



September 26, 2017

Mr. Cory Estes
 Crawford County Land Reutilization Corporation
 112 East Mansfield Street
 Bucyrus, OH 44820
 Phone: 419-562-7861 ▪ Email: cclb@crawford-co.org

Re: Asbestos Survey of 117 & 117 ½ N. Henry Street, Crestline, OH 44827

Dear Mr. Estes,

At your request, on September 19, 2017 HazCorp Environmental Services, Inc. performed an asbestos inspection at the aforementioned residence.

Address:	117 & 117 ½ N. Henry Street, Crestline, OH 44827	
Inspection Date:	9/19/2017	
Inspection Type:	Pre-Demolition	
Occupied or Unoccupied?	Occupied: <input type="checkbox"/> Unoccupied: <input checked="" type="checkbox"/>	
Age of Home:	60+	
Owner:	Crawford County Land Reutilization Corporation	
Size of Building:	2,294 SF	
Number of Dwelling Units:	2	
Stories:	2	
Condition:	Poor	
Exterior Siding Material:	Metal on Wood Clapboard	
Inaccessible Areas	N/A	
Asbestos Found:	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>	
ACM Identified:	Asbestos Paper, Asbestos Board, Asbestos Tape, PACM: Non-friable Electrical Wiring, Non-friable Floor Tile, Non-friable Linoleum	
Basement/Crawlspace:	Basement	Accessible - Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/> N/A: <input type="checkbox"/>
Vermiculite Identified?	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> N/A: <input type="checkbox"/>	

The United States Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants regulations are the primary regulations governing asbestos-containing building materials in the United States as found within 40 CFR Part 61, Subpart M. Asbestos is recognized as a Hazardous Air Pollutant under these regulations. All friable asbestos-containing materials or non-friable materials that may become friable during the demolition or renovation process must be removed prior to these actions being undertaken.

The Ohio EPA also has regulations found in the Ohio Administrative Code (OAC) 3745-20. These pertain primarily to demolition and renovation.

The inspection was also done to comply with the Occupational Safety and Health Administration asbestos standard for the construction industry (29 CFR 1926.1101) and the Ohio Department of Health Regulations found in OAC 33701-34.

Licensing of individuals involved in asbestos inspections, air monitoring, project design, and removal of regulated asbestos-containing materials in the State of Ohio is regulated by the Ohio Department of Health.

The collection of samples was done to comply with the Asbestos Hazard Emergency Response Act found in 40 CFR 763 Subpart E and the Ohio Department of Health Regulations previously cited.

The inspection was performed by a Certified Asbestos Hazard Evaluation Specialist licensed through the Ohio Department of Health.

Common Abbreviations found within this Report

ACM	Asbestos Containing Material	OSHA	Occupational Safety and Health Administration	PLM	Polarized Light Microscopy
RACM	Regulated Asbestos Containing Material	PACM	Presumed Asbestos Containing Material	DW-JC	Drywall-Joint Compound
NESHAPs	National Emission Standards for Hazardous Air Pollutants	USEPA	United States Environmental Protection Agency	AHERA	Asbestos Hazard Emergency Response Act of 1986
TSI	Thermal System Insulation	HA	Homogenous Area	HP	Hard Plaster
OAC	Ohio Administrative Code	ODH	Ohio Department of Health		

General Information with Regard to Asbestos

Some uses of asbestos containing materials were banned in the 1970's and 1980's, these include: sprayed-on fireproofing, Thermal System Insulation (pipe or duct insulation), asbestos paper products, flooring felts and new uses of asbestos; however, a more thorough proposed ban by the USEPA was successfully fought by a group of industrial attorneys. Products not currently banned include: asbestos cement corrugated sheet, asbestos clothing, pipeline wrap, roofing felt, vinyl-asbestos floor tile, asbestos cement shingles, millboard, gaskets, non-roofing coatings and roofing coatings. However, the reality is that relatively few asbestos containing building materials have been manufactured or installed in the US in the past twenty years due to product liability issues.

Asbestos-Containing Materials and their Classification

The USEPA uses the terms friable and non-friable to categorize different types of asbestos-containing building materials. Materials that contain more than 1% asbestos and that, when dry, can be reduced to a powder via hand pressure are considered friable or RACM. These materials, if they are to be disturbed, must be removed by a licensed asbestos abatement contractor.

The term RACM includes:

- Friable asbestos-containing materials;
- 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 a powder by the forces expected to act upon the material in the course of demolition or renovation operations.

Non-Friable Category I materials include floor tiles and roofing felts. Normally, Category I non-friable materials do not become friable unless they are sanded, abraded, or ground-up.

Non-Friable Category II materials are cement products such as Transite shingles, corrugated Transite panels, and other products made with a mixture of Portland cement and asbestos and asbestos containing mastics used or applied to flooring or roofing. It is important to note that many Non-friable Category II materials can be made friable through the forces expected to act upon them during demolition of a structure. Almost all Category II non-friable materials except mastics must be removed from a structure prior to demolition.

Intact as defined by OSHA means “the ACM has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix.”

Sampling Methodology

OSHA adopted the USEPA’s sampling guidelines as outlined in the Asbestos Hazard Emergency Response Act of 1986.

According to AHERA protocol friable materials are divided into two categories:

1. Surfacing Materials: fireproofing, acoustical plaster, etc.
2. Thermal System Insulation: pipe insulation, pipe wrap, block insulation, batt insulation and mudded fittings.

Non-friable materials are included under:

Miscellaneous Materials: these include non-friable and friable materials that are not Surfacing Materials or Thermal System Insulation, such as: ceiling tile, drywall-joint compound systems, floor tile and mastic, roofing materials and Transite (cement products).

Under these rules, sampling areas are divided into homogeneous areas. Homogeneous areas or materials are defined as building materials that look alike, that appear to have been installed at the same time, and that are used for the same purpose.

When sampling surfacing materials the following protocol applies: the regulations require a specific number of samples be obtained per homogeneous area. For example, when sampling fireproofing or asbestos in hard plaster (sprayed-on or troweled-on Surfacing Materials) samples are to be taken based on the following increments:

- *0 to 1000 square feet of material, 3 samples are necessary;*
- *From 1001 to 5000 square feet, 5 samples are necessary;*
- *Over 5000 square feet, 7 samples are required.*

If during analysis any samples are found to contain asbestos, the entire homogeneous area is delineated as asbestos-containing material.

When sampling Thermal System Insulation the following protocol applies: At least three (3) random samples shall be collected. As with all things there are exceptions to these rules. These include:

- Exception 1: Patch less than six square or linear feet - 1 sample is appropriate.
- Exception 2: Mudded fittings - the number of samples collected is determined by the inspector (the industry standard is three samples).
- Exception 3: Fiberglass, foam glass, rubber (*Armaflex*), *Styrofoam*, and other non-suspect materials can be determined by visual identification and touch; sampling is not required.

When sampling for Miscellaneous Materials-the AHERA regulations state that the samples shall be collected in a manner sufficient to determine the composition of the materials. The 3, 5, 7, sampling scheme used for surfacing materials usually applies and for factory made materials two or three (2 or 3) samples are usually considered sufficient.

Sampling

The samples taken from this building were either collected with a coring tool designed for asbestos sampling or placed into a plastic bag for laboratory analysis. The samples were analyzed via PLM with dispersion staining, using the "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" found in Appendix A to Subpart F in 40 CFR Part 763. Any samples with asbestos detected up to 10% were verified by Point Count Analysis.

The samples were analyzed by HazCorp Environmental Services, Inc. (HazCorp) located at 805 Capital Commons Drive, Toledo, Ohio 43615. HazCorp participates in the American Industrial Hygiene Association (AIHA) Bulk Asbestos Proficiency Analytical Testing (BAPAT) Program. Through this program HazCorp has shown proficiency to analyze bulk asbestos samples.

A written description of the sample locations can be found on the attached chain of custody.

HazCorp Environmental Services, Inc.

805 Capital Commons Drive
Toledo, Ohio 43615
Telephone (419) 537-6000

Please find included with this letter: the laboratory analytical results from HazCorp and the completed chain of custody form.

Suspect Asbestos Containing Materials That Were Observed During This Inspection:

Suspect Material	Quantity	Location(s)	ACM/ PACM	Friable/ Non-Friable	Must Be Removed
HARD PLASTER	5,382 SF	THROUGHOUT		NF	
WINDOW GLAZE	2 CF	32 WINDOWS		NF	
LINOLEUM	460 SF	BOTH KITCHENS, BOTH BATHROOMS	X	NF	
FLOOR TILE	36 SF	2 ND FLOOR HALLWAY	X	NF	
ROOFING	1,900 SF	HOME		F	
1X1 CEILING TILES	788 SF	THROUGHOUT		F	
ASBESTOS PAPER	158 SF	BASEMENT ON DUCT	X	F	X
ASBESTOS TAPE	5 SF	BASEMENT ON DUCT	X	F	X
ASBESTOS BOARD	20 SF	BASEMENT ABOVE FURNACE	X	F	X
BRAIDED ELECTRICAL WIRING	1 CF	THROUGHOUT	X	NF	

Limits of this Report

It should be noted that on-site conditions and/or regulatory statues, rules, and regulations are not static and should not be expected to remain constant in the future. Asbestos may be hidden in inaccessible areas, covered by other building materials, or otherwise be located in unpredictable site-specific locations; however, a thorough attempt was made to delineate which building materials actually contain asbestos. If suspect materials are encountered in the demolition process the work should be halted and the material in question analyzed.

HazCorp appreciates the opportunity to be of service. If you have any questions related to this report please feel free to contact me at hazcorp@sbcglobal.net or 419.537.6000.

Respectfully,



John Campbell
State of Ohio Dept. of Health
Certified Asbestos Hazard Evaluation Specialist
Certification No. ES32329 ▪ Certification Expires 03.23.18



Charles Long
State of Ohio Dept. of Health
Certified Asbestos Hazard Evaluation Specialist
Certification No. ES35315 ▪ Certification Expires 04.27.18



HazCorp

Phone: 419.537.6000

Email: hazcorp@sbcglobal.net

Address: 805 Capital Commons Drive,
Toledo Ohio 43615

Bulk Sample Report

Project Name:

117 & 117 ½ N. Henry St, Crestline, OH 44827

Project Address:

117 & 117 ½ N. Henry St, Crestline, OH 44827

Project Number:

2017-422

Report Date:

9/25/2017

HazCorp Environmental Services, Inc.



Phone: 419.537.6000

Email: hazcorp@sbcglobal.net

Address: 805 Capital Commons Drive,
Toledo Ohio 43615

Project address:
117 & 117 1/2 N. Henry St, Crestline,
OH 44827

Project:
2017-422

Analyst:
Joshuah Fry
Method:
PLM

Date Collected: 9/19/2017
Date Received: 9/22/2017
Date analyzed: 9/25/2017

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-1 1 st Floor Unit/Kitchen/Ceiling – Hard Plaster	PLM	White Skim Coat	None Detected	Quartz 10% Other 90%	N.A.D
422-1 1 st Floor Unit/Kitchen/Ceiling – Hard Plaster	PLM	Gray Hard Plaster	Hair 2%	Quartz 5% Other 93%	N.A.D

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-2 1 st Floor Unit/Dining Room/South Wall – Hard Plaster	PLM	White Skim Coat	None Detected	Quartz 10% Other 90%	N.A.D
422-2 1 st Floor Unit/Dining Room/South Wall – Hard Plaster	PLM	Gray Hard Plaster	Hair 2%	Quartz 5% Other 93%	N.A.D

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-3 1 st Floor Unit/Bedroom/North Wall – Hard Plaster	PLM	White Skim Coat	None Detected	Quartz 10% Other 90%	N.A.D
422-3 1 st Floor Unit/Bedroom/North Wall – Hard Plaster	PLM	Gray Hard Plaster	Hair 2%	Quartz 5% Other 93%	N.A.D

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-4 1 st Floor Unit/Living Room/Ceiling – Hard Plaster	PLM	White Skim Coat	None Detected	Quartz 10% Other 90%	N.A.D
422-4 1 st Floor Unit/Living Room/Ceiling – Hard Plaster	PLM	Gray Hard Plaster	Hair 2%	Quartz 5% Other 93%	N.A.D

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-5 2 nd Floor Unit/Hallway/West Wall – Hard Plaster	PLM	White Skim Coat	None Detected	Quartz 10% Other 90%	N.A.D
422-5 2 nd Floor Unit/Hallway/West Wall – Hard Plaster	PLM	Gray Hard Plaster	Hair 2%	Quartz 5% Other 93%	N.A.D

Signature



Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-6 2 nd Floor Unit/Kitchen/South Wall – Hard Plaster	PLM	White Skim Coat	None Detected	Quartz 10% Other 90%	N.A.D
422-6 2 nd Floor Unit/Kitchen/South Wall – Hard Plaster	PLM	Gray Hard Plaster	Hair 2%	Quartz 5% Other 93%	N.A.D

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-7 2 nd Floor Unit/Living Room/East Wall – Hard Plaster	PLM	White Skim Coat	None Detected	Quartz 10% Other 90%	N.A.D
422-7 2 nd Floor Unit/Living Room/East Wall – Hard Plaster	PLM	Gray Hard Plaster	Hair 2%	Quartz 5% Other 93%	N.A.D

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-8 Roofing	PLM	Black Fibrous	Cellulose 15%	Other 85%	N.A.D

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-9 Roofing	PLM	Black Fibrous	Cellulose 15%	Other 85%	N.A.D

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-10 Window Glaze	PLM	Brittle Yellow Glaze	Chrysotile 1%	Other 99%	Chrysotile 1%
422-10 Window Glaze	PC	Brittle Yellow Glaze			Chrysotile 0.25%

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-11 Window Glaze	PLM	Brittle Yellow Glaze	Chrysotile 1%	Other 99%	Chrysotile 1%
422-11 Window Glaze	PC	Brittle Yellow Glaze			Chrysotile 0.5%

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-12 1 st Floor Unit/Bathroom 1x1 Ceiling Tile	PLM	Tan Fibrous	Cellulose 40%	Perlite 45% Other 15%	N.A.D

Signature



Phone: 419.537.6000
 Email: hazcorp@sbcglobal.net
 Address: 805 Capital Commons Drive,
 Toledo Ohio 43615

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-13 1 st Floor Unit/Bathroom 1x1 Ceiling Tile	PLM	Tan Fibrous	Cellulose 40%	Perlite 45% Other 15%	N.A.D

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-14 Asbestos Paper	PLM	White Fibrous	Chrysotile 80%	Other 20%	Chrysotile 80%

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-15 1 st Floor Unit/Dining Room – 1x1 Ceiling Tile	PLM	Tan Fibrous	Cellulose 40%	Perlite 45% Other 15%	N.A.D

Sample ID# Description	Method	Material Description	Fibrous Components	Non-Fibrous	Asbestos Fibers
422-16 1 st Floor Unit/Dining Room – 1x1 Ceiling Tile	PLM	Tan Fibrous	Cellulose 40%	Perlite 45% Other 15%	N.A.D

Signature



Analytical Method:

Analytical procedures were performed in accordance with the U. S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS) (EPA-600/M4-82-020, EPA-600/R-93-116).

Quantification of asbestos content was determined by Calibrated Visual Estimation

The EPA requires that friable samples with analytical results of 10% or less asbestos be treated as asbestos-containing material unless these quantities are verified using the point counting method (appendix E, subpart I, 40 CFR part 763, section 1). The point counting method is a systematic technique for estimating concentration, also using PLM. The point counting method, however, does not increase the analyst's ability to detect fibers.

Disclaimer:

In any given material, fibers with a small diameter (<0.25 µm) may not be detected by the PLM method. Floor tile and other resin bound material may yield a false negative if the asbestos fibers are too small to be resolved using PLM. Additional analytical methods may be required.

This report relates only to those samples actually analyzed, and may not be indicative of other similar appearing materials existing at this or other sites.

Definitions:

N.A.D. No Asbestos Detected.

ACM- Asbestos containing material.

Friable- Material that can be crumbled, pulverized, or reduced to powder by hand pressure.

Non-Friable- Material that cannot be crumbled, pulverized, or reduced to powder by hand pressure.

PLM- Polarized light microscopy, a technique using polarized light to measure birefringence, extinction angles, sign of elongation and dispersion staining colors to identify fibers/minerals.

Gravimetry- Reduction of material from binders by ashing in a furnace to remove volatile or organic components then digested in dilute hydrochloric acid to remove carbonates.

PC (Point Counting)- An analytical technique where a minimum of 400 non-empty points are counted across multiple slide mounts to get a firm estimate on asbestos %.

NA-PS- Material not analyzed due to positive stop.

Signature



805 Capital Commons Drive, Toledo, Ohio 43615
 Phone: 419-537-6000 ❖ Email: hazcorp@sbcglobal.net

Analysis Request Form

Project Name 117 & 117 1/2 N. Henry St, Crestline, OH 44827			Client Name Crawford County Land Reutilization Corporation			
Project Address 117 & 117 1/2 N. Henry St, Crestline, OH 44827			Client Address 112 E. Mansfield St., Ste. 207, Bucyrus, OH 44820			
Project No. 2017-422			Client Contact Mr. Corey Estes			
Sample(s) Mr. Charles Long			Client Phone 419-562-7861/cclb@crawford-co.org			
Sample No.	Sample Type A=Air B=Bulk	Date	Sample Description	Asbestos PLM	Asbestos PCM	Comments
422-1	B	09/19/17	1 st Floor Unit/Kitchen/Ceiling – Hard Plaster	X		
422-2	B	09/19/17	1 st Floor Unit/Dining Room/South Wall – Hard Plaster	X		
422-3	B	09/19/17	1 st Floor Unit/Bedroom/North Wall – Hard Plaster	X		
422-4	B	09/19/17	1 st Floor Unit/Living Room/Ceiling – Hard Plaster	X		
422-5	B	09/19/17	2 nd Floor Unit/Hallway/West Wall – Hard Plaster	X		
422-6	B	09/19/17	2 nd Floor Unit/Kitchen/South Wall – Hard Plaster	X		
422-7	B	09/19/17	2 nd Floor Unit/Living Room/East Wall – Hard Plaster	X		
422-8	B	09/19/17	Roofing	X		
422-9	B	09/19/17	Roofing	X		
422-10	B	09/19/17	Window Glaze	X		
422-11	B	09/19/17	Window Glaze	X		
422-12	B	09/19/17	1 st Floor Unit/Bathroom 1x1 Ceiling Tile	X		
422-13	B	09/19/17	1 st Floor Unit/Bathroom 1x1 Ceiling Tile	X		
422-14	B	09/19/17	Asbestos Paper	X		Confirmation Sample
422-15	B	09/19/17	1 st Floor Unit/Dining Room – 1x1 Ceiling Tile	X		
422-16	B	09/19/17	1 st Floor Unit/Dining Room – 1x1 Ceiling Tile	X		
Sampler's Signature: <i>Charles Long</i>			Samples Relinquished By: <i>Charles Long</i>		Samples Received By: <i>Sam [Signature]</i>	
Date	Time					
9-22-17	4:30					

Page 1 of 1

STANDARD

TURNAROUND