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 P.O. Box 13216
 Lansing, MI 48901

ARI Report # 18-80288
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 29a Cust. #: RS-HS-01A Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80288 - 30 Cust. #: RS-HS-01B Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 30a Cust. #: RS-HS-01B Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
Project : 2201 Reynolds



Report To:

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

ARI Report # 18-80288
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 31 Cust. #: RS-HS-01C Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 31a Cust. #: RS-HS-01C Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80288 - 32 Cust. #: RS-HS-01D Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
Project : 2201 Reynolds



Report To:

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

ARI Report # 18-80288
 Date Collected: 10/11/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80288 - 32a Cust. #: RS-HS-01D Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80288 - 33 Cust. #: RS-HS-01E Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80288 - 33a Cust. #: RS-HS-01E Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex # 80288

Pg 1 of 3



APEX Research, Inc. 11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-11-18
Project: 2201 Reynolds
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Other: 5 Day (TTP) All Samples

Lab Use Only
Log-in _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	RS-HM-01A	Asphalt Shingle			
2	RS-HM-01B	"			
3	RS-HM-02A	Roller Roofing			
4	RS-HM-02B	"			
5	RS-HM-03A	Vapor Barrier			
6	RS-HM-03B	"			
7	RS-HM-04A	Brown 12x12 VFT ML			
8	RS-HM-04B	"			
9	RS-HM-05A	12x12 VFT ML Bath			
10	RS-HM-05B	"			
11	RS-HM-06A	Fiber board / felt			

RECEIVED

Relinquished by: [Signature] Received by: U.S.

Date: 10-11-18 Date: 10-12-18

Received by: S. Tracey OCT 12 2018
Date: 10/12/18 APEX RESEARCH

Pg 2 of 3



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-11-18
Project: 220L Reynolds St.
Project #: _____
Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
48 hour 72 hour

Other: 5 Day ALL samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	RS-HM-06B	Fiberboard Felt			
13	RS-HM-07A	Drywall Compound			
14	RS-HM-07B	"			
15	RS-HM-08A	Glazing			
16	RS-HM-08B	"			
17	RS-HM-09A	Tan Caulk			
18	RS-HM-09B	"			
19	RS-HM-10A	White Caulk			
20	RS-HM-10B	"			
21	RS-HM-11A	White Lindumyl			
22	RS-HM-11B	"			

Relinquished by: [Signature] Received by: UPS
Date: 10-11-18 Date: 10-11-18
Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 12 2018

RECEIVED

129 3 of 3

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-11-18

Project: 2201 Reynolds

Project #:

Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Asbestos: Bulk Wipe Point Count PCM

Rush 24 hour Lead: Bulk Wipe Air Paint Soil

48 hour Mold: Bulk Tape BioSIS Other Viable

Other: 5 Day All Samples TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	RS-HM-12A	Vent Flashing			
24	RS-HM-12B	" "			
25	RS-HM-13A	Cray (method) Linoleum			
26	RS-HM-13B	" "			
27	RS-HM-14A	Stone Linoleum			
28	RS-HM-14B	" "			
29	RS-HS-01A	Plaster			
30	RS-HS-01B	" "			
31	RS-HS-01C	" "			
32	RS-HS-01D	" "			
33	RS-HS-01E	" "			

RECEIVED

Relinquished by: [Signature] Received by: WFS

Date: 10-11-18 Date: 10-11-18

Relinquished by: _____ Received by: _____ Date: _____

Date: _____ Date: _____

APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 2201 Reynolds St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
No Hazardous Materials Identified		

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2201 Reynolds St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
RS-HM-01A	Asphalt Shingle	No	M	Category I	ND/ND/ND/ND	Exterior	NA
RS-HM-01B	Asphalt Shingle	No	M	Category I	ND/ND/ND/ND	Exterior	NA
RS-HM-02A	Rolled Roofing	No	M	Category I	10%CH	Exterior	364 sq. ft.
RS-HM-02B	Rolled Roofing	No	M	Category I	NA	Exterior	NA
RS-HM-03A	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
RS-HM-03B	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
RS-HM-04A	Brown 12"x12" Vinyl Tile Multilayer	No	M	Category I	ND/ND/ND/ ND/ND/ND	Kitchen	NA
RS-HM-04B	Brown 12"x12" Vinyl Tile Multilayer	No	M	Category I	ND/ND/ND/ ND/ND/ND/ 5%CH/ND	Kitchen	135 sq. ft.
RS-HM-05A	12"x12" Vinyl Tile Multilayer	No	M	Category I	ND/ND/ 30%CH	Bathroom	42 sq. ft.
RS-HM-05B	12"x12" Vinyl Tile Multilayer	No	M	Category I	ND/ND/NA	Bathroom	NA
RS-HM-06A	Fiberboard/Felt	Yes	M	Category II	ND/ND	Rear Entry	NA
RS-HM-06B	Fiberboard/Felt	Yes	M	Category II	ND/ND	Rear Entry	NA
RS-HM-07A	Drywall and Joint Compound	No	M	Category II	ND/ND	E Bedroom Ceiling	NA
RS-HM-07B	Drywall and Joint Compound	No	M	Category II	ND	Kitchen Wall	NA
RS-HM-08A	Glazing	Yes	M	Category II	ND	E Bedroom	NA
RS-HM-08B	Glazing	Yes	M	Category II	ND	Kitchen	NA
RS-HM-09A	Tan Caulk	No	M	Category II	ND	E Bedroom	NA
RS-HM-09B	Tan Caulk	No	M	Category II	ND	E Bedroom	NA
RS-HM-10A	White Caulk	No	M	Category I	ND	Living	NA
RS-HM-10B	White Caulk	No	M	Category I	ND	Living	NA
RS-HM-11A	White Linoleum Multilayer	No	M	Category I	ND/ND/ND/ND	Stairway	NA
RS-HM-11B	White Linoleum Multilayer	No	M	Category I	ND/ND/ND	Stairway	NA
RS-HM-12A	Vent Flashing	No	M	Category I	ND	Exterior	NA
RS-HM-12B	Vent Flashing	No	M	Category I	ND	Exterior	NA
RS-HM-13A	Grey Mottled Linoleum	No	M	Category I	ND/ND/ND/ND	2 nd Fl. Center Bedroom	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2201 Reynolds St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
RS-HM-13B	Grey Mottled Linoleum	No	M	Category I	ND/ND/ND/ND	2 nd Fl. Center Bedroom	NA
RS-HM-14A	Stone Linoleum	No	M	Category I	ND/ND/ND	2 nd Fl. W Bedroom	NA
RS-HM-14B	Stone Linoleum	No	M	Category I	ND/ND/ND	2 nd Fl. W Bedroom	NA
RS-HS-01A	Plaster	No	S	Category II	ND/ND	Dining Ceiling	NA
RS-HS-01B	Plaster	No	S	Category II	ND/ND	Kitchen Ceiling	NA
RS-HS-01C	Plaster	No	S	Category II	ND/ND	Living Wall	NA
RS-HS-01D	Plaster	No	S	Category II	ND/ND	E Bedroom Wall	NA
RS-HS-01E	Plaster	No	S	Category II	ND/ND	W Bedroom Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2201 Reynolds St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Building Exterior	Transite Siding	No	Fair	M	1,506 sq. ft.
Living (1 register, 10 sq. ft.) Basement (misc. HVAC Wrap on Ductwork and Framing, 5 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	15 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

Table 4 - Summary of All Asbestos Containing Materials, 2201 Reynolds St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials				
Location	Material Description	Friable	Approx. Quantity	
Building Roof	Rolled Roofing	No	364 sq. ft.	
			Total	364 sq. ft.
Interior - Asbestos Containing Materials				
Location	Material Description	Friable	Approx. Quantity	
Kitchen	Brown 12"x12" Vinyl Tile Multilayer	No	135 sq. ft.	
Bathroom	12"x12" Vinyl Tile Multilayer	No	42 sq. ft.	
			Total	177 sq. ft.
Interior - Asbestos Containing Materials				
Location	Material Description	Friable	Approx. Quantity	
Living (1 register, 10 sq. ft.)				
Basement (misc. HVAC Wrap on Ductwork and Framing, 5 sq. ft.)	HVAC Duct Wrap	Yes	15 sq. ft.	
			Total	15 sq. ft.
Exterior - Asbestos Containing Materials				
Location	Material Description	Friable	Approx. Quantity	
Building Exterior	Transite Siding	No	1,506 sq. ft.	
			Total	1,506 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Table 4 - Summary of All Asbestos Containing Materials, 2201 Reynolds St., Muskegon Heights, Michigan

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
2245 Sanford St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-072-0012-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2245 Sanford St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .15 acre residential parcel which contains a 480 sq. ft. detached garage and approximate 1,576 square foot residential building (the Building) constructed in 1920. 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 wood lap while the roof was sealed with asphalt shingles. The Building can be further divided into two apartments for inspection purposes.

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 October 26, 2018 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:

- Roofing Shingle
- Vapor Barrier
- Linoleum
- 1x1 Ceiling Tile
- Drywall and Joint Compound
- Window Glazing
- Plaster
- Textured Surfacing

Red Cedar staff collected thirty nine samples of suspect ACBM separated into seventeen 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 thirty nine samples is included as Attachment A.

Hazardous Materials Inspection

On October 26, 2018 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, thirty 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 and 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

Window glazing samples collected from windows in the living room and basement were found to contain up to 10% asbestos following analysis. The assessment to quantify the extent of this material identified sixteen windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- (5 windows 28" wide x 64" tall)
- (2 windows 24" wide x 44" tall)
- (1 window 24" wide x 48" tall)
- (1 window 28" wide x 28" tall)
- (1 window 39" wide x 37" tall)
- (1 window 24" wide x 40" tall)
- Basement (5 windows 32" wide x 14" tall)

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 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Living (1 register, 15 sq. ft.)
- Kitchen (1 register, 15 sq. ft.)
- Bathroom (1 register, 15 sq. ft.)
- 2nd Floor Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)
- 2nd Floor Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)
- Basement (misc. HVAC wrap on Ductwork, 10 sq. ft.)
- Basement Crawl Space (Duct Wrap Debris, 25 sq. ft.)

Category I ACM

Three types of resilient floor covering (Layered Yellow Linoleum, Charcoal Pebble Linoleum, and Lite Brown Layered Linoleum) located within the kitchen were found to contain up to 30% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 557 sq. ft. of this material within the Building.

Category II ACM

The cementitious "Transite" siding located on the exterior of the Building and in the basement was classified as PACM and no samples were collected. The visual assessment to quantify the extent of this material identified 2,043 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, 15 sq. ft.)

- Kitchen (1 register, 15 sq. ft.)
- Bathroom (1 register, 15 sq. ft.)
- 2nd Floor Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)
- 2nd Floor Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)
- Basement (misc. HVAC wrap on Ductwork, 10 sq. ft.)
- Basement Crawl Space (Duct Wrap Debris, 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/renovation activities are listed below:

- (5 windows 28" wide x 64" tall)
- (2 windows 24" wide x 44" tall)
- (1 window 24" wide x 48" tall)
- (1 window 28" wide x 28" tall)
- (1 window 39" wide x 37" tall)
- (1 window 24" wide x 40" tall)
- Basement (5 windows 32" wide x 14" 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.

Transite siding was identified on the exterior of the Building and in the basement 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 (Layered Yellow Linoleum, Charcoal Pebble Linoleum, and Lite Brown Layered Linoleum) are non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 Tire (4)
- 1-Gallon Container (4)
- Thermostat (1)
- Smoke Detector (1)

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-072-0012-00

- 1-Pint Container Misc. (6)
- 4' Fluorescent Light (Fixture and Ballast Only) (2)
- 4' Fluorescent Light Bulb (2)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-072-0012-00

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 Muskegon 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 : 2245 Sanford St.



Report To:

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

ARI Report # 18-80634
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 01 Cust. #: SS-HM-01A Material: Roofing Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80634 - 01a Cust. #: SS-HM-01A Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80634 - 01b Cust. #: SS-HM-01A Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%

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

Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 02 Cust. #: SS-HM-01B Material: Roofing Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80634 - 02a Cust. #: SS-HM-01B Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80634 - 02b Cust. #: SS-HM-01B Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 03 Cust. #: SS-HM-02A Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80634 - 04 Cust. #: SS-HM-02B Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80634 - 05 Cust. #: SS-HM-03A Material: Layered Yellow Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 05a Cust. #: SS-HM-03A Material: Green Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: YES Chrysotile - 30%	Other - 70%
Lab ID #: 80634 - 05b Cust. #: SS-HM-03A Material: Fiberboard Location: Appearance: brown, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80634 - 06 Cust. #: SS-HM-03B Material: Layered Yellow Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 06a Cust. #: SS-HM-03B Material: Green Linoleum Location: Appearance: Layer: 2 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80634 - 06b Cust. #: SS-HM-03B Material: Fiberboard Location: Appearance: brown, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80634 - 07 Cust. #: SS-HM-04A Material: Charcoal Pebble Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 20%	Cellulose - 2% Other - 78%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 08 Cust. #: SS-HM-04B Material: Charcoal Pebble Linoleum Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80634 - 09 Cust. #: SS-HM-05A Material: Green Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80634 - 10 Cust. #: SS-HM-05B Material: Green Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 11 Cust. #: SS-HM-06A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80634 - 12 Cust. #: SS-HM-06B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80634 - 13 Cust. #: SS-HM-07A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 13a Cust. #: SS-HM-07A Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80634 - 14 Cust. #: SS-HM-07B Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80634 - 14a Cust. #: SS-HM-07B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 15 Cust. #: SS-HM-08A Material: Crème Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80634 - 16 Cust. #: SS-HM-08B Material: Crème Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80634 - 17 Cust. #: SS-HM-09A Material: Basement Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Other - 90%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 18 Cust. #: SS-HM-09B Material: Basement Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80634 - 19 Cust. #: SS-HM-10A Material: Patch Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80634 - 20 Cust. #: SS-HM-10B Material: Patch Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 21 Cust. #: SS-HM-11A Material: Red Brick Linoleum Location: Appearance: red, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80634 - 21a Cust. #: SS-HM-11A Material: Fiberboard Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80634 - 22 Cust. #: SS-HM-11B Material: Red Brick Linoleum Location: Appearance: red, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 22a Cust. #: SS-HM-11B Material: Fiberboard Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80634 - 23 Cust. #: SS-HM-12A Material: Lite Brown Layered Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 30%	Other - 70%
Lab ID #: 80634 - 23a Cust. #: SS-HM-12A Material: Sheet Flooring Location: Appearance: brown, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%

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 : 2245 Sanford St.



Report To:

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

ARI Report # 18-80634
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 24 Cust. #: SS-HM-12B Material: Lite Brown Layered Linoleum Location: Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80634 - 24a Cust. #: SS-HM-12B Material: Sheet Flooring Location: Appearance: brown, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80634 - 25 Cust. #: SS-HM-13A Material: Grey Speckled Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%

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

Robert T. Letarte Jr., Laboratory Director

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 Lansing, MI 48901

ARI Report # 18-80634
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 26 Cust. #: SS-HM-13B Material: Grey Speckled Linoleum Location: Appearance: grey,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80634 - 27 Cust. #: SS-HM-14A Material: Garage Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 1% Other - 99%
Lab ID #: 80634 - 28 Cust. #: SS-HM-14B Material: Garage Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 1% Other - 99%

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

Robert T. Letarte Jr., Laboratory Director

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ARI Report # 18-80634
 Date Collected: 10/26/18
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 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 29 Cust. #: SS-HS-01A Material: Sand Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80634 - 29a Cust. #: SS-HS-01A Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 5% Other - 95%
Lab ID #: 80634 - 30 Cust. #: SS-HS-01B Material: Sand Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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

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 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 30a Cust. #: SS-HS-01B Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80634 - 31 Cust. #: SS-HS-01C Material: Sand Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80634 - 31a Cust. #: SS-HS-01C Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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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 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 32 Cust. #: SS-HS-01D Material: Sand Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80634 - 32a Cust. #: SS-HS-01D Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 5% Other - 95%
Lab ID #: 80634 - 33 Cust. #: SS-HS-01E Material: Sand Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 33a Cust. #: SS-HS-01E Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 5% Other - 95%
Lab ID #: 80634 - 34 Cust. #: SS-HS-02A Material: Grey Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80634 - 34a Cust. #: SS-HS-02A Material: Plaster Base Coat Location: Appearance: grey, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%

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 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 35 Cust. #: SS-HS-02B Material: Grey Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80634 - 35a Cust. #: SS-HS-02B Material: Plaster Base Coat Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80634 - 36 Cust. #: SS-HS-02C Material: Grey Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Robert T. Letarte Jr., Laboratory Director

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 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 36a Cust. #: SS-HS-02C Material: Plaster Base Coat Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80634 - 37 Cust. #: SS-HS-03A Material: Textured Surfacing Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80634 - 38 Cust. #: SS-HS-03B Material: Textured Surfacing Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%

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Robert T. Letarte Jr., Laboratory Director

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 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80634 - 39 Cust. #: SS-HS-03C Material: Textured Surfacing Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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Apex 80634

10/4



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-26-18
Project: 2245 Sanford St
Project #: _____

Contact Person: Aaron Paquet
apauquet@redcedarconsulting.net

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Other: TTP All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	SS-HM-01A	Roofing Shingle			
2	01B	" "			
3	02A	Vapor Barrier			
4	02B	" "			
5	03A	Sealed Yellow Gypsum			
6	03B	" "			
7	04A	Charcoal Pebble Gypsum			
8	04B	" "			
9	05A	Green Gypsum			
10	05B	" "			
11	06A	1x1 White Smooth CT			

Relinquished by: [Signature] Received by: UB
Date: 10-27-18 Date: 10-27-18
Relinquished by: _____ Received by: 3.T.W
Date: 10-27-18 Date: 10/29/18 0936

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APEX RESEARCH

2 of 4



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-26-18
Project: 2245 Sanford St
Project #: _____
Contact Person: Aaron Paquet
apaket@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour
Other: _____

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

TTP All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	55-AM-06B	1x1 white smooth CT			
13	07A	Asphalt Joint compound			
14	07B	" " "			
15	08A	Crume Slagging			
16	08B	" " "			
17	09A	Beneath window Slagging			
18	09B	" " "			
19	10A	Patch behind Slagging			
20	10B	" " "			
21	11A	Red Brick Spall			
22	11B	" " "			

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Date: 10-27-18 Date: 10-27-18

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Date: _____ Date: 10-29-2018

APEX RESEARCH

3074



APEX Research, Inc.

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E-mail: apexresearch@chartermi.net Fax: 734-449-9991

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Log-in _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-26-18
Project: 2245 Sanford St
Project #: _____
Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
48 hour 72 hour
Other: **TTP** All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	SS-HM-12A	Site Brown Topsoil			
24	(12B	" "			
25	(13A	Grey Speckled Gravel			
26	(13B	" "			
27	(14A	Garage Window Siding			
28	(14B	" "			
29	SS-HS-01A	Acid Phospha			
30	(01B	" "			
31	(01C	" "			
32	(01D	" "			
33	(01E	" "			

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Relinquished by: Alexander Received by: JFS
Date: 10-27-18 Date: 10-27-18

Relinquished by: _____ Received by: _____
Date: _____ Date: _____

Received by: OCT 29 2018

Date: _____
APEX RESEARCH

4074



APEX Research, Inc. 11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-26-18
 Project: 2245 Sanford St
 Project #:

Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
 48 hour 72 hour

Other: (TTP) All samples

Asbestos: Bulk Wipe Point Count PCM
 Lead: Bulk Wipe Air Paint Soil
 Mold: Bulk Tape BioSIS Other Viable
 TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
 Log-In _____
 Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
34	SS-HS-02A	Grey Plaster			
35	(02B	" "			
36	(02C	" "			
37	SS-HS-03A	Textured Surfacing			
38	(03B	" "			
39	(03C	" "			

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Relinquished by: Aaron Paquet Received by: WFS
 Date: 10-27-18 Date: 10-27-18

Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 29 2018

Tables

Table 1 - Summary of Hazardous Materials, 2245 Sanford St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Exterior	Automobile Tire	4
Exterior	Mercury Vapor Light	1
Exterior	1-Gallon Container Paint	4
Living Room	Thermostat	1
2 nd Floor S Bedroom	Smoke Detector	1
Basement	1-Gallon Container Paint	6
Basement	5-Gallon Container Oil	1
Basement	1-Pint Container Misc.	6
Detached Garage	4' Fluorescent Light (Fixture and Ballast Only)	2
Detached Garage	4' Fluorescent Light Bulb	2

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2245 Sanford St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
SS-HM-01A	Roofing Shingle	No	M	Category I	ND/ND/ND	House Roof	NA
SS-HM-01B	Roofing Shingle	No	M	Category I	ND/ND/ND	Garage Roof	NA
SS-HM-02A	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
SS-HM-02B	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
SS-HM-03A	Layered Yellow Linoleum	No	M	Category I	ND/30%CH/ND	Kitchen	352 sq. ft.
SS-HM-03B	Layered Yellow Linoleum	No	M	Category I	ND/NA/ND	Kitchen	NA
SS-HM-04A	Charcoal Pebble Linoleum	No	M	Category I	20%CH	Front Entry	82 sq. ft.
SS-HM-04B	Charcoal Pebble Linoleum	No	M	Category I	NA	Front Entry	NA
SS-HM-05A	Green Linoleum	No	M	Category I	ND	Green Linoleum	NA
SS-HM-05B	Green Linoleum	No	M	Category I	ND	Green Linoleum	NA
SS-HM-06A	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Bathroom	NA
SS-HM-06B	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Bathroom	NA
SS-HM-07A	Drywall and Joint Compound	No	M	Category II	ND/ND	Living Room Ceiling	NA
SS-HM-07B	Drywall and Joint Compound	No	M	Category II	ND/ND	Living Room Wall	NA
SS-HM-08A	Crème Glazing	Yes	M	Category II	10%CH	Living Room Window	11 Windows
SS-HM-08B	Crème Glazing	Yes	M	Category II	NA	Kitchen Window	NA
SS-HM-09A	Basement Window Glazing	Yes	M	Category II	10%CH	Basement Window	5 Windows
SS-HM-09B	Basement Window Glazing	Yes	M	Category II	NA	Basement Window	NA
SS-HM-10A	Patch Window Glazing	Yes	M	Category II	ND	Porch Window	NA
SS-HM-10B	Patch Window Glazing	Yes	M	Category II	ND	Porch Window	NA
SS-HM-11A	Red Brick Linoleum	No	M	Category I	ND/ND	2 nd Floor Living Room	NA
SS-HM-11B	Red Brick Linoleum	No	M	Category I	ND/ND	2 nd Floor Living Room	NA
SS-HM-12A	Lite Brown Layered Linoleum	No	M	Category I	30%CH/ND	2 nd Floor Kitchen	123 sq. ft.
SS-HM-12B	Lite Brown Layered Linoleum	No	M	Category I	NA/ND	2 nd Floor Kitchen	NA
SS-HM-13A	Grey Speckled Linoleum	No	M	Category I	ND	2 nd Floor S Bedroom	NA
SS-HM-13B	Grey Speckled Linoleum	No	M	Category I	ND	2 nd Floor S Bedroom	NA
SS-HM-14A	Garage Window Glazing	Yes	M	Category II	ND	Garage Window	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2245 Sanford St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
SS-HM-14B	Garage Window Glazing	Yes	M	Category II	ND	Garage Window	NA
SS-HS-01A	Sand Plaster	No	S	Category II	ND/ND	Living Room Ceiling	NA
SS-HS-01B	Plaster	No	S	Category II	ND/ND	Bathroom Wall	NA
SS-HS-01C	Plaster	No	S	Category II	ND/ND	E Bedroom Wall	NA
SS-HS-01D	Plaster	No	S	Category II	ND/ND	2 nd Floor Living Room Ceiling	NA
SS-HS-01E	Plaster	No	S	Category II	ND/ND	2 nd Floor Living Room Wall	NA
SS-HS-02A	Plaster	No	S	Category II	ND/ND	Kitchen Ceiling	NA
SS-HS-02B	Plaster	No	S	Category II	ND/ND	Kitchen Wall	NA
SS-HS-02C	Plaster	No	S	Category II	ND/ND	Kitchen Wall	NA
SS-HS-03A	Textured Surfacing	No	S	Category II	ND	2 nd Floor Living Room Ceiling	NA
SS-HS-03B	Textured Surfacing	No	S	Category II	ND	2 nd Floor Living Room Ceiling	NA
SS-HS-03C	Textured Surfacing	No	S	Category II	ND	2 nd Floor Living Room Ceiling	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2245 Sanford St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Building Exterior	Transite Siding	No	Fair	M	2,033 sq. ft.
Basement	Stack of Transite	No	Fair	M	10 sq. ft.
Living (1 register, 15 sq. ft.) Kitchen (1 register, 15 sq. ft.) Bathroom (1 register, 15 sq. ft.) 2 nd Floor Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.) 2 nd Floor Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.) Basement (misc. HVAC wrap on Ductwork, 10 sq. ft.) Basement Crawl Space (Duct Wrap Debris, 25 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

Table 4 - Summary of All Asbestos Containing Materials, 2245 Sanford St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen	Layered Yellow Linoleum	No	352 sq. ft.
Front Entry	Charcoal Pebble Linoleum	No	42 sq. ft.
Pantry	Charcoal Pebble Linoleum	No	40 sq. ft.
2 nd Floor Kitchen	Lite Brown Layered Linoleum	No	123 sq. ft.
Total			557 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Living (1 register, 15 sq. ft.)			
Kitchen (1 register, 15 sq. ft.)			
Bathroom (1 register, 15 sq. ft.)			
2 nd Floor Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)	HVAC Duct Wrap	Yes	130 sq. ft.
2 nd Floor Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)			
Basement (misc. HVAC wrap on Ductwork, 10 sq. ft.)			
Basement Crawl Space (Duct Wrap Debris, 25 sq. ft.)			
Total			130 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
(5 windows 28" wide x 64" tall)	Glazing	Yes	5 Windows
(2 windows 24" wide x 44" tall)	Glazing	Yes	2 Windows
(1 window 24" wide x 48" tall)	Glazing	Yes	1 Window
(1 window 28" wide x 28" tall)	Glazing	Yes	1 Window
(1 window 39" wide x 37" tall)	Glazing	Yes	1 Window
(1 window 24" wide x 40" tall)	Glazing	Yes	1 Window
Basement (5 windows 32" wide x 14" tall)	Glazing	Yes	5 Windows
Total			16 Windows
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement	Stack of Transite	No	10 sq. ft.

Table 4 - Summary of All Asbestos Containing Materials, 2245 Sanford St., Muskegon Heights, Michigan

			Total	10 sq. ft.
Exterior - Asbestos Containing Materials				
Location	Material Description	Friable	Approx. Quantity	
Building Exterior	Transite Siding	No	2,033 sq. ft.	
			Total	2,033 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 1, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2312 Hoyt St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-099-0021-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2312 Hoyt St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .30 acre residential parcel which contains a 640 sq. ft. detached garage and approximate 1,431 square foot residential building (the Building) constructed in 1935. 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, bath, three bedrooms and a laundry room on the first floor while the second floor contains a living room, kitchen, pantry and 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 October 23, 2018 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:

- Vapor Barrier
- Shingle Roof
- Roof Flashing
- Rolled Roofing
- Linoleum
- Vinyl Floor Tile
- 1x1 Ceiling Tile
- Window Glazing
- Drywall and Joint Compound
- 16x16 Ceiling Tile
- Vinyl Flooring
- Window Caulk
- Plaster

Red Cedar staff collected forty five samples of suspect ACBM separated into twenty 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 forty five samples is included as Attachment A.

Hazardous Materials Inspection

On October 23, 2018 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, forty five 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 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.)
- 2nd Floor Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2nd Floor Air Handler Duct (20 sq. ft.)

Category I ACM

Three types of resilient floor covering (Parkay Linoleum, Red and Cream Layered Linoleum and 12"x12" Blue Layered Vinyl Floor Tile) located within the front entry, kitchen and bathroom were found to contain up to 30% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 240 sq. ft. of this material within the Building.

Roof Flashing samples collected during the completion of the inspection were found to contain up to 20% Chrysotile asbestos. The assessment to quantify the extent of this material identified 120 lin. ft. of flashing materials on the Building.

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, 10 sq. ft.)
- Dining (1 register, 10 sq. ft.)
- 2nd Floor Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2nd Floor Air Handler Duct (20 sq. ft.)

Roof Flashing identified on the exterior 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 (Parkay Linoleum, Red and Cream Layered Linoleum and 12"x12" Blue Layered Vinyl Floor Tile) are non-friable ACM's that may be left in place as long as the

demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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:

- 1-Gallon Container Misc. (6)
- 1-Quart Container Misc. (11)
- 1-Pint Container Misc. (10)
- Spray Can Misc. (5)
- 12' Fluorescent Light (Fixture and Ballast Only) (1)
- 4' Fluorescent Light (Fixture and Ballast Only) (2)
- 4' Fluorescent Light Bulb (4)
- Television (2)
- Air Conditioning Unit (1)

REGULATORY REQUIREMENTS

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.

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.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-099-0021-00

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

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 Muskegon 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 : 2312 Hoyt St.



Report To:

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

ARI Report # 18-80565
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 01 Cust. #: HS-HM-01A Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80565 - 02 Cust. #: HS-HM-01B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80565 - 03 Cust. #: HS-HM-02A Material: House Roofing Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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 : 2312 Hoyt St.



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 Date Collected: 10/23/18
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 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 03a Cust. #: HS-HM-02A Material: Grey Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80565 - 03b Cust. #: HS-HM-02A Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80565 - 04 Cust. #: HS-HM-02B Material: House Roofing Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%

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 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 04a Cust. #: HS-HM-02B Material: Grey Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80565 - 04b Cust. #: HS-HM-02B Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80565 - 05 Cust. #: HS-HM-03A Material: Roof Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 20%	Other - 80%

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)

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 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 06 Cust. #: HS-HM-03B Material: Roof Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80565 - 07 Cust. #: HS-HM-04A Material: Garage Roofing Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80565 - 07a Cust. #: HS-HM-04A Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 07b Cust. #: HS-HM-04A Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80565 - 08 Cust. #: HS-HM-04B Material: Garage Roofing Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80565 - 08a Cust. #: HS-HM-04B Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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 Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 08b Cust. #: HS-HM-04B Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80565 - 09 Cust. #: HS-HM-05A Material: Rolled Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Synthetic - 40% Other - 60%
Lab ID #: 80565 - 09a Cust. #: HS-HM-05A Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2312 Hoyt St.



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 P.O. Box 13216
 Lansing, MI 48901

ARI Report # 18-80565
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 10 Cust. #: HS-HM-05B Material: Rolled Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Synthetic - 35% Other - 65%
Lab ID #: 80565 - 10a Cust. #: HS-HM-05B Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80565 - 11 Cust. #: HS-HM-06A Material: Parkay Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 30%	Other - 70%

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

Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 11a Cust. #: HS-HM-06A Material: Sheet Flooring Location: Appearance: brown, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80565 - 12 Cust. #: HS-HM-06B Material: Parkay Linoleum Location: Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80565 - 12a Cust. #: HS-HM-06B Material: Sheet Flooring Location: Appearance: brown, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 13 Cust. #: HS-HM-07A Material: Red/Cream Layered Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 30%	Other - 70%
Lab ID #: 80565 - 14 Cust. #: HS-HM-07B Material: Red/Cream Layered Linoleum Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80565 - 15 Cust. #: HS-HM-08A Material: Red Floor Tile Location: Appearance: red, fibrous, homogenous Layer: 1 of 5	Asbestos Present: YES Chrysotile - 1.75% POINT COUNT RESULT	Other - 98.25%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 15a Cust. #: HS-HM-08A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 15b Cust. #: HS-HM-08A Material: Linoleum Location: Appearance: white,fibrous,nonhomogenous Layer: 3 of 5	Asbestos Present: YES Chrysotile - 30%	Other - 70%
Lab ID #: 80565 - 15c Cust. #: HS-HM-08A Material: Etched Floor Tile Location: Appearance: white,fibrous,homogenous Layer: 4 of 5	Asbestos Present: YES Chrysotile - 5%	Other - 95%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 15d Cust. #: HS-HM-08A Material: Glue Location: Appearance: yellow,nonfibrous,homogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 16 Cust. #: HS-HM-08B Material: Red Floor Tile Location: Appearance: Layer: 1 of 5	Asbestos Present: NOT ANALYZED	
Lab ID #: 80565 - 16a Cust. #: HS-HM-08B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 16b Cust. #: HS-HM-08B Material: Linoleum Location: Appearance: Layer: 3 of 5	Asbestos Present: NOT ANALYZED	
Lab ID #: 80565 - 16c Cust. #: HS-HM-08B Material: Etched Floor Tile Location: Appearance: Layer: 4 of 5	Asbestos Present: NOT ANALYZED	
Lab ID #: 80565 - 16d Cust. #: HS-HM-08B Material: Glue Location: Appearance: yellow,nonfibrous,homogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 17 Cust. #: HS-HM-09A Material: Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80565 - 17a Cust. #: HS-HM-09A Material: Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 65% Perlite - 15% Other - 20%
Lab ID #: 80565 - 18 Cust. #: HS-HM-09B Material: Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 18a Cust. #: HS-HM-09B Material: Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 65% Perlite - 10% Other - 25%
Lab ID #: 80565 - 19 Cust. #: HS-HM-10A Material: 1x1 White Textured Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80565 - 19a Cust. #: HS-HM-10A Material: Glue Pod Location: Appearance: brown, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 20 Cust. #: HS-HM-10B Material: 1x1 White Textured Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80565 - 20a Cust. #: HS-HM-10B Material: Glue Pod Location: Appearance: brown, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 21 Cust. #: HS-HM-11A Material: House Window Glazing Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 22 Cust. #: HS-HM-11B Material: House Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 23 Cust. #: HS-HM-12A Material: Front Porch Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80565 - 24 Cust. #: HS-HM-12B Material: Front Porch Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 25 Cust. #: HS-HM-13A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80565 - 25a Cust. #: HS-HM-13A Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 26 Cust. #: HS-HM-13B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 26a Cust. #: HS-HM-13B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80565 - 27 Cust. #: HS-HM-14A Material: 16x16 White Smooth Ceiling Tile Location: Appearance: brown,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80565 - 28 Cust. #: HS-HM-14B Material: 16x16 White Smooth Ceiling Tile Location: Appearance: brown,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 29 Cust. #: HS-HM-15A Material: 12x12 Grey VFT Location: Appearance: grey,fibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80565 - 29a Cust. #: HS-HM-15A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 30 Cust. #: HS-HM-15B Material: 12x12 Grey VFT Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 30a Cust. #: HS-HM-15B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 31 Cust. #: HS-HM-16A Material: Tan Layered Vinyl Location: Appearance: beige,nonfibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 31a Cust. #: HS-HM-16A Material: Linoleum Location: Appearance: black,fibrous,nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 32 Cust. #: HS-HM-16B Material: Tan Layered Vinyl Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 32a Cust. #: HS-HM-16B Material: Linoleum Location: Appearance: grey,fibrous,nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80565 - 33 Cust. #: HS-HM-17A Material: Lite Brown Layered Vinyl Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 7	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 33a Cust. #: HS-HM-17A Material: White Floor Tile Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 7	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80565 - 33b Cust. #: HS-HM-17A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 3 of 7	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 33c Cust. #: HS-HM-17A Material: White Floor Tile Location: Appearance: white,nonfibrous,homogenous Layer: 4 of 7	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 33d Cust. #: HS-HM-17A Material: Glue Location: Appearance: yellow,nonfibrous,homogenous Layer: 5 of 7	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 33e Cust. #: HS-HM-17A Material: Brown Floor Tile Location: Appearance: brown,nonfibrous,homogenous Layer: 6 of 7	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 33f Cust. #: HS-HM-17A Material: Glue Location: Appearance: yellow,nonfibrous,homogenous Layer: 7 of 7	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2312 Hoyt St.



Report To:

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

ARI Report # 18-80565
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 34 Cust. #: HS-HM-17B Material: Lite Brown Layered Vinyl Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 7	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80565 - 34a Cust. #: HS-HM-17B Material: White Floor Tile Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 7	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 34b Cust. #: HS-HM-17B Material: Glue Location: Appearance: clear, nonfibrous, homogenous Layer: 3 of 7	Asbestos Present: NO 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 # 18-80565
 Date Collected: 10/23/18
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 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 34c Cust. #: HS-HM-17B Material: White Floor Tile Location: Appearance: white,nonfibrous,homogenous Layer: 4 of 7	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 34d Cust. #: HS-HM-17B Material: Glue Location: Appearance: yellow,nonfibrous,homogenous Layer: 5 of 7	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 34e Cust. #: HS-HM-17B Material: Brown Floor Tile Location: Appearance: brown,nonfibrous,homogenous Layer: 6 of 7	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%

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

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Project : 2312 Hoyt St.



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ARI Report # 18-80565
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 34f Cust. #: HS-HM-17B Material: Glue Location: Appearance: yellow,nonfibrous,homogenous Layer: 7 of 7	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 35 Cust. #: HS-HM-18A Material: Grey Vinyl Flooring Location: Appearance: grey,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80565 - 36 Cust. #: HS-HM-18B Material: Grey Vinyl Flooring Location: Appearance: grey,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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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 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 37 Cust. #: HS-HM-19A Material: Basement Window Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 38 Cust. #: HS-HM-19B Material: Basement Window Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 39 Cust. #: HS-HS-01A Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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

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Project : 2312 Hoyt St.



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 Date Collected: 10/23/18
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 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 39a Cust. #: HS-HS-01A Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80565 - 40 Cust. #: HS-HS-01B Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 40a Cust. #: HS-HS-01B Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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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 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 41 Cust. #: HS-HS-01C Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 41a Cust. #: HS-HS-01C Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80565 - 42 Cust. #: HS-HS-01D Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 Collected: 10/23/18
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 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 42a Cust. #: HS-HS-01D Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80565 - 43 Cust. #: HS-HS-01E Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 43a Cust. #: HS-HS-01E Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 5% Other - 95%

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

Robert T. Letarte Jr., Laboratory Director

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 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 44 Cust. #: HS-HS-01F Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80565 - 44a Cust. #: HS-HS-01F Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80565 - 45 Cust. #: HS-HS-01G Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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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Test Method, Polarized Light Microscopy (PLM)

Project : 2312 Hoyt St.



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

ARI Report # 18-80565
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80565 - 45a Cust. #: HS-HS-01G Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
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

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80565

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APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888)449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18

Project: 2312 Hoyt St

Project #:

Contact Person: Aaron Paquet

PLM EPA 600, PC all samples with a detection of <5% ACM.
apaquet@redcedarconsulting.net

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour

Other: TTP ALL Samples

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	H5-HM-01A	Vapor Barrier			
2	H5-HM-01B	"			
3	02A	House Roofing Shingle			
4	02B	"			
5	03A	Roof Flashing			
6	03B	"			
7	04A	Garage Roofing Shingle			
8	04B	"			
9	05A	Roller Roofing			
10	05B	"			
11	06A	Parking Linoleum			

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Date: _____ Date: 10/24/18 09:59

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Date: OCT 24 2018 10/24/18 09:59

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 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
 Log-In _____
 Report _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18

Project: 2312 Hoyt St

Project #: _____

Contact Person: Aaron Paquet

PLM EPA 600, PC all samples with a detection of <5% ACM.
 apaquet@redcedarconsulting.net

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
 48 hour 72 hour
 Other: _____

(TTP) ALL Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	AS-HY-06B	Parkway Garage			
13	07A	Red X Cream Layered Smokehouse			
14	07B	" " " " " "			
15	08A	12x12 Blue Layered VFT (Paint)			
16	08B	" " " " " "			
17	09A	1x1 Layered White smooth VFT			
18	09B	" " " " " "			
19	10A	1x1 White textured CT			
20	10B	" " " " " "			
21	11A	House Windows Blazing			
22	11B	" " " " " "			

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 Date: 10-23-18 Date: 10-23-18
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 Date: _____ Date: 01-24-2018
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375



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

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Log-In _____
Report _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18
 Project: 2312 Hoyt St
 Project #: _____
 Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
 Asbestos: Bulk Wipe Point Count PCM

Rush 24 hour
 48 hour 72 hour
 Other: _____

Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

(TTP) All samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	AS-AM-12A	Front Porch Windows <i>Flaying</i>			
24	12B	" " " "			
25	13A	Severall Joint Compound			
26	13B	" " " "			
27	14A	16x16 white smooth CT			
28	14B	" " " "			
29	15A	12x12 Gray VFT			
30	15B	" " " "			
31	16A	16x16 Layered Vinyl			
32	16B	" " " "			
33	17A	16x16 Layered Vinyl			

Relinquished by: [Signature] Received by: UTS
 Date: 10-23-18 Date: 10-23-18
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 Date: _____ Date: OCT 24 2018

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4 of 5



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Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739
Date of Survey: 10-23-18
Project: 2312 Hoyt St
Project #: _____
Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)
Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
48 hour 72 hour
Other: _____

(TTP) ALL samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
34	H5-HM-17B	Lite Brown Layered Vinyl			
35	(18A	Grey Vinyl Flooring			
36	(18B	" "			
37	(19A	Basement Window Caulk			
38	↓ 19B	" "			
39	H5-H5-01A	Plexter			
40	(01B	↓			
41	01C				
42	01D				
43	01E				
44	↓ 01F				

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11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Rush 24 hour
48 hour 72 hour

Other: **TTP** All Samples

Lab Use Only
Log-In _____
Report _____

Date of Survey: 10-23-18

Project: 2312 Hoyt St

Project #: _____

Contact Person: Aaron Paquet

apaquet@redcedarconsulting.net

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____

Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____

Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____

TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
45	HS-HS-01G	Plaster			

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Date: 10-23-18 Date: 10-23-18 Date: _____ Date: OCT 24 2018

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Tables

Table 1 - Summary of Hazardous Materials, 2312 Hoyt St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Front Entry	1-Quart Container Misc.	5
Front Entry	1-Gallon Container Misc.	5
Front Entry	1-Pint Container Misc.	1
Kitchen	12' Fluorescent Light (Fixture and Ballast Only)	1
NE Bedroom	Television	1
Laundry Room	1-Pint Container Misc.	5
2 nd Floor Bedroom	Television	1
2 nd Floor Bedroom	Air Conditioning Unit	1
2 nd Floor Bathroom	Spray Can Misc.	1
2 nd Floor Bathroom	1-Quart Container Misc.	1
Basement	4' Fluorescent Light (Fixture and Ballast Only)	2
Basement	4' Fluorescent Light Bulb	4
Basement	Spray Can Misc.	4
Basement	1-Quart Container Misc.	5
Basement	1-Pint Container Misc.	4
Basement	1-Gallon Container Misc.	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2312 Hoyt St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
HS-HM-01A	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
HS-HM-01B	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
HS-HM-02A	Shingle Roof	No	M	Category I	ND/ND/ND	House Roof	NA
HS-HM-02B	Shingle Roof	No	M	Category I	ND/ND/ND	House Roof	NA
HS-HM-03A	Roof Flashing	No	M	Category II	20% CH	Chimney	120 lin. ft.
HS-HM-03B	Roof Flashing	No	M	Category II	NA	House Rear Roof	NA
HS-HM-04A	Shingle Roof	No	M	Category I	ND/ND/ND	Garage Roof	NA
HS-HM-04B	Shingle Roof	No	M	Category I	ND/ND/ND	Garage Roof	NA
HS-HM-05A	Rolled Roofing	No	M	Category I	ND/ND	House Roof	NA
HS-HM-05B	Rolled Roofing	No	M	Category I	ND/ND	House Roof	NA
HS-HM-06A	Parkay Linoleum	No	M	Category I	30% CH/ND	Front Entry	84 sq. ft.
HS-HM-06B	Parkay Linoleum	No	M	Category I	NA/ND	Front Entry	NA
HS-HM-07A	Red and Cream Layered Linoleum	No	M	Category I	30% CH	Kitchen	108 sq. ft.
HS-HM-07B	Red and Cream Layered Linoleum	No	M	Category I	NA	Kitchen	NA
HS-HM-08A	12x12 Blue Layered VFT	No	M	Category I	1.75% CH/ND/ 30% CH/ 5% CH/ND	Bathroom	48 sq. ft.
HS-HM-08B	12x12 Blue Layered VFT	No	M	Category I	NA/ND/NA/ NA/ND	Bathroom	NA
HS-HM-09A	1x1 Layered White Smooth CT	Yes	M	Category II	ND/ND	N Bedroom	NA
HS-HM-09B	1x1 Layered White Smooth CT	Yes	M	Category II	ND/ND	N Bedroom	NA
HS-HM-10A	1x1 White Textured CT	Yes	M	Category II	ND/ND	Living Room	NA
HS-HM-10B	1x1 White Textured CT	Yes	M	Category II	ND/ND	Dining Room	NA
HS-HM-11A	Window Glazing	Yes	M	Category II	ND	Living Room Window	NA
HS-HM-11B	Window Glazing	Yes	M	Category II	ND	2 nd Floor Landing Window	NA
HS-HM-12A	Window Glazing	Yes	M	Category II	ND	Front Entry (Porch) Window	NA
HS-HM-12B	Window Glazing	Yes	M	Category II	ND	Front Entry (Porch) Window	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2312 Hoyt St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
HS-HM-13A	Drywall and Joint Compound	No	M	Category II	ND/ND	2 nd Floor Hallway Wall	NA
HS-HM-13B	Drywall and Joint Compound	No	M	Category II	ND/ND	2 nd Floor Pantry Wall	NA
HS-HM-14A	16x16 White Smooth CT	Yes	M	Category II	ND	2 nd Floor Living Room	NA
HS-HM-14B	16x16 White Smooth CT	Yes	M	Category II	ND	2 nd Floor Living Room	NA
HS-HM-15A	12x12 Gray VFT	No	M	Category I	ND/ND	2 nd Floor Living Room	NA
HS-HM-15B	12x12 Gray VFT	No	M	Category I	ND/ND	2 nd Floor Living Room	NA
HS-HM-16A	Tan Layered Vinyl	No	M	Category I	ND/ND	2 nd Floor Pantry	NA
HS-HM-16B	Tan Layered Vinyl	No	M	Category I	ND/ND	2 nd Floor Pantry	NA
HS-HM-17A	Light Brown Vinyl Layered	No	M	Category I	ND/ND/ND/ ND/ND/ND/ ND	2 nd Floor Kitchen	NA
HS-HM-17B	Light Brown Vinyl Layered	No	M	Category I	ND/ND/ND/ ND/ND/ND/ ND	2 nd Floor Kitchen	NA
HS-HM-18A	Gray Vinyl Flooring	No	M	Category I	ND	Basement	NA
HS-HM-18B	Gray Vinyl Flooring	No	M	Category I	ND	Basement	NA
HS-HM-19A	Basement Window Caulk	No	M	Category II	ND	Basement Window	NA
HS-HM-19B	Basement Window Caulk	No	M	Category II	ND	Basement Window	NA
HS-HS-01A	Plaster	No	S	Category II	ND/ND	Dining Room Ceiling	NA
HS-HS-01B	Plaster	No	S	Category II	ND/ND	Bathroom Ceiling	NA
HS-HS-01C	Plaster	No	S	Category II	ND/ND	Living Room Wall	NA
HS-HS-01D	Plaster	No	S	Category II	ND/ND	Kitchen Wall	NA
HS-HS-01E	Plaster	No	S	Category II	ND/ND	2 nd Floor Kitchen Ceiling	NA
HS-HS-01F	Plaster	No	S	Category II	ND/ND	2 nd Floor Living Room Wall	NA
HS-HS-01G	Plaster	No	S	Category II	ND/ND	2 nd Floor S Bedroom Wall	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

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2312 Hoyt St., Muskegon Heights, Michigan

PC = Point Count Analysis
CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2312 Hoyt St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Living (1 register, 10 sq. ft.) Dining (1 register, 10 sq. ft.) 2 nd Floor Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 nd Floor Air Handler Duct (20 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	75 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

Table 4 - Summary of All Asbestos Containing Materials, 2312 Hoyt St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof/Chimney	Flashing	No	120 lin. ft.
Total			120 lin. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Front Entry	Parkay Linoleum	No	84 sq. ft.
Kitchen	Red and Cream Layered Linoleum		108 sq. ft.
Bathroom	12x12 Blue Layered VFT	No	48 sq. ft.
Total			240 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Living (1 register, 10 sq. ft.) Dining (1 register, 10 sq. ft.) 2 nd Floor Kitchen (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 nd Floor Air Handler Duct (20 sq. ft.)	HVAC Duct Wrap	Yes	75 sq. ft.
Total			75 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Table 4 - Summary of All Asbestos Containing Materials, 2312 Hoyt St., Muskegon Heights, Michigan

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2332 Leahy St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-098-0016-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2332 Leahy St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 825 square foot residential building (the Building) constructed in 1940. The Building was constructed on a concrete block basement with one aboveground floor. The exterior walls of the Building were finished with vinyl over wood shake 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 October 24, 2018 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
- Chimney Flashing
- 12"x12" Vinyl Floor Tile
- Linoleum
- 1'x1' Ceiling Tile
- Window Caulk
- Vapor Barrier
- Glazing

Red Cedar staff collected twenty two 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 two samples is included as Attachment A.

Hazardous Materials Inspection

On October 24, 2018 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 two 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

A window glazing sample collected from a window in the pile of windows in the basement was found to contain up to 5% asbestos following analysis. The assessment to quantify the extent of this material identified eleven windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- Basement (11 windows 43" wide x 45" tall)

Category I ACM

Two types of resilient floor covering (Stone 12"x12" Vinyl Floor Tile and Beige Linoleum) located within the living room and kitchen/hallway were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 411 sq. ft. of this material within the Building.

Category II ACM

Chimney flashing samples collected during the completion of the inspection were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material identified 15 sq. ft. of chimney flashing materials on the Building.

RECOMMENDATIONS

Asbestos Containing Materials

Chimney flashing identified on the exterior 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.

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

- Basement (11 windows 43" wide x 45" 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.

The Category I resilient floor coverings (Stone 12"x12" Vinyl Floor Tile and Beige Linoleum) are non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 Tire (6)
- Thermostat (1)
- 1-Gallon Container Misc. (2)
- 1-Quart Container Misc. (1)

REGULATORY REQUIREMENTS

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.

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.

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.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-098-0016-00

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov


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 Muskegon 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 : 2332 Leahy St.



Report To:

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

ARI Report # 18-80576
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80576 - 01 Cust. #: LS-HM-01A Material: Asphalt Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80576 - 02 Cust. #: LS-HM-01B Material: Asphalt Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80576 - 03 Cust. #: LS-HM-02A Material: Chimney Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Other - 90%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2332 Leahy St.



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 Date Collected: 10/24/18
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 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80576 - 04 Cust. #: LS-HM-02B Material: Chimney Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80576 - 05 Cust. #: LS-HM-03A Material: Stone 12x12 VFT Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80576 - 05a Cust. #: LS-HM-03A Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 : 2332 Leahy St.



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ARI Report # 18-80576
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80576 - 06 Cust. #: LS-HM-03B Material: Stone 12x12 VFT Location: Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80576 - 06a Cust. #: LS-HM-03B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80576 - 07 Cust. #: LS-HM-04A Material: Beige Linoleum Multilayer Location: Appearance: brown,fibrous,nonhomogenous Layer: 1 of 4	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2332 Leahy St.



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 Lansing, MI 48901

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 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80576 - 07a Cust. #: LS-HM-04A Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80576 - 07b Cust. #: LS-HM-04A Material: Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 3 of 4	Asbestos Present: YES Chrysotile - 10%	Cellulose - 10% Other - 80%
Lab ID #: 80576 - 07c Cust. #: LS-HM-04A Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 4 of 4	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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 : 2332 Leahy St.



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 Lansing, MI 48901

ARI Report # 18-80576
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80576 - 08 Cust. #: LS-HM-04B Material: Beige Linoleum Multilayer Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80576 - 08a Cust. #: LS-HM-04B Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80576 - 08b Cust. #: LS-HM-04B Material: Linoleum Location: Appearance: Layer: 3 of 4	Asbestos Present: NOT ANALYZED	

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

Robert T. Letarte Jr., Laboratory Director

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ARI Report # 18-80576
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80576 - 08c Cust. #: LS-HM-04B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80576 - 09 Cust. #: LS-HM-05A Material: Blue 12x12 VFT Location: Appearance: blue,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80576 - 10 Cust. #: LS-HM-05B Material: Blue 12x12 VFT Location: Appearance: blue,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2332 Leahy St.



Report To:

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

ARI Report # 18-80576
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80576 - 11 Cust. #: LS-HM-06A Material: White 1x1 Ceiling Tile w/ Pinholes Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80576 - 12 Cust. #: LS-HM-06B Material: White 1x1 Ceiling Tile w/ Pinholes Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80576 - 13 Cust. #: LS-HM-07A Material: White 1x1 Ceiling Tile w/ Gouges Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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 Collected: 10/24/18
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 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80576 - 14 Cust. #: LS-HM-07B Material: White 1x1 Ceiling Tile w/ Gouges Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80576 - 15 Cust. #: LS-HM-08A Material: Window Caulk Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80576 - 16 Cust. #: LS-HM-08B Material: Window Caulk Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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 Collected: 10/24/18
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 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80576 - 17 Cust. #: LS-HM-09A Material: Window Glazing- Metal Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80576 - 18 Cust. #: LS-HM-09B Material: Window Glazing- Metal Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80576 - 19 Cust. #: LS-HM-10A Material: Vapor Barrier Location: Appearance: brown,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2332 Leahy St.



Report To:

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

ARI Report # 18-80576
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80576 - 20 Cust. #: LS-HM-10B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80576 - 21 Cust. #: LS-HM-11A Material: Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80576 - 22 Cust. #: LS-HM-11B Material: Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Rush 24 hour
 48 hour 12 hour
 Other:

TTP All Samples

Date of Survey: 10-24-18

Project: 2332 Lehigh St.

Project #:

Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net

Asbestos: Bulk Wipe Point Count PCM
 Lead: Bulk Wipe Air Paint Soil
 Mold: Bulk Tape BioSIS Other Viable
 TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
 Log-In
 Report

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	LS-HM-01A	Asphalt Shingle			
2	LS-HM-01B	" "			
3	LS-HM-02A	Chimney Flashing			
4	LS-HM-02B	" "			
5	LS-HM-03A	Stone 12x12 VFT			
6	LS-HM-03B	" "			
7	LS-HM-04A	Beige Limestone Multilayer			
8	LS-HM-04B	" "			
9	LS-HM-05A	Blue 12x12 VFT			
10	LS-HM-05B	" "			
11	LS-HM-06A	White K1 CT w/pinkholes			

Relinquished by: Chris P... Received by: UPS
 Date: 10-24-18 Date: 10-24-18

Relinquished by: Received by: RECEIVED 9/27/18
 Date: Date: Oct 25 2018 10:25:18 AM

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-24-18
 Project: 2332 Leaky St.
 Project #:

Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
 48 hour 72 hour

Asbestos: Bulk Wipe Point Count PCM
 Lead: Bulk Wipe Air Paint Soil
 Mold: Bulk Tape BioSIS Other Viable
 TEM: AHERA 7400 Bulk/NOB EPA Level II

Other: TTP All samples

Lab Use Only
 Log-In _____
 Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	LS-14M-06B	white pt CT w/ pinholes			
13	LS-14M-07A	white pt CT w/ gouges			
14	LS-14M-07B	" "			
15	LS-14M-08A	Window Casult			
16	LS-14M-08B	" "			
17	LS-14M-09A	Window Glazing - Metal			
18	LS-14M-09B	" "			
19	LS-14M-10A	Vapor Barrier			
20	LS-14M-10B	" "			
21	LS-14M-11A	Window Glazing			
22	LS-14M-11B	" "			

Relinquished by: [Signature] Received by: UPS
 Date: 10-24-18 Date: 10-24-18

Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 25 2018

RECEIVED

Tables

Table 1 - Summary of Hazardous Materials, 2332 Leahy St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Exterior	Automobile Tire	6
Living Room	Thermostat	1
Basement	1-Gallon Container Misc.	2
Basement	1-Quart Container Misc.	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2332 Leahy St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
LS-HM-01A	Asphalt Shingle	No	M	Category I	ND	House Roof	NA
LS-HM-01B	Asphalt Shingle	No	M	Category I	ND	House Roof	NA
LS-HM-02A	Chimney Flashing	No	M	Category II	10% CH	Chimney	15 sq. ft.
LS-HM-02B	Chimney Flashing	No	M	Category II	NA	Chimney	NA
LS-HM-03A	Stone 12x12 VFT	No	M	Category I	5% CH/ND	Living Room	240 sq. ft.
LS-HM-03B	Stone 12x12 VFT	No	M	Category I	NA/ND	Living Room	NA
LS-HM-04A	Beige Linoleum Multilayer	No	M	Category I	ND/ND/ 10% CH/ND	Hallway	171 sq. ft.
LS-HM-04B	Beige Linoleum Multilayer	No	M	Category I	ND/ND/NA/ ND	Kitchen	NA
LS-HM-05A	Blue 12x12 VFT	No	M	Category I	ND	Bathroom	NA
LS-HM-05B	Blue 12x12 VFT	No	M	Category I	ND	Bathroom	NA
LS-HM-06A	White 1x1 CT w/ Pinholes	Yes	M	Category II	ND	Living Room	NA
LS-HM-06B	White 1x1 CT w/ Pinholes	Yes	M	Category II	ND	Living Room	NA
LS-HM-07A	White 1x1 CT w/ Gouges	Yes	M	Category II	ND	SE Bedroom	NA
LS-HM-07B	White 1x1 CT w/ Gouges	Yes	M	Category II	ND	SE Bedroom	NA
LS-HM-08A	Window Caulk	No	M	Category II	ND	SW Bedroom Window	NA
LS-HM-08B	Window Caulk	No	M	Category II	ND	Living Room Window	NA
LS-HM-09A	Window Glazing - Metal	Yes	M	Category II	ND	Basement Window	NA
LS-HM-09B	Window Glazing - Metal	Yes	M	Category II	ND	Basement Window	NA
LS-HM-10A	Vapor Barrier	Yes	M	Category II	ND	Under 1 st Floor Subfloor	NA
LS-HM-10B	Vapor Barrier	Yes	M	Category II	ND	Under 1 st Floor Subfloor	NA
LS-HM-11A	Window Glazing	Yes	M	Category II	5% CH	Pile of Windows in Basement	11 Windows
LS-HM-11B	Window Glazing	Yes	M	Category II	NA	Pile of Windows in Basement	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2332 Leahy St., Muskegon Heights, Michigan

Notes:

Material Types

M = Miscellaneous building material
TSI = Thermal System Insulation
S = Surfacing Material
PC = Point Count Analysis
CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2332 Leahy St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 2332 Leahy St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof	Chimney Flashing	No	15 sq. ft.
Total			15 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Living	Stone 12x12 VFT	No	240 sq. ft.
Kitchen/Hallway	Beige Linoleum Multilayer	No	171 sq. ft.
Total			411 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement in a pile (11 windows 43" wide x 45" tall)	Glazing	Yes	11 Windows
Total			11 Windows

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 1, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2336 8th St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-089-0015-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2336 8th St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains a 252 sq. ft. attached garage and approximate 852 square foot residential building (the Building) constructed in 1935. 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 and asphalt siding while the roof was sealed with asphalt shingles. The Building can be further divided into a front entry, living room, kitchen, bathroom and four 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 October 23, 2018 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:

- Vapor Barrier
- Asphalt Siding
- Shingle Roof
- 12"x12" Vinyl Floor Tile
- Drywall and Joint Compound
- Window Glazing
- Roof Flashing
- 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 October 23, 2018 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 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 (12"x12" Red Layered Vinyl Floor Tile) located within the front entry was found to contain up to 5% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 81 sq. ft. of this material 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 identified 1,368 sq. ft. of cementitious (Transite) siding on the Building.

Roof flashing samples collected from the exterior of the Building were found to contain up to 20% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 130 lin. ft. of flashing 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.

Flashing identified on the exterior 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 (12"x12" Red Layered Vinyl Floor Tile) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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:

- 1-Gallon Container Misc. (3)
- Automobile Tire (61)
- Television (4)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-089-0015-00

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 Muskegon 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 : 2336 8th St.



Report To:

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

ARI Report # 18-80563
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 01 Cust. #: ES-HM-01A Material: Vapor Barrier/Asphalt Siding/Thick Felt Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80563 - 01a Cust. #: ES-HM-01A Material: Thin Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 50% Other - 50%
Lab ID #: 80563 - 02 Cust. #: ES-HM-01B Material: Vapor Barrier/Asphalt Siding/Thick Felt Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2336 8th St.



Report To:

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

ARI Report # 18-80563
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 02a Cust. #: ES-HM-01B Material: Thin Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 50% Other - 50%
Lab ID #: 80563 - 03 Cust. #: ES-HM-02A Material: Brown Shingle Roof Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80563 - 03a Cust. #: ES-HM-02A Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 03b Cust. #: ES-HM-02A Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80563 - 04 Cust. #: ES-HM-02B Material: Brown Shingle Roof Location: Appearance: black, fibrous, homogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80563 - 04a Cust. #: ES-HM-02B Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 04b Cust. #: ES-HM-02B Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 5	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80563 - 04c Cust. #: ES-HM-02B Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 5	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80563 - 04d Cust. #: ES-HM-02B Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 05 Cust. #: ES-HM-03A Material: Black Shingle Roof Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80563 - 05a Cust. #: ES-HM-03A Material: Green Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80563 - 05b Cust. #: ES-HM-03A Material: White Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 06 Cust. #: ES-HM-03B Material: Black Shingle Roof Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80563 - 06a Cust. #: ES-HM-03B Material: Green Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80563 - 06b Cust. #: ES-HM-03B Material: White Shingle Location: Appearance: white, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 07 Cust. #: ES-HM-04A Material: 12x12 Red Layered VFT Location: Appearance: red, fibrous, homogenous Layer: 1 of 3	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80563 - 07a Cust. #: ES-HM-04A Material: Glue Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 07b Cust. #: ES-HM-04A Material: Sheet Flooring Location: Appearance: green, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 08 Cust. #: ES-HM-04B Material: 12x12 Red Layered VFT Location: Appearance: Layer: 1 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80563 - 08a Cust. #: ES-HM-04B Material: Glue Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 08b Cust. #: ES-HM-04B Material: Sheet Flooring Location: Appearance: green, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 09 Cust. #: ES-HM-05A Material: 12x12 Blue VFT Location: Appearance: blue,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 09a Cust. #: ES-HM-05A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 10 Cust. #: ES-HM-05B Material: 12x12 Blue VFT Location: Appearance: blue,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 10a Cust. #: ES-HM-05B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 11 Cust. #: ES-HM-06A Material: 12x12 Lite Grey VFT Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 11a Cust. #: ES-HM-06A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 12 Cust. #: ES-HM-06B Material: 12x12 Lite Grey VFT Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 12a Cust. #: ES-HM-06B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 13 Cust. #: ES-HM-07A Material: 12x12 Brown VFT Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 13a Cust. #: ES-HM-07A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 14 Cust. #: ES-HM-07B Material: 12x12 Brown VFT Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 14a Cust. #: ES-HM-07B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 15 Cust. #: ES-HM-08A Material: 12x12 Grey Layered VFT Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 15a Cust. #: ES-HM-08A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 15b Cust. #: ES-HM-08A Material: Brown Floor Tile Location: Appearance: brown,nonfibrous,homogenous Layer: 3 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 15c Cust. #: ES-HM-08A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 4 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 15d Cust. #: ES-HM-08A Material: Green Floor Tile Location: Appearance: green,nonfibrous,homogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 15e Cust. #: ES-HM-08A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 6 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 16 Cust. #: ES-HM-08B Material: 12x12 Grey Layered VFT Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 16a Cust. #: ES-HM-08B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 16b Cust. #: ES-HM-08B Material: Brown Floor Tile Location: Appearance: brown,nonfibrous,homogenous Layer: 3 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 16c Cust. #: ES-HM-08B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 4 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 16d Cust. #: ES-HM-08B Material: Green Floor Tile Location: Appearance: green,nonfibrous,homogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 16e Cust. #: ES-HM-08B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 6 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 17 Cust. #: ES-HM-09A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80563 - 17a Cust. #: ES-HM-09A Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 18 Cust. #: ES-HM-09B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2336 8th St.



Report To:

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

ARI Report # 18-80563
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 18a Cust. #: ES-HM-09B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 19 Cust. #: ES-HM-10A Material: House Window Glazing Location: Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 5% Other - 95%
Lab ID #: 80563 - 20 Cust. #: ES-HM-10B Material: House Window Glazing Location: Appearance: white,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 2% Other - 98%

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 : 2336 8th St.



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 P.O. Box 13216
 Lansing, MI 48901

ARI Report # 18-80563
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 21 Cust. #: ES-HM-11A Material: Front Porch Window Glazing Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80563 - 22 Cust. #: ES-HM-11B Material: Front Porch Window Glazing Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80563 - 23 Cust. #: ES-HM-12A Material: Roof Flashing Location: Appearance: black,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2336 8th St.



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 Lansing, MI 48901

ARI Report # 18-80563
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 24 Cust. #: ES-HM-12B Material: Roof Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 20%	Other - 80%
Lab ID #: 80563 - 25 Cust. #: ES-HS-01A Material: Plaster Texture Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80563 - 25a Cust. #: ES-HS-01A Material: Plaster Finish Coat Location: Appearance: green, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2336 8th St.



Report To:

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

ARI Report # 18-80563
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 25b Cust. #: ES-HS-01A Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 80563 - 26 Cust. #: ES-HS-01B Material: Plaster Texture Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80563 - 26a Cust. #: ES-HS-01B Material: Plaster Finish Coat Location: Appearance: green, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2336 8th St.



Report To:

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

ARI Report # 18-80563
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 26b Cust. #: ES-HS-01B Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 80563 - 27 Cust. #: ES-HS-01C Material: Plaster Finish Coat Location: Appearance: green, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 27a Cust. #: ES-HS-01C Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2336 8th St.



Report To:

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

ARI Report # 18-80563
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 28 Cust. #: ES-HS-01D Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80563 - 28a Cust. #: ES-HS-01D Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 80563 - 29 Cust. #: ES-HS-01E Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 : 2336 8th St.



Report To:

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

ARI Report # 18-80563
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80563 - 29a Cust. #: ES-HS-01E Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex #

80563

10/23



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18

Project: 2336 *8th St*

Project #:

Contact Person: Aaron Paquet

PLM EPA 600, PC all samples with a detection of <5% ACM.
apaquet@redcedarconsulting.net

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: (TTP) All Sampler

Asbestos: Bulk Wipe Point Count PCM

Lead: Bulk Wipe Air Paint Soil

Mold: Bulk Tape BioSIS Other Viable

TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	ES-HM-D1A	Vapor Barrier/Cepholt Ceiling			
2	01B	" "			
3	02A	Brown Shingle Roof			
4	02B	" "			
5	03A	Black Shingle Roof			
6	03B	" "			
7	04A	12x12 Red Stained VFT			
8	04B	" "			
9	05A	12x12 Blue VFT			
10	05B	" "			
11	06A	12x12 Site Tray VFT			

Relinquished by: *[Signature]* Received by: *UPS*

Date: 10-23-18 Date: 10-23-18

Relinquished by: *[Signature]* RECEIVED *[Signature]*

Date: 10-24-18 Date: 10/24/18 09:58

80563

2013



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18
Project: 2336 8th St
Project #: _____
Contact Person: Aaron Paquet
apaque@redcedarconsulting.net

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe Point Count _____ PCM _____

Rush 24 hour 72 hour
48 hour
Other: _____
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

TTP All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	ES-44-063	12x12 Gate Key VFT			
13	07A	12x12 Brown VFT			
14	07B	" "			
15	08A	12x12 Key Layered VFT			
16	08B	" "			
17	09A	Arguably Joint Compound			
18	09B	" "			
19	10A	House Window Siding			
20	10B	" "			
21	11A	Front Porch Window Siding			
22	11B	" "			

RECEIVED

Relinquished by: *Alex Weston* Received by: *UPS*
Date: 10-23-18 Date: 10-23-18

Relinquished by: _____ Received by: _____
Date: _____ Date: 10-24-2018

APEX RESEARCH

80563

343

APEX Research, Inc.



11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18
Project: _____
Project #: _____

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: TTP All samples

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	E5-HM-12A	Roof Flashing			
24	E5-HM-12B	" "			
25	E5-H5-01A	Plaster			
26	O/B	↓			
27			O/C		
28	O/D	↓			
29			O/E		

Relinquished by: Aaron Paquet Received by: UPS
Date: 10-23-18 Date: 10-23-18
Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 24 2018

RECEIVED

Tables

Table 1 - Summary of Hazardous Materials, 2336 8th St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Detached Garage	1-Gallon Container Misc.	2
Detached Garage	Automobile Tire	30
Exterior	Television	1
Exterior	Automobile Tire	1
Attached Garage	Automobile Tire	30
Attached Garage	Television	1
1 st Floor	Television	1
Basement	Television	1
Basement	1-Gallon Container Misc.	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2336 8th St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
ES-HM-01A	Vapor Barrier/Asphalt Siding	Yes	M	Category II	ND/ND	House Exterior	NA
ES-HM-01B	Vapor Barrier/Asphalt Siding	Yes	M	Category II	ND/ND	House Exterior	NA
ES-HM-02A	Brown Shingle Roof	No	M	Category I	ND/ND/ND	House Roof	NA
ES-HM-02B	Brown Shingle Roof	No	M	Category I	ND/ND/ND/ ND/ND	House Roof	NA
ES-HM-03A	Black Shingle Roof	No	M	Category II	ND/ND/ND	Detached Garage Roof	NA
ES-HM-03B	Black Shingle Roof	No	M	Category II	ND/ND/ND	Detached Garage Roof	NA
ES-HM-04A	12x12 Red Layered VFT	No	M	Category I	5% CH/ND/ND	Front Entry	81 sq. ft
ES-HM-04B	12x12 Red Layered VFT	No	M	Category I	NA/ND/ND	Front Entry	NA
ES-HM-05A	12x12 Blue VFT	No	M	Category II	ND/ND	Kitchen	NA
ES-HM-05B	12x12 Blue VFT	No	M	Category II	ND/ND	Kitchen	NA
ES-HM-06A	12x12 Light Gray VFT	No	M	Category II	ND/ND	Bathroom	NA
ES-HM-06B	12x12 Light Gray VFT	No	M	Category II	ND/ND	Bathroom	NA
ES-HM-07A	12x12 Brown VFT	No	M	Category II	ND/ND	NE Bedroom	NA
ES-HM-07B	12x12 Brown VFT	No	M	Category II	ND/ND	NE Bedroom	NA
ES-HM-08A	12x12 Gray Layered VFT	No	M	Category II	ND/ND/ND/ ND/ND/ND	Basement Entry	NA
ES-HM-08B	12x12 Gray Layered VFT	No	M	Category II	ND/ND/ND/ ND/ND/ND	Basement Entry	NA
ES-HM-09A	Drywall and Joint Compound	No	M	Category II	ND/ND	S Bedroom Ceiling	NA
ES-HM-09B	Drywall and Joint Compound	No	M	Category II	ND/ND	S Bedroom Wall	NA
ES-HM-10A	House Window Glazing	Yes	M	Category II	ND	NW Bedroom Window	NA
ES-HM-10B	House Window Glazing	Yes	M	Category II	ND	Kitchen Window	NA
ES-HM-11A	Front Porch Window Glazing	Yes	M	Category II	ND	Front Porch Window	NA
ES-HM-11B	Front Porch Window Glazing	Yes	M	Category II	ND	Front Porch Window	NA
ES-HM-12A	Flashing	No	M	Category II	20% CH	House Roof	130 lin. ft.
ES-HM-12B	Flashing	No	M	Category II	NA	House Roof	NA
ES-HS-01A	Plaster	No	S	Category II	ND/ND/ND	S Bedroom Ceiling	NA
ES-HS-01B	Plaster	No	S	Category II	ND/ND/ND	Kitchen Ceiling	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2336 8th St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
ES-HS-01C	Plaster	No	S	Category II	ND/ND	Living Room Wall	NA
ES-HS-01D	Plaster	No	S	Category II	ND/ND	NE Bedroom Wall	NA
ES-HS-01E	Plaster	No	S	Category II	ND/ND	NE Bedroom Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2336 8th St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Building Exterior	Transite Siding	No	Fair	M	1,368 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

Table 4 - Summary of All Asbestos Containing Materials, 2336 8th St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof	Roof Flashing	No	130 lin. ft.
Total			130 lin. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Front Entry	12x12 Red Layered VFT	No	81 sq. ft.
Total			81 sq. ft.
Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Exterior	Transite Siding	No	1,368 sq. ft.
Total			1,368 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2344 6th St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-091-0013-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2344 6th St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 816 square foot residential building (the Building) constructed in 1935. The Building was constructed on a concrete foundation with one aboveground floor. 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, bathroom and three 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 October 24, 2018 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:

- Shingle Roof
- Chimney Flashing
- Vapor Barrier
- Fiberboard
- Multi-Layered Flooring
- Linoleum
- Drywall and Joint Compound
- Window Glazing
- 2'x4' Ceiling Tile
- Window Caulk
- Plaster

Red Cedar staff collected fifteen 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 fifteen samples is included as Attachment A.

Hazardous Materials Inspection

On October 24, 2018 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, fifteen 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 identified HVAC Duct Wrap at the following locations within the basement and first floor:

- West Bedroom (1 register, 10 sq. ft.)
- Center Bedroom (1 register, 10 sq. ft.)
- East Bedroom (1 register, 10 sq. ft.)
- Living Room (1 register, 10 sq. ft.)
- Kitchen (1 register, 10 sq. ft.)

Category I ACM

One type of resilient floor covering (Mottled Linoleum) located within the bathroom was found to contain up to 30% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 55 sq. ft. of this material within the Building.

Category II ACM

Chimney flashing samples collected during the completion of the inspection were found to contain up to 20% Chrysotile asbestos. The assessment to quantify the extent of this material identified 15 sq. ft. of chimney flashing materials on the Building.

Plaster samples, collected from the Living Room, W Bedroom, Center Bedroom, Bathroom, and Kitchen were found to contain up to 1.25% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 3,227 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.

- West Bedroom (1 register, 10 sq. ft.)
- Center Bedroom (1 register, 10 sq. ft.)
- East Bedroom (1 register, 10 sq. ft.)
- Living Room (1 register, 10 sq. ft.)
- Kitchen (1 register, 10 sq. ft.)

Chimney flashing identified on the exterior 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.

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 covering (Mottled Linoleum) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 Tire (2)

REGULATORY REQUIREMENTS

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.

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.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-091-0013-00

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

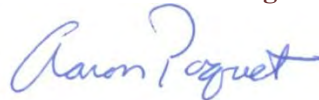
DISCLAIMER

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 Muskegon 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 : 2344 6th St.



Report To:

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

ARI Report # 18-80579
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 01 Cust. #: SS-HM-01A Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80579 - 01a Cust. #: SS-HM-01A Material: Grey Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80579 - 01b Cust. #: SS-HM-01A Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%

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

Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 01c Cust. #: SS-HM-01A Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80579 - 02 Cust. #: SS-HM-01B Material: Asphalt Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80579 - 02a Cust. #: SS-HM-01B Material: Grey Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 02b Cust. #: SS-HM-01B Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80579 - 02c Cust. #: SS-HM-01B Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80579 - 03 Cust. #: SS-HM-02A Material: Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 20%	Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 04 Cust. #: SS-HM-02B Material: Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80579 - 05 Cust. #: SS-HM-03A Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80579 - 06 Cust. #: SS-HM-03B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 07 Cust. #: SS-HM-04A Material: Fiberboard Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80579 - 08 Cust. #: SS-HM-04B Material: Fiberboard Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80579 - 09 Cust. #: SS-HM-05A Material: Black 12x12 VFT Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 09a Cust. #: SS-HM-05A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80579 - 09b Cust. #: SS-HM-05A Material: Sheet Flooring Location: Appearance: brown,fibrous,nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80579 - 10 Cust. #: SS-HM-05B Material: White 12x12 VFT Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 10a Cust. #: SS-HM-05B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80579 - 10b Cust. #: SS-HM-05B Material: Sheet Flooring Location: Appearance: white,fibrous,nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80579 - 11 Cust. #: SS-HM-06A Material: Mottled Linoleum Location: Appearance: brown,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 11a Cust. #: SS-HM-06A Material: Blue Linoleum Location: Appearance: blue, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: YES Chrysotile - 30%	Other - 70%
Lab ID #: 80579 - 12 Cust. #: SS-HM-06B Material: Mottled Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80579 - 12a Cust. #: SS-HM-06B Material: Blue Linoleum Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	

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

Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 13 Cust. #: SS-HM-07A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80579 - 13a Cust. #: SS-HM-07A Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80579 - 14 Cust. #: SS-HM-07B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 14a Cust. #: SS-HM-07B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80579 - 15 Cust. #: SS-HM-08A Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%
Lab ID #: 80579 - 16 Cust. #: SS-HM-08B Material: Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Other - 99%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 17 Cust. #: SS-HM-09A Material: Yellow 2x4 Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80579 - 18 Cust. #: SS-HM-09B Material: Yellow 2x4 Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80579 - 19 Cust. #: SS-HM-10A Material: Window Caulk Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 20 Cust. #: SS-HM-10B Material: Window Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80579 - 21 Cust. #: SS-HS-01A Material: Plaster Texture Location: Appearance: white,fibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 80579 - 21a Cust. #: SS-HS-01A Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2344 6th St.



Report To:

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

ARI Report # 18-80579
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 21b Cust. #: SS-HS-01A Material: Plaster Base Coat Location: Appearance: brown, fibrous, homogenous Layer: 3 of 3	Asbestos Present: YES Chrysotile - 1.25% POINT COUNT RESULT	Other - 98.75%
Lab ID #: 80579 - 22 Cust. #: SS-HS-01B Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80579 - 22a Cust. #: SS-HS-01B Material: Plaster Base Coat Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2344 6th St.



Report To:

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

ARI Report # 18-80579
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 23 Cust. #: SS-HS-01C Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80579 - 23a Cust. #: SS-HS-01C Material: Plaster Base Coat Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80579 - 24 Cust. #: SS-HS-01D Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2344 6th St.



Report To:

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

ARI Report # 18-80579
 Date Collected: 10/24/18
 Date Received: 10/25/18
 Date Analyzed: 10/30/18
 Date Reported: 10/30/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80579 - 24a Cust. #: SS-HS-01D Material: Plaster Base Coat Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80579 - 25 Cust. #: SS-HS-01E Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80579 - 25a Cust. #: SS-HS-01E Material: Plaster Base Coat Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex # 80579

pg 6 of 3

APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-24-08
Project: 2314 6th St.
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour
Other:

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

TTP ALL samples

Lab Use Only
Log-in _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	SS-HM-01A	Asphalt Shingle			
2	SS-HM-01B	" "			
3	SS-HM-02A	Flashing			
4	SS-HM-02B	" "			
5	SS-HM-03A	Vapor Barrier			
6	SS-HM-03B	" "			
7	SS-HM-04A	Fiber board			
8	SS-HM-04B	" "			
9	SS-HM-05A	Black & white 12x12 VFT ML			
10	SS-HM-05B	" "			
11	SS-HM-06A	Method Linoleum			

RECEIVED

Received by: S. Tracey
Date: OCT 25 2008
10/25/08 1118

Relinquished by: UPS
Date: 10-24-08

Relinquished by: _____
Date: _____

APEX Research, Inc.



11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-24-18
 Project: 2344 6th St.
 Project #: _____
 Contact Person: Aaron Paquet

Lab Use Only
 Log-In _____
 Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 Other: _____ TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
 48 hour 72 hour

Other: (TTP) ALL samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	SS-HM-06B	Mottled Linoleum			
13	SS-HM-07A	Drywall Compound			
14	SS-HM-07B	" "			
15	SS-HM-08A	Glazing			
16	SS-HM-08B	" "			
17	SS-HM-09A	Yellow 2x4 CT			
18	SS-HM-09B	" "			
19	SS-HM-10A	Window Cask			
20	SS-HM-10B	" "			
21	SS-HS-01A	Plaster			
22	SS-HS-01B	" "			

RECEIVED

Relinquished by: Chris Pignatelli Received by: UPS
 Date: 10-24-18 Date: 10-24-18

Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 25 2018

pg 3 of 3

APEX Research, Inc.



11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-24-18
Project: 2344 64th St.
Project #: _____
Contact Person: Aaron Paquet

Lab Use Only
Log-in _____
Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM. apaquet@redcedarconsulting.net

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
48 hour 72 hour
Other: _____

All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	SS-145-01C	Plaster			
24	SS-145-01D	,,			
25	SS-145-01E	,,			

RECEIVED

Relinquished by: [Signature] Received by: [Signature]
Date: 10-24-18 Date: 10-24-18

Relinquished by: _____ Received by: _____
Date: _____ Date: _____
Received by: _____ OCT 25 2018
Date: _____ APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 2344 6th St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Exterior	Automobile Tire	2

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2344 6th St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
SS-HM-01A	Shingle Roof	No	M	Category I	ND/ND/ND/ND	House Roof	NA
SS-HM-01B	Shingle Roof	No	M	Category I	ND/ND/ND/ND	House Roof	NA
SS-HM-02A	Chimney Flashing	No	M	Category II	20% CH	Chimney	15 sq. ft.
SS-HM-02B	Chimney Flashing	No	M	Category II	NA	Chimney	NA
SS-HM-03A	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
SS-HM-03B	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
SS-HM-04A	Fiberboard	Yes	M	Category II	ND	Front Entry	NA
SS-HM-04B	Fiberboard	Yes	M	Category II	ND	Front Entry	NA
SS-HM-05A	Black and White 12x12 ML Flooring	No	M	Category I	ND/ND/ND	Kitchen	NA
SS-HM-05B	Black and White 12x12 ML Flooring	No	M	Category I	ND/ND/ND	Kitchen	NA
SS-HM-06A	Mottled Linoleum	No	M	Category I	ND/30% CH	Bathroom	55 sq. ft.
SS-HM-06B	Mottled Linoleum	No	M	Category I	ND/NA	Bathroom	NA
SS-HM-07A	Drywall and Joint Compound	No	M	Category II	ND/ND	Kitchen	NA
SS-HM-07B	Drywall and Joint Compound	No	M	Category II	ND/ND	Living Room	NA
SS-HM-08A	Window Glazing	Yes	M	Category II	ND	West Bedroom Window	NA
SS-HM-08B	Window Glazing	Yes	M	Category II	ND	West Bedroom Window	NA
SS-HM-09A	Yellow 2x4 CT	Yes	M	Category II	ND	Kitchen	NA
SS-HM-09B	Yellow 2x4 CT	Yes	M	Category II	ND	Kitchen	NA
SS-HM-10A	Window Caulk	No	M	Category II	ND	Living Room W Window	NA
SS-HM-10B	Window Caulk	No	M	Category II	ND	Living Room S Window	NA
SS-HS-01A	Plaster	No	S	Category II	ND/ND/1.25% CH	Living Room Ceiling	3,227 sq. ft.
SS-HS-01B	Plaster	No	S	Category II	ND/NA	W Bedroom Ceiling	NA
SS-HS-01C	Plaster	No	S	Category II	ND/NA	Center Bedroom Wall	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2344 6th St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
SS-HS-01D	Plaster	No	S	Category II	ND/NA	Bathroom Wall	NA
SS-HS-01E	Plaster	No	S	Category II	ND/NA	Kitchen Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2344 6th St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
West Bedroom (1 register, 10 sq. ft.) Center Bedroom (1 register, 10 sq. ft.) East Bedroom (1 register, 10 sq. ft.) Living Room (1 register, 10 sq. ft.) Kitchen (1 register, 10 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

Table 4 - Summary of All Asbestos Containing Materials, 2344 6th St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof	Chimney Flashing	No	15 sq. ft.
	Total		15 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Bathroom	Mottled Linoleum	No	55 sq. ft.
	Total		55 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
West Bedroom (1 register, 10 sq. ft.) Center Bedroom (1 register, 10 sq. ft.) East Bedroom (1 register, 10 sq. ft.) Living Room (1 register, 10 sq. ft.) Kitchen (1 register, 10 sq. ft.)	HVAC Duct Wrap	Yes	50 sq. ft.
	Total		50 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
1 st Floor	Wall Plaster	No	2,448 sq. ft.
1 st Floor	Ceiling Plaster	No	779 sq. ft.
	Total		3,227 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Table 4 - Summary of All Asbestos Containing Materials, 2344 6th St., Muskegon Heights, Michigan

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
2345 Maffett St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-095-0012-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2345 Maffett St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 953 square foot residential building (the Building) constructed in 1930. 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 two apartments for inspection purposes.

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 October 25, 2018 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:

- Roofing Shingle
- Vapor Barrier
- Linoleum
- 12x12 Vinyl Floor Tile
- Drywall and Joint Compound
- 1x1 Ceiling Tile
- Window Glazing
- Rolled Roofing
- Plaster

Red Cedar staff collected thirty six samples of suspect ACBM separated into fifteen 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 thirty six samples is included as Attachment A.

Hazardous Materials Inspection

On October 25, 2018 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, thirty six 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

A window glazing sample collected from a window in the basement was found to contain up to 5% asbestos following analysis. The assessment to quantify the extent of this material identified six windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- Basement (6 windows 32" wide x 14" tall)

Category I ACM

One type of resilient floor covering (12"x12" Burgundy Layered Vinyl Tile) located within the 2nd Floor Bathroom was found to contain up to 30% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 35 sq. ft. of this material within the Building.

Category II ACM

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

RECOMMENDATIONS

Asbestos Containing Materials

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

- Basement (6 windows 32" wide x 14" 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.

The Category I resilient floor coverings (12"x12" Burgundy Layered Vinyl Tile) are non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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:

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-095-0012-00

- Smoke Detector (2)
- Thermostat (1)
- Automobile Tire (4)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-095-0012-00

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 Muskegon 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 : 2345 Maffett St.



Report To:

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

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 01 Cust. #: MS-HM-01A Material: Red Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80633 - 01a Cust. #: MS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80633 - 01b Cust. #: MS-HM-01A Material: Tar Paper Material Location: Appearance: black, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 02 Cust. #: MS-HM-01B Material: Red Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80633 - 02 Cust. #: MS-HM-01B Material: Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80633 - 02a Cust. #: MS-HM-01B Material: Tar Paper Material Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 03 Cust. #: MS-HM-02A Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80633 - 03a Cust. #: MS-HM-02A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80633 - 03b Cust. #: MS-HM-02A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 04 Cust. #: MS-HM-02B Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80633 - 04a Cust. #: MS-HM-02B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80633 - 04b Cust. #: MS-HM-02B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 05 Cust. #: MS-HM-03A Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80633 - 06 Cust. #: MS-HM-03B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80633 - 07 Cust. #: MS-HM-04A Material: Brown 2" Square Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 08 Cust. #: MS-HM-04B Material: Brown 2" Square Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80633 - 09 Cust. #: MS-HM-05A Material: 12x12 Burgundy VFT Location: Appearance: grey, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 09a Cust. #: MS-HM-05A Material: Mastic Location: Appearance: clear, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 10 Cust. #: MS-HM-05B Material: 12x12 Burgundy VFT Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 10a Cust. #: MS-HM-05B Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 11 Cust. #: MS-HM-06A Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 11a Cust. #: MS-HM-06A Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 12 Cust. #: MS-HM-06B Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80633 - 12a Cust. #: MS-HM-06B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 13 Cust. #: MS-HM-07A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80633 - 14 Cust. #: MS-HM-07B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80633 - 15 Cust. #: MS-HM-08A Material: Front Porch Window Glazing Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 16 Cust. #: MS-HM-08B Material: Front Porch Window Glazing Location: Appearance: Layer: of	Asbestos Present: NO SAMPLE RECEIVED	
Lab ID #: 80633 - 17 Cust. #: MS-HM-09A Material: Basement Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80633 - 18 Cust. #: MS-HM-09B Material: Basement Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 19 Cust. #: MS-HM-10A Material: 12x12 Blue/White Layered VFT Location: Appearance: blue,nonfibrous,homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 19a Cust. #: MS-HM-10A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 19b Cust. #: MS-HM-10A Material: Linoleum Location: Appearance: yellow,fibrous,nonhomogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 19c Cust. #: MS-HM-10A Material: Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80633 - 20 Cust. #: MS-HM-10B Material: 12x12 Blue/White Layered VFT Location: Appearance: blue, nonfibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 20a Cust. #: MS-HM-10B Material: Mastic Location: Appearance: clear, nonfibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 20b Cust. #: MS-HM-10B Material: Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80633 - 20c Cust. #: MS-HM-10B Material: Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80633 - 21 Cust. #: MS-HM-11A Material: 12x12 Burgundy Layered VFT Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

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Lab ID #: 80633 - 21a Cust. #: MS-HM-11A Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: YES Chrysotile - 30%	Other - 70%
Lab ID #: 80633 - 21b Cust. #: MS-HM-11A Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80633 - 22 Cust. #: MS-HM-11B Material: 12x12 Burgundy Layered VFT Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

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Lab ID #: 80633 - 22a Cust. #: MS-HM-11B Material: Linoleum Location: Appearance: Layer: 2 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80633 - 22b Cust. #: MS-HM-11B Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80633 - 23 Cust. #: MS-HM-12A Material: House Window Glazing Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 24 Cust. #: MS-HM-12B Material: House Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 25 Cust. #: MS-HM-13A Material: Rolled Roofing Location: Appearance: black,fibrous,nonhomogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 80633 - 25a Cust. #: MS-HM-13A Material: Shingle Location: Appearance: black,fibrous,homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%

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 P.O. Box 13216
 Lansing, MI 48901

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 25b Cust. #: MS-HM-13A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80633 - 25c Cust. #: MS-HM-13A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80633 - 26 Cust. #: MS-HM-13B Material: Rolled Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 4	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2345 Maffett St.



Report To:

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

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 26a Cust. #: MS-HM-13B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80633 - 26b Cust. #: MS-HM-13B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80633 - 26c Cust. #: MS-HM-13B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO 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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Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2345 Maffett St.



Report To:

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

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 27 Cust. #: MS-HS-01A Material: Grey Fleck Plaster Finish Coat Location: Appearance: green,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 27a Cust. #: MS-HS-01A Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Vermiculite - 5% Other - 93%
Lab ID #: 80633 - 28 Cust. #: MS-HS-01B Material: Grey Fleck Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2345 Maffett St.



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 Lansing, MI 48901

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 28a Cust. #: MS-HS-01B Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Vermiculite - 5% Other - 93%
Lab ID #: 80633 - 29 Cust. #: MS-HS-01C Material: Grey Fleck Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 29a Cust. #: MS-HS-01C Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Vermiculite - 5% Other - 93%

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 : 2345 Maffett St.



Report To:

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 P.O. Box 13216
 Lansing, MI 48901

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 30 Cust. #: MS-HS-01D Material: Grey Fleck Plaster Texture Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 30a Cust. #: MS-HS-01D Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 30b Cust. #: MS-HS-01D Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Vermiculite - 5% Other - 93%

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 : 2345 Maffett St.



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 Lansing, MI 48901

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 31 Cust. #: MS-HS-01E Material: Grey Fleck Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 31a Cust. #: MS-HS-01E Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Vermiculite - 5% Other - 93%
Lab ID #: 80633 - 32 Cust. #: MS-HS-02A Material: Sand Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 : 2345 Maffett St.



Report To:

Mr. Aaron Paquet
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 Lansing, MI 48901

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 32a Cust. #: MS-HS-02A Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80633 - 33 Cust. #: MS-HS-02B Material: Sand Plaster Texture Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 33a Cust. #: MS-HS-02B Material: Plaster Finish Coat Location: Appearance: grey, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO 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 : 2345 Maffett St.



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 Lansing, MI 48901

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 33b Cust. #: MS-HS-02B Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80633 - 34 Cust. #: MS-HS-02C Material: Sand Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 34a Cust. #: MS-HS-02C Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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 : 2345 Maffett St.



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 Lansing, MI 48901

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 35 Cust. #: MS-HS-02D Material: Sand Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80633 - 35a Cust. #: MS-HS-02D Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80633 - 36 Cust. #: MS-HS-02E Material: Sand Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 : 2345 Maffett St.



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

ARI Report # 18-80633
 Date Collected: 10/25/18
 Date Received: 10/29/18
 Date Analyzed: 11/01/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80633 - 36a Cust. #: MS-HS-02E Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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Apex # **80633**

1 of 4



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10.25 + 10.26.18
Project: 2345 McEffort St
Project #:

Contact Person: Aaron Paquet
apaket@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour
Other:

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

TTP All Samples

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	M5-HM-01A	Red Shingle			
2	01B	..			
3	02A	Black Shingle			
4	02B	..			
5	03A	Vapor Barrier			
6	03B	..			
7	04A	Brown 2" Square Gypsum			
8	04B	..			
9	05A	12x12 Burgundy VFT			
10	05B	..			
11	06A	Argyrol & Spirit Compound			

Relinquished by: Alexander Received by: UTS
Date: 10-26-18 Date: 10-26-18

Relinquished by: _____
Date: _____

RECEIVED
Received by: S.T.
Date: 2.9.2018 10:21:18 6936

244



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-25-10-24-18
Project: 2345 McLeffert St
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour

Other: TTP All Samples

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	MS-HM-06B	Asphalt & Joint Compound			
13	MS-HM-07A	1x1 White Smooth CT			
14	(07B)	" "			
15	(08A)	Front Porch Window Glazing			
16	08B	" "			
17	09A	Basement Window Glazing			
18	09B	" "			
19	10A	12x12 Blue & White Layered VFT			
20	10B	" "			
21	11A	12x12 Burgundy Layered VFT			
22	11B	" "			

Relinquished by: [Signature] Received by: JPS
Date: 10-26-18 Date: 10-26-18
Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 29 2018

3074



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Rush 24 hour
48 hour 72 hour
Other: 72 hour

TTP All Samples

Date of Survey: 10-25-10-26-18

Project: 2345 McJeffett St

Project #:

Contact Person: Aaron Paquet

apaquet@redcedarconsulting.net

Asbestos: Bulk Wipe Point Count PCM

Lead: Bulk Wipe Air Paint Soil

Mold: Bulk Tape BioSIS Other Viable

TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	MS-HM-12A	Household window Siding			
24	12B	"			
25	13A	Roller Roofing			
26	13B	"			
27	MS-HS-01A	Tray floor Plaster			
28	01B	"			
29	01C	"			
30	01D	"			
31	01E	"			
32	MS-HS-02A	Skid Plaster			
33	02B	"			

RECEIVED

Relinquished by: [Signature] Received by: WTS

Date: 10-26-18 Date: 10-26-18

Received by: [Signature] Date: 10-29-2018

Date: _____ Date: _____
APEX RESEARCH

4 of 4

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888)449-4566 Fax: (888) 448-8739

Date of Survey: 10-25-18

Project: 2345 Mayfield St

Project #:

Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe Point Count PCM

Rush 24 hour

48 hour 72 hour

Other: **TTP** All Samples

Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
34	MS-HS-02C	And Plates			
35	02D	↓			
36	02E	↓			

RECEIVED

Relinquished by: Aaron Paquet Received by: JPS
Date: 10-26-18 Date: 10-26-18

Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 29 2018

Tables

Table 1 - Summary of Hazardous Materials, 2345 Maffett St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Front Porch	Automobile Tire	4
2 nd Floor Hallway	Thermostat	1
2 nd Floor Hallway	Smoke Detector	1
2 nd Floor W Bedroom	Smoke Detector	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2345 Maffett St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
MS-HM-01A	Red Shingle	No	M	Category I	ND/ND/ND	House Roof	NA
MS-HM-01B	Red Shingle	No	M	Category I	ND/ND/ND	House Roof	NA
MS-HM-02A	Black Shingle	No	M	Category I	ND/ND/ND	House Roof	NA
MS-HM-02B	Black Shingle	No	M	Category I	ND/ND/ND	House Roof	NA
MS-HM-03A	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
MS-HM-03B	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
MS-HM-04A	Brown 2" Square Linoleum	No	M	Category I	ND	Kitchen	NA
MS-HM-04B	Brown 2" Square Linoleum	No	M	Category I	ND	Kitchen	NA
MS-HM-05A	12x12 Burgundy VFT	No	M	Category I	ND/ND	Bathroom	NA
MS-HM-05B	12x12 Burgundy VFT	No	M	Category I	ND/ND	Bathroom	NA
MS-HM-06A	Drywall and Joint Compound	No	M	Category II	ND/ND	Living Room Wall	NA
MS-HM-06B	Drywall and Joint Compound	No	M	Category II	ND/ND	W Bedroom Wall	NA
MS-HM-07A	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Living Room	NA
MS-HM-07B	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Living Room	NA
MS-HM-08A	Front Porch Window Glazing	Yes	M	Category II	ND	Front Porch Window	NA
MS-HM-08B	Front Porch Window Glazing	Yes	M	Category II	ND	Front Porch Window	NA
MS-HM-09A	Basement Window Glazing	Yes	M	Category II	5%CH	Basement Window	6 Windows
MS-HM-09B	Basement Window Glazing	Yes	M	Category II	NA	Basement Window	NA
MS-HM-10A	12x12 Blue/White Layered VFT	No	M	Category I	ND/ND/ND/ND	2 nd Floor Kitchen	NA
MS-HM-10B	12x12 Blue/White Layered VFT	No	M	Category I	ND/ND/ND/ND	2 nd Floor Kitchen	NA
MS-HM-11A	12x12 Burgundy Layered VFT	No	M	Category I	ND/30%CH/ND	2 nd Floor Bathroom	35 sq. ft.
MS-HM-11B	12x12 Burgundy Layered VFT	No	M	Category I	ND/NA/ND	2 nd Floor Bathroom	NA
MS-HM-12A	House Window Glazing	Yes	M	Category II	ND	W Bedroom Window	NA
MS-HM-12B	House Window Glazing	Yes	M	Category II	ND	Kitchen Window	NA
MS-HM-13A	Rolled Roofing	No	M	Category I	ND/ND/ND/ND	House Roof	NA
MS-HM-13B	Rolled Roofing	No	M	Category I	ND/ND/ND/ND	House Roof	NA
MS-HS-01A	Grey Fleck Plaster	No	S	Category II	ND/ND	Living Room Ceiling	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2345 Maffett St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
MS-HS-01B	Grey Fleck Plaster	No	S	Category II	ND/ND	N Bedroom Ceiling	NA
MS-HS-01C	Grey Fleck Plaster	No	S	Category II	ND/ND	Living Room Wall	NA
MS-HS-01D	Grey Fleck Plaster	No	S	Category II	ND/ND/ND	2 nd Floor Stairwell Ceiling	NA
MS-HS-01E	Grey Fleck Plaster	No	S	Category II	ND/ND	2 nd Floor Hallway Wall	NA
MS-HS-02A	Sand Plaster	No	S	Category II	ND/ND	Kitchen Wall	NA
MS-HS-02B	Sand Plaster	No	S	Category II	ND/ND/ND	N Bedroom Wall	NA
MS-HS-02C	Sand Plaster	No	S	Category II	ND/ND	2 nd Floor Kitchen Ceiling	NA
MS-HS-02D	Sand Plaster	No	S	Category II	ND/ND	2 nd Floor E Bedroom Ceiling	NA
MS-HS-02E	Sand Plaster	No	S	Category II	ND/ND	2 nd Floor Kitchen Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2345 Maffett St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 2345 Maffett St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
2 nd Floor Bathroom	12x12 Burgundy Layered VFT	No	35 sq. ft.
Total			35 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement (6 windows 32" wide x 14" tall)	Glazing	Yes	6 Windows
Total			6 Windows

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 1, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2412 Wood St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-112-0021-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2412 Wood St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 768 square foot residential building (the Building) constructed in 1953. The Building was constructed on a concrete block basement with one aboveground floor. The exterior walls of the Building were finished with aluminum lap over wood lap while the roof was sealed with asphalt shingles. The Building can be further divided into a front entry, living room, dining room, kitchen, bath, rear entry and three bedrooms on the first floor.

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 October 23, 2018 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:

- Vapor Barrier
- Shingle Roof
- Linoleum
- Vinyl Floor Tile
- Drywall and Joint Compound
- Gypsum
- Window Glazing
- Black Pipe Wrap

Red Cedar staff collected twenty 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 samples is included as Attachment A.

Hazardous Materials Inspection

On October 23, 2018 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.

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

One type of resilient floor covering (Cream Linoleum) located within the SE Bedroom was found to contain up to 35% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 150 sq. ft. of this material within the Building.

Category II ACM

Drywall Compound samples, collected from the Living Room and Kitchen were found to contain up to 1.75% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 3,209 sq. ft. of drywall compound within the Building.

Gypsum samples, collected from the Living Room and Kitchen were found to contain up to 20% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 3,239 sq. ft. of gypsum within the Building.

Black Pipe Wrap samples collected from a basement water line was found to contain up to 15% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 10 lin. ft. of Pipe Wrap within the Building.

RECOMMENDATIONS

Asbestos Containing Materials

Drywall Compound 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.

Gypsum 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.

Black Pipe Wrap 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 (Cream Linoleum) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 Tire (6)
- Smoke Detector (1)
- Gallon Container Misc. (4)
- 5-Gallon Container Misc. (1)

REGULATORY REQUIREMENTS

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.

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.

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.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-112-0021-00

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov


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 Muskegon 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 : 2412 Wood St.



Report To:

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

ARI Report # 18-80562
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 01 Cust. #: WS-HM-01A Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80562 - 02 Cust. #: WS-HM-01B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80562 - 03 Cust. #: WS-HM-02A Material: Shingle Roof Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 03a Cust. #: WS-HM-02A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80562 - 03b Cust. #: WS-HM-02A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80562 - 04 Cust. #: WS-HM-02B Material: Shingle Roof Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%

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Robert T. Letarte Jr., Laboratory Director

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Test Method, Polarized Light Microscopy (PLM)

Project : 2412 Wood St.



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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 04a Cust. #: WS-HM-02B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80562 - 04b Cust. #: WS-HM-02B Material: Tar Paper Location: Appearance: black, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80562 - 05 Cust. #: WS-HM-03A Material: Lite Brown 12" Squared Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 06 Cust. #: WS-HM-03B Material: Lite Brown 12" Squared Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80562 - 07 Cust. #: WS-HM-04A Material: Lite Brown 9" Squared Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80562 - 08 Cust. #: WS-HM-04B Material: Lite Brown 9" Squared Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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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ARI Report # 18-80562
 Date Collected: 10/23/18
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 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 09 Cust. #: WS-HM-05A Material: 12x12 Layered Parkay VFT Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80562 - 09a Cust. #: WS-HM-05A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80562 - 09b Cust. #: WS-HM-05A Material: Felt Location: Appearance: beige,fibrous,homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Fiberglass - 15% Other - 5%

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

Robert T. Letarte Jr., Laboratory Director

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 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 09c Cust. #: WS-HM-05A Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80562 - 10 Cust. #: WS-HM-05B Material: 12x12 Layered Parkay VFT Location: Appearance: brown, nonfibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80562 - 10a Cust. #: WS-HM-05B Material: Mastic Location: Appearance: clear, nonfibrous, homogenous Layer: 2 of 4	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2412 Wood St.



Report To:

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

ARI Report # 18-80562
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 10b Cust. #: WS-HM-05B Material: Felt Location: Appearance: beige, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Fiberglass - 15% Other - 5%
Lab ID #: 80562 - 10c Cust. #: WS-HM-05B Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80562 - 11 Cust. #: WS-HM-06A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO 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

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2412 Wood St.



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 Lansing, MI 48901

ARI Report # 18-80562
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 11a Cust. #: WS-HM-06A Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80562 - 11b Cust. #: WS-HM-06A Material: Joint Compound Location: Appearance: beige,fibrous,homogenous Layer: 3 of 3	Asbestos Present: YES Chrysotile - 1.75% POINT COUNT RESULT	Other - 98.25%
Lab ID #: 80562 - 12 Cust. #: WS-HM-06B Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO 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

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2412 Wood St.



Report To:

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

ARI Report # 18-80562
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 12a Cust. #: WS-HM-06B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80562 - 13 Cust. #: WS-HM-07A Material: Crème Linoleum Location: Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 35%	Other - 65%
Lab ID #: 80562 - 14 Cust. #: WS-HM-07B Material: Crème Linoleum Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2412 Wood St.



Report To:

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

ARI Report # 18-80562
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 15 Cust. #: WS-HM-08A Material: Gypsum Board Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 20%	Cellulose - 10% Other - 70%
Lab ID #: 80562 - 16 Cust. #: WS-HM-08B Material: Gypsum Board Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80562 - 17 Cust. #: WS-HM-09A Material: Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - Trace POINT COUNT RESULT	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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2412 Wood St.



Report To:

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

ARI Report # 18-80562
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80562 - 18 Cust. #: WS-HM-09B Material: Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - Trace POINT COUNT RESULT	Other - 100%
Lab ID #: 80562 - 19 Cust. #: WS-HT-01A Material: Black Pipe Wrap Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 15%	Other - 85%
Lab ID #: 80562 - 20 Cust. #: WS-HT-01B Material: Black Pipe Wrap Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex # **80562**

1012

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18

Project: 2412 Wood St

Project #:

Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM. apaquet@redcedarconsulting.net

Rush 24 hour

48 hour 72 hour

Other: TTP All samples

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	WS-HY-01A	Vapor Barrier			
2	01B	" "			
3	02A	Shingle Roof			
4	02B	" "			
5	03A	Site Broom 12" spaced Sphulcum			
6	03B	" "			
7	04A	Site Broom 9" spaced Sphulcum			
8	04B	" "			
9	05A	12x12 Layered Parkery VFT			
10	05B	" "			
11	06A	Argyroll + Joint Compound			

Relinquished by: Alex Mactera Received by: UPS

Date: 10-23-18 Date: 10-23-18

RECEIVED

Relinquished by: _____ Received by: _____

Date: _____ Date: 01-24-2018

Apex # **80562**

2012



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18

Project: 2412 Blood St

Project #:

Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM. apaquet@redcedarconsulting.net

Rush 24 hour

48 hour 72 hour

Other: (TTP) All Samples

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	WS-HM-06B	Asphalt & Joint Compound			
13	WS-HM-07A	Cement Scaffolding			
14	(07B)	" "			
15	(08A)	Gypsum Board			
16	(08B)	" "			
17	(09A)	Window Sillings			
18	(09B)	" "			
19	WS-HT-01A	Black Pipe Wrap			
20	WS-HT-01B	" "			

Relinquished by: ASB Hester Received by: UPS
Date: 10-23-18 Date: 10-23-18

RECEIVED
Received by: STW
Date: 10/24/18 10/24/18 0858

Tables

Table 1 - Summary of Hazardous Materials, 2412 Wood St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Rear Entry	Automobile Tire	4
Kitchen	Automobile Tire	2
Basement Stairwell	Smoke Detector	1
Basement	Gallon Container Misc.	4
Basement	5-Gallon Container Misc.	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2412 Wood St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
WS-HM-01A	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
WS-HM-01B	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
WS-HM-02A	Shingle Roof	No	M	Category I	ND/ND/ND	House Roof	NA
WS-HM-02B	Shingle Roof	No	M	Category I	ND/ND/ND	House Roof	NA
WS-HM-03A	Light Brown 12" Linoleum	No	M	Category I	ND	Front Entry	NA
WS-HM-03B	Light Brown 12" Linoleum	No	M	Category I	ND	Front Entry	NA
WS-HM-04A	9" Light Brown Linoleum	No	M	Category I	ND	Rear Entry	NA
WS-HM-04B	9" Light Brown Linoleum	No	M	Category I	ND	Rear Entry	NA
WS-HM-05A	12x12 Parkay Layered VFT	No	M	Category I	ND/ND/ND/ ND	Kitchen	NA
WS-HM-05B	12x12 Parkay Layered VFT	No	M	Category I	ND/ND/ND/ ND	Kitchen	NA
WS-HM-06A	Drywall and Joint Compound	No	M	Category II	ND/ND/1.75% CH	Living Ceiling	3,209 sq. ft.
WS-HM-06B	Drywall and Joint Compound	No	M	Category II	ND/ND	NE Bedroom Wall	NA
WS-HM-07A	Cream Linoleum	No	M	Category I	35% CH	SE Bedroom	150 sq. ft.
WS-HM-07B	Cream Linoleum	No	M	Category I	NA	SE Bedroom	NA
WS-HM-08A	Gypsum	No	M	Category II	20% CH	Kitchen Ceiling	3,239 sq. ft.
WS-HM-08B	Gypsum	No	M	Category II	NA	SW Bedroom Wall	NA
WS-HM-09A	Window Glazing	Yes	M	Category II	ND	Living Room Window	NA
WS-HM-09B	Window Glazing	Yes	M	Category II	ND	Living Room Window	NA
WS-HT-01A	Black Pipe Wrap	No	T	Category II	15% CH	Basement Waterline	10 lin. ft.
WS-HT-01B	Black Pipe Wrap	No	T	Category II	NA	Basement Waterline	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2412 Wood St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 2412 Wood St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
SE Bedroom	Cream Linoleum	No	150 sq. ft.
Total			150 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement Water Line	Black Pipe Wrap	No	10 lin. ft.
Total			10 lin. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Interior	Drywall Compound	No	3,209 sq. ft.
Total			3,209 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Interior	Gypsum	No	3,209 sq. ft.
Building Exterior	Exterior Gypsum Debris Pile	No	30 sq. ft.
Total			3,239 sq. ft.

Notes:

Abbreviations

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

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2420 Manz St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-111-0019-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2420 Manz St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .29 acre residential parcel which contains a 576 sq. ft. detached garage and approximate 864 square foot residential building (the Building) constructed in 1923. The Building was constructed on a concrete block basement with one aboveground floor. The exterior walls of the Building were finished with vinyl siding while the roof was sealed with asphalt shingles. The Building can be further divided into a living room, dining room, kitchen, bath and three 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 October 25, 2018 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:

- Shingle Roof
- Vapor Barrier
- Roof Flashing
- Linoleum
- 12x12 Vinyl Floor Tile
- 1x1 Ceiling Tile
- Window Glazing
- Plaster

Red Cedar staff collected thirty three samples of suspect ACBM separated into fifteen 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 thirty three samples is included as Attachment A.

Hazardous Materials Inspection

On October 25, 2018 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, thirty 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.

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

A window glazing sample collected from a window in the Dining room was found to contain up to 1.75% asbestos following analysis. The assessment to quantify the extent of this material identified eleven windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- (1 window 22" wide x 33" tall)
- (5 windows 32" wide x 64" tall)
- (1 window 34" wide x 24" tall)
- (3 windows 24" wide x 48" tall)
- (1 window 52" wide x 54" tall)

Category I ACM

One type of resilient floor covering (Layered 12"x12" White Vinyl Floor Tile) located within the kitchen was found to contain up to 1.5% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 140 sq. ft. of this material within the Building.

Category II ACM

Plaster samples, collected from the Dining Room, NE Bedroom, Living Room, NW Bedroom, and Bathroom were each found to contain up to 2.25% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 3,173 sq. ft. of plaster within the Building.

Roof Flashing samples collected during the completion of the inspection were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material identified 10 sq. ft. of roof flashing materials on the Building.

RECOMMENDATIONS

Asbestos Containing Materials

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

- (1 window 22" wide x 33" tall)
- (5 windows 32" wide x 64" tall)
- (1 window 34" wide x 24" tall)
- (3 windows 24" wide x 48" tall)
- (1 window 52" wide x 54" 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.

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.

Roof Flashing identified on the exterior 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 (Layered 12"x12" White Vinyl Floor Tile) are non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 Tire (10)
- 1-Gallon Container Misc. (2)
- Television (1)
- 5-Gallon Container Misc. (1)

REGULATORY REQUIREMENTS

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.

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.

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-111-0019-00

- 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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

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 Muskegon 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 : 2420 Manz St.



Report To:

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

ARI Report # 18-80609
 Date Collected: 10/25/18
 Date Received: 10/26/18
 Date Analyzed: 10/31/18
 Date Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 01 Cust. #: MS-HM-01A Material: Shingle Roof Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80609 - 02 Cust. #: MS-HM-01B Material: Shingle Roof Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80609 - 03 Cust. #: MS-HM-02A Material: Vapor Barrier Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2420 Manz St.



Report To:

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

ARI Report # 18-80609
 Date Collected: 10/25/18
 Date Received: 10/26/18
 Date Analyzed: 10/31/18
 Date Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 04 Cust. #: MS-HM-02B Material: Vapor Barrier Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80609 - 05 Cust. #: MS-HM-03A Material: Roof Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80609 - 06 Cust. #: MS-HM-03B Material: Roof Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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

Robert T. Letarte Jr., Laboratory Director

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Project : 2420 Manz St.



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ARI Report # 18-80609
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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 07 Cust. #: MS-HM-04A Material: Cream Stone Linoleum Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 08 Cust. #: MS-HM-04B Material: Cream Stone Linoleum Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 09 Cust. #: MS-HM-05A Material: Red Floral Linoleum Layered Location: Appearance: red, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 09a Cust. #: MS-HM-05A Material: Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 10 Cust. #: MS-HM-05B Material: Red Floral Linoleum Layered Location: Appearance: red, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 10a Cust. #: MS-HM-05B Material: Linoleum Location: Appearance: green, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 11 Cust. #: MS-HM-06A Material: Layered 12x12 White VFT Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80609 - 11a Cust. #: MS-HM-06A Material: Tile Location: Appearance: red,fibrous,homogenous Layer: 2 of 6	Asbestos Present: YES Chrysotile - 1.50% POINT COUNT RESULT	Other - 98.50%
Lab ID #: 80609 - 11b Cust. #: MS-HM-06A Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 3 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 11c Cust. #: MS-HM-06A Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 4 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 11d Cust. #: MS-HM-06A Material: Linoleum Location: Appearance: black, fibrous, nonhomogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 11e Cust. #: MS-HM-06A Material: Linoleum Location: Appearance: black, fibrous, homogenous Layer: 6 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 12 Cust. #: MS-HM-06B Material: Layered 12x12 White VFT Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80609 - 12a Cust. #: MS-HM-06B Material: Tile Location: Appearance: Layer: 2 of 6	Asbestos Present: NOT ANALYZED	
Lab ID #: 80609 - 12b Cust. #: MS-HM-06B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 3 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 12c Cust. #: MS-HM-06B Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 4 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 12d Cust. #: MS-HM-06B Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 12e Cust. #: MS-HM-06B Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 6 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 13 Cust. #: MS-HM-07A Material: Green Linoleum Layered Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80609 - 14 Cust. #: MS-HM-07B Material: Green Linoleum Layered Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80609 - 15 Cust. #: MS-HM-08A Material: Grey Pebble Layered Linoleum Location: Appearance: red, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 15a Cust. #: MS-HM-08A Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 16 Cust. #: MS-HM-08B Material: Grey Pebble Layered Linoleum Location: Appearance: red, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 16a Cust. #: MS-HM-08B Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 17 Cust. #: MS-HM-09A Material: Red Floral Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 18 Cust. #: MS-HM-09B Material: Red Floral Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 19 Cust. #: MS-HM-10A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 20 Cust. #: MS-HM-10B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80609 - 21 Cust. #: MS-HM-11A Material: 1x1 White Ceiling Tile w/ Pinholes Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80609 - 22 Cust. #: MS-HM-11B Material: 1x1 White Ceiling Tile w/ Pinholes Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 23 Cust. #: MS-HM-12A Material: Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 1.75% POINT COUNT RESULT	Other - 98.25%
Lab ID #: 80609 - 24 Cust. #: MS-HM-12B Material: Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80609 - 25 Cust. #: MS-HM-13A Material: Cream Flagstone Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Synthetic - 5% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 26 Cust. #: MS-HM-13B Material: Cream Flagstone Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Synthetic - 5% Other - 80%
Lab ID #: 80609 - 27 Cust. #: MS-HM-14A Material: Tan Multilayer Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 27a Cust. #: MS-HM-14A Material: Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 27b Cust. #: MS-HM-14A Material: Linoleum Location: Appearance: red, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 28 Cust. #: MS-HM-14B Material: Tan Multilayer Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 28a Cust. #: MS-HM-14B Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 28b Cust. #: MS-HM-14B Material: Linoleum Location: Appearance: red, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80609 - 29 Cust. #: MS-HS-01A Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80609 - 29a Cust. #: MS-HS-01A Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Hair - 2% Other - 96%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 30 Cust. #: MS-HS-01B Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80609 - 30a Cust. #: MS-HS-01B Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Hair - 2% Other - 96%
Lab ID #: 80609 - 31 Cust. #: MS-HS-01C Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 31a Cust. #: MS-HS-01C Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Hair - 2% Other - 96%
Lab ID #: 80609 - 32 Cust. #: MS-HS-01D Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80609 - 32a Cust. #: MS-HS-01D Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Hair - 2% Other - 96%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2420 Manz St.



Report To:

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

ARI Report # 18-80609
 Date Collected: 10/25/18
 Date Received: 10/26/18
 Date Analyzed: 10/31/18
 Date Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80609 - 33 Cust. #: MS-HS-01E Material: Stucco Location: Appearance: beige, fibrous, homogenous Layer: 1 of 3	Asbestos Present: YES Chrysotile - 2.25% POINT COUNT RESULT	Other - 98.75%
Lab ID #: 80609 - 33a Cust. #: MS-HS-01E Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80609 - 33b Cust. #: MS-HS-01E Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Hair - 2% Other - 96%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex # **80609**

10/23



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-25-18
Project: 2420 Meng St
Project #: _____
Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe Point Count _____ PCM _____
Lead: Bulk Wipe Air _____ Paint _____ Soil _____
Mold: Bulk Tape BioSIS _____ Other _____ Viable _____

Rush 24 hour
48 hour 72 hour
Other: _____

TTP All Samples

TEM: AHERA 7400 Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	MS-HM-01A	Shingle Roof			
2	01B	" "			
3	02A	Vapor Barrier			
4	02B	" "			
5	03A	Roof Flashing			
6	03B	" "			
7	04A	Cream Stone Sinterstone			
8	04B	" "			
9	05A	Red Hard Sinterstone			
10	05B	" "			
11	06A	Severed 12x12 white VF7			

RECEIVED

Received by: S. J. [Signature]
Date: 10/26/2018

Relinquished by: [Signature] Received by: VF7S
Date: 10-25-18 Date: 10-25-18

APEX RESEARCH

2 of 3



APEX Research, Inc.

11054 Hf Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St, Zip: Lansing, MI 48901
 Phone: (888)449-4566 Fax: (888) 448-8739

Date of Survey: 10-25-18
 Project: 2420 Meng St
 Project #: _____
 Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM
 Lead: Bulk Wipe Air Paint Soil
 Mold: Bulk Tape BioSIS Other Viable
 TEM: AHERA 7400 Bulk/NOB EPA Level II

Rush 24 hour
 48 hour 72 hour
 Other: TTP All samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
10	MS-HM-06B	Layered white VFI			
13	07A	Green Genolene/Syred			
14		" " " "			
15	08A	Very Pale/Syred Genolene			
16	08B	" " " "			
17	09A	Red/Pale Genolene			
18	09B	" " " "			
19	10A	1x1 white smooth CT			
20	10B	" " " "			
21	11A	1x1 white CT w/ pinholes			
22	11B	" " " "			

RECEIVED

Relinquished by: APR/collectors Received by: UPS
 Date: 10-25-18 Date: 10-25-18
 Relinquished by: _____ Received by: _____
 Date: _____ Date: _____

3 of 3



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990

E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One)

- Rush 24 hour
- 48 hour
- 72 hour

Other: **TTP** All Samples

Asbestos: Bulk Wipe Point Count PCM

Lead: Bulk Wipe Air Paint Soil

Mold: Bulk Tape BioSIS Other Viable

TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Date of Survey: 10-25-18

Project: 2420 Mang St.

Project #:

Contact Person: Aaron Paquet

apaquet@redcedarconsulting.net
with a detection of <5% ACM.

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	MS-HM-12A	Window Glazing			
24	(12B	" "			
25	(13A	Cream Flagstone Sinterlock			
26	(13B	" "			
27	(14A	Iron Multi-Grained Sinterlock			
28	(14B	" "			
29	MS-HS-01A	Plastic			
30	(01B	(
31	(01C	(
32	(01D	(
33	(01E	(

RECEIVED

Relinquished by: [Signature] Received by: UPS
Date: 10-25-18 Date: 10-25-18

Relinquished by: _____ Received by: AP
Date: _____ Date: 10-26-2018

APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 2420 Manz St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Exterior	Automobile Tire	4
Detached Garage	Automobile Tire	6
Detached Garage	1-Gallon Container Misc.	2
Living Room	Television	1
Basement	5-Gallon Container Misc.	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2420 Manz St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
MS-HM-01A	Shingle Roof	No	M	Category I	ND	House Roof	NA
MS-HM-01B	Shingle Roof	No	M	Category I	ND	Garage Roof	NA
MS-HM-02A	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
MS-HM-02B	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
MS-HM-03A	Roof Flashing	No	M	Category II	10%CH	House Roof	10 sq. ft.
MS-HM-03B	Roof Flashing	No	M	Category II	NA	House Roof	NA
MS-HM-04A	Cream Stone Linoleum	No	M	Category I	ND	Living Room	NA
MS-HM-04B	Cream Stone Linoleum	No	M	Category I	ND	Living Room	NA
MS-HM-05A	Red Floral Linoleum Layered	No	M	Category II	ND/ND	Dining Room	NA
MS-HM-05B	Red Floral Linoleum Layered	No	M	Category II	ND/ND	Dining Room	NA
MS-HM-06A	Layered 12x12 White VFT	No	M	Category II	ND/1.50%CH-PC/ND/ND/ND/ND	Kitchen	140 sq. ft.
MS-HM-06B	Layered 12x12 White VFT	No	M	Category II	ND/NA/ND/ND/ND/ND	Kitchen	NA
MS-HM-07A	Green Linoleum Layered	No	M	Category II	ND	Bathroom	NA
MS-HM-07B	Green Linoleum Layered	No	M	Category II	ND	Bathroom	NA
MS-HM-08A	Grey Pebble Layered Linoleum	No	M	Category II	ND/ND	NW Bedroom	NA
MS-HM-08B	Grey Pebble Layered Linoleum	No	M	Category II	ND/ND	NW Bedroom	NA
MS-HM-09A	Red Floral Linoleum	No	M	Category II	ND	Office	NA
MS-HM-09B	Red Floral Linoleum	No	M	Category II	ND	Office	NA
MS-HM-10A	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Living	NA
MS-HM-10B	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Kitchen	NA
MS-HM-11A	1x1 White Ceiling Tile w/ Pinholes	Yes	M	Category II	ND	NW Bedroom	NA
MS-HM-11B	1x1 White Ceiling Tile w/ Pinholes	Yes	M	Category II	ND	NE Bedroom	NA
MS-HM-12A	Window Glazing	Yes	M	Category II	1.75%CH-PC	Dining Room Window	11 Windows
MS-HM-12B	Window Glazing	Yes	M	Category II	NA	Living Room Window	NA
MS-HM-13A	Cream Flagstone Linoleum	No	M	Category II	ND	Crawl Space	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2420 Manz St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
MS-HM-13B	Cream Flagstone Linoleum	No	M	Category II	ND	Crawl Space	NA
MS-HM-14A	Tan Multilayer Linoleum	No	M	Category II	ND/ND/ND	Basement	NA
MS-HM-14B	Tan Multilayer Linoleum	No	M	Category II	ND/ND/ND	Basement	NA
MS-HS-01A	Plaster	No	S	Category II	ND/ND	Dining Room Ceiling	NA
MS-HS-01B	Plaster	No	S	Category II	ND/ND	NE Bedroom Ceiling	NA
MS-HS-01C	Plaster	No	S	Category II	ND/ND	Living Room Wall	NA
MS-HS-01D	Plaster	No	S	Category II	ND/ND	NW Bedroom Wall	NA
MS-HS-01E	Plaster	No	S	Category II	2.25%CH-PC/ND/ND	Bathroom Wall	3,173 sq. ft.

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2420 Manz St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 2420 Manz St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof	Roof Flashing	No	10 sq. ft.
Total			10 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen	Layered 12x12 White Vinyl Floor Tile	No	140 sq. ft.
Total			140 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
(1 window 22" wide x 33" tall)	Glazing	Yes	1 Window
(5 windows 32" wide x 64" tall)	Glazing	Yes	5 Windows
(1 window 34" wide x 24" tall)	Glazing	Yes	1 Window
(3 windows 24" wide x 48" tall)	Glazing	Yes	3 Windows
(1 window 52" wide x 54" tall)	Glazing	Yes	1 Window
Total			11 Windows
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
1 st Floor	Wall Plaster	No	2,384 sq. ft.
1 st Floor	Ceiling Plaster	No	828 sq. ft.
Total			3,212 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Table 4 - Summary of All Asbestos Containing Materials, 2420 Manz St., Muskegon Heights, Michigan

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2425 Manz St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-112-0007-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2425 Manz St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .29 acre residential parcel which contains an approximate 1,222 square foot residential building with attached garage (the Building) constructed in 1955. The Building was constructed on a concrete block basement with one aboveground floor. 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, bath, three bedrooms, a laundry room and 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 October 25, 2018 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:

- Shingle Roofing
- Vapor Barrier
- Roof Flashing
- Linoleum
- 1x1 Ceiling Tile
- Drywall and Joint Compound
- Window Glazing
- Textured Surfacing

Red Cedar staff collected twenty five samples of suspect ACBM separated into twelve 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 five samples is included as Attachment A.

Hazardous Materials Inspection

On October 25, 2018 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 five 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

Textured Surfacing samples, collected from the N Bedroom, and NW Bedroom were found to contain up to 5% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 932 sq. ft. of textured surfacing within the Building.

A window glazing sample collected from a window in the NE Bedroom and Basement were found to contain up to 2.25% asbestos following analysis. The assessment to quantify the extent of this material identified twenty three windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- (10 windows 28" wide x 54" tall)
- (2 windows 28" wide x 36" tall)
- (1 window 31" wide x 26" tall)
- (1 window 27" wide x 39" tall)
- (2 windows 18" wide x 54" tall)
- (1 window 46" wide x 54" tall)
- (1 window 60" wide x 54" tall)
- (1 window 24" wide x 46" tall)
- Basement (4 windows 32" wide x 14" tall)

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 identified HVAC Duct Wrap at the following locations within the basement.

- Basement (misc. HVAC wrap on Basement Beam, 5 sq. ft.)

Category I ACM

Two types of resilient floor covering (Layered Yellow Stone Linoleum & Leveling Compound and Yellow and Gold Linoleum) located within the kitchen were found to contain up to 25% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 129 sq. ft. of this material within the Building.

Category II ACM

Drywall Compound samples, collected from the N Bedroom and Kitchen were found to contain up to 2% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 4,379 sq. ft. of drywall compound within the Building.

Roof Flashing samples collected during the completion of the inspection were found to contain up to 15% Chrysotile asbestos. The assessment to quantify the extent of this material identified 20 sq. ft. of roof flashing materials 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.

- Basement (misc. HVAC wrap on Basement Beam, 5 sq. ft.)

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

- (10 windows 28" wide x 54" tall)
- (2 windows 28" wide x 36" tall)
- (1 window 31" wide x 26" tall)
- (1 window 27" wide x 39" tall)
- (2 windows 18" wide x 54" tall)
- (1 window 46" wide x 54" tall)
- (1 window 60" wide x 54" tall)
- (1 window 24" wide x 46" tall)
- Basement (4 windows 32" wide x 14" 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.

Drywall Compound 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.

Roof Flashing identified on the exterior 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 (Layered Yellow Stone Linoleum and Yellow and Gold Linoleum) are non-friable ACM's that should be abated to mitigate any future exposure.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-112-0007-00

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)
- 1-Gallon Container Misc. (10)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-112-0007-00

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 Muskegon 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 : 2425 Manz St.



Report To:

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

ARI Report # 18-80607
 Date Collected: 10/25/18
 Date Received: 10/26/18
 Date Analyzed: 10/31/18
 Date Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 01 Cust. #: MA-HM-01A Material: Shingle Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80607 - 01a Cust. #: MA-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80607 - 01b Cust. #: MA-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%

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

Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 01c Cust. #: MA-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 80607 - 01d Cust. #: MA-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 80607 - 02 Cust. #: MA-HM-01B Material: Shingle Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 02a Cust. #: MA-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80607 - 02b Cust. #: MA-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80607 - 03 Cust. #: MA-HM-02A Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 04 Cust. #: MA-HM-02B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80607 - 05 Cust. #: MA-HM-03A Material: Roof Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80607 - 06 Cust. #: MA-HM-03B Material: Roof Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 07 Cust. #: MA-HM-04A Material: Black/White Square Linoleum Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80607 - 08 Cust. #: MA-HM-04B Material: Black/White Square Linoleum Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80607 - 09 Cust. #: MA-HM-05A Material: Tan Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 5% Other - 75%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 10 Cust. #: MA-HM-05B Material: Tan Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 5% Other - 75%
Lab ID #: 80607 - 11 Cust. #: MA-HM-06A Material: Layered Yellow Stone Linoleum Location: Appearance: green, fibrous, homogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 25%	Other - 75%
Lab ID #: 80607 - 11a Cust. #: MA-HM-06A Material: Leveling Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: YES Chrysotile - 10%	Other - 90%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 12 Cust. #: MA-HM-06B Material: Layered Yellow Stone Linoleum Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80607 - 13 Cust. #: MA-HM-07A Material: Yellow/Gold Linoleum Location: Appearance: green, fibrous, homogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 25%	Other - 75%
Lab ID #: 80607 - 13a Cust. #: MA-HM-07A Material: Linoleum Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 14 Cust. #: MA-HM-07B Material: Yellow/Gold Linoleum Location: Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80607 - 14a Cust. #: MA-HM-07B Material: Linoleum Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80607 - 15 Cust. #: MA-HM-08A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 16 Cust. #: MA-HM-08B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80607 - 17 Cust. #: MA-HM-09A Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80607 - 17a Cust. #: MA-HM-09A Material: Joint Compound Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: YES Chrysotile - 2.00% POINT COUNT RESULT	Other - 98.00%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 18 Cust. #: MA-HM-09B Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80607 - 18a Cust. #: MA-HM-09B Material: Joint Compound Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80607 - 19 Cust. #: MA-HM-10A Material: House Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 1.25% POINT COUNT RESULT	Wollastonite - 3% Other - 95.75%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 20 Cust. #: MA-HM-10B Material: House Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80607 - 21 Cust. #: MA-HM-11A Material: Basement Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 2.25% POINT COUNT RESULT	Wollastonite - 2% Other - 95.75%
Lab ID #: 80607 - 22 Cust. #: MA-HM-11B Material: Basement Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80607 - 23 Cust. #: MA-HS-01A Material: Textured Surfacing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80607 - 24 Cust. #: MA-HS-01B Material: Textured Surfacing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80607 - 25 Cust. #: MA-HS-01C Material: Textured Surfacing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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Apex # **80607**

1 of 3



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-25-18
Project: 2425 Meng A
Project #: _____

Contact Person: Aaron Paquet
apauquet@redcedarconsulting.net
PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

TTP All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	MA-H21-01A	Shingle Roofing			
2	01B	" "			
3	02A	Vapor Barrier			
4	02B	" "			
5	03A	Roof Flashing			
6	03B	" "			
7	04A	Black & White Square Linoleum			
8	04B	" "			
9	05A	Tan Linoleum			
10	05B	" "			
11	06A	Layered Yellow Stone Linoleum			

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Relinquished by: S. Tracey Received by: S. Tracey
Date: 10-25-18 Date: 10/26/18 1049

2013



APEX Research, Inc. 11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739
Date of Survey: 10-25-18
Project: 2425 Meng St
Project #: _____
Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
48 hour
72 hour

Other: All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
13	MA-HP1-06B	Keysered Yellow Stone Sinterium			
14	07A	Yellow & Gold Sinterium			
15	07B	" " " "			
16	08A	1x white smooth CT			
17	08B	" " " "			
18	09A	Asphalt Joint Compound			
19	09B	" " " "			
20	10A	House Windows Hazing			
21	10B	" " " "			
22	11A	Basement Windows Hazing			
	11B	" " " "			

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Relinquished by: [Signature] Received by: UTS
Date: 10-25-18 Date: 10-25-18

Relinquished by: [Signature] Received by: [Signature]
Date: _____ Date: OCT 26 2018

APEX RESEARCH

3 of 3



APEX Research, Inc. 11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
 Log-in _____
 Report _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739
 Date of Survey: 10-25-18
 Project: 2425 Meng AT
 Project #: _____
 Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Rush 24 hour Wipe _____ Point Count _____ PCM _____
 48 hour 72 hour Bulk x _____ Wipe _____ Air _____ Paint _____ Soil _____
 Other: _____ Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

TTP All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	MA-HS-01A	Textured Surfacing			
24	01B	"			
25	01C	"			

Relinquished by: Alex Paquet Received by: UPS
 Date: 10-25-18 Date: 10-25-18
 Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 26 2018
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 APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 2425 Manz St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
N Bedroom	Smoke Detector	1
Basement	1-Gallon Container Misc.	10

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2425 Manz St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
MA-HM-01A	Shingle Roofing	No	M	Category I	ND/ND/ND/ ND/ND	House Roof	NA
MA-HM-01B	Shingle Roofing	No	M	Category I	ND/ND/ND	House Roof	NA
MA-HM-02A	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
MA-HM-02B	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
MA-HM-03A	Roof Flashing	No	M	Category II	10%CH	House Roof	20 sq. ft.
MA-HM-03B	Roof Flashing	No	M	Category II	NA	House Roof	NA
MA-HM-04A	Black/White Square Linoleum	No	M	Category I	ND	Living Room	NA
MA-HM-04B	Black/White Square Linoleum	No	M	Category I	ND	Living Room	NA
MA-HM-05A	Tan Linoleum	No	M	Category I	ND	Kitchen	NA
MA-HM-05B	Tan Linoleum	No	M	Category I	ND	Kitchen	NA
MA-HM-06A	Layered Yellow Stone Linoleum	No	M	Category I	25%CH/10%CH	Bathroom	63 sq. ft.
MA-HM-06B	Layered Yellow Stone Linoleum	No	M	Category I	NA	Bathroom	NA
MA-HM-07A	Yellow/Gold Linoleum	No	M	Category I	25%CH/ND	NE Bedroom	66 sq. ft.
MA-HM-07B	Yellow/Gold Linoleum	No	M	Category I	NA/ND	NE Bedroom	NA
MA-HM-08A	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Bathroom	NA
MA-HM-08B	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Dining Room	NA
MA-HM-09A	Drywall and Joint Compound	No	M	Category II	ND/2.00%CH- PC	N Bedroom Ceiling	4,409 sq. ft.
MA-HM-09B	Drywall and Joint Compound	No	M	Category II	ND/NA	Kitchen Wall	NA
MA-HM-10A	House Window Glazing	Yes	M	Category II	1.25%CH-PC	NE Bedroom Window	19 Windows
MA-HM-10B	House Window Glazing	Yes	M	Category II	NA	N Bedroom Window	NA
MA-HM-11A	Basement Window Glazing	Yes	M	Category II	2.25%CH-PC	Basement Window	4 Windows
MA-HM-11B	Basement Window Glazing	Yes	M	Category II	NA	Basement Window	NA
MA-HS-01A	Textured Surfacing	Yes	S	Category II	5%CH	N Bedroom Ceiling	932 sq. ft.
MA-HS-01B	Textured Surfacing	Yes	S	Category II	NA	NW Bedroom Ceiling	NA
MA-HS-01C	Textured Surfacing	Yes	S	Category II	NA	NW Bedroom Ceiling	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2425 Manz St., Muskegon Heights, Michigan

Notes:

Material Types

M = Miscellaneous building material
TSI = Thermal System Insulation
S = Surfacing Material
PC = Point Count Analysis
CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2425 Manz St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Basement (misc. HVAC wrap on Basement Beam, 5 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	5 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

Table 4 - Summary of All Asbestos Containing Materials, 2425 Manz St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof	Roof Flashing	No	20 sq. ft.
Total			20 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen	Layered Yellow Stone Linoleum & Leveling Compound	No	63 sq. ft.
Bathroom	Yellow and Gold Linoleum	No	66 sq. ft.
Total			129 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement (misc. HVAC wrap on Basement Beam, 5 sq. ft.)	HVAC Duct Wrap	Yes	5 sq. ft.
Total			5 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
(10 windows 28" wide x 54" tall)	Glazing	Yes	10 Windows
(2 windows 28" wide x 36" tall)	Glazing	Yes	2 Windows
(1 window 31" wide x 26" tall)	Glazing	Yes	1 Windows
(1 window 27" wide x 39" tall)	Glazing	Yes	1 Windows
(2 windows 18" wide x 54" tall)	Glazing	Yes	2 Windows
(1 window 46" wide x 54" tall)	Glazing	Yes	1 Windows
(1 window 60" wide x 54" tall)	Glazing	Yes	1 Windows
(1 window 24" wide x 46" tall)	Glazing	Yes	1 Windows
Basement (4 windows 32" wide x 14" tall)	Glazing	Yes	4 Windows
Total			23 Windows
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
1 st Fl. Walls	Drywall Compound	No	3,296 sq. ft.

Table 4 - Summary of All Asbestos Containing Materials, 2425 Manz St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials				
Location	Material Description	Friable	Approx. Quantity	
1 st Fl. Ceiling	Drywall Compound	No	1,113 sq. ft.	
			Total	4,409 sq. ft.
Interior - Asbestos Containing Materials				
Location	Material Description	Friable	Approx. Quantity	
Living Room Ceiling	Textured Surfacing	Yes	224 sq. ft.	
N Bedroom Ceiling	Textured Surfacing	Yes	154 sq. ft.	
NW Bedroom Ceiling	Textured Surfacing	Yes	154 sq. ft.	
NW Bedroom Wall	Textured Surfacing	Yes	400 sq. ft.	
			Total	932 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 1, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2501 Wood St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-152-0001-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2501 Wood St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains a 528 sq. ft. attached garage and approximate 842 square foot residential building (the Building) constructed in 1930. 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 front entry, living room, dining room, kitchen, bath, 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 October 23, 2018 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:

- Vapor Barrier
- Shingle Roof
- 12"x12" Vinyl Floor Tile
- Linoleum
- 1'x1' Ceiling Tile
- 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 October 23, 2018 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

A window glazing sample collected from a window in the basement was found to contain up to 1.5% asbestos following analysis. The assessment to quantify the extent of this material identified five windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- Basement (5 windows 30" wide x 14" tall)

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 identified HVAC Duct Wrap at the following locations within the basement and first floor:

- Living (1 register, 10 sq. ft.)
- NE Bedroom (1 register, 10 sq. ft.)
- NW Bedroom (1 register, 10 sq. ft.)

Category I ACM

One type of resilient floor covering (Tan Marbled Linoleum) located within the bathroom was found to contain up to 30% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 42 sq. ft. of this material within the Building.

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, 10 sq. ft.)
- NE Bedroom (1 register, 10 sq. ft.)
- NW Bedroom (1 register, 10 sq. ft.)

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

- Basement (5 windows 30" wide x 14" 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.

The Category I resilient floor covering (Tan Marbled Linoleum) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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)
- 1-Gallon Container Misc. Roof Cement (12)
- Television (1)
- Spray Can Misc. (14)
- Automobile Tire (2)
- 1-Quart Container Misc. (10)
- 1-Pint Container Misc. (8)

REGULATORY REQUIREMENTS

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.

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.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-152-0001-00

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

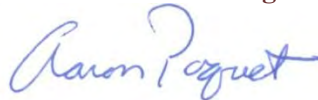
DISCLAIMER

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 Muskegon 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 : 2501 Wood St.



Report To:

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

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 01 Cust. #: WT-HM-01A Material: Black Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80561 - 02 Cust. #: WT-HM-01B Material: Black Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80561 - 03 Cust. #: WT-HM-02A Material: Brown Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2501 Wood St.



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

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 04 Cust. #: WT-HM-02B Material: Brown Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80561 - 05 Cust. #: WT-HM-03A Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80561 - 05a Cust. #: WT-HM-03A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO 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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Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2501 Wood St.



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 Lansing, MI 48901

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 05b Cust. #: WT-HM-03A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80561 - 05c Cust. #: WT-HM-03A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80561 - 06 Cust. #: WT-HM-03B Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2501 Wood St.



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

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 06a Cust. #: WT-HM-03B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80561 - 06b Cust. #: WT-HM-03B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80561 - 06c Cust. #: WT-HM-03B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO 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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Test Method, Polarized Light Microscopy (PLM)
 Project : 2501 Wood St.



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 Lansing, MI 48901

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 07 Cust. #: WT-HM-04A Material: Beige 12x12 VFT Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80561 - 07a Cust. #: WT-HM-04A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80561 - 08 Cust. #: WT-HM-04B Material: Beige 12x12 VFT Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 : 2501 Wood St.



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

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 08a Cust. #: WT-HM-04B Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80561 - 09 Cust. #: WT-HM-05A Material: 12x12 Blue Layered VFT Location: Appearance: blue,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80561 - 09a Cust. #: WT-HM-05A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO 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 : 2501 Wood St.



Report To:

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

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 09b Cust. #: WT-HM-05A Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80561 - 10 Cust. #: WT-HM-05B Material: 12x12 Blue Layered VFT Location: Appearance: black, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80561 - 10a Cust. #: WT-HM-05B Material: Mastic Location: Appearance: clear, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO 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 : 2501 Wood St.



Report To:

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

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 10b Cust. #: WT-HM-05B Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80561 - 11 Cust. #: WT-HM-06A Material: Tan Marble Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 30%	Other - 70%
Lab ID #: 80561 - 12 Cust. #: WT-HM-06B Material: Tan Marble Linoleum Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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

Robert T. Letarte Jr., Laboratory Director

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Project : 2501 Wood St.



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 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 13 Cust. #: WT-HM-07A Material: Brown/Yellow Mottled Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80561 - 14 Cust. #: WT-HM-07B Material: Brown/Yellow Mottled Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80561 - 15 Cust. #: WT-HM-08A Material: 1x1 White Textured Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%

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

Robert T. Letarte Jr., Laboratory Director

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 Project : 2501 Wood St.



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 Lansing, MI 48901

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 16 Cust. #: WT-HM-08B Material: 1x1 White Textured Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80561 - 17 Cust. #: WT-HM-09A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80561 - 18 Cust. #: WT-HM-09B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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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ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 19 Cust. #: WT-HM-10A Material: House Window Glazing "A" Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - 0.25% POINT COUNT RESULT	Other - 99.75%
Lab ID #: 80561 - 20 Cust. #: WT-HM-10B Material: House Window Glazing "A" Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - 0.50% POINT COUNT RESULT	Other - 99.50%
Lab ID #: 80561 - 21 Cust. #: WT-HM-11A Material: House Window Glazing "B" Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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 Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 22 Cust. #: WT-HM-11B Material: House Window Glazing "B" Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80561 - 23 Cust. #: WT-HM-12A Material: Basement Window Glazing Location: Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 1.50% POINT COUNT RESULT	Other - 98.50%
Lab ID #: 80561 - 24 Cust. #: WT-HM-12B Material: Basement Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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

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Project : 2501 Wood St.



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 Lansing, MI 48901

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 25 Cust. #: WT-HS-01A Material: Plaster Finish Coat Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80561 - 25a Cust. #: WT-HS-01A Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80561 - 25b Cust. #: WT-HS-01A Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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 Lansing, MI 48901

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 26 Cust. #: WT-HS-01B Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80561 - 26a Cust. #: WT-HS-01B Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80561 - 27 Cust. #: WT-HS-01C Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 27a Cust. #: WT-HS-01C Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80561 - 28 Cust. #: WT-HS-01D Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80561 - 28a Cust. #: WT-HS-01D Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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 Project : 2501 Wood St.



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 Lansing, MI 48901

ARI Report # 18-80561
 Date Collected: 10/23/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80561 - 29 Cust. #: WT-HS-01E Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80561 - 29a Cust. #: WT-HS-01E Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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Robert T. Letarte Jr., Laboratory Director

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Apex # **80561**

1 of 3



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18
Project: 250 / Wood St
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Other: 3 All Samples

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	WT-HM-01A	Black Vapor Barrier			
2	01B	"			
3	02A	Brown Vapor Barrier			
4	02B	"			
5	03A	Roofing Materials			
6	03B	"			
7	04A	Beige 12x12 VFT			
8	04B	"			
9	05A	12x12 Blue Sycamore VFT			
10	05B	"			
11	06A	Tan Marble GinoLearn			

Relinquished by: AKR/KM Received by: UPS
Date: 10-23-18 Date: 10-23-18

RECEIVED
Received by: S. J. ...
Date: OCT 24 2018 10/24/18 0958

80561

293

APEX Research, Inc.



11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18
Project: 1501 Wood St
Project #: _____
Contact Person: Aaron Paquet

Lab Use Only
Log-In _____
Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe _____ Point Count _____ PCM _____

Rush 24 hour
48 hour 72 hour
Other: _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

TTP All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	WT-HM-06B	Jan Marble Sill			
13	07A	Brown & Yellow Mottled Sill			
14	07B	" " "			
15	08A	(x1) white textured CT			
16	08B	" " "			
17	09A	(x1) white smooth CT			
18	09B	" " "			
19	10A	House Window Glazing "A"			
20	10B	" " "			
21	11A	House Window Glazing "B"			
22	11B	" " "			

RECEIVED

Relinquished by: Shelley Venturo Received by: UPS
Date: 10-23-18 Date: 10-23-18

Relinquished by: _____ Received by: _____
Date: _____ Date: _____

Received by: _____
Date: OCT 24 2018

80561

3 of 3



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-23-18
Project: 2501 Wood St
Project #: _____
Contact Person: Aaron Paquet

Lab Use Only
Log-In _____
Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe _____ Point Count _____ PCM _____

Rush 24 hour
48 hour 72 hour
Other: _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: _____ (ITP) All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	WT-AM-12A	Basement Window Siding			
24	" " 12B	" "			
25	WT-HS-01A	Plaster			
26	(01B	↓			
27	(01C				
28	(01D	↓			
29	↓ 01E				

Relinquished by: Aaron Paquet Received by: JPS
Date: 10-23-18 Date: 10-23-18
Relinquished by: _____ Received by: _____
Date: _____ Date: 10-24-2018
RECEIVED
APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 2501 Wood St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Living Room	Thermostat	1
Bathroom	1-Gallon Container Misc.	2
Basement Stairwell	Smoke Detector	1
Basement	Television	1
Basement	Spray Can Misc.	8
Basement	1-Gallon Container Misc.	10
Garage	Automobile Tire	2
Garage	1-Quart Container Misc.	10
Garage	1-Pint Container Misc.	8
Garage	Spray Can Misc.	6

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2501 Wood St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
WT-HM-01A	Black Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
WT-HM-01B	Black Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
WT-HM-02A	Brown Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
WT-HM-02B	Brown Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
WT-HM-03A	Shingle Roof	No	M	Category I	ND/ND/ND/ND	House Roof	NA
WT-HM-03B	Shingle Roof	No	M	Category I	ND/ND/ND/ND	House Roof	NA
WT-HM-04A	12x12 Beige VFT	No	M	Category I	ND/ND	Front Entry	NA
WT-HM-04B	12x12 Beige VFT	No	M	Category I	ND/ND	Front Entry	NA
WT-HM-05A	12x12 Blue Layered VFT	No	M	Category I	ND/ND/ND	Kitchen	NA
WT-HM-05B	12x12 Blue Layered VFT	No	M	Category I	ND/ND/ND	Kitchen	NA
WT-HM-06A	Tan Marbled Linoleum	No	M	Category I	30% CH	Bathroom	42 sq. ft.
WT-HM-06B	Tan Marbled Linoleum	No	M	Category I	NA	Bathroom	NA
WT-HM-07A	Brown and Yellow Mottled Linoleum	No	M	Category I	ND	Rear Entry	NA
WT-HM-07B	Brown and Yellow Mottled Linoleum	No	M	Category I	ND	Rear Entry	NA
WT-HM-08A	1x1 White Textured CT	Yes	M	Category II	ND	Front Entry Ceiling	NA
WT-HM-08B	1x1 White Textured CT	Yes	M	Category II	ND	Front Entry Ceiling	NA
WT-HM-09A	1x1 White Smooth CT	Yes	M	Category II	ND	Rear Entry Ceiling	NA
WT-HM-09B	1x1 White Smooth CT	Yes	M	Category II	ND	Rear Entry Ceiling	NA
WT-HM-10A	Glazing "A"	Yes	M	Category II	ND	Front Porch Window	NA
WT-HM-10B	Glazing "A"	Yes	M	Category II	ND	Kitchen Window	NA
WT-HM-11A	Glazing "B"	Yes	M	Category II	ND	Living Room Window	NA
WT-HM-11B	Glazing "B"	Yes	M	Category II	ND	Front Porch Window	NA
WT-HM-12A	Basement Window Glazing	Yes	M	Category II	1.5% CH	Basement Window	5 Windows
WT-HM-12B	Basement Window Glazing	Yes	M	Category II	NA	Basement Window	NA
WT-HS-01A	Plaster	No	S	Category II	ND/ND/ND	Kitchen Ceiling	NA
WT-HS-01B	Plaster	No	S	Category II	ND/ND	Rear Entry Ceiling	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2501 Wood St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
WT-HS-01C	Plaster	No	S	Category II	ND/ND	NE Bedroom Wall	NA
WT-HS-01D	Plaster	No	S	Category II	ND/ND	NW Bedroom Wall	NA
WT-HS-01E	Plaster	No	S	Category II	ND/ND	Living Room Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2501 Wood St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Living (1 register, 10 sq. ft.) NE Bedroom (1 register, 10 sq. ft.) NW 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

Table 4 - Summary of All Asbestos Containing Materials, 2501 Wood St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Bathroom	Tan Marbled Linoleum	No	42 sq. ft.
Total			42 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Living (1 register, 10 sq. ft.) NE Bedroom (1 register, 10 sq. ft.) NW Bedroom (1 register, 10 sq. ft.)	HVAC Duct Wrap	Yes	30 sq. ft.
Total			30 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement (5 windows 30" wide x 14" tall)	Glazing	Yes	5 Windows
Total			5 Windows

Notes:

Abbreviations

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

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 29, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
2531 James Ave., Muskegon, MI 49442
Parcel ID: 61-10-764-002-0029-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2531 James Ave., Muskegon, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .45 acre residential parcel which contains an approximate 710 square foot residential building (the Building) with an unknown construction date. The Building was constructed on a concrete block foundation with one aboveground floor. The exterior walls of the Building were finished with vinyl 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, bath, 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 October 10, 2018 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
- Underlayment
- Linoleum
- 9"x9" Vinyl Floor Tile
- Drywall and Joint Compound

Red Cedar staff collected eighteen samples of suspect ACBM separated into nine 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 eighteen samples is included as Attachment A.

Hazardous Materials Inspection

On October 10, 2018 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, eighteen 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

One type of resilient floor covering (Beige/Brown 9"x9" Vinyl Tile) located within the N Bedroom was found to contain up to 2.25% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 121 sq. ft. of this material within the Building.

Category II ACM

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

RECOMMENDATIONS

Asbestos Containing Materials

The Category I resilient floor covering (Beige/Brown 9"x9" Vinyl Tile) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 (1)
- Quart Container Misc. Paint (5)
- Gallon Container Misc. Paint (1)
- Quart Container Bleach (2)
- Quart Container Mineral Spirits (1)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-10-764-002-0029-00

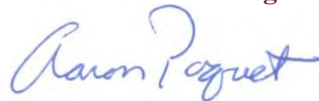
DISCLAIMER

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 Muskegon 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 : 2531 James Ave.



Report To:

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

ARI Report # 18-80287
 Date Collected: 10/10/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80287 - 01 Cust. #: JA-HM-01A Material: Brown Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80287 - 01a Cust. #: JA-HM-01A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80287 - 02 Cust. #: JA-HM-01B Material: Brown Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2531 James Ave.



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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80287 - 02a Cust. #: JA-HM-01B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80287 - 03 Cust. #: JA-HM-02A Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80287 - 04 Cust. #: JA-HM-02B Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%

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 Date Collected: 10/10/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80287 - 05 Cust. #: JA-HM-03A Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80287 - 05a Cust. #: JA-HM-03A Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80287 - 06 Cust. #: JA-HM-03B Material: Black Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%

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Robert T. Letarte Jr., Laboratory Director

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 Project : 2531 James Ave.



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 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80287 - 06a Cust. #: JA-HM-03B Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80287 - 07 Cust. #: JA-HM-04A Material: Underlayment Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80287 - 08 Cust. #: JA-HM-04B Material: Underlayment Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%

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Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80287 - 09 Cust. #: JA-HM-05A Material: Beige Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80287 - 10 Cust. #: JA-HM-05B Material: Beige Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80287 - 11 Cust. #: JA-HM-06A Material: Rose Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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

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 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80287 - 11a Cust. #: JA-HM-06A Material: Linoleum Location: Appearance: red, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80287 - 11b Cust. #: JA-HM-06A Material: Mastic Location: Appearance: beige, nonfibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80287 - 12 Cust. #: JA-HM-06B Material: Rose Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Project : 2531 James Ave.



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 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80287 - 12a Cust. #: JA-HM-06B Material: Linoleum Location: Appearance: red, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80287 - 12b Cust. #: JA-HM-06B Material: Mastic Location: Appearance: beige, nonfibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80287 - 13 Cust. #: JA-HM-07A Material: Beige/Brown 9x9 VFT Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 2.25% POINT COUNT RESULT	Other - 97.75%

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

Robert T. Letarte Jr., Laboratory Director

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 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80287 - 14 Cust. #: JA-HM-07B Material: Beige/Brown 9x9 VFT Location: Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80287 - 14a Cust. #: JA-HM-07B Material: Mastic Location: Appearance: beige,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80287 - 15 Cust. #: JA-HM-08A Material: Tan Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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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 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80287 - 16 Cust. #: JA-HM-08B Material: Tan Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80287 - 17 Cust. #: JA-HM-09A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80287 - 17a Cust. #: JA-HM-09A Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 : 2531 James Ave.



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 Date Collected: 10/10/18
 Date Received: 10/12/18
 Date Analyzed: 10/17/18
 Date Reported: 10/19/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80287 - 18 Cust. #: JA-HM-09B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80287 - 18a Cust. #: JA-HM-09B Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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Robert T. Letarte Jr., Laboratory Director

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80287

Pg 1 of 2

Apex



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: 5 Day All Samples

Lab Use Only
Log-In _____
Report _____

Date of Survey: 10-10-18
 Project: 2531 James Ave.
 Project #: _____
 Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net

Asbestos: Bulk _____ Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	JA-HM-01A	Brown Shingle			
2	JA-HM-01B	" "			
3	JA-HM-02A	Vapor Barrier			
4	JA-HM-02B	" "			
5	JA-HM-03A	Black Shingle			
6	JA-HM-03B	" "			
7	JA-HM-04A	Underlayment			
8	JA-HM-04B	" "			
9	JA-HM-05A	Beige Linoleum			
10	JA-HM-05B	" "			
11	JA-HM-06A	Red Linoleum			

RECEIVED

Relinquished by: Campana Received by: UPS
 Date: 10-11-18 Date: 10-11-18

Relinquished by: STW Received by: STW
 Date: 10/12/18 Date: 10/12/18

Date: 10/12/18 Date: 10/12/18

APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: 5 Days TTP All Samples

Lab Use Only
Log-In _____
Report _____

Date of Survey: 10-10-18

Project: 2531 James Ave

Project #:

Contact Person: Aaron Paquet

apaguet@redcedarconsulting.net
 PC all samples with a detection of <5% ACM.

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____

Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____

Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____

TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	JA-HM-06B	Rose Limestone			
13	JA-HM-07A	Beige & Brown Grout VFT			
14	JA-HM-07B	"			
15	JA-HM-08A	Tan Limestone			
16	JA-HM-08B	"			
17	JA-HM-09A	Drywall Compound			
18	JA-HM-09B	"			

Relinquished by: Chris Fogart Received by: WRS
 Date: 10-11-18 Date: 10-11-18

Relinquished by: _____ Date: _____

Received by: _____ Date: _____

RECEIVED
 OCT 12 2018

Tables

Table 1 - Summary of Hazardous Materials, 2531 James Ave., Muskegon, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Exterior	Automobile Tires	2
Exterior	5 Gallon Container Misc. Paint	1
Exterior	Quart Container Misc. Paint	1
Bathroom	Quart Container Misc. Paint	4
W Bedroom	Gallon Container Misc. Paint	1
Utility Room	Quart Container Bleach	2
Utility Room	Quart Container Mineral Spirits	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2531 James Ave., Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
JA-HM-01A	Brown Shingle	No	M	Category I	ND/ND	Exterior	NA
JA-HM-01B	Brown Shingle	No	M	Category I	ND/ND	Exterior	NA
JA-HM-02A	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
JA-HM-02B	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
JA-HM-03A	Black Shingle	No	M	Category I	ND/ND	Exterior	NA
JA-HM-03B	Black Shingle	No	M	Category I	ND/ND	Exterior	NA
JA-HM-04A	Underlayment	No	M	Category I	ND	Living	NA
JA-HM-04B	Underlayment	No	M	Category I	ND	Living	NA
JA-HM-05A	Beige Linoleum	No	M	Category I	ND	Kitchen/Dining	NA
JA-HM-05B	Beige Linoleum	No	M	Category I	ND	Kitchen/Dining	NA
JA-HM-06A	Rose Linoleum	No	M	Category I	ND/ND/ND	Bathroom	NA
JA-HM-06B	Rose Linoleum	No	M	Category I	ND/ND/ND	Bathroom	NA
JA-HM-07A	Beige/Brown 9"x9" Vinyl Tile	No	M	Category I	2.25%CH-PC	N Bedroom	121 sq. ft.
JA-HM-07B	Beige/Brown 9"x9" Vinyl Tile	No	M	Category I	NA/ND	N Bedroom	NA
JA-HM-08A	Tan Linoleum	No	M	Category I	ND	Rear Entry/Utility	NA
JA-HM-08B	Tan Linoleum	No	M	Category I	ND	Rear Entry/Utility	NA
JA-HM-09A	Drywall and Joint Compound	No	M	Category II	ND/ND	Living Ceiling	NA
JA-HM-09B	Drywall and Joint Compound	No	M	Category II	ND/ND	Kitchen Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2531 James Ave., Muskegon, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 2531 James Ave., Muskegon, Michigan

Interior - Asbestos Containing Materials				
Location	Material Description	Friable	Approx. Quantity	
N Bedroom	Beige/Brown 9"x9" Vinyl Tile	No	121 sq. ft.	
Total			121 sq. ft.	

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
2545 Baker St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-146-0012-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2545 Baker St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 759 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 Fiberlap and Asphalt siding over wood lap while the roof was sealed with asphalt shingles. The Building can be further divided into two apartments for inspection purposes.

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 October 26, 2018 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:

- Roofing Shingle
- Asphalt Siding
- Flashing
- Vinyl Flooring
- Linoleum
- 2x4 Ceiling Tile
- Window Glazing
- Drywall and Joint Compound
- 12x12 Vinyl Floor Tile
- 1x1 Ceiling Tile
- Plaster
- Textured Surfacing

Red Cedar staff collected forty eight samples of suspect ACBM separated into twenty one 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 forty eight samples is included as Attachment A.

Hazardous Materials Inspection

On October 26, 2018 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, forty eight 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 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Kitchen (1 register, 15 sq. ft.)
- NE Bedroom (1 register, 15 sq. ft.)
- NW Bedroom (1 register, 15 sq. ft.)
- Living (1 register, 15 sq. ft.)
- 2nd Floor (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- Basement (misc. HVAC wrap on Cold Air Ductwork, 5 sq. ft.)
- Basement (misc. HVAC wrap on Beam, 5 sq. ft.)
- Basement (misc. HVAC wrap debris on floor, 10 sq. ft.)

Category I ACM

Two types of resilient floor covering (Green Layered Linoleum and Tile) located within the NE Bedroom and 2nd Floor Stairwell were found to contain up to 15% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 153 sq. ft. of this material within the Building.

Category II ACM

Plaster samples, collected from the Living Room, NW Bedroom, and Kitchen were each found to contain up to 1.75% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 5,648 sq. ft. of plaster within the Building.

Roof Flashing samples collected during the completion of the inspection were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material identified 30 sq. ft. of roof flashing materials 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.

- Kitchen (1 register, 15 sq. ft.)
- NE Bedroom (1 register, 15 sq. ft.)
- NW Bedroom (1 register, 15 sq. ft.)
- Living (1 register, 15 sq. ft.)
- 2nd Floor (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- Basement (misc. HVAC wrap on Cold Air Ductwork, 5 sq. ft.)
- Basement (misc. HVAC wrap on Beam, 5 sq. ft.)
- Basement (misc. HVAC wrap debris on floor, 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.

Roof Flashing identified on the exterior 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 (Green Layered Linoleum and Tile) are non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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:

- Thermostat (1)
- 4' Fluorescent Light (Fixture and Ballast Only) (4)
- 4' Fluorescent Light Bulb (16)
- Smoke Detector (2)
- Television (8)
- Automobile Tire (1)

REGULATORY REQUIREMENTS

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.

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.

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-146-0012-00

- 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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

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 Muskegon 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 : 2545 Baker St.



Report To:

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

ARI Report # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 01 Cust. #: BS-HM-01A Material: Green Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80635 - 02 Cust. #: BS-HM-01B Material: Green Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80635 - 03 Cust. #: BS-HM-02A Material: Brown Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2545 Baker St.



Report To:

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

ARI Report # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 03a Cust. #: BS-HM-02A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80635 - 04 Cust. #: BS-HM-02B Material: Brown Shingle Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80635 - 04a Cust. #: BS-HM-02B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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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Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2545 Baker St.



Report To:

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

ARI Report # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 05 Cust. #: BS-HM-03A Material: Asphalt Siding Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%
Lab ID #: 80635 - 05a Cust. #: BS-HM-03A Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80635 - 06 Cust. #: BS-HM-03B Material: Asphalt Siding Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2545 Baker St.



Report To:

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

ARI Report # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 06a Cust. #: BS-HM-03B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80635 - 07 Cust. #: BS-HM-04A Material: Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80635 - 08 Cust. #: BS-HM-04B Material: Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2545 Baker St.



Report To:

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

ARI Report # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 09 Cust. #: BS-HM-05A Material: Tan Vinyl Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80635 - 10 Cust. #: BS-HM-05B Material: Tan Vinyl Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80635 - 11 Cust. #: BS-HM-06A Material: Green Layered Linoleum/Tile Location: Appearance: green, fibrous, homogenous Layer: 1 of 4	Asbestos Present: YES Chrysotile - 1.50% POINT COUNT RESULT	Other - 98.50%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2545 Baker St.



Report To:

Mr. Aaron Paquet
 Red Cedar Consulting
 P.O. Box 13216
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ARI Report # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 11a Cust. #: BS-HM-06A Material: Mastic Location: Appearance: black,nonfibrous,homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 11b Cust. #: BS-HM-06A Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 11c Cust. #: BS-HM-06A Material: Felt Location: Appearance: black,fibrous,nonhomogenous Layer: 4 of 4	Asbestos Present: NO 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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Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2545 Baker St.



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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 12 Cust. #: BS-HM-06B Material: Green Layered Linoleum/Tile Location: Appearance: Layer: 1 of 4	Asbestos Present: NOT ANALYZED	
Lab ID #: 80635 - 12a Cust. #: BS-HM-06B Material: Mastic Location: Appearance: black,nonfibrous,homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 12b Cust. #: BS-HM-06B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 12c Cust. #: BS-HM-06B Material: Felt Location: Appearance: black, fibrous, nonhomogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80635 - 13 Cust. #: BS-HM-07A Material: Grey Layered Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80635 - 13a Cust. #: BS-HM-07A Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 14 Cust. #: BS-HM-07B Material: Grey Layered Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80635 - 14a Cust. #: BS-HM-07B Material: Linoleum Location: Appearance: beige, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 15 Cust. #: BS-HM-08A Material: 2x4 White CT w/ Pinhole/Gouges Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 16 Cust. #: BS-HM-08B Material: 2x4 White CT w/ Pinhole/Gouges Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80635 - 17 Cust. #: BS-HM-09A Material: 2x4 White Ceiling Tile w/ Pinholes Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80635 - 18 Cust. #: BS-HM-09B Material: 2x4 White Ceiling Tile w/ Pinholes Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 19 Cust. #: BS-HM-10A Material: Window Glazing Location: House Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 20 Cust. #: BS-HM-10B Material: Window Glazing Location: House Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 21 Cust. #: BS-HM-11A Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 5% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 21a Cust. #: BS-HM-11A Material: Joint Compound Location: Appearance: white, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80635 - 22 Cust. #: BS-HM-11B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 5% Other - 85%
Lab ID #: 80635 - 22a Cust. #: BS-HM-11B Material: Joint Compound Location: Appearance: white, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 23 Cust. #: BS-HM-12A Material: Tan Layered Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80635 - 23a Cust. #: BS-HM-12A Material: Tile Location: Appearance: green, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80635 - 23b Cust. #: BS-HM-12A Material: Mastic Location: Appearance: yellow, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 24 Cust. #: BS-HM-12B Material: Tan Layered Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80635 - 24a Cust. #: BS-HM-12B Material: Tile Location: Appearance: green, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80635 - 24b Cust. #: BS-HM-12B Material: Mastic Location: Appearance: yellow, fibrous, nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 25 Cust. #: BS-HM-13A Material: Red/Tan Linoleum Location: Appearance: red, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80635 - 26 Cust. #: BS-HM-13B Material: Red/Tan Linoleum Location: Appearance: red, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80635 - 27 Cust. #: BS-HM-14A Material: Gold Pebble Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 28 Cust. #: BS-HM-14B Material: Gold Pebble Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80635 - 29 Cust. #: BS-HM-15A Material: 12x12 Dark Grey VFT Location: Appearance: white, nonfibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 30 Cust. #: BS-HM-15B Material: 12x12 Dark Grey VFT Location: Appearance: white, nonfibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 31 Cust. #: BS-HM-16A Material: White Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80635 - 32 Cust. #: BS-HM-16B Material: White Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80635 - 33 Cust. #: BS-HM-17A Material: 12x12 Lite Grey VFT Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 33a Cust. #: BS-HM-17A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 34 Cust. #: BS-HM-17B Material: 12x12 Lite Grey VFT Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 34a Cust. #: BS-HM-17B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 35 Cust. #: BS-HM-18A Material: Tile Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 35a Cust. #: BS-HM-18A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 35b Cust. #: BS-HM-18A Material: Linoleum Location: Appearance: green,fibrous,nonhomogenous Layer: 3 of 3	Asbestos Present: YES Chrysotile - 15%	Cellulose - 10% Other - 75%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 36 Cust. #: BS-HM-18B Material: Tile Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 36a Cust. #: BS-HM-18B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 36b Cust. #: BS-HM-18B Material: Linoleum Location: Appearance: Layer: 3 of 3	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 37 Cust. #: BS-HM-19A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80635 - 38 Cust. #: BS-HM-19B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80635 - 39 Cust. #: BS-HS-01A Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 39a Cust. #: BS-HS-01A Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80635 - 40 Cust. #: BS-HS-01B Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 40a Cust. #: BS-HS-01B Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2545 Baker St.



Report To:

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

ARI Report # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 41 Cust. #: BS-HS-01C Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 41a Cust. #: BS-HS-01C Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: YES Chrysotile - 1.75% POINT COUNT RESULT	Hair - 2% Other - 96.25%
Lab ID #: 80635 - 42 Cust. #: BS-HS-01D Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 42a Cust. #: BS-HS-01D Material: Mortar Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80635 - 43 Cust. #: BS-HS-01E Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 43a Cust. #: BS-HS-01E Material: Mortar Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	

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 : 2545 Baker St.



Report To:

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

ARI Report # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 44 Cust. #: BS-HS-01F Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80635 - 44a Cust. #: BS-HS-01F Material: Mortar Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80635 - 45 Cust. #: BS-HS-01G Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 : 2545 Baker St.



Report To:

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

ARI Report # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 45a Cust. #: BS-HS-01G Material: Mortar Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80635 - 46 Cust. #: BS-HS-02A Material: Textured Surfacing Location: Appearance: white, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 2% Other - 98%
Lab ID #: 80635 - 47 Cust. #: BS-HS-02B Material: Textured Surfacing Location: Appearance: white, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 2% Other - 98%

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 : 2545 Baker St.



Report To:

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

ARI Report # 18-80635
 Date Collected: 10/26/18
 Date Received: 10/29/18
 Date Analyzed: 10/31/18
 Date Reported: 11/01/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80635 - 48 Cust. #: BS-HS-02C Material: Textured Surfacing Location: Appearance: white, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 2% Other - 98%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



80635

APEX

10/5



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: (TTP) All samples

Lab Use Only
Log-In _____
Report _____

Date of Survey: 10-26-18
 Project: 2545 Bakes, St
 Project #: _____
 Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 PC all samples with a detection of <5% ACM.

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	B5-H4-01A	Green Shingle			
2	01B	" "			
3	02A	Brown Shingle			
4	02B	" "			
5	03A	Asphalt siding / upper barrier			
6	03B	" "			
7	04A	flashing			
8	04B	" "			
9	05A	tan vinyl			
10	05B	" "			
11	06A	gran layered sealant			

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Received by: S. Tom

Date: 10/29/18 0936

Relinquished by: _____

Date: _____

Relinquished by: APR White Received by: UPS

Date: 10-27-18 Date: 10-27-18

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2015



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888)449-4566 Fax: (888) 448-8739

Date of Survey: 10-26-18
 Project: 2545 Baker St
 Project #: _____
 Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
 with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
 48 hour 72 hour
 Other: _____

All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	B5-HM-06B	Green Layered Laminates			
13	(07A	Grey Layered Laminates			
14	07B	" "			
15	08A	2x4 white CT w/ pinholes			
16	08B	" " " " " "			
17	09A	2x4 white CT w/ pinholes			
18	09B	" " " " " "			
19	10A	Window Siding (Horse)			
20	10B	" " " " " "			
21	11A	Asphalt Joint Compound			
22	11B	" " " " " "			

RECEIVED

Relinquished by: [Signature] Received by: [Signature]
 Date: 10-27-18 Date: 10-27-18
 Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 29 2018

80635

3075

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11054 Hf Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



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Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-26-18
Project: 2545 Baker St
Project #: _____
Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Other: (TTP) All samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	B.S.-HM-12A	Iron Sulfate Swab			
24	12B	" "			
25	13A	Red + Iron Swab			
26	13B	" "			
27	14A	Gold Particle Swab			
28	14B	" "			
29	15A	12x12 Deck Gray VET			
30	15B	" "			
31	16A	White Swab			
32	16B	" "			
33	17A	12x12 Site Gray VET			

RECEIVED

Relinquished by: Aaron Paquet Received by: JPS
Date: 10-27-18 Date: 10-27-18

Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 29 2018

80635

4 of 5

APEX Research, Inc.

11054 Hf Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-26-18
Project: 2545 Baker A
Project #: _____
Contact Person: Aaron Paquet
apquet@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour

48 hour

72 hour

Other: TTP All Samples

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
34	BS-HM-17B	12x12 Gite they VFT			
35	(18A)	Wood grain exposed laminate			
36	(18B)	" "			
37	19A	(x1 white smooth CT			
38	↓ 19B	" "			
39	BS-HS-01A	Plaster			
40	(01B)				
41	(01C)				
42	(01D)				
43	(01E)				
44	↓ 01F				

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Date: 10-27-18 Date: 10-27-18

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Date: _____ Date: OCT 29 2018

APEX RESEARCH

80635

595

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-26-18

Project: 2545 Baker St

Project #:

Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM. apaquet@redcedarconsulting.net

Asbestos: Bulk Wipe Point Count PCM

Rush 24 hour Lead: Bulk Wipe Air Paint Soil

48 hour 72 hour Mold: Bulk Tape BioSIS Other Viable

Other: TEM: AHERA 7400 Bulk/NOB EPA Level II

TTP All samples

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
45	BS-HS-01G	Plaster			
46	BS-HS-02A	Textured Surfacing			
47	(02B	"			
48	(02C	"			

RECEIVED

Relinquished by: *[Signature]* Received by: *[Signature]*

Date: 10-27-18 Date: 10-27-18
Relinquished by: _____ Received by: _____
Date: _____ Date: 10-29-2018

Tables

Table 1 - Summary of Hazardous Materials, 2545 Baker St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Living Room	Thermostat	1
Living Room	4' Fluorescent Light (Fixture and Ballast Only)	1
Living Room	4' Fluorescent Light Bulb	4
Living Room	Smoke Detector	1
NW Bedroom	4' Fluorescent Light (Fixture and Ballast Only)	2
NW Bedroom	4' Fluorescent Light Bulb	8
NE Bedroom	4' Fluorescent Light (Fixture and Ballast Only)	1
NE Bedroom	4' Fluorescent Light Bulb	4
2 nd Floor	Television	4
2 nd Floor	Thermostat	1
Basement	Television	4
Basement	Automobile Tire	1
Basement	Smoke Detector	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2545 Baker St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
BS-HM-01A	Green Shingle	No	M	Category I	ND	House Roof	NA
BS-HM-01B	Green Shingle	No	M	Category I	ND	House Roof	NA
BS-HM-02A	Brown Shingle	No	M	Category I	ND/ND	House Roof	NA
BS-HM-02B	Brown Shingle	No	M	Category I	ND/ND	House Roof	NA
BS-HM-03A	Asphalt Siding	No	M	Category I	ND/ND	House Exterior	NA
BS-HM-03B	Asphalt Siding	No	M	Category I	ND/ND	House Exterior	NA
BS-HM-04A	Flashing	No	M	Category II	10%CH	House Roof	30 sq. ft.
BS-HM-04B	Flashing	No	M	Category II	NA	House Roof	NA
BS-HM-05A	Tan Vinyl	No	M	Category I	ND	Kitchen	NA
BS-HM-05B	Tan Vinyl	No	M	Category I	ND	Kitchen	NA
BS-HM-06A	Green Layered Linoleum/Tile	No	M	Category I	ND/1.50%CH-PC/ND/ND/ND	NE Bedroom	121 sq. ft.
BS-HM-06B	Green Layered Linoleum/Tile	No	M	Category I	NA/ND/ND/ND	NE Bedroom	NA
BS-HM-07A	Grey Layered Linoleum	No	M	Category I	ND/ND	Bathroom	NA
BS-HM-07B	Grey Layered Linoleum	No	M	Category I	ND/ND	Bathroom	NA
BS-HM-08A	2x4 White CT w/ Pinhole/Gouges	Yes	M	Category II	ND	Living Room	NA
BS-HM-08B	2x4 White CT w/ Pinhole/Gouges	Yes	M	Category II	ND	Kitchen	NA
BS-HM-09A	2x4 White Ceiling Tile w/ Pinholes	Yes	M	Category II	ND	Dining Room	NA
BS-HM-09B	2x4 White Ceiling Tile w/ Pinholes	Yes	M	Category II	ND	NE Bedroom	NA
BS-HM-10A	Window Glazing	Yes	M	Category II	ND	Living Room Window	NA
BS-HM-10B	Window Glazing	Yes	M	Category II	ND	2 nd Floor SE Bedroom Window	NA
BS-HM-11A	Drywall and Joint Compound	No	M	Category II	ND/ND	Front Entry	NA
BS-HM-11B	Drywall and Joint Compound	No	M	Category II	ND/ND	Front Entry	NA
BS-HM-12A	Tan Layered Linoleum	No	M	Category I	ND/ND/ND	Rear Entry Steps	NA
BS-HM-12B	Tan Layered Linoleum	No	M	Category I	ND/ND/ND	Rear Entry Steps	NA
BS-HM-13A	Red/Tan Linoleum	No	M	Category I	ND	Basement Stairs	NA
BS-HM-13B	Red/Tan Linoleum	No	M	Category I	ND	Basement Stairs	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2545 Baker St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
BS-HM-14A	Gold Pebble Linoleum	No	M	Category I	ND	2 nd Floor Living Room	NA
BS-HM-14B	Gold Pebble Linoleum	No	M	Category I	ND	2 nd Floor Living Room	NA
BS-HM-15A	12x12 Dark Grey VFT	No	M	Category I	ND	2 nd Floor Kitchen	NA
BS-HM-15B	12x12 Dark Grey VFT	No	M	Category I	ND	2 nd Floor Kitchen	NA
BS-HM-16A	White Linoleum	No	M	Category I	ND	2 nd Floor Bathroom	NA
BS-HM-16B	White Linoleum	No	M	Category I	ND	2 nd Floor Bathroom	NA
BS-HM-17A	12x12 Lite Grey VFT	No	M	Category I	ND/ND	2 nd Floor Hallway	NA
BS-HM-17B	12x12 Lite Grey VFT	No	M	Category I	ND/ND	2 nd Floor Hallway	NA
BS-HM-18A	Woodgrain Layered Linoleum	No	M	Category I	ND/ND/15%CH	2 nd Floor Stairwell	32 sq. ft.
BS-HM-18B	Woodgrain Layered Linoleum	No	M	Category I	ND/ND/NA	2 nd Floor Stairwell	NA
BS-HM-19A	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	2 nd Floor Kitchen	NA
BS-HM-19B	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	2 nd Floor Kitchen	NA
BS-HS-01A	Plaster	No	S	Category II	ND/ND	Living Room Ceiling	NA
BS-HS-01B	Plaster	No	S	Category II	ND/ND	NE Bedroom Ceiling	NA
BS-HS-01C	Plaster	No	S	Category II	ND/1.75%CH	Kitchen Wall	5,648 sq. ft.
BS-HS-01D	Plaster	No	S	Category II	ND/NA	NW Bedroom Wall	NA
BS-HS-01E	Plaster	No	S	Category II	ND/NA	2 nd Floor Kitchen Ceiling	NA
BS-HS-01F	Plaster	No	S	Category II	ND/NA	2 nd Floor SE Bedroom Wall	NA
BS-HS-01G	Plaster	No	S	Category II	ND/NA	2 nd Floor NE Bedroom Wall	NA
BS-HS-02A	Textured Surfacing	No	S	Category II	ND	2 nd Floor NE Bedroom Ceiling	NA
BS-HS-02B	Textured Surfacing	No	S	Category II	ND	2 nd Floor Living Room Ceiling	NA
BS-HS-02C	Textured Surfacing	No	S	Category II	ND	2 nd Floor SE Bedroom Ceiling	NA

Notes:

Material Types

M = Miscellaneous building material

Abbreviations

NQ = Not quantified

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2545 Baker St., Muskegon Heights, Michigan

TSI = Thermal System Insulation
S = Surfacing Material
PC = Point Count Analysis
CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2545 Baker St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Kitchen (1 register, 15 sq. ft.) NE Bedroom (1 register, 15 sq. ft.) NW Bedroom (1 register, 15 sq. ft.) Living (1 register, 15 sq. ft.) 2 nd Fl. (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) Basement (misc. HVAC wrap on Cold Air Ductwork, 5 sq. ft.) Basement (misc. HVAC wrap on Beam, 5 sq. ft.) Basement (misc. HVAC wrap debris on floor, 10 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	115 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

Table 4 - Summary of All Asbestos Containing Materials, 2545 Baker St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof	Roof Flashing	No	30 sq. ft.
Total			30 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
NE Bedroom	Green Layered Linoleum/Tile	No	121 sq. ft.
2 nd Floor Stairwell	Woodgrain Layered Linoleum	No	32 sq. ft.
Total			153 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen (1 register, 15 sq. ft.)			
NE Bedroom (1 register, 15 sq. ft.)			
NW Bedroom (1 register, 15 sq. ft.)			
Living (1 register, 15 sq. ft.)			
2 nd Fl. (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)	HVAC Duct Wrap	Yes	115 sq. ft.
Basement (misc. HVAC wrap on Cold Air Ductwork, 5 sq. ft.)			
Basement (misc. HVAC wrap on Beam, 5 sq. ft.)			
Basement (misc. HVAC wrap debris on floor, 10 sq. ft.)			
Total			115 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
1 st Floor	Wall Plaster	No	2,124 sq. ft.
1 st Floor	Ceiling Plaster	No	697 sq. ft.
2 nd Floor	Wall Plaster	No	2,106 sq. ft.
2 nd Floor	Ceiling Plaster	No	721 sq. ft.
Total			5,648 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

Table 4 - Summary of All Asbestos Containing Materials, 2545 Baker St., Muskegon Heights, Michigan

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 2, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2611 Hoyt St., Muskegon Heights, MI 49444
Parcel ID: 61-26-542-002-0002-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2611 Hoyt St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 1,260 square foot residential building (the Building) constructed in 1925. 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 front entry, living room, dining room, kitchen, bath, three bedrooms and rear entry on the first floor while the second floor contains three 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 October 25, 2018 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:

- Vapor Barrier
- Roofing Shingle
- Roof Flashing
- Vinyl Floor Tile
- Linoleum
- 1x1 Ceiling Tile
- Drywall and Joint Compound
- Fiberboard
- Window Glazing
- Plaster

Red Cedar staff collected thirty three samples of suspect ACBM separated into fourteen 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 thirty three samples is included as Attachment A.

Hazardous Materials Inspection

On October 25, 2018 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, thirty 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 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 bathroom was found to contain up to 2% asbestos following analysis. The assessment to quantify the extent of this material identified 21 windows that would fall into the same homogenous group. The locations of the windows are listed below:

- (6 windows 24" wide x 58" tall)
- (1 window 36" wide x 58" tall)
- (1 window 24" wide x 44" tall)
- (2 windows 28" wide x 32" tall)
- (1 window 24" wide x 28" tall)
- (4 windows 31" wide x 31" tall)
- (3 windows 36" wide x 61" tall)
- (2 windows 27" wide x 61" tall)
- (1 window 33" wide x 61" tall)

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 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Dining (1 register, 10 sq. ft.)
- Bathroom (1 register, 10 sq. ft.)
- 2nd Floor W Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)
- 2nd Floor S Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)

Category I ACM

Three types of resilient floor covering (12x12 Grey/White Layered VFT, Cream Linoleum Layered, and Blue Layered Linoleum) located within the kitchen, bathroom, and rear entry closet/hallway were found to contain up to 15% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 355 sq. ft. of this material within the Building.

Category II ACM

A plaster sample collected from the Living Room was found to contain up to 2% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 6,809 sq. ft. of plaster within the Building.

Roof Flashing samples collected during the completion of the inspection were found to contain up to 2.5% Chrysotile asbestos. The assessment to quantify the extent of this material identified 10 sq. ft. of roof flashing materials 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.

- Dining (1 register, 10 sq. ft.)
- Bathroom (1 register, 10 sq. ft.)
- 2nd Floor W Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)
- 2nd Floor S Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)

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

- (6 windows 24" wide x 58" tall)
- (1 window 36" wide x 58" tall)
- (1 window 24" wide x 44" tall)
- (2 windows 28" wide x 32" tall)
- (1 window 24" wide x 28" tall)
- (4 windows 31" wide x 31" tall)
- (3 windows 36" wide x 61" tall)
- (2 windows 27" wide x 61" tall)
- (1 window 33" wide x 61" 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.

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.

Roof Flashing 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 (12x12 Grey/White Layered VFT, Cream Linoleum Layered, and Blue Layered Linoleum) are non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-542-002-0002-00

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

Hazardous Materials

No Hazardous Materials were identified at the Subject Property.

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-542-002-0002-00

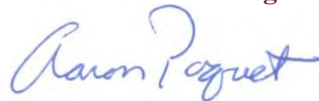
DISCLAIMER

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 Muskegon 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 : 2611 Hoyt St.



Report To:

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

ARI Report # 18-80610
 Date Collected: 10/25/18
 Date Received: 10/26/18
 Date Analyzed: 10/31/18
 Date Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 01 Cust. #: HS-HM-01A Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80610 - 02 Cust. #: HS-HM-01B Material: Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80610 - 03 Cust. #: HS-HM-02A Material: Roofing Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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 Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 04 Cust. #: HS-HM-02B Material: Roofing Shingle Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80610 - 05 Cust. #: HS-HM-03A Material: Roof Flashing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 2.50% POINT COUNT RESULT	Cellulose - 10% Other - 87.50%
Lab ID #: 80610 - 06 Cust. #: HS-HM-03B Material: Roof Flashing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 07 Cust. #: HS-HM-04A Material: 12x12 Grey/White Layered VFT Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 07a Cust. #: HS-HM-04A Material: Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 2 of 2	Asbestos Present: YES Chrysotile - 15%	Cellulose - 10% Other - 75%
Lab ID #: 80610 - 08 Cust. #: HS-HM-04B Material: 12x12 Grey/White Layered VFT Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 08a Cust. #: HS-HM-04B Material: Linoleum Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80610 - 09 Cust. #: HS-HM-05A Material: Cream Linoleum Layered Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80610 - 09a Cust. #: HS-HM-05A Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: YES Chrysotile - 15%	Cellulose - 10% Other - 75%

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

Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 09b Cust. #: HS-HM-05A Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 10 Cust. #: HS-HM-05B Material: Cream Linoleum Layered Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80610 - 10a Cust. #: HS-HM-05B Material: Linoleum Location: Appearance: Layer: 2 of 3	Asbestos Present: NOT ANALYZED	

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

Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 10b Cust. #: HS-HM-05B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 11 Cust. #: HS-HM-06A Material: 12x12 Tan Marble VFT Layered Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 11a Cust. #: HS-HM-06A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Robert T. Letarte Jr., Laboratory Director

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 Date Analyzed: 10/31/18
 Date Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 12 Cust. #: HS-HM-06B Material: 12x12 Tan Marble VFT Layered Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 12a Cust. #: HS-HM-06B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 13 Cust. #: HS-HM-07A Material: Tile Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO 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 Analyzed: 10/31/18
 Date Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 13a Cust. #: HS-HM-07A Material: Mastic Location: Appearance: black,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 13b Cust. #: HS-HM-07A Material: Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 3 of 3	Asbestos Present: YES Chrysotile - 15%	Cellulose - 10% Other - 75%
Lab ID #: 80610 - 14 Cust. #: HS-HM-07B Material: Tile Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO 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 Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 14a Cust. #: HS-HM-07B Material: Mastic Location: Appearance: black,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 14b Cust. #: HS-HM-07B Material: Linoleum Location: Appearance: Layer: 3 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80610 - 15 Cust. #: HS-HM-08A Material: Texture Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO 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 : 2611 Hoyt St.



Report To:

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

ARI Report # 18-80610
 Date Collected: 10/25/18
 Date Received: 10/26/18
 Date Analyzed: 10/31/18
 Date Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 15a Cust. #: HS-HM-08A Material: 1x1 White Textured Ceiling Tile Location: Appearance: brown, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80610 - 15b Cust. #: HS-HM-08A Material: Glue Pods Location: Appearance: beige, nonfibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 16 Cust. #: HS-HM-08B Material: Texture Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO 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 Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 16a Cust. #: HS-HM-08B Material: 1x1 White Textured Ceiling Tile Location: Appearance: brown, fibrous, nonhomogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80610 - 16b Cust. #: HS-HM-08B Material: Glue Pods Location: Appearance: beige, nonfibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 17 Cust. #: HS-HM-09A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 5% Other - 85%

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 Project : 2611 Hoyt St.



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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 18 Cust. #: HS-HM-09B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80610 - 18a Cust. #: HS-HM-09B Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 19 Cust. #: HS-HM-10A Material: Fiberboard Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 20 Cust. #: HS-HM-10B Material: Fiberboard Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 90% Other - 10%
Lab ID #: 80610 - 21 Cust. #: HS-HM-11A Material: Brown Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 2.00% POINT COUNT RESULT	Other - 98.00%
Lab ID #: 80610 - 22 Cust. #: HS-HM-11B Material: Brown Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 23 Cust. #: HS-HM-12A Material: Grey Window Glazing Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 24 Cust. #: HS-HM-12B Material: Grey Window Glazing Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 25 Cust. #: HS-HM-13A Material: Basement Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 26 Cust. #: HS-HM-13B Material: Basement Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 27 Cust. #: HS-HS-01A Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 27a Cust. #: HS-HS-01A Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: YES Chrysotile - 2.25% POINT COUNT RESULT	Cellulose - 2% Hair - 2% Other - 93.75%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 28 Cust. #: HS-HS-01B Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 28a Cust. #: HS-HS-01B Material: Mortar Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80610 - 29 Cust. #: HS-HS-01C Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 29a Cust. #: HS-HS-01C Material: Mortar Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80610 - 30 Cust. #: HS-HS-01D Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 30a Cust. #: HS-HS-01D Material: Mortar Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	

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 Date Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 31 Cust. #: HS-HS-01E Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 31a Cust. #: HS-HS-01E Material: Mortar Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80610 - 32 Cust. #: HS-HS-01F Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO 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 Reported: 10/31/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 32a Cust. #: HS-HS-01F Material: Mortar Location: Appearance: Layer: 2 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80610 - 32b Cust. #: HS-HS-01F Material: Texture Location: Appearance: white,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80610 - 33 Cust. #: HS-HS-01G Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80610 - 33a Cust. #: HS-HS-01G Material: Mortar Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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#

80610

183



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-25-18
 Project: 2611 Hoyt St
 Project #: _____

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
 PLM EPA 600, PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 Other: 3 day All samples _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	H5-HM-01A	Vapor Barrier			
2	01B	" "			
3	02A	Roofing Shingle			
4	02B	" "			
5	03A	Roof Flashing			
6	03B	" "			
7	04A	2x12 Bay + White Splayed VFT			
8	04B	" " " "			
9	05A	Cream Laminate Splayed			
10	05B	" " " "			
11	06A	2x12 Tan Marble VFT Splayed			RECEIVED

Relinquished by: [Signature] Received by: VFS
 Date: 10-25-18 Date: 10-25-18

Relinquished by: _____ Received by: [Signature] Date: 10/26/18
 Date: 10/26/18 Date: 10/26/18
 APEX RESEARCH

2 of 3



APEX Research, Inc. 11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

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Log-In _____
Report _____

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739
Date of Survey: 10-25-18
Project: 2611 Hoyt St
Project #: _____
Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe Point Count PCM _____
Lead: Bulk Wipe Air Paint Soil _____
Mold: Bulk Tape BioSIS Other Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____
Other: 3 days All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	H5-H4-06B	12x12 tan Marble VFT/Soyard			
13	07A	Blue Layered Granite			
14	07B	" "			
15	08A	1x1 white textured CT w/ glue Pk			
16	08B	" "			
17	09A	Aluminum Joint Compound			
18	09B	" "			
19	10A	Fiberboard			
20	10B	" "			
21	11A	Brown Window Siding			
22	11B	" "			

RECEIVED

Relinquished by: [Signature] Received by: UPS
Date: 10-25-18 Date: 10-25-18
Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 26 2018
APEX RESEARCH

3 of 3



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting Date of Survey: 10-25-18
 Address: PO Box 13216 Project: 2611 Haystack
 City, St., Zip: Lansing, MI 48901 Project #: _____
 Phone: (888) 449-4566 Fax: (888) 448-8739 Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM. apaquet@redcedarconsulting.net

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: 3 day All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	H5-H4-12A	Key Window Siding			
24	12B	" "			
25	13A	Basement Window Siding			
26	13B	" "			
27	H5-H5-01A	Plaster			
28	01B				
29	01C				
30	01D				
31	01E				
32	01F				
33	01G				RECEIVED

Relinquished by: Aaron Paquet Received by: UPS
 Date: 10-25-18 Date: 10-25-18

Relinquished by: _____ Received by: _____
 Date: _____ Date: OCT 26 2018
 Date: _____ Date: APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 2611 Hoyt St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
No Hazardous Materials Identified.		

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2611 Hoyt St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
HS-HM-01A	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
HS-HM-01B	Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
HS-HM-02A	Roofing Shingle	No	M	Category I	ND	House Roof	NA
HS-HM-02B	Roofing Shingle	No	M	Category I	ND	House Roof	NA
HS-HM-03A	Roof Flashing	No	M	Category II	2.50%CH-PC	House Roof	10 sq. ft.
HS-HM-03B	Roof Flashing	No	M	Category II	NA	House Roof	NA
HS-HM-04A	12x12 Grey/White Layered VFT	No	M	Category I	ND/15%CH	Kitchen	263 sq. ft.
HS-HM-04B	12x12 Grey/White Layered VFT	No	M	Category I	ND/NA	Kitchen	NA
HS-HM-05A	Cream Linoleum Layered	No	M	Category I	ND/15%CH/ND	Bathroom	64 sq. ft.
HS-HM-05B	Cream Linoleum Layered	No	M	Category I	ND/NA/ND	Bathroom	NA
HS-HM-06A	12x12 Tan Marble VFT Layered	No	M	Category I	ND/ND	Rear Entry	NA
HS-HM-06B	12x12 Tan Marble VFT Layered	No	M	Category I	ND/ND	Rear Entry	NA
HS-HM-07A	Blue Layered Linoleum	No	M	Category I	ND/ND/15%CH	Rear Entry Closet/Hallway	28 sq. ft.
HS-HM-07B	Blue Layered Linoleum	No	M	Category I	ND/ND/NA	Rear Entry Closet/Hallway	NA
HS-HM-08A	1x1 White Textured Ceiling Tile	Yes	M	Category II	ND/ND/ND	Living	NA
HS-HM-08B	1x1 White Textured Ceiling Tile	Yes	M	Category II	ND/ND/ND	SE Bedroom	NA
HS-HM-09A	Drywall and Joint Compound	No	M	Category II	ND	SE Bedroom Wall	NA
HS-HM-09B	Drywall and Joint Compound	No	M	Category II	ND/ND	2 nd Fl. SW Bedroom Closet Wall	NA
HS-HM-10A	Fiberboard	Yes	M	Category II	ND	Living Room Ceiling	NA
HS-HM-10B	Fiberboard	Yes	M	Category II	ND	Dining Room Ceiling	NA
HS-HM-11A	Brown Window Glazing	Yes	M	Category II	ND/2.00%CH-PC	Bathroom Window	21 Windows
HS-HM-11B	Brown Window Glazing	Yes	M	Category II	NA	Hallway Window	NA
HS-HM-12A	Grey Window Glazing	Yes	M	Category II	ND	SE Bedroom Window	NA
HS-HM-12B	Grey Window Glazing	Yes	M	Category II	ND	Dining Room Window	NA
HS-HM-13A	Basement Window Glazing	Yes	M	Category II	ND	Basement Window	NA
HS-HM-13B	Basement Window Glazing	Yes	M	Category II	ND	Basement Window	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2611 Hoyt St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
HS-HS-01A	Plaster	No	S	Category II	ND/2.25%CH-PC	Living Room Ceiling	6,809 sq. ft.
HS-HS-01B	Plaster	No	S	Category II	ND/NA	Kitchen Ceiling	NA
HS-HS-01C	Plaster	No	S	Category II	ND/NA	Living Room Wall	NA
HS-HS-01D	Plaster	No	S	Category II	ND/NA	SE Bedroom Wall	NA
HS-HS-01E	Plaster	No	S	Category II	ND/NA	2 nd Fl. SE Bedroom Closet Ceiling	NA
HS-HS-01F	Plaster	No	S	Category II	ND/NA/ND	2 nd Fl. E Bedroom Wall	NA
HS-HS-01G	Plaster	No	S	Category II	ND/NA	2 nd Fl. Hall Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2611 Hoyt St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Dining (1 register, 10 sq. ft.) Bathroom (1 register, 10 sq. ft.) 2 nd Floor W Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.) 2 nd Floor S Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	70 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

Table 4 - Summary of All Asbestos Containing Materials, 2611 Hoyt St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Roof	Roof Flashing	No	10 sq. ft.
Total			10 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen	12x12 Grey/White Layered VFT	No	263 sq. ft.
Bathroom	Cream Linoleum Layered	No	64 sq. ft.
Rear Entry	Blue Layered Linoleum	No	28 sq. ft.
Total			355 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Dining (1 register, 10 sq. ft.) Bathroom (1 register, 10 sq. ft.) 2 nd Floor W Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.) 2 nd Floor S Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 15 sq. ft.)	HVAC Duct Wrap	Yes	70 sq. ft.
Total			70 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
(6 windows 24" wide x 58" tall)	Glazing	Yes	6 Windows
(1 window 36" wide x 58" tall)	Glazing	Yes	1 Window
(1 window 24" wide x 44" tall)	Glazing	Yes	1 Window
(2 windows 28" wide x 32" tall)	Glazing	Yes	2 Windows
(1 window 24" wide x 28" tall)	Glazing	Yes	1 Window
(4 windows 31" wide x 31" tall)	Glazing	Yes	4 Windows
(3 windows 36" wide x 61" tall)	Glazing	Yes	3 Windows
(2 windows 27" wide x 61" tall)	Glazing	Yes	2 Windows
(1 window 33" wide x 61" tall)	Glazing	Yes	1 Window
Total			21 Windows

Table 4 - Summary of All Asbestos Containing Materials, 2611 Hoyt St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
1 st Floor	Wall Plaster	No	2,646 sq. ft.
1 st Floor	Ceiling Plaster	No	836 sq. ft.
2 nd Floor	Wall Plaster	No	2,646 sq. ft.
2 nd Floor	Ceiling Plaster	No	681 sq. ft.
Total			6,809 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 1, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2736 8th St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-190-0015-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2736 8th St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 488 square foot residential building (the Building) constructed in 1920. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with vinyl siding and wood lap while the roof was sealed with asphalt shingles. The Building can be further divided into three Apartments for inspection purposes.

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 October 22, 2018 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
- Asphalt Siding
- Vapor Barrier
- Multi Layered Flooring
- 9"x9" Vinyl Floor Tile
- 2'x2' Ceiling Tile
- Drywall and Joint Compound
- 1x1 Ceiling Tile
- 12"x12" Vinyl Floor Tile
- Linoleum
- Window Caulk
- Window Glazing
- Rolled Roofing
- Sand Plaster
- Plaster

Red Cedar staff collected forty four samples of suspect ACBM separated into twenty 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 forty four samples is included as Attachment A.

Hazardous Materials Inspection

On October 22, 2018 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, forty four 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 East Apartment Kitchen window was found to contain up to 1.5% asbestos following analysis. The assessment to quantify the extent of this material identified fifteen windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- (5 windows 28" wide x 40" tall)
- (2 windows 20" wide x 24" tall)
- (3 windows 28" wide x 64" tall)
- (2 windows 24" wide x 24" tall)
- (1 window 62" wide x 48" tall)
- (1 window 28" wide x 54" tall)
- (1 window 34" wide x 54" tall)

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 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- E Apartment S Bedroom (1 register, 10 sq. ft.)
- 2nd Floor (1 vertical chase to basement, 30 sq. ft.)
- Basement (misc. HVAC wrap on Ductwork, 40 sq. ft.)
- Basement (misc. HVAC wrap on Cold Air Ductwork, 20 sq. ft.)

Category I ACM

One type of resilient floor covering (9"x9" Red Vinyl Floor Tile) located outside of the house near the front entry was found to contain up to 1.5% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 16 sq. ft. of this material within the Building.

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.

- E Apartment S Bedroom (1 register, 10 sq. ft.)
- 2nd Fl. (1 vertical chase to basement, 30 sq. ft.)
- Basement (misc. HVAC wrap on Ductwork, 40 sq. ft.)

- Basement (misc. HVAC wrap on Cold Air Ductwork, 20 sq. ft.)

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

- (5 windows 28" wide x 40" tall)
- (2 windows 20" wide x 24" tall)
- (3 windows 28" wide x 64" tall)
- (2 windows 24" wide x 24" tall)
- (1 window 62" wide x 48" tall)
- (1 window 28" wide x 54" tall)
- (1 window 34" wide x 54" 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.

The Category I resilient floor covering (9"x9" Red Vinyl Floor Tile) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 (6)
- Television (3)
- Automobile Tire (5)
- Spray Can Misc. (9)
- 1-Quart Container Misc. (4)
- 1-Gallon Container Misc. (5)
- 5-Gallon Container Misc. (1)

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-190-0015-00

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-190-0015-00

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 Muskegon 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 : 2736 8th St.



Report To:

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

ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 01 Cust. #: ES-HM-01A Material: Shingle Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80564 - 02 Cust. #: ES-HM-01B Material: Shingle Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80564 - 03 Cust. #: ES-HM-02A Material: Asphalt Siding Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2736 8th St.



Report To:

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

ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 04 Cust. #: ES-HM-02B Material: Asphalt Siding Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80564 - 05 Cust. #: ES-HM-03A Material: Gold Fleck Vapor Barrier Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80564 - 06 Cust. #: ES-HM-03B Material: Gold Fleck Vapor Barrier Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2736 8th St.



Report To:

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

ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 07 Cust. #: ES-HM-04A Material: Grey Multilayer Flooring Location: Appearance: beige, fibrous, homogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80564 - 07a Cust. #: ES-HM-04A Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80564 - 07b Cust. #: ES-HM-04A Material: Tile Location: Appearance: white, nonfibrous, homogenous Layer: 3 of 6	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2736 8th St.



Report To:

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

ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 07c Cust. #: ES-HM-04A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 4 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 07d Cust. #: ES-HM-04A Material: Tile Location: Appearance: black,nonfibrous,homogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 07e Cust. #: ES-HM-04A Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 6 of 6	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2736 8th St.



Report To:

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

ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 08 Cust. #: ES-HM-04B Material: Grey Multilayer Flooring Location: Appearance: beige, fibrous, homogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80564 - 08a Cust. #: ES-HM-04B Material: Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 2 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80564 - 08b Cust. #: ES-HM-04B Material: Tile Location: Appearance: white, nonfibrous, homogenous Layer: 3 of 6	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2736 8th St.



Report To:

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

ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 08c Cust. #: ES-HM-04B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 4 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 08d Cust. #: ES-HM-04B Material: Tile Location: Appearance: black,nonfibrous,homogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 08e Cust. #: ES-HM-04B Material: Glue Location: Appearance: clear,nonfibrous,homogenous Layer: 6 of 6	Asbestos Present: NO 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 : 2736 8th St.

Report To:

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

ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 09 Cust. #: ES-HM-05A Material: 9x9 Brown VFT Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80564 - 10 Cust. #: ES-HM-05B Material: 9x9 Brown VFT Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80564 - 11 Cust. #: ES-HM-06A Material: 2x2 Blue Ceiling Tile Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 12 Cust. #: ES-HM-06B Material: 2x2 Blue Ceiling Tile Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80564 - 13 Cust. #: ES-HM-07A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80564 - 13a Cust. #: ES-HM-07A Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 14 Cust. #: ES-HM-07B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80564 - 14a Cust. #: ES-HM-07B Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 15 Cust. #: ES-HM-08A Material: Tan Multilayer Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 15a Cust. #: ES-HM-08A Material: Tile Location: Appearance: beige,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 16 Cust. #: ES-HM-08B Material: Tan Multilayer Flooring Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80564 - 16a Cust. #: ES-HM-08B Material: Tile Location: Appearance: beige,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 17 Cust. #: ES-HM-09A Material: Grey Multilayer VFT Location: Appearance: black,nonfibrous,homogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 17a Cust. #: ES-HM-09A Material: Tile Location: Appearance: black,nonfibrous,homogenous Layer: 2 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 17b Cust. #: ES-HM-09A Material: Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 3 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 17c Cust. #: ES-HM-09A Material: Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 4 of 6	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80564 - 17d Cust. #: ES-HM-09A Material: Tile Location: Appearance: black, nonfibrous, homogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 17e Cust. #: ES-HM-09A Material: Underlayment Location: Appearance: brown, fibrous, nonhomogenous Layer: 6 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 18 Cust. #: ES-HM-09B Material: Grey Multilayer VFT Location: Appearance: black,nonfibrous,homogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 18a Cust. #: ES-HM-09B Material: Tile Location: Appearance: black,nonfibrous,homogenous Layer: 2 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 18b Cust. #: ES-HM-09B Material: Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 3 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 18c Cust. #: ES-HM-09B Material: Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 4 of 6	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80564 - 18d Cust. #: ES-HM-09B Material: Tile Location: Appearance: black, nonfibrous, homogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 18e Cust. #: ES-HM-09B Material: Underlayment Location: Appearance: brown, fibrous, nonhomogenous Layer: 6 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 19 Cust. #: ES-HM-10A Material: 12x12 Green/Beige VFT Location: Appearance: green,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 19a Cust. #: ES-HM-10A Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 19b Cust. #: ES-HM-10A Material: Linoleum Location: Appearance: blue,fibrous,nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Synthetic - 5% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 20 Cust. #: ES-HM-10B Material: 12x12 Green/Beige VFT Location: Appearance: green,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 20a Cust. #: ES-HM-10B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 20b Cust. #: ES-HM-10B Material: Linoleum Location: Appearance: blue,fibrous,nonhomogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Synthetic - 5% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 21 Cust. #: ES-HM-11A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80564 - 22 Cust. #: ES-HM-11B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80564 - 23 Cust. #: ES-HM-12A Material: 12x12 Brown Marble VFT Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 23a Cust. #: ES-HM-12A Material: Felt Location: Appearance: black, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80564 - 24 Cust. #: ES-HM-12B Material: 12x12 Brown Marble VFT Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80564 - 24a Cust. #: ES-HM-12B Material: Felt Location: Appearance: black, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 25 Cust. #: ES-HM-13A Material: Grey/Black Linoleum Location: Appearance: grey,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80564 - 26 Cust. #: ES-HM-13B Material: Grey/Black Linoleum Location: Appearance: grey,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80564 - 27 Cust. #: ES-HM-14A Material: Beige Multilayer Flooring Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 27a Cust. #: ES-HM-14A Material: Linoleum Location: Appearance: blue, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Synthetic - 5% Other - 85%
Lab ID #: 80564 - 28 Cust. #: ES-HM-14B Material: Beige Multilayer Flooring Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 28a Cust. #: ES-HM-14B Material: Linoleum Location: Appearance: blue, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Synthetic - 5% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 29 Cust. #: ES-HM-15A Material: Window Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 30 Cust. #: ES-HM-15B Material: Window Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 31 Cust. #: ES-HM-16A Material: Window Glazing Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 32 Cust. #: ES-HM-16B Material: Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 1.50% POINT COUNT RESULT	Other - 98.50%
Lab ID #: 80564 - 33 Cust. #: ES-HM-17A Material: 9x9 Red VFT Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 1.50% POINT COUNT RESULT	Other - 98.50%
Lab ID #: 80564 - 33a Cust. #: ES-HM-17A Material: Mastic Location: Appearance: black, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%

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 : 2736 8th St.



Report To:

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

ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 34 Cust. #: ES-HM-17B Material: 9x9 Red VFT Location: Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80564 - 34a Cust. #: ES-HM-17B Material: Mastic Location: Appearance: black, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80564 - 35 Cust. #: ES-HM-18A Material: Rolled Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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 Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 36 Cust. #: ES-HM-18B Material: Rolled Roofing Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%
Lab ID #: 80564 - 37 Cust. #: ES-HS-01A Material: Texture Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 37a Cust. #: ES-HS-01A Material: Joint Compound Location: Appearance: beige, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO Chrysotile - Trace POINT COUNT RESULT	Other - 100%

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

Robert T. Letarte Jr., Laboratory Director

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 Lansing, MI 48901

ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 37b Cust. #: ES-HS-01A Material: Sand Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 38 Cust. #: ES-HS-01B Material: Texture Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 38a Cust. #: ES-HS-01B Material: Joint Compound Location: Appearance: beige,fibrous,homogenous Layer: 2 of 3	Asbestos Present: NO Chrysotile - 0.25% POINT COUNT RESULT	Other - 99.75%

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

Robert T. Letarte Jr., Laboratory Director

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 Project : 2736 8th St.



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ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 38b Cust. #: ES-HS-01B Material: Sand Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 39 Cust. #: ES-HS-01C Material: Texture Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 39a Cust. #: ES-HS-01C Material: Joint Compound Location: Appearance: beige,fibrous,homogenous Layer: 2 of 3	Asbestos Present: NO Chrysotile - 0.25% POINT COUNT RESULT	Other - 99.75%

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

Robert T. Letarte Jr., Laboratory Director

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 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 39b Cust. #: ES-HS-01C Material: Sand Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 40 Cust. #: ES-HS-02A Material: Grey Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 40a Cust. #: ES-HS-02A Material: Mortar Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO 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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 Lansing, MI 48901

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 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 41 Cust. #: ES-HS-02B Material: Grey Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 41a Cust. #: ES-HS-02B Material: Mortar Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 42a Cust. #: ES-HS-02C Material: Grey Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Robert T. Letarte Jr., Laboratory Director

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Certificate of Laboratory Analysis

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Project : 2736 8th St.



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 Red Cedar Consulting
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 Lansing, MI 48901

ARI Report # 18-80564
 Date Collected: 10/22/18
 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 42a Cust. #: ES-HS-02C Material: Mortar Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 43 Cust. #: ES-HS-02D Material: Grey Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 43a Cust. #: ES-HS-02D Material: Mortar Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO 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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 Lansing, MI 48901

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 Date Received: 10/24/18
 Date Analyzed: 10/29/18
 Date Reported: 10/29/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80564 - 44 Cust. #: ES-HS-02E Material: Grey Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80564 - 44a Cust. #: ES-HS-02E Material: Mortar Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
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

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Apex # 80564

APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

104



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888)449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18

Project: 2236

Project #: 8th fl

Contact Person: Aaron Paquet

PLM EPA 600, PC all samples with a detection of <5% ACM.
apaquet@redcedarconsulting.net

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: TTP All samples

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	ES-HM-01A	Shingle Roofing			
2	01B	"			
3	02A	Asphalt Siding			
4	02B	"			
5	03A	Old Floor Vapor Barrier			
6	03B	"			
7	04A	Grey Multi Layer Flooring			
8	04B	"			
9	05A	9x9 Brown VET			
10	05B	"			
11	06A	2x2 Blue VET CT APA			

Relinquished by: A. Kelly Martin Received by: UTS
Date: 10-23-18 Date: 10-23-18

Relinquished by: RECEIVED S. Tracey
Date: 10-24-18 Date: 10/24/18 0958

80564

2 of 4

APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18
 Project: 2736 8th St
 Project #:

Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
 48 hour 72 hour
 Other: _____

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

TTP All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	ES-HM-06B	2x2 Blue CT			
13	07A	Asphalt & Joint Compound			
14	07B	" " "			
15	08A	Jan Multi Layer Flooring			
16	08B	" " "			
17	09A	Grey Multi Layer VFT			
18	09B	" " "			
19	10A	12x12 Green Beige VFT			
20	10B	" " "			
21	11A	1x1 White Smooth CT			
22	11B	" " "			

Relinquished by: UTS Received by: _____
 Date: _____ Date: OCT 24 2018

Relinquished by: AS McWhorter Received by: _____
 Date: _____ Date: _____

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 Work Forms: COC

80564

3 of 4

APEX Research, Inc.

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E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18
Project: 2736 8th St
Project #: _____
Contact Person: Aaron Paquet

Lab Use Only
Log-in _____
Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
apaguet@redcedarconsulting.net

Rush 24 hour
48 hour 72 hour
Other: _____

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

TTP ALL samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	ES-HM-12A	12x12 Brown Marble VFT			
24	12B	" " " "			
25	13A	Grey & Black Linoleum			
26	13B	" " " "			
27	14A	Beige Multi Layer Flooring			
28	14B	" " " "			
29	15A	Window Sill			
30	15B	" " " "			
31	16A	Window Sill			
32	16B	" " " "			
33	17A	9x9 Red VFT			

RECEIVED

Relinquished by: ARRM Hester Received by: UTS
Date: 10-25-18 Date: 10-23-18
Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 24 2018

80564

4 of 4

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888)449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18

Project: 2736 8th St

Project #:

Contact Person: Aaron Paquet

Lab Use Only
Log-In _____
Report _____

Turn Around Times: (Circle One)

Rush 24 hour
 48 hour 72 hour
 Other: _____

PLM EPA 600, PC all samples with a detection of <5% ACM.

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

TTP All samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
34	ES-HM-17B	9x9 red VFT			
35	ES-HM-18A	Roller Roofing			
36	ES-HM-18B	" "			
37	ES-HS-01A	Sand Plaster			
38	↓ 01B	↓			
39	↓ 01C	↓			
40	ES-HS-02A	Grey Plaster			
41	↓ 02B	↓			
42	↓ 02C	↓			
43	↓ 02D	↓			
44	↓ 02E	↓			

Relinquished by: Alex Hectors Received by: JPS

Date: 10-23-18 Date: 10-23-18

RECEIVED

Received by: _____ Date: OCT 24 2018

Tables

Table 1 - Summary of Hazardous Materials, 2736 8th St. Muskegon, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
West Apartment Front Entry	Television	1
West Apartment Living Room	Television	1
West Apartment Living Room	Smoke Detector	1
West Apartment Kitchen	1-Gallon Container Misc.	1
West Apartment Kitchen	1-Quart Container Misc.	2
West Apartment Kitchen	Spray Can Misc.	5
West Apartment North Bedroom	Television	1
West Apartment North Bedroom	Smoke Detector	1
East Apartment Living Room	Spray Can Misc.	1
East Apartment Living Room	1-Gallon Container Misc.	2
East Apartment Kitchen	Automobile Tire	4
East Apartment Kitchen	Spray Can Misc.	2
East Apartment Kitchen	1-Quart Container Misc.	2
East Apartment South Bedroom	Automobile Tire	1
East Apartment South Bedroom	Spray Can Misc.	1
East Apartment South Bedroom	Smoke Detector	1
2 nd Floor Apartment Stairway	Smoke Detector	1
2 nd Floor Apartment Bathroom	1-Gallon Container Misc.	2
2 nd Floor Apartment West Bedroom	Smoke Detector	1
2 nd Floor Apartment Kitchen	5-Gallon Container Misc.	1
2 nd Floor Apartment Kitchen	Smoke Detector	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2736 8th St. Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
ES-HM-01A	Asphalt Shingle	No	M	Category I	ND	House Roof	NA
ES-HM-01B	Asphalt Shingle	No	M	Category I	ND	House Roof	NA
ES-HM-02A	Asphalt Siding	No	M	Category I	ND	House Exterior	NA
ES-HM-02B	Asphalt Siding	No	M	Category I	ND	House Exterior	NA
ES-HM-03A	Gold Fleck Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
ES-HM-03B	Gold Fleck Vapor Barrier	Yes	M	Category II	ND	House Exterior	NA
ES-HM-04A	Gray Multi Layer Flooring	No	M	Category I	ND/ND/ND/ ND/ND/ND	W Apartment Kitchen	NA
ES-HM-04B	Gray Multi Layer Flooring	No	M	Category I	ND/ND/ND/ ND/ND/ND	W Apartment Kitchen	NA
ES-HM-05A	9x9 Brown VFT	No	M	Category I	ND	W Apartment N Bedroom	NA
ES-HM-05B	9x9 Brown VFT	No	M	Category I	ND	W Apartment N Bedroom	NA
ES-HM-06A	2x2 Blue CT	Yes	M	Category II	ND	W Apartment N Bedroom Ceiling	NA
ES-HM-06B	2x2 Blue CT	Yes	M	Category II	ND	W Apartment N Bedroom Ceiling	NA
ES-HM-07A	Drywall	No	M	Category II	ND/ND	Front Entry Ceiling	NA
ES-HM-07B	Drywall	No	M	Category II	ND/ND	2 nd Floor Stairwell Wall	NA
ES-HM-08A	Tan Multi Layer VFT	No	M	Category I	ND/ND	E Apartment Kitchen	NA
ES-HM-08B	Tan Multi Layer VFT	No	M	Category I	ND/ND	E Apartment Kitchen	NA
ES-HM-09A	Gray Multi Layer VFT	No	M	Category I	ND/ND/ND/ ND/ND/ND	E Apartment Bathroom	NA
ES-HM-09B	Gray Multi Layer VFT	No	M	Category I	ND/ND/ND/ ND/ND/ND	E Apartment Bathroom	NA
ES-HM-10A	12x12 Brown and Beige VFT/Layered	No	M	Category I	ND/ND/ND	W Apartment Front Entry	NA
ES-HM-10B	12x12 Brown and Beige VFT/Layered	No	M	Category I	ND/ND/ND	W Apartment Front Entry	NA
ES-HM-11A	1x1 White Smooth CT	Yes	M	Category II	ND	W Apartment Front Entry Ceiling	NA
ES-HM-11B	1x1 White Smooth CT	Yes	M	Category II	ND	W Apartment Front Entry Ceiling	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2736 8th St. Muskegon, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
ES-HM-12A	12x12 Brown Marble VFT	No	M	Category I	ND/ND	2 nd Floor Kitchen	NA
ES-HM-12B	12x12 Brown Marble VFT	No	M	Category I	ND/ND	2 nd Floor Kitchen	NA
ES-HM-13A	Gray and Black Linoleum	No	M	Category I	ND	2 nd Floor Bathroom	NA
ES-HM-13B	Gray and Black Linoleum	No	M	Category I	ND	2 nd Floor Bathroom	NA
ES-HM-14A	Beige Multi Layer Flooring	No	M	Category I	ND/ND	2 nd Floor Stairwell	NA
ES-HM-14B	Beige Multi Layer Flooring	No	M	Category I	ND/ND	2 nd Floor Stairwell	NA
ES-HM-15A	Window Caulk	No	M	Category II	ND	W Apartment Living Room Window	NA
ES-HM-15B	Window Caulk	No	M	Category II	ND	W Apartment N Bedroom Window	NA
ES-HM-16A	Window Glazing	Yes	M	Category II	ND	2 nd Floor Kitchen Window	NA
ES-HM-16B	Window Glazing	Yes	M	Category II	1.5% CH	E Apartment Kitchen Window	15 Windows
ES-HM-17A	Debris Pile of 9x9 Red VFT	No	M	Category I	1.5% CH/ND	House Exterior (By Front Entry)	16 sq. ft.
ES-HM-17B	Debris Pile of 9x9 Red VFT	No	M	Category I	NA/ND	House Exterior (By Front Entry)	NA
ES-HM-18A	Rolled Roofing	No	M	Category I	ND	House Roof	NA
ES-HM-18B	Rolled Roofing	No	M	Category I	ND	House Roof	NA
ES-HS-01A	Sand Plaster	No	S	Category II	ND/ND/ND	2 nd Floor W Bedroom Ceiling	NA
ES-HS-01B	Sand Plaster	No	S	Category II	ND/ND/ND	2 nd Floor W Bedroom Wall	NA
ES-HS-01C	Sand Plaster	No	S	Category II	ND/ND/ND	2 nd Floor W Bedroom Wall	NA
ES-HS-02A	Plaster	No	S	Category II	ND/ND	W Apartment Kitchen Ceiling	NA
ES-HS-02B	Plaster	No	S	Category II	ND/ND	E Apartment S Bedroom Wall	NA
ES-HS-02C	Plaster	No	S	Category II	ND/ND	E Apartment Living Room Wall	NA
ES-HS-02D	Plaster	No	S	Category II	ND/ND	W Apartment Living Room Ceiling	NA
ES-HS-02E	Plaster	No	S	Category II	ND/ND	2 nd Floor Kitchen Ceiling	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2736 8th St. Muskegon, Michigan

Notes:

Material Types

M = Miscellaneous building material
TSI = Thermal System Insulation
S = Surfacing Material
PC = Point Count Analysis
CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2736 8th St. Muskegon, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
E Apartment S Bedroom (1 register, 10 sq. ft.) 2 nd Fl. (1 vertical chase to basement, 30 sq. ft.) Basement (misc. HVAC wrap on Ductwork, 40 sq. ft.) Basement (misc. HVAC wrap on Cold Air Ductwork, 20 sq. ft.)	HVAC Duct Wrap	Yes	Good	TSI	100 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

Table 4 - Summary of All Asbestos Containing Materials, 2736 8th St. Muskegon, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
House Exterior (By Front Entry)	Debris Pile of 9x9 Red VFT	No	16 sq. ft.
Total			16 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
E Apartment S Bedroom (1 register, 10 sq. ft.) 2 nd Fl. (1 vertical chase to basement, 30 sq. ft.) Basement (misc. HVAC wrap on Ductwork, 40 sq. ft.) Basement (misc. HVAC wrap on Cold Air Ductwork, 20 sq. ft.)	HVAC Duct Wrap	Yes	100 sq. ft.
Total			100 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
(5 windows 28" wide x 40" tall)	Glazing	Yes	5 Windows
(2 windows 20" wide x 24" tall)	Glazing	Yes	2 Windows
(3 windows 28" wide x 64" tall)	Glazing	Yes	3 Windows
(2 windows 24" wide x 24" tall)	Glazing	Yes	2 Windows
(1 window 62" wide x 48" tall)	Glazing	Yes	1 Window
(1 window 28" wide x 54" tall)	Glazing	Yes	1 Window
(1 window 34" wide x 54" tall)	Glazing	Yes	1 Window
Total			15 Windows

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Table 4 - Summary of All Asbestos Containing Materials, 2736 8th St. Muskegon, Michigan

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 1, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2809 8th St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-218-0003-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2809 8th St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 1,488 square foot residential building (the Building) constructed in 1945. The Building was constructed on a concrete foundation with one aboveground floor. 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 an East and West apartment for inspection purposes.

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 October 22, 2018 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:

- Roofing Materials
- Vapor Barrier
- Drywall and Joint Compound
- Linoleum
- 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 October 22, 2018 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.

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

One type of resilient floor covering (Tan Linoleum) located within the E apartment bathroom was found to contain up to 45% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 35 sq. ft. of this material within the Building.

Category II ACM

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

RECOMMENDATIONS

Asbestos Containing Materials

The Category I resilient floor covering (Tan Linoleum) is a non-friable ACM that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 (50)

REGULATORY REQUIREMENTS

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.

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-218-0003-00

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-218-0003-00

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 Muskegon 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 : 2809 8th St.



Report To:

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

ARI Report # 18-80533
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80533 - 01 Cust. #: ES-HM-01A Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 30% Other - 70%
Lab ID #: 80533 - 01a Cust. #: ES-HM-01A Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80533 - 02 Cust. #: ES-HM-01B Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80533 - 02a Cust. #: ES-HM-01B Material: Felt Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80533 - 03 Cust. #: ES-HM-02A Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%
Lab ID #: 80533 - 04 Cust. #: ES-HM-02B Material: Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 60% Other - 40%

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Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80533 - 05 Cust. #: ES-HM-03A Material: Tan Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 45%	Other - 55%
Lab ID #: 80533 - 06 Cust. #: ES-HM-03B Material: Tan Linoleum Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80533 - 07 Cust. #: ES-HM-04A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80533 - 07a Cust. #: ES-HM-04A Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80533 - 08 Cust. #: ES-HM-04B Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80533 - 08a Cust. #: ES-HM-04B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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

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Date Analyzed: 10/24/18
Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80533 - 09 Cust. #: ES-HM-05A Material: Cream Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80533 - 10 Cust. #: ES-HM-05B Material: Cream Linoleum Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80533 - 11 Cust. #: ES-HM-06A Material: Yellow Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%

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

Robert T. Letarte Jr., Laboratory Director

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 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80533 - 12 Cust. #: ES-HM-06B Material: Yellow Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80533 - 13 Cust. #: ES-HM-07A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 80% Other - 20%
Lab ID #: 80533 - 14 Cust. #: ES-HM-07B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80533 - 15 Cust. #: ES-HS-01A Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80533 - 15a Cust. #: ES-HS-01A Material: Plaster Base Coat Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Vermiculite - 15% Other - 84%
Lab ID #: 80533 - 16 Cust. #: ES-HS-01B Material: Plaster/Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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 Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80533 - 17 Cust. #: ES-HS-01C Material: Plaster Texture Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Wollastonite - 1% Other - 99%
Lab ID #: 80533 - 17a Cust. #: ES-HS-01C Material: Plaster Finish Coat Location: Appearance: green,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Wollastonite - 1% Other - 99%
Lab ID #: 80533 - 17b Cust. #: ES-HS-01C Material: Plaster Base Coat Location: Appearance: grey,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Vermiculite - 20% Other - 79%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

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Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80533 - 18 Cust. #: ES-HS-01D Material: Plaster Texture Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Wollastonite - 1% Other - 99%
Lab ID #: 80533 - 18a Cust. #: ES-HS-01D Material: Plaster Finish Coat Location: Appearance: green,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Wollastonite - 1% Other - 99%
Lab ID #: 80533 - 18b Cust. #: ES-HS-01D Material: Plaster Base Coat Location: Appearance: grey,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Vermiculite - 20% Other - 79%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2809 8th St.



Report To:

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

ARI Report # 18-80533
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80533 - 19 Cust. #: ES-HS-01E Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80533 - 19a Cust. #: ES-HS-01E Material: Plaster Base Coat Location: Appearance: grey,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 1% Vermiculite - 20% Other - 79%
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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex

80533

172

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18

Project: 2809 854 St

Project #:

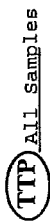
Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk x Wipe Point Count PCM

Rush 24 hour

48 hour 72 hour

Other: 3 day



Lead: Bulk Wipe Air Paint Soil

Mold: Bulk Tape BioSIS Other Viable

TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	ES-HM-01A	Roofing Materials			
2	01B	"			
3	02A	Vapor Barrier			
4	02B	"			
5	03A	Jen Sealants			
6	03B	"			
7	04A	Argonall + Joint Compound			
8	04B	"			
9	05A	Cream Sealants			
10	05B	"			
11	06A	Yellow Sealants			

RECEIVED

Relinquished by: APR Masters Received by: UPS
 Date: 10-22-18 Date: 10-22-18
 Relinquished by: _____ Received by: S. Fu
 Date: 10-23-18 Date: 10/23/18 1010

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18

Project: 2809 8th St

Project #:

Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM. apaquet@redcedarconsulting.net

Asbestos: Bulk Wipe Point Count PCM
 Lead: Bulk Wipe Air Paint Soil
 Mold: Bulk Tape BioSIS Other Viable
 TEM: AHERA 7400 Bulk/NOB EPA Level II

Rush 24 hour
 48 hour 72 hour
 Other: 3 day **(TTP)** All samples

Lab Use Only
 Log-In _____
 Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	ES-HM-016B	Yellow Linoleum			
13	ES-HM-07A	1x1 White Smooth CT			
14	ES-HM-07B	" " " "			
15	ES-HS-01A	Plaster			
16	ES-HS-01B				
17	ES-HS-01C				
18	ES-HS-01D				
19	ES-HS-01E				

Relinquished by: [Signature] Received by: UPS
 Date: 10-22-18 Date: 10-22-18
 Relinquished by: _____ Received by: _____
 Date: _____ Date: 10-23-2018

RECEIVED

Tables

Table 1 - Summary of Hazardous Materials, 2809 8th St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
W Apt. Kitchen	Automobile Tire	50

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2809 8th St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
ES-HM-01A	Shingle Roofing	No	M	Category I	ND/ND	Exterior	NA
ES-HM-01B	Shingle Roofing	No	M	Category I	ND/ND	Exterior	NA
ES-HM-02A	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
ES-HM-02B	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
ES-HM-03A	Tan Linoleum	No	M	Category I	45% CH	E Apt. Bathroom	35 sq. ft.
ES-HM-03B	Tan Linoleum	No	M	Category I	NA	E Apt. Bathroom	NA
ES-HM-04A	Drywall	No	M	Category II	ND/ND	Kitchen Ceiling	NA
ES-HM-04B	Drywall	No	M	Category II	ND/ND	Living Wall	NA
ES-HM-05A	Cream Linoleum	No	M	Category I	ND	W Apt. Bathroom	NA
ES-HM-05B	Cream Linoleum	No	M	Category I	ND	W Apt. Bathroom	NA
ES-HM-06A	Yellow Linoleum	No	M	Category I	ND	W Apt. Bathroom	NA
ES-HM-06B	Yellow Linoleum	No	M	Category I	ND	W Apt. Bathroom	NA
ES-HM-07A	1x1 White Smooth CT	Yes	M	Category II	ND	W Apt. SE Bedroom	NA
ES-HM-07B	1x1 White Smooth CT	Yes	M	Category II	ND	W Apt. SE Bedroom	NA
ES-HS-01A	Plaster	No	S	Category II	ND/ND	E Apt. Kitchen Ceiling	NA
ES-HS-01B	Plaster	No	S	Category II	ND	E Apt. Living Ceiling	NA
ES-HS-01C	Plaster	No	S	Category II	ND/ND/ND	E Apt. Living Wall	NA
ES-HS-01D	Plaster	No	S	Category II	ND/ND/ND	E Apt. Living Wall	NA
ES-HS-01E	Plaster	No	S	Category II	ND/ND	E Apt. SE Bedroom Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2809 8th St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 2809 8th St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials				
Location	Material Description	Friable	Approx. Quantity	
E Apt. Bathroom	Tan Linoleum	No	35 sq. ft.	
			Total	35 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 31, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2908 7th St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-223-0018-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2908 7th St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains a 432 sq. ft. attached garage and approximate 836 square foot residential building (the Building) constructed in 1925. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with vinyl over wood lap and a vapor barrier while the roof was sealed with asphalt shingles. The Building can be further divided into a front entry, living room, kitchen, bath, two bedrooms and rear entry on the first floor while the second floor contains one bedroom.

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 October 18, 2018 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:

- Vapor Barrier
- Roofing Materials
- Linoleum
- 1'x1' Ceiling Tile
- Drywall and Joint Compound
- Window Glazing
- Plaster

Red Cedar staff collected twenty nine samples of suspect ACBM separated into twelve 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 October 18, 2018 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.

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.

RECOMMENDATIONS

Asbestos Containing Materials

No ACM was identified within the Building that would require abatement prior to demolition/renovation of the structure.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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

REGULATORY REQUIREMENTS

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.

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.

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-223-0018-00

- 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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

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 Muskegon 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 : 2908 7th St.



Report To:

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

ARI Report # 18-80474
 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 01 Cust. #: ES-HM-01A Material: Brown Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80474 - 02 Cust. #: ES-HM-01B Material: Brown Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80474 - 03 Cust. #: ES-HM-02A Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2908 7th St.



Report To:

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

ARI Report # 18-80474
 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 03a Cust. #: ES-HM-02A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80474 - 03b Cust. #: ES-HM-02A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%
Lab ID #: 80474 - 03c Cust. #: ES-HM-02A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2908 7th St.



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

ARI Report # 18-80474
 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 04 Cust. #: ES-HM-02B Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80474 - 04a Cust. #: ES-HM-02B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80474 - 04b Cust. #: ES-HM-02B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%

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

Robert T. Letarte Jr., Laboratory Director

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Test Method, Polarized Light Microscopy (PLM)

Project : 2908 7th St.



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 Lansing, MI 48901

ARI Report # 18-80474
 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 04c Cust. #: ES-HM-02B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80474 - 05 Cust. #: ES-HM-03A Material: Not Used Location: Appearance: Layer: of	Asbestos Present: NO SAMPLE RECEIVED	
Lab ID #: 80474 - 06 Cust. #: ES-HM-03B Material: Not Used Location: Appearance: Layer: of	Asbestos Present: NO SAMPLE RECEIVED	

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 : 2908 7th St.



Report To:

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

ARI Report # 18-80474
 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 07 Cust. #: ES-HM-04A Material: Blue/Grey Layered Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Fiberglass - 10% Other - 80%
Lab ID #: 80474 - 07a Cust. #: ES-HM-04A Material: Tile Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80474 - 07b Cust. #: ES-HM-04A Material: Underlayment Location: Appearance: black, fibrous, homogenous Layer: 3 of 5	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2908 7th St.



Report To:

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

ARI Report # 18-80474
 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 07c Cust. #: ES-HM-04A Material: Mastic Location: Appearance: brown,nonfibrous,homogenous Layer: 4 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80474 - 07d Cust. #: ES-HM-04A Material: Underlayment Location: Appearance: brown,fibrous,nonhomogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 70% Other - 30%
Lab ID #: 80474 - 08 Cust. #: ES-HM-04B Material: Blue/Grey Layered Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%

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Robert T. Letarte Jr., Laboratory Director

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 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 08a Cust. #: ES-HM-04B Material: Tile Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80474 - 08b Cust. #: ES-HM-04B Material: Underlayment Location: Appearance: black,fibrous,homogenous Layer: 3 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80474 - 08c Cust. #: ES-HM-04B Material: Mastic Location: Appearance: brown,nonfibrous,homogenous Layer: 4 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 08d Cust. #: ES-HM-04B Material: Underlayment Location: Appearance: brown, fibrous, homogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 70% Other - 30%
Lab ID #: 80474 - 09 Cust. #: ES-HM-05A Material: Cream Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80474 - 10 Cust. #: ES-HM-05B Material: Cream Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%

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Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 11 Cust. #: ES-HM-06A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80474 - 12 Cust. #: ES-HM-06B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80474 - 13 Cust. #: ES-HM-07A Material: 1x1 White Textured Ceiling Tile Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%

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Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 14 Cust. #: ES-HM-07B Material: 1x1 White Textured Ceiling Tile Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80474 - 15 Cust. #: ES-HM-08A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80474 - 15a Cust. #: ES-HM-08A Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 15b Cust. #: ES-HM-08A Material: Joint Compound Location: Appearance: beige,nonfibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80474 - 16 Cust. #: ES-HM-08B Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80474 - 16a Cust. #: ES-HM-08B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Robert T. Letarte Jr., Laboratory Director

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 17 Cust. #: ES-HM-09A Material: Gold Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80474 - 18 Cust. #: ES-HM-09B Material: Gold Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80474 - 19 Cust. #: ES-HM-10A Material: Window Glazing Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 20 Cust. #: ES-HM-10B Material: Window Glazing Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80474 - 21 Cust. #: ES-HM-11A Material: Grey Linoleum Location: Appearance: grey,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80474 - 21a Cust. #: ES-HM-11A Material: Mastic Location: Appearance: beige,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 22 Cust. #: ES-HM-11B Material: Grey Linoleum Location: Appearance: grey,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80474 - 22a Cust. #: ES-HM-11B Material: Mastic Location: Appearance: beige,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80474 - 23 Cust. #: ES-HS-01A Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 23a Cust. #: ES-HS-01A Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80474 - 24 Cust. #: ES-HS-01B Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80474 - 24a Cust. #: ES-HS-01B Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 25 Cust. #: ES-HS-01C Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80474 - 25a Cust. #: ES-HS-01C Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80474 - 26 Cust. #: ES-HS-01D Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 26a Cust. #: ES-HS-01D Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80474 - 27 Cust. #: ES-HS-01E Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80474 - 27a Cust. #: ES-HS-01E Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 28 Cust. #: ES-HS-01F Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80474 - 28a Cust. #: ES-HS-01F Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80474 - 29 Cust. #: ES-HS-01G Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80474 - 29a Cust. #: ES-HS-01G Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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Apex # 80474

1813



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-18-18
Project: 2908
Project #: 774
Contact Person: Aaron Paquet

Lab Use Only
Log-in _____
Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Rush 24 hour
48 hour 72 hour

Other: Saley All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	ES-HM-01A	Down Vapor Barrier			
2	01B	"			
3	02A	Roofing Material			
4	02B	"			
5	03A	NOT USED			
6	03B	"			
7	04A	Blot Dry Layered Gypsum			
8	04B	"			
9	05A	Cream Gypsum			
10	05B	"			
11	06A	1x1 white smooth CT			

Relinquished by: APR/Victor Received by: UTS
Date: 10-18-18 Date: 10-18-18
Relinquished by: B.T.M. Received by: **RECEIVED**
Date: 10/19/18 Date: 10 9 2018

2 of 3



APEX Research, Inc. 11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
 Log-In _____
 Report _____

Client Name: Red Cedar Consulting
 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739
 Date of Survey: 10-18-18
 Project: 2908 7th St
 Project #: _____
 Contact Person: Aaron Paquet
 apaquet@redcedarconsulting.net
 PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: Sidney ALL samples

Rush 24 hour
 48 hour 72 hour

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	E5-HY-06B	1x1 white smooth CT			
13	07A	1x1 white textured CT			
14	07B	" " " " " "			
15	08A	Asphalt Joint Compound			
16	08B	" " " " " "			
17	09A	Gold Laminum			
18	09B	" " " " " "			
19	10A	Window Siding			
20	10B	" " " " " "			
21	11A	Grey Laminum			
22	11B	" " " " " "			

Relinquished by: A. J. Mastern Received by: UPS
 Date: 10-18-18 Date: 10-18-18
 Relinquished by: _____ Received by: _____
 Date: _____ Date: _____
RECEIVED
 Received by: _____ Date: OCT 19 2018
 APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 2908 7th St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Garage	Automobile Tires	2
Living	Thermostat	1
Kitchen	2' Fluorescent Light (Fixture and Ballast Only)	1
Kitchen	2' Fluorescent Bulb	2

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2908 7th St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
ES-HM-01A	Brown Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
ES-HM-01B	Brown Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
ES-HM-02A	Roofing Materials	No	M	Category I	ND/ND/ND/ND	Exterior	NA
ES-HM-02B	Roofing Materials	No	M	Category I	ND/ND/ND/ND	Exterior	NA
ES-HM-03A	Not Used						NA
ES-HM-03B	Not Used						NA
ES-HM-04A	Blue/Grey Layered Linoleum	No	M	Category I	ND/ND/ND/ ND/ND	Kitchen	NA
ES-HM-04B	Blue/Grey Layered Linoleum	No	M	Category I	ND/ND/ND/ ND/ND	Kitchen	NA
ES-HM-05A	Cream Linoleum	No	M	Category I	ND	Bathroom	NA
ES-HM-05B	Cream Linoleum	No	M	Category I	ND	Bathroom	NA
ES-HM-06A	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Living	NA
ES-HM-06B	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	Living	NA
ES-HM-07A	1x1 White Textured Ceiling Tile	Yes	M	Category II	ND	N Bedroom	NA
ES-HM-07B	1x1 White Textured Ceiling Tile	Yes	M	Category II	ND	Living	NA
ES-HM-08A	Drywall and Joint Compound	No	M	Category II	ND/ND/ND	Bathroom	NA
ES-HM-08B	Drywall and Joint Compound	No	M	Category II	ND/ND/ND	NW Bedroom	NA
ES-HM-09A	Gold Linoleum	No	M	Category II	ND	Living	NA
ES-HM-09B	Gold Linoleum	No	M	Category II	ND	Living	NA
ES-HM-10A	Window Glazing	Yes	M	Category II	ND	NW Bedroom	NA
ES-HM-10B	Window Glazing	Yes	M	Category II	ND	Living	NA
ES-HM-11A	Grey Linoleum	No	M	Category I	ND/ND	Front Entry	NA
ES-HM-11B	Grey Linoleum	No	M	Category I	ND/ND	Front Entry	NA
ES-HS-01A	Plaster	No	S	Category II	ND/ND	Bathroom Ceiling	NA
ES-HS-01B	Plaster	No	S	Category II	ND/ND	Living Ceiling	NA
ES-HS-01C	Plaster	No	S	Category II	ND/ND	N Bedroom Wall	NA
ES-HS-01D	Plaster	No	S	Category II	ND/ND	Basement Stairway Wall	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2908 7th St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
ES-HS-01E	Plaster	No	S	Category II	ND/ND	2 nd Fl. E Bedroom	NA
ES-HS-01F	Plaster	No	S	Category II	ND/ND	2 nd Fl. E Bedroom	NA
ES-HS-01G	Plaster	No	S	Category II	ND/ND	2 nd Fl. E Bedroom	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2908 7th St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 2908 7th St., Muskegon Heights, Michigan

Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
No Asbestos Containing Materials Identified			

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 1, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
2929 5th St., Muskegon Heights, MI 49444
Parcel ID: 61-26-185-224-0008-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 2929 5th St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains an approximate 1,144 square foot residential building (the Building) constructed in 1920. 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, kitchen, bath, bedroom 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 October 22, 2018 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:

- Roofing Materials
- Linoleum
- Drywall and Joint Compound
- Window Glazing
- 1'x1' Ceiling Tile
- 16"x16" Ceiling Tile
- Plaster

Red Cedar staff collected twenty five 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 five samples is included as Attachment A.

Hazardous Materials Inspection

On October 22, 2018 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 five 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

A window glazing sample collected from a window in the living room was found to contain up to 1.25% asbestos following analysis. The assessment to quantify the extent of this material identified sixteen windows within the Building that would fall into the same homogenous group. The quantity and dimensions of the windows are listed below:

- 4 windows 27" wide x 58" tall
- 3 windows 24" wide x 24" tall
- 2 windows 27" wide x 45" tall
- 5 windows 27" wide x 53" tall
- 1 window 24" wide x 24" tall
- 1 window 20" wide x 44" tall

Category I ACM

One type of resilient floor covering (2" Multilayer White Linoleum) located within the kitchen and rear entry (3rd Layer is ACM) was found to contain up to 1.25% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 189 sq. ft. of this material within the Building.

Category II ACM

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

RECOMMENDATIONS

Asbestos Containing Materials

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

- 4 windows 27" wide x 58" tall
- 3 windows 24" wide x 24" tall
- 2 windows 27" wide x 45" tall
- 5 windows 27" wide x 53" tall
- 1 window 24" wide x 24" tall
- 1 window 20" wide x 44" 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.

The Category I resilient floor covering (2" Multilayer White Linoleum) is a non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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)
- 4' Fluorescent Light (Fixture and Ballast Only) (5)
- 4' Fluorescent Bulb (2)
- 2' Fluorescent Bulb (2)

REGULATORY REQUIREMENTS

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.

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.

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.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-185-224-0008-00

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

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 Muskegon 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 : 2929 5th St.



Report To:

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

ARI Report # 18-80534
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 01 Cust. #: FS-HM-01A Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80534 - 01a Cust. #: FS-HM-01A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80534 - 02 Cust. #: FS-HM-01B Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 2929 5th St.



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 Date Collected: 10/22/18
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 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 02a Cust. #: FS-HM-01B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80534 - 03 Cust. #: FS-HM-02A Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 85% Other - 15%
Lab ID #: 80534 - 04 Cust. #: FS-HM-02B Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 85% Other - 15%

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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 : 2929 5th St.



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Mr. Aaron Paquet
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 Lansing, MI 48901

ARI Report # 18-80534
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 05 Cust. #: FS-HM-03A Material: 2" Multi Layer White Square Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80534 - 05a Cust. #: FS-HM-03A Material: Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 2 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80534 - 05b Cust. #: FS-HM-03A Material: Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 3 of 6	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2929 5th St.



Report To:

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

ARI Report # 18-80534
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 05c Cust. #: FS-HM-03A Material: Floor Tile Location: Appearance: grey, fibrous, homogenous Layer: 4 of 6	Asbestos Present: YES Chrysotile - 1.25% POINT COUNT RESULT	Other - 98.75%
Lab ID #: 80534 - 05d Cust. #: FS-HM-03A Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80534 - 05e Cust. #: FS-HM-03A Material: Flooring Location: Appearance: beige, fibrous, nonhomogenous Layer: 6 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2929 5th St.



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 Lansing, MI 48901

ARI Report # 18-80534
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 06 Cust. #: FS-HM-03B Material: 2" Multi Layer White Square Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80534 - 06a Cust. #: FS-HM-03B Material: Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 2 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80534 - 06b Cust. #: FS-HM-03B Material: Linoleum Location: Appearance: yellow, fibrous, nonhomogenous Layer: 3 of 6	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2929 5th St.



Report To:

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

ARI Report # 18-80534
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 06c Cust. #: FS-HM-03B Material: Floor Tile Location: Appearance: Layer: 4 of 6	Asbestos Present: NOT ANALYZED	
Lab ID #: 80534 - 06d Cust. #: FS-HM-03B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 5 of 6	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80534 - 06e Cust. #: FS-HM-03B Material: Flooring Location: Appearance: beige,fibrous,nonhomogenous Layer: 6 of 6	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)



Project : 2929 5th St.

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 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 07 Cust. #: FS-HM-04A Material: 4" Squared White Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80534 - 08 Cust. #: FS-HM-04B Material: 4" Squared White Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Other - 75%
Lab ID #: 80534 - 09 Cust. #: FS-HM-05A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)



Project : 2929 5th St.

Report To:

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

ARI Report # 18-80534
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 09a Cust. #: FS-HM-05A Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80534 - 10 Cust. #: FS-HM-05B Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 5% Other - 80%
Lab ID #: 80534 - 10a Cust. #: FS-HM-05B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 11 Cust. #: FS-HM-06A Material: Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 1.25% POINT COUNT RESULT	Other - 98.75%
Lab ID #: 80534 - 12 Cust. #: FS-HM-06B Material: Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80534 - 13 Cust. #: FS-HM-07A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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: 10/22/18
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 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 14 Cust. #: FS-HM-07B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80534 - 15 Cust. #: FS-HM-08A Material: 16"x16" White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80534 - 16 Cust. #: FS-HM-08B Material: 16"x16" White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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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ARI Report # 18-80534
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 17 Cust. #: FS-HM-09A Material: Basement Window Glazing Location: Appearance: grey,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - 0.50% POINT COUNT RESULT	Other - 99.50%
Lab ID #: 80534 - 18 Cust. #: FS-HM-09B Material: Basement Window Glazing Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80534 - 19 Cust. #: FS-HS-01A Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 # 18-80534
 Date Collected: 10/22/18
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 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 19a Cust. #: FS-HS-01A Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80534 - 20 Cust. #: FS-HS-01B Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80534 - 20a Cust. #: FS-HS-01B Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 2929 5th St.



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 Lansing, MI 48901

ARI Report # 18-80534
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 21 Cust. #: FS-HS-01C Material: Plaster Texture Location: Appearance: green,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80534 - 21a Cust. #: FS-HS-01C Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80534 - 21b Cust. #: FS-HS-01C Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Robert T. Letarte Jr., Laboratory Director

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Certificate of Laboratory Analysis
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ARI Report # 18-80534
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 22 Cust. #: FS-HS-01D Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80534 - 22a Cust. #: FS-HS-01D Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80534 - 23 Cust. #: FS-HS-01E Material: Plaster Texture Location: Appearance: green,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO 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 Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 23a Cust. #: FS-HS-01E Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80534 - 23b Cust. #: FS-HS-01E Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80534 - 24 Cust. #: FS-HS-01F Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Certificate of Laboratory Analysis
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 Project : 2929 5th St.



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

ARI Report # 18-80534
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80534 - 24a Cust. #: FS-HS-01F Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80534 - 25 Cust. #: FS-HS-01G Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80534 - 24a Cust. #: FS-HS-01G Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Apex

80534

1 of 3

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18
Project: 2929 5th St
Project #:
Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
Asbestos: Bulk Wipe Point Count PCM

Rush 24 hour
48 hour 72 hour

Other: 3 bag ALL SAMPLES

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	FS-HM-01A	Roofing Materials			
2	01B	"			
3	02A	"			
4	02B	"			
5	03A	2" Multi-layered Squeezed Sealant			
6	03B	" " " " " "			
7	04A	4" Squeezed White Sealant			
8	04B	" " " " " "			
9	05A	Asphalt Joint Compound			
10	05B	" " " " " "			
11	06A	Window Siding			

Relinquished by: Alex Martini Received by: UTS Relinquished by: STW
Date: 10-22-18 Date: 10-22-18 Date: 10/23/18-1010

2 of 3



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18
Project: 2929 5th St
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II
Other: 3 day All Samples

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	FS-HM-06B	Window Sillaging			
13	FS-HM-07A	1x1 white smooth CT			
14	(07B)	" "			
15	(08A)	16"x16" white smooth CT			
16	(08B)	" "			
17	(09A)	Basement Window Sillaging			
18	(09B)	" "			
19	FS-HS-01A	Plaster			
20	FS-HS-01B				
21	FS-HS-01C				
22	FS-HS-01D				

RECEIVED

Relinquished by: Aaron Paquet Received by: UTS
Date: 10-22-18 Date: 10-22-18
Relinquished by: _____ Received by: _____
Date: _____ Date: OCT 23 2018

Tables

Table 1 - Summary of Hazardous Materials, 2929 5th St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Living Room	Smoke Detector	1
Kitchen	2' Fluorescent Bulb	2
Kitchen	4' Fluorescent Light (Fixture and Ballast Only)	4
N Bedroom	Smoke Detector	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, 2929 5th St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
FS-HM-01A	Shingle Roof	No	M	Category I	ND/ND	Exterior	NA
FS-HM-01B	Shingle Roof	No	M	Category I	ND/ND	Exterior	NA
FS-HM-02A	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
FS-HM-02B	Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
FS-HM-03A	2" Multilayer White Linoleum	No	M	Category I	ND/ND/ND/ 1.25% CH/ ND/ND	Kitchen	189 sq. ft.
FS-HM-03B	2" Multilayer White Linoleum	No	M	Category I	ND/ND/ND/ NA/ND/ND	Kitchen	NA
FS-HM-04A	4" White Linoleum	No	M	Category I	ND	Bathroom	NA
FS-HM-04B	4" White Linoleum	No	M	Category I	ND	Bathroom	NA
FS-HM-05A	Drywall	No	M	Category II	ND/ND	Kitchen Ceiling	NA
FS-HM-05B	Drywall	No	M	Category II	ND/ND	Bathroom Wall	NA
FS-HM-06A	Window Glazing	Yes	M	Category II	1.25% CH	Living	16 Windows
FS-HM-06B	Window Glazing	Yes	M	Category II	NA	Kitchen	NA
FS-HM-07A	1x1 White Smooth CT	Yes	M	Category II	ND	2 nd Fl. Hallway	NA
FS-HM-07B	1x1 White Smooth CT	Yes	M	Category II	ND	2 nd Fl. NE Bedroom	NA
FS-HM-08A	16x16 White Smooth CT	Yes	M	Category II	ND	Basement	NA
FS-HM-08B	16x16 White Smooth CT	Yes	M	Category II	ND	Basement	NA
FS-HM-09A	Basement Window Glazing	Yes	M	Category II	ND	Basement	NA
FS-HM-09B	Basement Window Glazing	Yes	M	Category II	ND	Basement	NA
FS-HS-01A	Plaster	No	S	Category II	ND/ND	Living Ceiling	NA
FS-HS-01B	Plaster	No	S	Category II	ND/ND	Kitchen Ceiling	NA
FS-HS-01C	Plaster	No	S	Category II	ND/ND/ND	Living Wall	NA
FS-HS-01D	Plaster	No	S	Category II	ND/ND	N Bedroom Wall	NA
FS-HS-01E	Plaster	No	S	Category II	ND/ND/ND	2 nd Fl. NE Bedroom Ceiling	NA
FS-HS-01F	Plaster	No	S	Category II	ND/ND	2 nd Fl. Bathroom Wall	NA
FS-HS-01G	Plaster	No	S	Category II	ND/ND	2 nd Fl. SE Bedroom Wall	NA

Notes:

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 2929 5th St., Muskegon Heights, Michigan

Material Types

M = Miscellaneous building material
TSI = Thermal System Insulation
S = Surfacing Material
PC = Point Count Analysis
CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 2929 5th St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 2929 5th St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen	2" Multilayer White Linoleum	No	156 sq. ft.
Rear Entry	Yellow Linoleum (3 rd Layer is ACM)	No	33 sq. ft.
Total			189 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
4 windows 27" wide x 58" tall	Glazing	Yes	4 Windows
3 windows 24" wide x 24" tall	Glazing	Yes	3 Windows
2 windows 27" wide x 45" tall	Glazing	Yes	2 Windows
5 windows 27" wide x 53" tall	Glazing	Yes	5 Windows
1 window 24" wide x 24" tall	Glazing	Yes	1 Window
1 window 20" wide x 44" tall	Glazing	Yes	1 Window
Total			16 Windows

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

November 1, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

**RE: *Asbestos Containing Material and Hazardous Materials Inspection
3031 Merriam St., Muskegon Heights, MI 49444
Parcel ID: 61-26-635-267-0017-00***

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 3031 Merriam St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .30 acre residential parcel which contains a 640 sq. ft. detached garage and approximate 1,431 square foot residential building (the Building) constructed in 1935. The Building was constructed on a concrete block basement with two aboveground floors. The exterior walls of the Building were finished with asphalt siding and wood lap while the roof was sealed with asphalt shingles. The Building can be further divided into a front entry, living room, dining room, kitchen, bath, bedroom and rear entry 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 October 17, 2018 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 Siding
- Roofing Materials
- Linoleum
- Window Glazing
- 9"x9" Vinyl Floor Tile
- 12"x12" Vinyl Floor Tile
- 1'x1' Ceiling Tile
- Glue Pods
- Drywall and Joint Compound
- Fiberboard
- Vapor Barrier
- Soffit Caulk
- Window Caulk
- Flashing
- Plaster
- Textured Surfacing

Red Cedar staff collected forty-four samples of suspect ACBM separated into nineteen 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 forty-four samples is included as Attachment A.

Hazardous Materials Inspection

On October 17, 2018 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, forty-four 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

Window glazing samples collected from windows in the Garage and Building were found to contain up to 5% asbestos following analysis. The assessment to quantify the extent of this material identified twenty-four windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- Garage (6 windows 27" wide x 29" tall)
- House (16 windows 27" wide x 53" tall)
- House (1 window 54" wide x 53" tall)
- House (1 window 52" wide x 26" tall)

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 identified HVAC Duct Wrap at the following locations within the basement, first and second floors:

- Dining (1 register, 10 sq. ft.)
- NW Bedroom (1 register, 10 sq. ft.)
- 2nd Fl. NE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2nd Fl. SE Bedroom (1 register, 10 sq. ft.)

- Basement (8"x12" square HVAC Ductwork with 3" Tape, 350 lin. ft.)

Category I ACM

Two types of resilient floor covering (9"x9" Black Vinyl Floor Tile and 12"x12" Layered Grey Diamond Vinyl Floor Tile) located within the kitchen, front entry and rear entry were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 191 sq. ft. of this material within the Building.

Category II ACM

Soffit caulk samples collected from the exterior of the Building were found to contain up to 5% asbestos following analysis. The visual assessment to quantify the extent of this material identified 210 lin. ft. of soffit caulk on the Building.

Window caulk samples collected from the living room were found to contain up to 5% asbestos following analysis. The assessment to quantify the extent of this material identified 18 windows within the Building. The locations of the windows are listed below:

- House (16 windows 27" wide x 53" tall)
- House (1 window 54" wide x 53" tall)
- House (1 window 52" wide x 26" tall)

Glue Pod samples collected from the kitchen and NW bedroom were each found to contain up to 5% asbestos following analysis. The assessment to quantify the extent of this material identified approximately 280 sq. ft. of glue pods 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.)
- NW Bedroom (1 register, 10 sq. ft.)
- 2nd Fl. NE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.)
- 2nd Fl. SE Bedroom (1 register, 10 sq. ft.)

- Basement (8"x12" square HVAC Ductwork with 3" Tape, 350 lin. ft.)

Friable asbestos containing window glazing was identified on twenty-four windows throughout the Building and Garage. The locations of these windows that should be abated prior to demolition/renovation activities are listed below:

- Garage (6 windows 27" wide x 29" tall)
- House (16 windows 27" wide x 53" tall)
- House (1 window 54" wide x 53" tall)
- House (1 window 52" wide x 26" 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.

Soffit caulk was identified on the exterior of the Building and must be abated prior to completion of any 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.

Window caulk 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.

Glue Pods 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.

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Muskegon County Land Bank
Parcel ID: 61-26-635-267-0017-00

The Category I resilient floor coverings (9"x9" Black Vinyl Floor Tile and 12"x12" Layered Grey Diamond Vinyl Floor Tile) are non-friable ACM's that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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)

REGULATORY REQUIREMENTS

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.

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.

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).

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Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

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 Muskegon 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 : 3031 Merriam St.



Report To:

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

ARI Report # 18-80473
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 01 Cust. #: MS-HM-01A Material: Asphalt Siding Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 70% Other - 30%
Lab ID #: 80473 - 02 Cust. #: MS-HM-01B Material: Asphalt Siding Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 70% Other - 30%
Lab ID #: 80473 - 03 Cust. #: MS-HM-02A Material: House Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 03a Cust. #: MS-HM-02A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80473 - 04 Cust. #: MS-HM-02B Material: House Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80473 - 04a Cust. #: MS-HM-02B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 05 Cust. #: MS-HM-03A Material: White Layered Pebble Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Other - 70%
Lab ID #: 80473 - 05a Cust. #: MS-HM-03A Material: Flooring/Backing Location: Appearance: brown, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80473 - 06 Cust. #: MS-HM-03B Material: White Layered Pebble Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 06a Cust. #: MS-HM-03B Material: Flooring/Backing Location: Appearance: brown, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80473 - 07 Cust. #: MS-HM-04A Material: Window Glazing Location: Garage Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80473 - 08 Cust. #: MS-HM-04B Material: Window Glazing Location: Garage Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 09 Cust. #: MS-HM-05A Material: 12x12 Layered Grey Diamond VFT Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 09a Cust. #: MS-HM-05A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 09b Cust. #: MS-HM-05A Material: Linoleum/Mastic Location: Appearance: yellow,fibrous,nonhomogenous Layer: 3 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Wollastonite - 2% Other - 68%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 09c Cust. #: MS-HM-05A Material: Floor Tile Location: Appearance: brown, fibrous, homogenous Layer: 4 of 5	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80473 - 09d Cust. #: MS-HM-05A Material: Mastic Location: Appearance: brown, nonfibrous, homogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 10 Cust. #: MS-HM-05B Material: 12x12 Layered Grey Diamond VFT Location: Appearance: beige, nonfibrous, homogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 10a Cust. #: MS-HM-05B Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 10b Cust. #: MS-HM-05B Material: Linoleum/Mastic Location: Appearance: yellow,fibrous,nonhomogenous Layer: 3 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Fiberglass - 5% Wollastonite - 2% Other - 68%
Lab ID #: 80473 - 10c Cust. #: MS-HM-05B Material: Floor Tile Location: Appearance: Layer: 4 of 5	Asbestos Present: NOT ANALYZED	

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 10d Cust. #: MS-HM-05B Material: Mastic Location: Appearance: brown,nonfibrous,homogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 11 Cust. #: MS-HM-06A Material: 9x9 Black VFT Location: Appearance: brown,fibrous,homogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80473 - 11a Cust. #: MS-HM-06A Material: Mastic Location: Appearance: black,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 12 Cust. #: MS-HM-06B Material: 9x9 Black VFT Location: Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80473 - 12a Cust. #: MS-HM-06B Material: Mastic Location: Appearance: black,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 13 Cust. #: MS-HM-07A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown,fibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 13a Cust. #: MS-HM-07A Material: Glue Pod Location: Appearance: black, fibrous, homogenous Layer: 2 of 2	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80473 - 14 Cust. #: MS-HM-07B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80473 - 14a Cust. #: MS-HM-07B Material: Glue Pod Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	

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

Robert T. Letarte Jr., Laboratory Director

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Report To:

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

ARI Report # 18-80473
 Date Collected: 10/17/18
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 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 15 Cust. #: MS-HM-08A Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 2% Other - 78%
Lab ID #: 80473 - 15a Cust. #: MS-HM-08A Material: Joint Compound/Mesh Location: Appearance: white, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80473 - 16 Cust. #: MS-HM-08B Material: Drywall Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 2% Other - 78%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 16a Cust. #: MS-HM-08B Material: Joint Compound/Mesh Location: Appearance: white, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80473 - 17 Cust. #: MS-HM-09A Material: 1x1 White Ceiling Tile w/ Pinholes Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80473 - 17a Cust. #: MS-HM-09A Material: Glue Pod Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: YES Chrysotile - 5%	Other - 95%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 18 Cust. #: MS-HM-09B Material: 1x1 White Ceiling Tile w/ Pinholes Location: Appearance: brown, fibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80473 - 18a Cust. #: MS-HM-09B Material: Glue Pod Location: Appearance: Layer: 2 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80473 - 19 Cust. #: MS-HM-10A Material: 12x12 Parkay VFT Location: Appearance: brown, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 19a Cust. #: MS-HM-10A Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 20 Cust. #: MS-HM-10B Material: 12x12 Parkay VFT Location: Appearance: brown,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 20a Cust. #: MS-HM-10B Material: Mastic Location: Appearance: clear,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 21 Cust. #: MS-HM-11A Material: Window Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 1.50% POINT COUNT RESULT	Other - 98.50%
Lab ID #: 80473 - 22 Cust. #: MS-HM-11B Material: Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80473 - 23 Cust. #: MS-HM-12A Material: Fiberboard Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 85% Other - 15%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 24 Cust. #: MS-HM-12B Material: Fiberboard Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 85% Other - 15%
Lab ID #: 80473 - 25 Cust. #: MS-HM-13A Material: House Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%
Lab ID #: 80473 - 26 Cust. #: MS-HM-13B Material: House Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 50% Other - 50%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 27 Cust. #: MS-HM-14A Material: House Window Caulk Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80473 - 28 Cust. #: MS-HM-14B Material: House Window Caulk Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80473 - 29 Cust. #: MS-HM-15A Material: Garage Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 9	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 29a Cust. #: MS-HM-15A Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 2 of 9	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80473 - 29b Cust. #: MS-HM-15A Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 3 of 9	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80473 - 29c Cust. #: MS-HM-15A Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 4 of 9	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 29d Cust. #: MS-HM-15A Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 5 of 9	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80473 - 29e Cust. #: MS-HM-15A Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 6 of 9	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80473 - 29f Cust. #: MS-HM-15A Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 7 of 9	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 29g Cust. #: MS-HM-15A Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 8 of 9	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 80473 - 29h Cust. #: MS-HM-15A Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 9 of 9	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 80473 - 30 Cust. #: MS-HM-15B Material: Garage Roofing Location: Appearance: black, fibrous, homogenous Layer: 1 of 10	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 30a Cust. #: MS-HM-15B Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 2 of 10	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80473 - 30b Cust. #: MS-HM-15B Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 3 of 10	Asbestos Present: NO No Asbestos Observed	Fiberglass - 15% Other - 85%
Lab ID #: 80473 - 30c Cust. #: MS-HM-15B Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 4 of 10	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 30d Cust. #: MS-HM-15B Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 5 of 10	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80473 - 30e Cust. #: MS-HM-15B Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 6 of 10	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80473 - 30f Cust. #: MS-HM-15B Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 7 of 10	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 30g Cust. #: MS-HM-15B Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 8 of 10	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 80473 - 30h Cust. #: MS-HM-15B Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 9 of 10	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 80473 - 30i Cust. #: MS-HM-15B Material: Roofing Location: Appearance: black, fibrous, homogenous Layer: 10 of 10	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 31 Cust. #: MS-HM-16A Material: Soffit Caulk Location: Appearance: green, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 5%	Other - 95%
Lab ID #: 80473 - 32 Cust. #: MS-HM-16B Material: Soffit Caulk Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80473 - 33 Cust. #: MS-HM-17A Material: Flashing Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 34 Cust. #: MS-HM-17B Material: Flashing Location: Appearance: black,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 35 Cust. #: MS-HS-01A Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 35a Cust. #: MS-HS-01A Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 36 Cust. #: MS-HS-01B Material: Plaster Texture Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Vermiculite - 10% Other - 90%
Lab ID #: 80473 - 36a Cust. #: MS-HS-01B Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 36b Cust. #: MS-HS-01B Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 3 of 3	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 3031 Merriam St.



Report To:

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

ARI Report # 18-80473
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 37 Cust. #: MS-HS-01C Material: Plaster Texture Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 37a Cust. #: MS-HS-01C Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 37b Cust. #: MS-HS-01C Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 3 of 3	Asbestos Present: NO 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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Certificate of Laboratory Analysis
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 Lansing, MI 48901

ARI Report # 18-80473
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 38 Cust. #: MS-HS-01D Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 38a Cust. #: MS-HS-01D Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80473 - 39 Cust. #: MS-HS-01E Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 : 3031 Merriam St.



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

ARI Report # 18-80473
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 39a Cust. #: MS-HS-01E Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80473 - 40 Cust. #: MS-HS-01F Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 40a Cust. #: MS-HS-01F Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 3031 Merriam St.



Report To:

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

ARI Report # 18-80473
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 41 Cust. #: MS-HS-01G Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80473 - 41a Cust. #: MS-HS-01G Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80473 - 42 Cust. #: MS-HS-02A Material: Textured Surfacing Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 1.50% POINT COUNT RESULT	Other - 98.50%

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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 3031 Merriam St.



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

ARI Report # 18-80473
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80473 - 43 Cust. #: MS-HS-02B Material: Textured Surfacing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80473 - 44 Cust. #: MS-HS-02C Material: Textured Surfacing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
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

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80473

Apex

1 of 4



APEX Research, Inc.

11054 Hr Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Lab Use Only
Log-In _____
Report _____

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-17-18

Project: 3031 Meridian St

Project #:

Contact Person: Aaron Paquet

apaguet@redcedarconsulting.net
PCM all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: 5 day TTP ALL samples

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____

Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____

Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____

TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	MS-AM-01A	Asphalt Siding			
2	01B	" "			
3	02A	House Roofing			
4	02B	" "			
5	03A	White Gypsum Plaster/Limestone			
6	03B	" "			
7	04A	Window Sillings (Garage)			
8	04B	" "			
9	05A	12x12 Layered Gray Diamond VFT			
10	05B	" " " " VFT			
11	06A	9x9 Black VFT			

RECEIVED

Received by: _____
Date: OCT 19 2018

Relinquished by: S. Tracey

Date: 10/19/18 1300

Relinquished by: JPS

Date: 10-17-18

Relinquished by: [Signature]

Date: 10-17-18

APEX RESEARCH

APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.

Rush 24 hour

48 hour 72 hour

Other: Sdeq ALL SAMPLES

Lab Use Only
 Log-In _____
 Report _____

Date of Survey: 10-17-18

Project: 3031 Meridian St

Project #: _____

Contact Person: Aaron Paquet
 apaqet@redcedarconsulting.net

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
 Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	M5HM-06B	4x9 Black VFT			
13	M5HM-07A	1x1 White Smooth CT			
14	07B	" " " "			
15	08A	Asphalt + Joint Compound			
16	08B	" " " "			
17	09A	1x1 White CT w/ Pinholes			
18	09B	" " " "			
19	10A	12x12 Parking VFT			
20	10B	" " " "			
21	11A	Window Glazing			
22	11B	" " " "			

Relinquished by: Alexander Received by: VFS Relinquished by: _____ Received by: _____
 Date: 10-17-18 Date: 10-17-18 Date: _____ Date: OCT 19 2018

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3074

APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991



Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-17-18

Project: 303/Miriam St

Project #:

Contact Person: Aaron Paquet

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM. apaquet@redcedarconsulting.net

Asbestos: Bulk Wipe Point Count PCM
 Lead: Bulk Wipe Air Paint Soil
 Mold: Bulk Tape BioSIS Other Viable
 TEM: AHERA 7400 Bulk/NOB EPA Level II
 Other: Sday All Samples

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	MS-14M-12A	Fiberboard			
24	12B	..			
25	13A	House Vapor Barrier			
26	13B	..			
27	14A	House Window Caulk			
28	14B	..			
29	15A	Garage Roofing			
30	15B	..			
31	16A	Soffit Caulk			
32	16B	..			
33	17A	flashing			

Relinquished by: UPS Received by: **RECEIVED**

Date: 10-17-18 Date: OCT 19 2018

4 of 4

APEX Research, Inc.



11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@charfermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: 5 day **TTP** All Samples

Date of Survey: 10-17-18

Project: 303/ Meridian St

Project #:

Contact Person: Aaron Paquet

apaquet@redcedarconsulting.net
with a detection of <5% ACM.

Asbestos: Bulk Wipe Point Count PCM

Lead: Bulk Wipe Air Paint Soil

Mold: Bulk Tape BioSIS Other Viable

TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Login _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
34	M5-HM-17B	flashing			
35	M5-H5-01A	Plaster			
36	01B	}			
37	01C				
38	01D				
39	01E				
40	01F				
41	01G				
42	02A	Textured Surfacing			
43	02B	..			
44	02C	..			

RECEIVED

Relinquished by: Alexander Received by: UPS

Date: 10-17-18 Date: 10-17-18

Relinquished by: _____ Received by: _____

Date: _____ Date: _____

Received by: OCT 19 2018

Date: _____

APEX RESEARCH

Tables

Table 1 - Summary of Hazardous Materials, 3031 Merriam St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Rear Entry	Smoke Detector	1

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 3031 Merriam St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
MS-HM-01A	Asphalt Shingle	No	M	Category I	ND	Exterior	NA
MS-HM-01B	Asphalt Shingle	No	M	Category I	ND	Exterior	NA
MS-HM-02A	House Roofing	No	M	Category I	ND/ND	Exterior	NA
MS-HM-02B	House Roofing	No	M	Category I	ND/ND	Exterior	NA
MS-HM-03A	White Layered Pebble Linoleum	No	M	Category I	ND/ND	Garage	NA
MS-HM-03B	White Layered Pebble Linoleum	No	M	Category I	ND/ND	Garage	NA
MS-HM-04A	Window Glazing	Yes	M	Category II	5%CH	Garage	6 Windows
MS-HM-04B	Window Glazing	Yes	M	Category II	NA	Garage	NA
MS-HM-05A	12x12 Layered Grey Diamond VFT	No	M	Category I	ND/ND/ND/ 10%CH/ND	Kitchen	166 sq. ft.
MS-HM-05B	12x12 Layered Grey Diamond VFT	No	M	Category I	ND/ND/ND/ NA/ND	Kitchen	NA
MS-HM-06A	9x9 Black VFT	No	M	Category I	10%CH/ND	Front Entry	25 sq. ft.
MS-HM-06B	9x9 Black VFT	No	M	Category I	NA/ND	Front Entry	NA
MS-HM-07A	1x1 White Smooth Ceiling Tile (Glue Pods)	Yes	M	Category II	ND/5%CH	Kitchen	126 sq. ft.
MS-HM-07B	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND/NA	Kitchen	NA
MS-HM-08A	Drywall and Joint Compound	No	M	Category II	ND/ND	Bathroom Ceiling	NA
MS-HM-08B	Drywall and Joint Compound	No	M	Category II	ND/ND	Kitchen Wall	NA
MS-HM-09A	1x1 White Ceiling Tile w/ Pinholes (Glue Pods)	Yes	M	Category II	ND/5%CH	NW Bedroom	154 sq. ft.
MS-HM-09B	1x1 White Ceiling Tile w/ Pinholes	Yes	M	Category II	ND/NA	NW Bedroom	NA
MS-HM-10A	12x12 Parkay VFT	No	M	Category I	ND/ND	2 nd Fl. Bathroom	NA
MS-HM-10B	12x12 Parkay VFT	No	M	Category I	ND/ND	2 nd Fl. Bathroom	NA
MS-HM-11A	Window Glazing	Yes	M	Category II	1.50%CH-PC	Kitchen	18 Windows
MS-HM-11B	Window Glazing	Yes	M	Category II	NA	Living	NA
MS-HM-12A	Fiberboard	Yes	M	Category II	ND	Exterior	NA
MS-HM-12B	Fiberboard	Yes	M	Category II	ND	Exterior	NA
MS-HM-13A	House Vapor Barrier	Yes	M	Category II	ND	Exterior	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 3031 Merriam St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
MS-HM-13B	House Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
MS-HM-14A	House Window Caulk	No	M	Category II	5%CH	Living	18 Windows
MS-HM-14B	House Window Caulk	No	M	Category II	NA	NW Bedroom	NA
MS-HM-15A	Garage Roofing	No	M	Category I	ND/ND/ND/ND/ ND/ND/ND/ND/ ND	Garage Exterior	NA
MS-HM-15B	Garage Roofing	No	M	Category I	ND/ND/ND/ND/ ND/ND/ND/ND/ ND/ND	Garage Exterior	NA
MS-HM-16A	Soffit Caulk	No	M	Category II	5%CH	Exterior	210 lin. ft.
MS-HM-16B	Soffit Caulk	No	M	Category II	NA	Exterior	NA
MS-HM-17A	Flashing	No	M	Category II	ND	Exterior	NA
MS-HM-17B	Flashing	No	M	Category II	ND	Exterior	NA
MS-HS-01A	Plaster	No	S	Category II	ND/ND	Rear Entry Ceiling	NA
MS-HS-01B	Plaster	No	S	Category II	ND/ND/ND	Dining Ceiling	NA
MS-HS-01C	Plaster	No	S	Category II	ND/ND/ND	Kitchen Wall	NA
MS-HS-01D	Plaster	No	S	Category II	ND/ND	Dining Wall	NA
MS-HS-01E	Plaster	No	S	Category II	ND/ND	2 nd Fl. Bathroom Ceiling	NA
MS-HS-01F	Plaster	No	S	Category II	ND/ND	2 nd Fl. SE Bedroom Wall	NA
MS-HS-01G	Plaster	No	S	Category II	ND/ND	2 nd Fl. NE Bedroom Wall	NA
MS-HS-02A	Textured Surfacing	No	S	Category II	1.50%CH-PC	Bathroom	365 sq. ft.
MS-HS-02B	Textured Surfacing	No	S	Category II	NA	Bathroom	NA
MS-HS-02C	Textured Surfacing	No	S	Category II	NA	Bathroom	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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, 3031 Merriam St., Muskegon Heights, Michigan

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 3031 Merriam St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Dining (1 register, 10 sq. ft.) NW Bedroom (1 register, 10 sq. ft.) 2 nd Fl. NE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 nd Fl. SE Bedroom (1 register, 10 sq. ft.)	HVAC Duct Wrap	Yes	Fair	TSI	65 sq. ft.
Basement (8"x12" square HVAC Ductwork with 3" Tape, 350 lin. ft.)	HVAC Tape	Yes	Fair	TSI	350 lin. ft.

Notes:

Material Types

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

Abbreviations

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

Table 4 - Summary of All Asbestos Containing Materials, 3031 Merriam St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Front Entry	9x9 Black VFT	No	25 sq. ft.
Kitchen	12x12 Layered Grey Diamond VFT	No	126 sq. ft.
Rear Entry	12x12 Layered Grey Diamond VFT	No	40 sq. ft.
Total			191 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Dining (1 register, 10 sq. ft.) NW Bedroom (1 register, 10 sq. ft.) 2 nd Fl. NE Bedroom (1 register, 10 sq. ft. and vertical chase to basement, 25 sq. ft.) 2 nd Fl. SE Bedroom (1 register, 10 sq. ft.)	HVAC Duct Wrap	Yes	65 sq. ft.
Total			65 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement (8"x12" square HVAC Ductwork with 3" Tape, 350 lin. ft.)	HVAC Tape	Yes	350 lin. ft.
Total			350 lin. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Garage (6 windows 27" wide x 29" tall)	Glazing	Yes	6 Windows
House (16 windows 27" wide x 53" tall)	Glazing	Yes	16 Windows
House (1 window 54" wide x 53" tall)	Glazing	Yes	1 Window
House (1 window 52" wide x 26" tall)	Glazing	Yes	1 Window
Total			24 Windows
Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Exterior	Soffit Caulk	No	210 lin. ft.
Total			210 lin. ft.

Table 4 - Summary of All Asbestos Containing Materials, 3031 Merriam St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
House (16 windows 27" wide x 53" tall)	Window Caulk	No	16 Windows
House (1 window 54" wide x 53" tall)	Window Caulk	Yes	1 Window
House (1 window 52" wide x 26" tall)	Window Caulk	Yes	1 Window
Total			18 Windows
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen	1x1 White Smooth Ceiling Tile (Glue Pods)	No	126 sq. ft.
NW Bedroom	1x1 White Ceiling Tile w/ Pinholes (Glue Pods)	No	154 sq. ft.
Total			280 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Bathroom	Textured Surfacing	No	365 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 31, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
3109 Highland St., Muskegon Heights, MI 49444
Parcel ID: 61-26-770-035-0004-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 3109 Highland St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .18 acre residential parcel which contains a 240 sq. ft. detached garage and approximate 1,410 square foot residential building (the Building) constructed in 1930. The Building was constructed on a concrete block basement with one aboveground floor. The exterior walls of the Building were finished with Transite over a vapor barrier and 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 three 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 October 22, 2018 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:

- Vapor Barrier
- Roofing Materials
- 12"x12" Vinyl Floor Tile
- Linoleum
- Drywall and Joint Compound
- Caulk
- Plaster
- Window Glazing

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 October 22, 2018 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 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

A window glazing sample collected from a window in the basement was found to contain up to 10% asbestos following analysis. The assessment to quantify the extent of this material identified six windows at the following locations that would fall into the same homogenous group. The locations of the windows are listed below:

- Basement (6 windows 32" wide x 22" tall)

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 was classified as PACM and no samples were collected. The visual assessment to quantify the extent of this material identified 1,863 sq. ft. of cementitious (Transite) siding on the Building.

RECOMMENDATIONS

Asbestos Containing Materials

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

- Basement (6 windows 32" wide x 22" 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.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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)
- Automobile Tires (12)
- Spray Can Misc. Paint (1)
- Television (1)
- Air Conditioner (1)
- Gallon Container Misc. Paint (15)
- Propane Tank (1)
- Quart Container Misc. Paint (4)
- Pint Container Misc. Paint (12)

REGULATORY REQUIREMENTS

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.

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.

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.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-770-035-0004-00

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov


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 Muskegon 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 : 3109 Highland Ave.



Report To:

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

ARI Report # 18-80536
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 01 Cust. #: HS-HM-01A Material: Black Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80536 - 02 Cust. #: HS-HM-01B Material: Black Vapor Barrier Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80536 - 03 Cust. #: HS-HM-02A Material: Brown Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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 Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 04 Cust. #: HS-HM-02B Material: Brown Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80536 - 05 Cust. #: HS-HM-03A Material: Roofing Material Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80536 - 06 Cust. #: HS-HM-03B Material: Roofing Material Location: Appearance: black, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%

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 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 07 Cust. #: HS-HM-04A Material: 12x12 Gold VFT Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 07a Cust. #: HS-HM-04A Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 08 Cust. #: HS-HM-04B Material: 12x12 Gold VFT Location: Appearance: beige,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 08a Cust. #: HS-HM-04B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 09 Cust. #: HS-HM-05A Material: Tan Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80536 - 10 Cust. #: HS-HM-05B Material: Tan Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 11 Cust. #: HS-HM-06A Material: 12x12 White VFT Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 11a Cust. #: HS-HM-06A Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 12 Cust. #: HS-HM-06B Material: 12x12 White VFT Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 12a Cust. #: HS-HM-06B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 13 Cust. #: HS-HM-07A Material: Lite Brown Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80536 - 14 Cust. #: HS-HM-07B Material: Lite Brown Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 15 Cust. #: HS-HM-08A Material: Woodgrain Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Synthetic - 5% Other - 70%
Lab ID #: 80536 - 16 Cust. #: HS-HM-08B Material: Woodgrain Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Fiberglass - 10% Synthetic - 5% Other - 70%
Lab ID #: 80536 - 17 Cust. #: HS-HM-09A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 17a Cust. #: HS-HM-09A Material: Joint Compound Location: Appearance: beige,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 18 Cust. #: HS-HM-09B Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80536 - 18a Cust. #: HS-HM-09B Material: Joint Compound Location: Appearance: beige,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 19 Cust. #: HS-HM-10A Material: Basement Window Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 20 Cust. #: HS-HM-10B Material: Basement Window Caulk Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 21 Cust. #: HS-HS-01A Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 21a Cust. #: HS-HS-01A Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80536 - 22 Cust. #: HS-HS-01B Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 22a Cust. #: HS-HS-01B Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 23 Cust. #: HS-HS-01C Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 23a Cust. #: HS-HS-01C Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80536 - 24 Cust. #: HS-HS-01D Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 3109 Highland Ave.



Report To:

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

ARI Report # 18-80536
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 24a Cust. #: HS-HS-01D Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80536 - 25 Cust. #: HS-HS-01E Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80536 - 25a Cust. #: HS-HS-01E Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 3109 Highland Ave.



Report To:

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

ARI Report # 18-80536
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 26 Cust. #: HS-HM-11A Material: Glazing Location: Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80536 - 27 Cust. #: HS-HM-11B Material: Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80536 - 28 Cust. #: HS-HM-12A Material: Flooring Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 3109 Highland Ave.



Report To:

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

ARI Report # 18-80536
 Date Collected: 10/22/18
 Date Received: 10/23/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80536 - 29 Cust. #: HS-HM-12B Material: Flooring Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex # **80536**

10/3



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18

Project: 3109 Highland Ave

Project #:

Contact Person: Aaron Paquet

PLM EPA 600, PC all samples with a detection of <5% ACM.
apacquet@redcedarconsulting.net

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM

Rush 24 hour

48 hour 72 hour

Other: 3 Day All Samples

Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	H5-HM-01A	Black Vapor Barrier			
2	(01B)	" "			
3	02A	Brown Vapor Barrier			
4	02B	" "			
5	03A	Roofing Material			
6	03B	" "			
7	04A	12x12 Gold VFT			
8	04B	" "			
9	05A	Ten Senelecum			
10	05B	" "			
11	06A	12x12 White VFT			

RECEIVED

Relinquished by: Aaron Paquet Received by: UFS

Date: 10-22-18 Date: 10-23-18

Date: 10-22-18 Date: 10-23-18

2 of 3



APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18
Project: 3109 Highland Ave
Project #:

Contact Person: Aaron Paquet
apaaquet@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour

Other: 3 day All samples

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	HS-HM-06B	12x12 White VET			
13	07A	Lite Brown Linoleum			
14	07B	" "			
15	08A	Woodgrain Linoleum			
16	08B	" "			
17	09A	Asphalt + Joint Compound			
18	09B	" "			
19	10A	Basement Window Sill			
20	10B	" "			
21	HS-HS-01A	Plaster			
22	HS-HS-01B	" "			RECEIVED

Relinquished by: A. Paquet Received by: UPS
Date: 10-22-18 Date: 10-22-18

Relinquished by: _____ Received by: _____
Date: _____ Date: 10-23-2018
Date: APEX RESEARCH

3 of 3



APEX Research, Inc.

11054 Hf Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-22-18
Project: 3109 Highland Lake
Project #:

Contact Person: Aaron Paquet
apaquet@redcedarconsulting.net
PC all samples with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II

Rush 24 hour
48 hour 72 hour

Other: 3 day (TTP) ALL samples

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	HS-HS-01C				
24	HS-HS-D				
25	HS-HS-E				
26	HS-HM-11A				
27	HS-HM-11B				
28	HS-HM-12A				
29	HS-HM-12B				

Relinquished by: Aaron Paquet Received by: UPS
Date: 10-22-18 Date: 10-22-18
Relinquished by: _____ Received by: _____
Date: _____ Date: 10-23-2018

RECEIVED

Tables

Table 1 - Summary of Hazardous Materials, 3109 Highland St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Exterior	Automobile Tires	8
Front Porch	Automobile Tires	4
NE Bedroom	Smoke Detector	1
SE Bedroom	Smoke Detector	1
2 nd Floor	Smoke Detector	1
2 nd Floor	Spray Can Misc. Paint	1
Basement	Television	1
Basement	Air Conditioner	1
Basement	Gallon Container Misc. Paint	15
Basement	Propane Tank	1
Basement	Quart Container Misc. Paint	4
Basement	Pint Container Misc. Paint	12

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 3109 Highland St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
HS-HM-01A	Black Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
HS-HM-01B	Black Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
HS-HM-02A	Brown Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
HS-HM-02B	Brown Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
HS-HM-03A	Roofing Material	No	M	Category I	ND	Exterior	NA
HS-HM-03B	Roofing Material	No	M	Category I	ND	Exterior	NA
HS-HM-04A	12x12 Gold VFT	No	M	Category I	ND/ND	Bathroom	NA
HS-HM-04B	12x12 Gold VFT	No	M	Category I	ND/ND	Bathroom	NA
HS-HM-05A	Tan Linoleum	No	M	Category I	ND	Living	NA
HS-HM-05B	Tan Linoleum	No	M	Category I	ND	Living	NA
HS-HM-06A	12x12 White VFT	No	M	Category I	ND/ND	N Bedroom	NA
HS-HM-06B	12x12 White VFT	No	M	Category I	ND/ND	N Bedroom	NA
HS-HM-07A	Lite Brown Linoleum	No	M	Category I	ND	NE Bedroom	NA
HS-HM-07B	Lite Brown Linoleum	No	M	Category I	ND	NE Bedroom	NA
HS-HM-08A	Woodgrain Linoleum	No	M	Category I	ND	Dining	NA
HS-HM-08B	Woodgrain Linoleum	No	M	Category I	ND	Dining	NA
HS-HM-09A	Drywall and Joint Compound	No	M	Category II	ND/ND	N Bedroom Wall	NA
HS-HM-09B	Drywall and Joint Compound	No	M	Category II	ND/ND	Basement Wall	NA
HS-HM-10A	Basement Window Caulk	No	M	Category I	ND	Basement	NA
HS-HM-10B	Basement Window Caulk	No	M	Category I	ND	Basement	NA
HS-HM-11A	Glazing	Yes	M	Category II	10%CH	Basement	6 Windows
HS-HM-11B	Glazing	Yes	M	Category II	NA	Basement	NA
HS-HM-12A	Flooring	No	M	Category I	ND	Stairway	NA
HS-HM-12B	Flooring	No	M	Category I	ND	Stairway	NA
HS-HS-01A	Plaster	No	S	Category II	ND/ND	SE Bedroom Ceiling	NA
HS-HS-01B	Plaster	No	S	Category II	ND/ND	N Bedroom Ceiling	NA
HS-HS-01C	Plaster	No	S	Category II	ND/ND	Bathroom Wall	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 3109 Highland St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
HS-HS-01D	Plaster	No	S	Category II	ND/ND	Living Wall	NA
HS-HS-01E	Plaster	No	S	Category II	ND/ND	NE Bedroom Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 3109 Highland St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Building Exterior	Transite Siding	No	Fair	M	1,863 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

Table 4 - Summary of All Asbestos Containing Materials, 3109 Highland St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement (6 windows 32" wide x 22" tall)	Glazing	Yes	6 Windows
	Total		6 Windows
Exterior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Building Exterior	Transite Siding	No	1,863 sq. ft.
	Total		1,863 sq. ft.

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 31, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
3213 6th St., Muskegon Heights, MI 49444
Parcel ID: 61-26-770-028-0006-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 3213 6th St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .12 acre residential parcel which contains an approximate 844 square foot residential building (the Building) constructed in 1940. The Building was constructed on a concrete foundation with one aboveground floor. The exterior walls of the Building were finished with vinyl over asphalt siding and a vapor barrier while the roof was sealed with asphalt shingles. The Building can be further divided into a living room, kitchen, bathroom, and three 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 October 30, 2018 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:

- Roofing Materials
- Vapor Barrier
- Linoleum
- 12"x12" Vinyl Floor Tile
- 1'x1' Ceiling Tile
- 2'x4' Ceiling Tile
- Drywall and Joint Compound
- Window Glazing
- Asphalt Siding
- Plaster

Red Cedar staff collected twenty seven samples of suspect ACBM separated into twelve 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 seven samples is included as Attachment A.

Hazardous Materials Inspection

On October 18, 2018 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 seven 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

A window glazing sample collected from a window in the Building was found to contain up to 2.25% asbestos following analysis. The assessment to quantify the extent of this material identified ten windows within the Building that would fall into the same homogenous group. The quantity and dimensions of the windows are listed below:

- 4 windows 34" wide x 66" tall
- 1 window 28" wide x 56" tall
- 2 windows 24" wide x 28" tall
- 1 window 24" wide x 30" tall
- 1 window 48" wide x 28" tall
- 1 window 45" wide x 36" tall

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

Friable asbestos containing window glazing was identified on ten windows throughout the Building. The quantity and dimensions of these windows that should be abated prior to demolition/renovation activities are listed below:

- 4 windows 34" wide x 66" tall
- 1 window 28" wide x 56" tall
- 2 windows 24" wide x 28" tall
- 1 window 24" wide x 30" tall
- 1 window 48" wide x 28" tall
- 1 window 45" wide x 36" 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.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 (4)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-770-028-0006-00

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 Muskegon 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 : 3213 6th St.



Report To:

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

ARI Report # 18-80472
 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 01 Cust. #: SS-HM-01A Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80472 - 01a Cust. #: SS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80472 - 01b Cust. #: SS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%

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 : 3213 6th St.



Report To:

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

ARI Report # 18-80472
 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 01c Cust. #: SS-HM-01A Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80472 - 02 Cust. #: SS-HM-01B Material: Roofing Materials Location: Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80472 - 02a Cust. #: SS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%

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Robert T. Letarte Jr., Laboratory Director

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 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 02b Cust. #: SS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 10% Other - 90%
Lab ID #: 80472 - 02c Cust. #: SS-HM-01B Material: Shingle Location: Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80472 - 03 Cust. #: SS-HM-02A Material: Brown Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%

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Robert T. Letarte Jr., Laboratory Director

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 Date Collected: 10/18/18
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 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 04 Cust. #: SS-HM-02B Material: Brown Vapor Barrier Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80472 - 05 Cust. #: SS-HM-03A Material: Layered Grey Flagstone Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 80472 - 05a Cust. #: SS-HM-03A Material: Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%

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

Robert T. Letarte Jr., Laboratory Director

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 Lansing, MI 48901

ARI Report # 18-80472
 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 06 Cust. #: SS-HM-03B Material: Layered Grey Flagstone Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 5% Other - 95%
Lab ID #: 80472 - 06a Cust. #: SS-HM-03B Material: Linoleum Location: Appearance: grey, fibrous, nonhomogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Fiberglass - 10% Other - 90%
Lab ID #: 80472 - 07 Cust. #: SS-HM-04A Material: Rainbow Marble Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO 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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Certificate of Laboratory Analysis

Test Method, Polarized Light Microscopy (PLM)

Project : 3213 6th St.



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 Lansing, MI 48901

ARI Report # 18-80472
 Date Collected: 10/18/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 08 Cust. #: SS-HM-04B Material: Rainbow Marble Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Other - 80%
Lab ID #: 80472 - 09 Cust. #: SS-HM-05A Material: 12x12 Gray Marble VFT Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - 0.50% POINT COUNT RESULT	Other - 99.50%
Lab ID #: 80472 - 10 Cust. #: SS-HM-05B Material: 12x12 Gray Marble VFT Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO Chrysotile - 0.75% POINT COUNT RESULT	Other - 99.25%

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

Robert T. Letarte Jr., Laboratory Director

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 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 11 Cust. #: SS-HM-06A Material: 12x12 White VFT Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80472 - 12 Cust. #: SS-HM-06B Material: 12x12 White VFT Location: Appearance: grey,nonfibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80472 - 13 Cust. #: SS-HM-07A Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%

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

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 14 Cust. #: SS-HM-07B Material: 1x1 White Smooth Ceiling Tile Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 75% Other - 25%
Lab ID #: 80472 - 15 Cust. #: SS-HM-08A Material: 2x4 White Ceiling Tile w/ PH & Gouges Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80472 - 16 Cust. #: SS-HM-08B Material: 2x4 White Ceiling Tile w/ PH & Gouges Location: Appearance: grey, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO 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 Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 17 Cust. #: SS-HM-09A Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%
Lab ID #: 80472 - 17a Cust. #: SS-HM-09A Material: Joint Compound Location: Appearance: white, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80472 - 18 Cust. #: SS-HM-09B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 15% Other - 85%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 18a Cust. #: SS-HM-09B Material: Joint Compound Location: Appearance: white,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80472 - 19 Cust. #: SS-HM-10A Material: Window Glazing Location: Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 2.25% POINT COUNT RESULT	Other - 97.75%
Lab ID #: 80472 - 20 Cust. #: SS-HM-10B Material: Window Glazing Location: Appearance: Layer: of	Asbestos Present: NOT ANALYZED	

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 Lansing, MI 48901

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 Date Collected: 10/18/18
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 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 21 Cust. #: SS-HM-11A Material: Asphalt Siding Location: Appearance: blue, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80472 - 22 Cust. #: SS-HM-11B Material: Asphalt Siding Location: Appearance: blue, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 40% Other - 60%
Lab ID #: 80472 - 23 Cust. #: SS-HS-01A Material: Plaster/Mortar Location: Appearance: grey, nonfibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 24 Cust. #: SS-HS-01B Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80472 - 24a Cust. #: SS-HS-01B Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 2% Other - 98%
Lab ID #: 80472 - 25 Cust. #: SS-HS-01C Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 25a Cust. #: SS-HS-01C Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Vermiculite - 5% Hair - 1% Other - 94%
Lab ID #: 80472 - 26 Cust. #: SS-HS-01D Material: Plaster Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80472 - 26a Cust. #: SS-HS-01D Material: Mortar Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Hair - 1% Other - 99%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80472 - 27 Cust. #: SS-HS-01E Material: Plaster Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80472 - 27a Cust. #: SS-HS-01E Material: Mortar Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Vermiculite - 5% Hair - 1% Other - 94%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	

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Apex # **80472**

1073



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting

Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: Sdey All Samples

Date of Survey: 10-18-18

Project: 3213 6th St

Project #: _____

Contact Person: Aaron Paquet

apaquet@redcedarconsulting.net
with a detection of <5% ACM.

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____

Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____

Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____

TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab Use Only
Log-In _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	SS-HM-01A	Roofing Materials			
2	01B	" "			
3	02A	Brown Vapor Barrier			
4	02B	" "			
5	03A	Carpeted Gray Flagstone			
6	03B	" "			
7	04A	Rainbow Marble LinoLam			
8	04B	" "			
9	05A	12x12 Gray Marble VFT			
10	05B	" "			
11	06A	12x12 White VFT			

RECEIVED

Relinquished by: [Signature] Received by: UPS

Date: 10-18-18 Date: 10-18-18

Relinquished by: S. T. Carey

Date: 10/19/18 1300

Received by: UCPI 9-2018

Date: _____

APEX RESEARCH

2 of 3



APEX Research, Inc.

11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
E-mail: apexresearch@chartermi.net Fax: 734-449-9991

Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-18-18
Project: 32/3 6th St
Project #: _____
Contact Person: Aaron Paquet
apacquet@redcedarconsulting.net

Lab Use Only
Log-in _____
Report _____

Turn Around Times: (Circle One)

Rush 24 hour
48 hour 72 hour

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____
Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Other: Slag **TTP** All Samples

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	55-HM-06B	12x12 white VFT			
13	07A	1x1 white smooth CT			
14	07B	" " " " " "			
15	08A	2x4 white CT w/ PFA gages			
16	08B	" " " " " "			
17	09A	Asphalt Joint Compound			
18	09B	" " " " " "			
19	10A	Windows Siding			
20	10B	" " " " " "			
21	11A	Asphalt Siding			
22	11B	" " " " " "			

Relinquished by: Aaron Paquet Received by: UPS
Date: 10-18-18 Date: 10-18-18

Relinquished by: _____ Received by: **RECEIVED**
Date: _____ Date: 10-19-2018

3 of 3



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E-mail: apexresearch@chartermi.net Fax: 734-449-9991

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Address: PO Box 13216

City, St., Zip: Lansing, MI 48901

Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-18-18

Project: 3213 6th St.

Project #: _____

Contact Person: Aaron Paquet

apaquet@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Rush 24 hour

48 hour 72 hour

Other: 5 days (TTP) ALL Samples

Asbestos: Bulk Wipe _____ Point Count _____ PCM _____

Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____

Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____

TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab Use Only
 Log-In _____
 Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
23	55-AS-01A	Plaster			
24	01B	↓			
25			01C		
26	01D	↓			
27			01E		

Relinquished by: Aaron Paquet Received by: VP
 Date: 10-18-18 Date: 10-18-18

Relinquished by: _____ Received by: _____
 Date: _____ Date: 10-19-2018

RECEIVED

Tables

Table 1 - Summary of Hazardous Materials, 3213 6th St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Exterior	Automobile Tires	4

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 3213 6th St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
SS-HM-01A	Roofing Materials	No	M	Category I	ND/ND/ND/ND	Exterior	NA
SS-HM-01B	Roofing Materials	No	M	Category I	ND/ND/ND/ND	Exterior	NA
SS-HM-02A	Brown Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
SS-HM-02B	Brown Vapor Barrier	Yes	M	Category II	ND	Exterior	NA
SS-HM-03A	Layered Grey Flagstone Linoleum	No	M	Category II	ND/ND	Kitchen	NA
SS-HM-03B	Layered Grey Flagstone Linoleum	No	M	Category II	ND/ND	Bathroom	NA
SS-HM-04A	Rainbow Marble Linoleum	No	M	Category I	ND	NE Bedroom	NA
SS-HM-04B	Rainbow Marble Linoleum	No	M	Category I	ND	NE Bedroom	NA
SS-HM-05A	12x12 Gray Marble VFT	No	M	Category II	0.50%CH-PC	SW Bedroom Closet	NA
SS-HM-05B	12x12 Gray Marble VFT	No	M	Category II	0.75%CH-PC	SW Bedroom Closet	NA
SS-HM-06A	12x12 White VFT	No	M	Category II	ND	Hallway	NA
SS-HM-06B	12x12 White VFT	No	M	Category II	ND	Hallway	NA
SS-HM-07A	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	S Bedroom	NA
SS-HM-07B	1x1 White Smooth Ceiling Tile	Yes	M	Category II	ND	S Bedroom	NA
SS-HM-08A	2x4 White Ceiling Tile w/ PH & Gouges	Yes	M	Category II	ND	Bathroom	NA
SS-HM-08B	2x4 White Ceiling Tile w/ PH & Gouges	Yes	M	Category II	ND	Bathroom	NA
SS-HM-09A	Drywall and Joint Compound	No	M	Category II	ND/ND	SW Bedroom Wall	NA
SS-HM-09B	Drywall and Joint Compound	No	M	Category II	ND/ND	SW Bedroom Wall	NA
SS-HM-10A	Window Glazing	Yes	M	Category II	2.25% CH-PC	Bathroom	10 Windows
SS-HM-10B	Window Glazing	Yes	M	Category II	NA	Kitchen	NA
SS-HM-11A	Asphalt Siding	No	M	Category I	ND	Exterior	NA
SS-HM-11B	Asphalt Siding	No	M	Category I	ND	Exterior	NA
SS-HS-01A	Plaster	No	S	Category II	NA	Bathroom Ceiling	NA
SS-HS-01B	Plaster	No	S	Category II	ND/ND	Hallway Ceiling	NA
SS-HS-01C	Plaster	No	S	Category II	ND/ND	NE Bedroom Wall	NA
SS-HS-01D	Plaster	No	S	Category II	ND/ND	Bathroom Wall	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 3213 6th St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
SS-HS-01E	Plaster	No	S	Category II	ND/ND	Kitchen Wall	NA

Notes:

Material Types

- M = Miscellaneous building material
- TSI = Thermal System Insulation
- S = Surfacing Material
- PC = Point Count Analysis
- CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 3213 6th St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
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

Table 4 - Summary of All Asbestos Containing Materials, 3213 6th St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
4 windows 34" wide x 66" tall	Glazing	Yes	4 Windows
1 window 28" wide x 56" tall	Glazing	Yes	1 Window
2 windows 24" wide x 28" tall	Glazing	Yes	2 Windows
1 window 24" wide x 30" tall	Glazing	Yes	1 Window
1 window 48" wide x 28" tall	Glazing	Yes	1 Window
1 window 45" wide x 36" tall	Glazing	Yes	1 Window
	Total		10 Windows

Notes:

Abbreviations

lin. ft. = linear feet

sq. ft. = square feet

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.



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

October 31, 2018

Mr. Tim Burgess
Muskegon County Land Bank
Land Bank Coordinator
173 E. Apple Avenue, Suite 104
Muskegon, MI 49442

RE: *Asbestos Containing Material and Hazardous Materials Inspection*
3237 Leahy St., Muskegon Heights, MI 49444
Parcel ID: 61-26-615-002-0004-00

Dear Mr. Burgess:

Red Cedar Consulting has completed an asbestos-containing material (ACM) and hazardous materials inspection at 3237 Leahy St., Muskegon Heights, Michigan (Subject Property). This inspection was completed at the request of the Muskegon 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 .14 acre residential parcel which contains a 400 sq. ft. detached garage and approximate 1,064 square foot residential building (the Building) constructed in 1935. The Building was constructed on a concrete block basement with one aboveground floor. 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, bath, three bedrooms and 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 October 17, 2018 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:

- Vapor Barrier
- Asphalt Shingles
- Linoleum
- 9"x9" Vinyl Floor Tile
- Window Glazing
- Plaster

Red Cedar staff collected thirty 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 thirty samples is included as Attachment A.

Hazardous Materials Inspection

On October 17, 2018 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, thirty 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.

Air-O-Cell Pipe 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 Building was found to contain up to 2.25% asbestos following analysis. The assessment to quantify the extent of this material identified twenty seven windows at the following locations that would fall into the same homogenous group. The quantity and dimensions of the windows are listed below:

- 6 windows 27" wide x 58" tall
- 1 window 26" wide x 24" tall
- 2 windows 40" wide x 58" tall
- 7 windows 27" wide x 53" tall
- 10 windows 24" wide x 53" tall
- 1 window 36" wide x 20" tall

Air-O-Cell Pipe Wrap identified in the Building in conjunction with the hot water heating system is classified as friable ACM. The visual assessment to quantify the extent of this material identified Friable ACM at the following locations within the basement and first floor:

- Basement Boiler Pipe (Air-O-Cell 3" to 4") (75 lin. ft.)

Category I ACM

Two types of resilient floor covering (Grey Woodgrain Linoleum and 9"x9" Red Vinyl Floor Tile) located within the kitchen and bathroom were found to contain up to 10% Chrysotile asbestos. The assessment to quantify the extent of this material identified approximately 252 sq. ft. of this material within the Building.

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.

- Basement Boiler Pipe (Air-O-Cell 3" to 4") (75 lin. ft.)

Friable asbestos containing window glazing was identified on twenty seven windows throughout the Building. The quantity and dimensions of these windows that should be abated prior to demolition/renovation activities are listed below:

- 6 windows 27” wide x 58” tall
- 1 window 26” wide x 24” tall
- 2 windows 40” wide x 58” tall
- 7 windows 27” wide x 53” tall
- 10 windows 24” wide x 53” tall
- 1 window 36” 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.

The Category I resilient floor coverings (Grey Woodgrain Linoleum and 9”x9” Red Vinyl Floor Tile) are non-friable ACM’s that may be left in place as long as the demolition/renovation activities are completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note: The location of samples obtained during this inspection were in a random fashion and areas that were not identified during this inspection may be damaged or have become damaged since the inspection was completed. If Category I or Category II friable materials are discovered prior to or during the demolition/renovation process, these materials must be abated prior to commencement of any demolition/renovation activities at the Subject Property.

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 (6)
- Gallon Container Misc. Paint (10)
- Quart Container Misc. Paint (15)

REGULATORY REQUIREMENTS

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.

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.

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).

Additional information regarding the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) and the USEPA NESHAP (40 CFR Part 61) can be obtained by contacting the associated agency below.

NESHAP Asbestos Program
Department of Environmental Quality
Phone: 517-284-6777

MIOSHA-CSHD-Asbestos Program
State of Michigan
Phone: 517-284-7680
Email: asbestos@michigan.gov

Project No.: 18-1124
Muskegon County Land Bank
Parcel ID: 61-26-615-002-0004-00

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 Muskegon 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 : 3237 Leahy St.



Report To:

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

ARI Report # 18-80475
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 01 Cust. #: LS-HM-01A Material: Vapor Barrier, Brown Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80475 - 02 Cust. #: LS-HM-01B Material: Vapor Barrier, Brown Location: Appearance: brown, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 95% Other - 5%
Lab ID #: 80475 - 03 Cust. #: LS-HM-02A Material: Shingle Roof Location: House Appearance: black, fibrous, homogenous Layer: 1 of 5	Asbestos Present: NO 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 3237 Leahy St.



Report To:

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

ARI Report # 18-80475
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 03a Cust. #: LS-HM-02A Material: Shingle Location: House Appearance: black, fibrous, homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80475 - 03b Cust. #: LS-HM-02A Material: Shingle Location: House Appearance: black, fibrous, homogenous Layer: 3 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80475 - 03c Cust. #: LS-HM-02A Material: Shingle Location: House Appearance: black, fibrous, homogenous Layer: 4 of 5	Asbestos Present: NO 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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Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 3237 Leahy St.



Report To:

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

ARI Report # 18-80475
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 03d Cust. #: LS-HM-02A Material: Tar Paper Location: House Appearance: black, fibrous, homogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80475 - 04 Cust. #: LS-HM-02B Material: Shingle Roof Location: House Appearance: black, fibrous, homogenous Layer: 1 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80475 - 04a Cust. #: LS-HM-02B Material: Shingle Location: House Appearance: black, fibrous, homogenous Layer: 2 of 4	Asbestos Present: NO 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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Test Method, Polarized Light Microscopy (PLM)
 Project : 3237 Leahy St.



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

ARI Report # 18-80475
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 04b Cust. #: LS-HM-02B Material: Shingle Location: House Appearance: black, fibrous, homogenous Layer: 3 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80475 - 04c Cust. #: LS-HM-02B Material: Tar Paper Location: House Appearance: black, fibrous, homogenous Layer: 4 of 4	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80475 - 05 Cust. #: LS-HM-03A Material: Shingle Roof Location: Garage Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 3237 Leahy St.



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ARI Report # 18-80475
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 05a Cust. #: LS-HM-03A Material: Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80475 - 05b Cust. #: LS-HM-03A Material: Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80475 - 06 Cust. #: LS-HM-03B Material: Shingle Roof Location: Garage Appearance: black, fibrous, homogenous Layer: 1 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal 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.



Certificate of Laboratory Analysis
Test Method, Polarized Light Microscopy (PLM)
 Project : 3237 Leahy St.



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 Lansing, MI 48901

ARI Report # 18-80475
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 06a Cust. #: LS-HM-03B Material: Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: NO No Asbestos Observed	Fiberglass - 20% Other - 80%
Lab ID #: 80475 - 06b Cust. #: LS-HM-03B Material: Shingle Location: Garage Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 30% Other - 70%
Lab ID #: 80475 - 07 Cust. #: LS-HM-04A Material: Vapor Barrier, Black Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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 : 3237 Leahy St.



Report To:

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

ARI Report # 18-80475
 Date Collected: 10/17/18
 Date Received: 10/19/18
 Date Analyzed: 10/24/18
 Date Reported: 10/26/18

Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 08 Cust. #: LS-HM-04B Material: Vapor Barrier, Black Location: Appearance: black, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%
Lab ID #: 80475 - 09 Cust. #: LS-HM-05A Material: Grey Woodgrain Linoleum Location: Appearance: beige, fibrous, homogenous Layer: 1 of 2	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80475 - 09a Cust. #: LS-HM-05A Material: Mastic Location: Appearance: yellow, nonfibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 10 Cust. #: LS-HM-05B Material: Grey Woodgrain Linoleum Location: Appearance: Layer: 1 of 2	Asbestos Present: NOT ANALYZED	
Lab ID #: 80475 - 10a Cust. #: LS-HM-05B Material: Mastic Location: Appearance: yellow,nonfibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80475 - 11 Cust. #: LS-HM-06A Material: Yellow Linoleum Location: Appearance: beige,fibrous,nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 12 Cust. #: LS-HM-06B Material: Yellow Linoleum Location: Appearance: beige, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80475 - 13 Cust. #: LS-HM-07A Material: Brown Woodgrain Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%
Lab ID #: 80475 - 14 Cust. #: LS-HM-07B Material: Brown Woodgrain Linoleum Location: Appearance: brown, fibrous, nonhomogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Cellulose - 20% Fiberglass - 10% Other - 70%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 15 Cust. #: LS-HM-08A Material: 9x9 Red VFT Location: Appearance: red, fibrous, homogenous Layer: 1 of 3	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80475 - 15a Cust. #: LS-HM-08A Material: Mastic Location: Appearance: black, fibrous, homogenous Layer: 2 of 3	Asbestos Present: YES Chrysotile - 10%	Other - 90%
Lab ID #: 80475 - 15b Cust. #: LS-HM-08A Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 16 Cust. #: LS-HM-08B Material: 9x9 Red VFT Location: Appearance: Layer: 1 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80475 - 16a Cust. #: LS-HM-08B Material: Mastic Location: Appearance: Layer: 2 of 3	Asbestos Present: NOT ANALYZED	
Lab ID #: 80475 - 16b Cust. #: LS-HM-08B Material: Tar Paper Location: Appearance: black, fibrous, homogenous Layer: 3 of 3	Asbestos Present: NO No Asbestos Observed	Cellulose - 35% Other - 65%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 17 Cust. #: LS-HM-09A Material: Window Glazing Location: House Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: YES Chrysotile - 2.25% POINT COUNT RESULT	Other - 97.75%
Lab ID #: 80475 - 18 Cust. #: LS-HM-09B Material: Window Glazing Location: House Appearance: Layer: of	Asbestos Present: NOT ANALYZED	
Lab ID #: 80475 - 19 Cust. #: LS-HM-10A Material: Window Glazing Location: Basement Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 20 Cust. #: LS-HM-10B Material: Window Glazing Location: Basement Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 2% Other - 98%
Lab ID #: 80475 - 21 Cust. #: LS-HS-01A Material: Layered Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80475 - 21a Cust. #: LS-HS-01A Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 21b Cust. #: LS-HS-01A Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 3 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80475 - 21c Cust. #: LS-HS-01A Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 4 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80475 - 21d Cust. #: LS-HS-01A Material: Drywall Location: Appearance: white,fibrous,nonhomogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 22 Cust. #: LS-HS-01B Material: Layered Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80475 - 22a Cust. #: LS-HS-01B Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80475 - 22b Cust. #: LS-HS-01B Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 3 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 22c Cust. #: LS-HS-01B Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 4 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80475 - 22d Cust. #: LS-HS-01B Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 80475 - 23 Cust. #: LS-HS-01C Material: Layered Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 23a Cust. #: LS-HS-01C Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80475 - 23b Cust. #: LS-HS-01C Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 3 of 5	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80475 - 23c Cust. #: LS-HS-01C Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 4 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 23d Cust. #: LS-HS-01C Material: Drywall Location: Appearance: white, fibrous, nonhomogenous Layer: 5 of 5	Asbestos Present: NO No Asbestos Observed	Cellulose - 25% Other - 75%
Lab ID #: 80475 - 24 Cust. #: LS-HS-02A Material: Plaster Finish Coat Location: Appearance: white, nonfibrous, homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80475 - 24a Cust. #: LS-HS-02A Material: Plaster Base Coat Location: Appearance: grey, fibrous, homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 25 Cust. #: LS-HS-02B Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80475 - 25a Cust. #: LS-HS-02B Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80475 - 26 Cust. #: LS-HS-02C Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 26a Cust. #: LS-HS-02C Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80475 - 27 Cust. #: LS-HS-02D Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80475 - 27a Cust. #: LS-HS-02D Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 28 Cust. #: LS-HS-02E Material: Plaster Finish Coat Location: Appearance: white,nonfibrous,homogenous Layer: 1 of 2	Asbestos Present: NO No Asbestos Observed	Other - 100%
Lab ID #: 80475 - 28a Cust. #: LS-HS-02E Material: Plaster Base Coat Location: Appearance: grey,fibrous,homogenous Layer: 2 of 2	Asbestos Present: NO No Asbestos Observed	Cellulose - 2% Other - 98%
Lab ID #: 80475 - 29 Cust. #: LS-HM-11A Material: Window Glazing Location: Garage Appearance: beige,fibrous,homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 2% Other - 98%

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Sample Information	Asbestos Type/Percent	Non-Asbestos Material
Lab ID #: 80475 - 30 Cust. #: LS-HM-11B Material: Window Glazing Location: Garage Appearance: beige, fibrous, homogenous Layer: 1 of 1	Asbestos Present: NO No Asbestos Observed	Wollastonite - 2% Other - 98%
Lab ID #: Cust. #: Material: Location: Appearance: Layer: of	Asbestos Present:	
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 must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, 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.



Apex 80475

APEX Research, Inc.

11054 Hi Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
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Client Name: Red Cedar Consulting
Address: PO Box 13216
City, St., Zip: Lansing, MI 48901
Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-17-18
Project: 3237 Leahy St.
Project #:

Contact Person: Aaron Paquet
apaaquet@redcedarconsulting.net
with a detection of <5% ACM.

Turn Around Times: (Circle One)

Asbestos: Bulk Wipe Point Count PCM
Lead: Bulk Wipe Air Paint Soil
Mold: Bulk Tape BioSIS Other Viable
TEM: AHERA 7400 Bulk/NOB EPA Level II
Other: 5 day All samples

Lab Use Only
Log-in _____
Report _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
1	LS-HM-01A	Vapor Barrier (Brown)			
2	LS-HM-01B	" "			
3	LS-HM-02A	Shingle Roof (House)			
4	LS-HM-02B	" "			
5	LS-HM-03A	Shingle Roof (Garage)			
6	LS-HM-03B	" "			
7	LS-HM-04A	Vapor Barrier (Black)			
8	LS-HM-04B	" "			
9	LS-HM-05A	Gray Woodgrain Linoleum			
10	LS-HM-05B	" "			
11	LS-HM-06A	Yellow Striped Linoleum			

Relinquished by: *[Signature]* Received by: *[Signature]* RECEIVED
Date: 10-17-18 Date: 10/19/18 1300
Page 1 of 1



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11054 Hi-Tech Drive, Whitmore Lake, MI 48189 Phone: 734-449-9990
 E-mail: apexresearch@chartermi.net Fax: 734-449-9991

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 Address: PO Box 13216
 City, St., Zip: Lansing, MI 48901
 Phone: (888) 449-4566 Fax: (888) 448-8739

Date of Survey: 10-17-18
 Project: 3237 Leahy St.
 Project #: _____
 Contact Person: Aaron Paquet

Lab Use Only
 Log-In _____
 Report _____

Turn Around Times: (Circle One) PLM EPA 600, PC all samples with a detection of <5% ACM.
 Asbestos: Bulk Wipe _____ Point Count _____ PCM _____

Rush 24 hour
 48 hour 72 hour
 Other: 5 day All Samples

Lead: Bulk _____ Wipe _____ Air _____ Paint _____ Soil _____
 Mold: Bulk _____ Tape _____ BioSIS _____ Other _____ Viable _____
 TEM: AHERA 7400 _____ Bulk/NOB _____ EPA Level II _____

Lab ID #	Client ID #	Material/Location	Volume	Area	Results
12	LS-HM-06B	Yellow layered Linoleum			
13	LS-HM-07A	Brown Woodgrain Linoleum			
14	LS-HM-07B	" "			
15	LS-HM-08A	9x9 Red VFT			
16	LS-HM-08B	" "			
17	LS-HM-09A	Window Glazing (House)			
18	LS-HM-09B	" "			
19	LS-HM-10A	Window Glazing (Basement)			
20	LS-HM-10B	" "			
21	LS-HS-01A	Layered Plaster (5 layers)			
22	LS-HS-01B	" "			

Relinquished by: [Signature] Received by: UPS
 Date: 10-17-18 Date: 10-17-18

Relinquished by: _____ Received by: **RECEIVED**
 Date: _____ Date: OCT 19 2018

Tables

Table 1 - Summary of Hazardous Materials, 3237 Leahy St., Muskegon Heights, Michigan

Hazardous Materials Description and Location		
Location	Material Description	Quantity
Living	Television	2
Dining	Television	3
Front Entry	Television	1
Basement	Gallon Container Misc. Paint	10
Basement	Quart Container Misc. Paint	15

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 3237 Leahy St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
LS-HM-01A	Vapor Barrier, Brown	Yes	M	Category II	ND	House Exterior	NA
LS-HM-01B	Vapor Barrier, Brown	Yes	M	Category II	ND	House Exterior	NA
LS-HM-02A	Shingle Roof	No	M	Category I	ND/ND/ND/ ND/ND	House Exterior	NA
LS-HM-02B	Shingle Roof	No	M	Category I	ND/ND/ND/ ND/ND	House Exterior	NA
LS-HM-03A	Shingle Roof	Yes	M	Category II	ND/ND/ND	Garage Exterior	NA
LS-HM-03B	Shingle Roof	Yes	M	Category II	ND/ND/ND	Garage Exterior	NA
LS-HM-04A	Vapor Barrier, Black	Yes	M	Category II	ND	House Exterior	NA
LS-HM-04B	Vapor Barrier, Black	Yes	M	Category II	ND	House Exterior	NA
LS-HM-05A	Grey Woodgrain Linoleum	Yes	M	Category II	10%CH/ND	Kitchen	180 sq. ft.
LS-HM-05B	Grey Woodgrain Linoleum	Yes	M	Category II	NA/ND	Kitchen	NA
LS-HM-06A	Yellow Linoleum	Yes	M	Category II	ND	Bathroom	NA
LS-HM-06B	Yellow Linoleum	Yes	M	Category II	ND	Bathroom	NA
LS-HM-07A	Brown Woodgrain Linoleum	Yes	M	Category II	ND	NW Bedroom	NA
LS-HM-07B	Brown Woodgrain Linoleum	Yes	M	Category II	ND	NW Bedroom	NA
LS-HM-08A	9x9 Red VFT	Yes	M	Category II	10%CH/10%CH/ ND	Rear Entry	72 sq. ft.
LS-HM-08B	9x9 Red VFT	Yes	M	Category II	NA/NA/ND	Rear Entry	NA
LS-HM-09A	Window Glazing	Yes	M	Category II	2.25%CH-PC	Living	27 Windows
LS-HM-09B	Window Glazing	Yes	M	Category II	NA	Kitchen	NA
LS-HM-10A	Window Glazing	Yes	M	Category II	ND	Basement	NA
LS-HM-10B	Window Glazing	Yes	M	Category II	ND	Basement	NA
LS-HM-11A	Window Glazing	Yes	M	Category II	ND	Garage	NA
LS-HM-11B	Window Glazing	Yes	M	Category II	ND	Garage	NA
LS-HS-01A	Layered Plaster (5 Layers)	No	S	Category II	ND/ND/ND/ ND/ND	Living Ceiling	NA
LS-HS-01B	Layered Plaster (5 Layers)	No	S	Category II	ND/ND/ND/ ND/ND	Living Ceiling	NA
LS-HS-01C	Layered Plaster (5 Layers)	No	S	Category II	ND/ND/ND/ ND/ND	Living Ceiling	NA

Table 2 - Summary of Sample Descriptions and Asbestos Laboratory Results, 3237 Leahy St., Muskegon Heights, Michigan

Sample Number	Sample Description	Friable	Material Type	Material Classification	% Asbestos Laboratory Result	Sample Location	Approx. Material Quantity
LS-HS-01A	Plaster (Dark Gray)	No	S	Category II	ND/ND	Dining Ceiling	NA
LS-HS-01B	Plaster (Dark Gray)	No	S	Category II	ND/ND	NW Bedroom Ceiling	NA
LS-HS-01C	Plaster (Dark Gray)	No	S	Category II	ND/ND	Living Wall	NA
LS-HS-01D	Plaster (Dark Gray)	No	S	Category II	ND/ND	NW Bedroom Wall	NA
LS-HS-01E	Plaster (Dark Gray)	No	S	Category II	ND/ND	NE Bedroom Wall	NA

Notes:

Material Types

M = Miscellaneous building material
 TSI = Thermal System Insulation
 S = Surfacing Material
 PC = Point Count Analysis
 CH = Chrysotile Asbestos

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

Asbestos Containing Material (ACM) is defined as any material containing more than 1 percent asbestos as determined utilizing Polarized Light Microscopy.

Table 3 - Summary of Presumed Asbestos Containing Materials, 3237 Leahy St., Muskegon Heights, Michigan

Asbestos Containing Material Description and Location					
Location	Material Description	Friable	Condition	Material Type	Approx. Quantity
Basement Boiler Pipe	Air-O-Cell 3" to 4"	Yes	Fair	TSI	75 lin. ft.

Notes:

Material Types

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

Abbreviations

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

Table 4 - Summary of All Asbestos Containing Materials, 3237 Leahy St., Muskegon Heights, Michigan

Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Kitchen	Grey Woodgrain Linoleum	No	180 sq. ft.
Bathroom	9x9 Red VFT	No	72 sq. ft.
Total			252 sq. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
Basement Boiler Pipe	Air-O-Cell 3" to 4"	Yes	75 lin. ft.
Total			75 lin. ft.
Interior - Asbestos Containing Materials			
Location	Material Description	Friable	Approx. Quantity
6 windows 27" wide x 58" tall	Glazing	Yes	6 Windows
1 window 26" wide x 24" tall	Glazing	Yes	1 Window
2 windows 40" wide x 58" tall	Glazing	Yes	2 Windows
7 windows 27" wide x 53" tall	Glazing	Yes	7 Windows
10 windows 24" wide x 53" tall	Glazing	Yes	10 Windows
1 window 36" wide x 20" tall	Glazing	Yes	1 Window
Total			27 Windows

Notes:

Abbreviations

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

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

Demolition/renovation activities completed with intact Category I non-friable ACM are regulated by OSHA and must be completed following the OSHA Asbestos Standards for Construction (29 CFR 1926.1101) which limits employee exposure to asbestos.

Please note that a Negative Pressure Enclosure must be utilized during abatement when Site Conditions Warrant. Examples of these conditions include the abatement of Plaster and Vermiculite insulation, HVAC Duct Wrap in Poor Condition, and Air-O-Cell/Mag Pipe Wrap. Conditions outside of these should be assessed on a case by case basis during the Asbestos Abatement Contractors site walk and Work Plan Preparation.