HILLMANN
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LIMITED ASBESTOS & LEAD PAINT INSPECTION REPORT

Ballardvale Fire Station
1 Clark Street
Andover, Massachusetts

Prepared For:

Edwin S. Ataide
Deputy Director
Plant and Facilities Division
Town of Andover

Hillmann Project No. M3-2719

April 23, 2014

HILLMANN
CONSULTING

April 23, 2014

Edwin Ataide
Deputy Director
Town of Andover

RE: Limited Asbestos & Lead Based Paint Inspection Report
Ballardvale Fire Station
1 Clark Street
Andover, Massachusetts
Hillmann Project Number M3-2719

Dear Mr. Ataide:

Hillmann Consulting, LLC, is pleased to provide the results of our Limited Asbestos Inspection of the above referenced property. The survey was performed in general accordance with Environmental Protection Agency's AHERA recommended procedures.

This report is for the exclusive use of the entities named on the front cover, and no other party shall have any right to rely on any service provided by Hillmann Consulting, LLC, without prior written consent.

We appreciate the opportunity to provide environmental consulting services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact the Project Manager at 781-431-7779.

Very Truly Yours,
Hillmann Consulting, LLC

Matthew Chalifour
Industrial Hygienist
MA Certified Asbestos Inspector #AI000537

Debbie Platt
Environmental Coordinator

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1.0 EXECUTIVE SUMMARY

On April 14, 2014, Mr. Matthew Chalifour and Jordan Perry of Hillmann Consulting, LLC (Hillmann), performed a limited asbestos and lead based paint inspection at Ballardvale Fire Station, 1 Clark Street in Andover Massachusetts in order to identify accessible asbestos-containing materials (ACM) and lead based paint (LBP) that may be disturbed by a planned renovation project.

A summary of the findings and conclusions of the asbestos inspection are provided below for your convenience. This summary alone does not constitute the complete inspection. The report is intended to be read in its entirety.

1.1 Findings

Asbestos:

Forty-one suspect asbestos bulk samples were submitted for laboratory analysis.

- Asbestos was not detected above one percent in samples submitted for laboratory analysis.

According to the Federal Occupational Safety and Health Administration (OSHA), the Massachusetts Department of Labor/Occupational Safety and Health Administration (MA DOL) and EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP), asbestos containing material is defined as any material containing greater than or equal to one percent (≥1.0%) asbestos.

Lead:

The lead based paint chip sampling was not comprehensive in nature and the sample results are to be used as a guideline to determine compliance with the OSHA Lead in Construction Standard only.

- Lead was detected in samples submitted for analysis above the reportable limits in two of the seven samples submitted for laboratory analysis.

1.2 Recommendations

Based on the asbestos and lead paint inspection conducted at the site, the following recommendations are made:

- If additional impacted suspect ACM are discovered during renovations, servicing or maintenance related work for which there are no sample documentation/results, Hillmann recommends pursuing one of the following alternatives: Sample and analyze the discovered

suspect material(s) to determine whether it contains asbestos; or assume the material(s) to be asbestos-containing materials, quantify and remove on a unit cost basis.

- Hillmann recommends that lead safe work practices be followed during the renovation and/or demolition of the components which tested positive for lead based paint. The attached EPA pamphlet for contractors entitled "Lead Safety During Renovation" provides beneficial information regarding general lead safe work practices. If large surfaces are to be impacted, Hillmann recommends the contractor determine if spot abatement is warranted.

2.0 INTRODUCTION

2.1 Purpose/Scope of Work

A Limited Asbestos and Lead Based Paint Inspection was completed at the Fire Station located at, 1 Clark Street in Andover, Massachusetts. The inspection was completed at the request of Mr. Edwin Ataide, Deputy Director for Plant Facilities Division for the Town of Andover. The purpose of the survey was to inspect and sample the suspect materials that will be impacted by proposed renovations.

2.2 Area Description

The subject property was reportedly constructed in approximately the 1890's. The subject property consists of a two-story Fire Station servicing the Town of Andover. The building is wood framed and sided with finished interior components consisting of vinyl and ceramic floor tile, carpeted and wood floor, concrete, gypsum wall and ceiling and plaster walls and ceilings. Exterior components consist of a multi-layer wood shingle exterior.

2.3 Background Documentation

Previous asbestos or lead based paint inspection information was not provided.

2.4 Inspection Personnel

The Inspection was conducted by Mr. Matthew Chalifour and Jordan Perry, both Commonwealth of Massachusetts-licensed Asbestos Inspectors. Refer to appendix A for credentials.

2.5 Inspection Protocols

Asbestos

The survey and assessment was conducted by a licensed Asbestos Inspector, further qualified by experience, education and training in the recognition of suspect ACM and approved bulk sampling techniques. The work was performed in general accordance with recommended procedures found in the U. S. Environmental Protection Agency's NESHAP Regulation 40 CFR Part 61 Subpart M, and AHERA Regulation 40 CFR Part 763.85 through Part 763.88.

These protocols identify visual inspection procedures for suspect asbestos building materials and also identify methods for the collection and analysis of representative samples of suspect material. These sections of the regulation also identify analysis methods and assessment methods for the identified suspect materials.

A total of forty-one (41) samples of suspect materials were collected. It is Hillmann's opinion that an acceptable number of critical areas were sampled in keeping with the homogeneous nature of the material that was observed.

The samples were transported under proper chain of custody and analyzed by Hillmann Consulting, of Union, NJ (Certified Proficient by NVLAP, Laboratory ID #101421 and by ELAP, Laboratory ID #10926). The method of analysis was Polarized Light Microscopy (PLM) with dispersion staining, as recommended by the USEPA.

Lead Based Paint

The lead based paint (LBP) determination included the visual inspection of painted interior surfaces such as walls, window units, door units, support columns, pipes and other miscellaneous components. Following the completion of the visual inspection, representative paint chip samples were collected for laboratory analysis. The number of the paint chip samples collected was determined by the variety of the paint types, color, generation and substrate. A total of seven (7) paint chip samples were collected for laboratory analysis.

Samples were transmitted under proper chain of custody to EMSL Analytical of Cinniminson, New Jersey, an AIHA accredited (Lab ID #100194) laboratory for analysis. The paint chip samples were analyzed by Atomic Absorption Spectrophotometry (AAS) for total lead content in accordance with the EPA Test Method SW846-7420.

The lead based paint chip sampling was not comprehensive in nature and the sample results are to be used as a guideline to determine compliance with the OSHA Lead in Construction Standard only.

2.6 Inaccessible Areas

Non-intrusive methods were utilized during the survey of the premises for suspect ACM and LBP. Therefore, suspect materials may exist within the inspected areas of the building that were not accessible during the survey. Such areas typically include, but may not necessarily be limited to, enclosed wall cavities, ceiling plenums, sealed pipe chases and risers, the interior of HVAC equipment and ductwork.

2.7 Limitations and Exceptions

Hillmann has conducted this asbestos and lead based paint inspection using reasonable efforts according to industry standards, and in accordance with the agreed scope of services. Unless otherwise specified in Section 2.1, this report is not definitive and should not be assumed to be exhaustive survey of all asbestos containing materials that exist at the project site. Unless otherwise specified in Section 2.1, information in this report is not intended to be used as a construction document and should not be used for demolition, renovation or other construction purposes without field verification by the construction/demolition contractor.

Report findings, conclusions and recommendations of this report are based, in part, on information and/or documents provided by the Client or project site representative. Hillmann relies on such information and/or documents, and assumes that information to be true and correct.

Regardless of the findings stated in this report, Hillmann is not responsible for consequences or conditions arising from facts that were concealed, withheld or not fully disclosed.

Identification of asbestos materials is also advised for ACM that is to remain in place. Building occupants who have been informed of asbestos hazard locations are less likely to disturb the material and cause fibers to be released into the air. Additionally, contractors and maintenance personnel should be informed of the asbestos hazard locations.

2.8 Abbreviations/Acronyms

Hillmann may use the following abbreviations and acronyms for common terminology described in our report. Not all abbreviations or acronyms may be applicable to this report:

ACM	Asbestos-containing Material
ACBM	Asbestos-containing Building Material
AHERA	Asbestos Hazard Emergency Response Act
ELAP	Environmental Laboratory Approval Program
EPDM	Ethylene Polymer Diene Monomer
HVAC	Heating Ventilation Air Conditioning
LBP	Lead Based Paint
LF	Linear Feet
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NOB	Non-friable Organically Bound
NVLAP	National Voluntary Laboratory Accreditation Program
PLM	Polarized Light Microscopy
SF	Square Feet
TEM	Transmission Electron Microscopy
TSI	Thermal Systems Insulation
USEPA	United Stated Environmental Protection Agency
VAT	Vinyl Asbestos Tile

3.0 SUMMARY OF RESULTS

Asbestos

Please refer to the Guide to ACM Categories, Friability, Disturbance & Condition in Appendix B for background regarding some of the terminology utilized in this section.

3.1 Surfacing Material ACM

Surfacing materials were not observed:

3.2 Thermal System Insulation (TSI) ACBM

Suspect thermal system insulation was not observed.

3.3 Miscellaneous ACBM

Miscellaneous materials were not observed.

3.4 Results Summary Table

The following is a summary of the observed condition of the homogeneous materials sampled. All quantities are approximate and are subject to field verification.

Suspect ACM Description - Sample Location	Sample ID #	Condition	Friability	Asbestos Content	Approx. Amount of ACM
Gray Concrete Ceiling Panel (Basement)	01 02	Good	NF	NAD	NA
Joint Compound on Concrete Ceiling Panels (Basement)	03 04	Good	F	NAD	NA
Gray Plaster (2nd Floor above Garage)	05 06	Good	F	NAD	NA
Plaster on wall/ceiling (2nd Floor gym)	07 08	Good	F	NAD	NA
Off White Gypsum Wallboard (2nd Floor Stairway)	09	Good	F	NAD	NA
Off White Gypsum Wallboard (2nd Floor gym)	10	Good	F	NAD	NA
Black Roof Shingle (2nd Floor Gym)	11 12	Good	NF	NAD	NA
Gray Plaster on wall (2nd Floor Bedroom Closet)	13	Good	F	NAD	NA
Gray Plaster on wall (2nd Floor Bedroom)	14 15	Good	F	NAD	NA
Wood Cellulose Wallboard (Garage)	16 17	Good	F	NAD	NA
Gypsum Wallboard (Garage)	18 19	Good	F	NAD	NA
Joint Compound (Garage)	20 21	Good	F	NAD	NA
Gray 12" x 12" Vinyl Floor Tile (Kitchen/Living Room)	22 23	Good	NF	NAD	NA
Yellow Mastic to 22 & 23 (Kitchen/Living Room)	24 25	Good	NF	NAD	NA
Tan/Gray 12" x 12" Vinyl Floor Tile (Kitchen/Living Room)	26 27	Good	NF	NAD	NA
4" Black Vinyl Cove Base (Kitchen)	28 29	Good	NF	NAD	NA
Tan Cove Base Mastic (Kitchen)	30 31	Good	NF	NAD	NA
White Sink Under Coating (Kitchen)	32 33	Good	NF	NAD	NA
2' x 2' White Suspended Ceiling tile (Kitchen/Living room)	34 35	Good	F	NAD	NA
Black Asphalt Shingle under wood siding (Exterior Façade)	36 37	Good	NF	NAD	NA

Suspect ACM Description - Sample Location	Sample ID #	Condition	Friability	Asbestos Content	Approx. Amount of ACM
White Exterior Window Caulk (Exterior Basement Window)	38 39	Good	NF	NAD	NA
White Caulking around window sill (Exterior First Floor Windows)	40 41	Good	NF	NAD	NA

F = Friable NF = Non Friable NAD = No Asbestos Detected NA = Not Applicable

Asbestos sample analysis results can be found in Appendix C. Approximate sample locations can be found in Appendix D.

Lead

According to Housing and Urban Development, lead-based paint means paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter or 0.5 percent by weight or 5,000 parts per million (ppm) by weight. Concentrations of lead were found above 1.0% in Cream Paint and Red Paint. The following table summarizes samples obtained.

Sample #	Paint Color	Substrate	Location	Results
L-01	White	Drywall	2nd Floor Bedroom	0.29% wt.
L-02	**Cream**	**Plaster**	**2nd Floor Bedroom Closet**	**25% wt.**
L-03	**Red**	**Concrete**	**Exterior 2nd Coat**	**20% wt.**
L-04	White	wood	Exterior near Drivway	0.026%wt
L-05	Dark Blue	Plaster	Inside Garage bay wall	0.27%wt
L-06	Beige	Plaster	Inside Garage bay wall	0.22%wt
L-07	Gray	Plaster	Inside Garage bay wall	0.18%wt

Lead Based Paint sample analysis results can be found in Appendix C. Approximate sample locations can be found in Appendix D. The attached EPA pamphlet for contractors entitled "Lead Safety During Renovation" provides beneficial information regarding general lead safe work practices, see Appendix E.

4.0 RECOMMENDATIONS

Based on the asbestos survey conducted at Ballardvale Fire Station, 1 Clark Street in Andover, Massachusetts, the following recommendations are made:

- If additional impacted suspect ACM are discovered during renovations, servicing or maintenance related work for which there are no sample documentation/results, Hillmann recommends pursuing one of the following alternatives: Sample and analyze the discovered suspect material(s) to determine whether it contains asbestos; or assume the material(s) to be asbestos-containing materials, quantify and remove on a unit cost basis.

- Hillmann recommends that lead safe work practices be followed during the renovation and/or demolition of the components which tested positive for lead based paint. The attached EPA pamphlet for contractors entitled "Lead Safety During Renovation" provides beneficial information regarding general lead safe work practices. If large surfaces are to be impacted, Hillmann recommends the contractor determine if spot abatement is warranted.

5.0 APPENDICES

Appendix A	Licenses and Certifications
Appendix B	Guide to ACM Categories, Friability, Disturbance & Condition
Appendix C	Analytical Results Bulk Sample and Lead Paint
Appendix D	Sample Locations
Appendix E	EPA Lead Safety During Renovation

APPENDIX A

LICENSES AND CERTIFICATIONS

Commonwealth of Massachusetts

Department of Labor Standards

Heather E. Rowe, Director

Asbestos Inspector

CHALIFOUR MATTHEW

Eff. Date 02/26/14

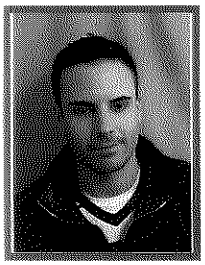
Exp. Date 02/25/15

15

AI900537

Member of C.O.N.E.S.

HV HV - NEW



Commonwealth of Massachusetts

Department of Labor Standards

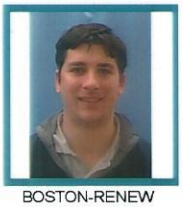
Heather E. Rowe, Director

Asbestos Inspector

JORDAN PERRY

Eff. Date 09/30/13
Exp. Date 09/30/14
AI900477
Member of C.O.N.E.S.
BSR

14



BOSTON-RENEW

Commonwealth of Massachusetts

Department of Labor Standards

Heather E. Rowe, Director

Asbestos Project Monitor

JORDAN PERRY

Eff. Date 09/30/13
Exp. Date 09/30/14

14

APPENDIX B

GUIDE TO ACM CATEGORIES, FRIABILITY,

DISTURBANCE & CONDITION

GUIDE TO ACM CATEGORIES, FRIABILITY, DISTURBANCE & CONDITION

Categories

The USEPA categorizes ACM as either 1) surfacing material, 2) thermal system insulation, or 3) miscellaneous materials.

Surfacing Material

Surfacing ACM is defined by the USEPA as "materials which are sprayed-on, trowelled-on, or otherwise applied to surfaces. Examples included wallboard primer, sealer, paint and stucco, acoustical plaster on ceilings, fireproofing on structural components, or other materials applied to surfaces for acoustical, fireproofing, or other purposes."

Thermal Systems Insulation

Thermal system insulation ACM is defined as defined by the USEPA as "materials in a building or distribution system applied to pipes, fittings, boilers, breaching, tanks, ducts, or other system components to prevent heat loss or gain, water condensation, or for other purposes."

Miscellaneous Materials

Miscellaneous ACM is defined by the USEPA as "interior or exterior material components such as wallboard, linoleum, floor and ceiling tiles, fire doors, roofing, siding; and materials not an integral component of the building such as stage curtains, protective clothing, laboratory apparatus and equipment, and other materials considered to be part of the real estate."

Friability

Friable ACM

Friability is a mechanical classification defined by the most recent EPA AHERA regulations as "...those materials, which when dry, which may be crumbled, pulverized, or reduced to powder by hand pressure." This includes previously non-friable material after such materials become damaged to the extent that when dry they may be crumbled, pulverized, or reduced to powder by hand pressure.

Non-Friable ACM

Category I non-friable ACM is defined by NESHAP as, "asbestos containing packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than one percent asbestos" as determined by Polarized Light Microscopy (PLM).

Category II non-friable ACM includes any other non-friable material, excluding Category I ACM.

Disturbance

Several factors are used to determine the potential for disturbance. Planned renovation, construction and maintenance activities may affect building materials, and rate a high potential. Maintenance work that occurs regularly and/or accessible material in an occupied room may constitute moderate physical disturbance. The influence of vibration i.e., loud motors, vicinity to major airports or highways, music rooms, etc., is rated. Potential air erosion from a variety of sources is also considered.

Damage

Damage can be classified as: 1-Deterioration or Delamination; 2-Physical Damage; 3-Water Damage.

Deterioration

Deterioration may occur as a result of either the quality of the installation or environmental factors that affect the cohesive strength of the material. Delamination, a form of deterioration, is a result of loss of adhesive or adhesive strength. This causes the material to separate into layers or separate from its substrate.

Physical Damage

Physical damage is the result of accidental or deliberate contact with the material. This is evidenced by punctures, missing pieces, scrape marks, etc. Physical damage can cause materials that were once in good condition to have exposed friable surfaces. Exposed surfaces may release fibers if subjected to an air stream or vibrations, or if damaged further. Additionally, the act of damaging or inadvertently disturbing the material will cause fibers to be released, posing a potential hazard to occupants.

Water Damage

Water can dislodge, delaminate, or disturb friable ACM that are otherwise in good condition and can increase the potential for fiber release by dissolving and leaching out the material's binder. Materials considered non-friable may thus become friable. Water can also carry fibers to other areas where evaporation will leave a collection of fibers that may become suspended in the air.

Overall Condition

Ratings of "Good", "Fair", and "Poor" are meant to indicate the overall condition of the material as a combination of these types of damage.

Good Condition

A material in good condition has an intact jacket or a covering of paint, has very few gaps between insulation sections, and little or no evidence of physical damage. However, it is cautioned that materials in good condition have the potential for damage in the future.

Fair Condition

A material in fair condition may show evidence of physical damage, have gaps between many insulation sections, or have a ripped jacket or loose insulation sections. The material in fair condition should remain in place only after it is properly repaired and returned to good condition. Work should be scheduled as soon as possible to prevent further disturbance and accidental fiber release. Removal is always preferable - existing damage is a good indicator of future damage.

Poor Condition

A material in poor condition usually shows extensive physical damage, may have a loose or missing jacket, and often appears as dislocated insulation sections or sections on the ground. The material in poor condition should be abated as soon as possible. Repair is not an option. Precautions should be taken to inform persons of the potentially hazardous nature of the area if the material is highly accessible or in a frequently used area. Limiting access to the area or room is advised until such time as the material has been properly removed.

APPENDIX C

ANALYTICAL RESULTS BULK SAMPLE
&
LEAD PAINT
CERTIFICATE OF ANALYSIS

OrderID: 201405601

Lead (Pb) Chain of Custody

EMSL Order ID *(Lab Use Only)*: 201405601

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Company: Hillmann Consulting	**EMSL-Bill to:** ☒ Same ☐ Different If Bill to is Different note instructions in Comments**
Street: 27 Mica Ln #204	*Third Party Billing requires written authorization from third party*
City: Wellesley **State/Province:** MA	**Zip/Postal Code:** 02481 **Country:** USA
Report To (Name): Jordan Perry	**Telephone #:** 781-431-7779
Email Address: jperry@hillmanngroup.com	**Fax #:** 781-431-7877 **Purchase Order:**
Project Name/Number: Town of Andover / M3-2719	**Please Provide Results:** ☐ Fax ☒ Email
U.S. State Samples Taken: MA	**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☒ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

**Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide*

Matrix	Method	Instrument	Reporting Limit	Check
Chips ☒ % by wt. ☐ mg/cm² ☐ ppm	SW846-7000B	Flame Atomic Absorption	0.01%	☒
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	☐
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	☐
	NIOSH 7300 modified	ICP-AES/ICP-MS	0.5 µg/filter	☐
Wipe* ASTM ☐ non ASTM ☐ *if no box is checked, non-ASTM Wipe is assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	☐
	SW846-6010B or C	ICP-AES	1.0 µg/wipe	☐
	SW846-7000B/7010	Graphite Furnace AA	0.075 µg/wipe	☐
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1131/SW846-6010B or C	ICP-AES	0.1 mg/L (ppm)	☐
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	SW846-7010	Graphite Furnace AA	0.3 mg/kg (ppm)	☐
	SW846-6010B or C	ICP-AES	2 mg/kg (ppm)	☐
Wastewater Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.7	ICP-AES	0.020 mg/L (ppm)	☐
Drinking Water Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50	ICP-AES	12 µg/filter	☐
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	☐
Other:				☐

Name of Sampler: Jordan Perry **Signature of Sampler:**

Sample #	Location	Volume/Area	Date/Time Sampled
LP-01	2nd fl. bedroom (white)	1"x1"	4/14
LP-02	2nd fl. bedroom closet (Cream)		4/14
LP-03	Exterior 2nd Coat (Red)		4/14
LP-04	Exterior near driveway (White)		4/14
LP-05	1st fl. inside Garage, (dark blue)	-wall	4/14

Client Sample #'s - **Total # of Samples:** 07

Relinquished (Client):	Jordan Perry	**Date:**	4/14/14	**Time:**	13:45
Received (Lab):	K. Wauer	**Date:**	4/15/14	**Time:**	10:34am

Comments: Fedex

Town of Andover, Fire Station, 1 Clark St, Andover, MA

RECEIVED 2014 APR 15 A 10:34 CINNAMINSON, NJ

OrderID: 201405601

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

LEAD (Pb) CHAIN OF CUSTODY

EMSL ORDER ID *(Lab Use Only):* 201405601

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Location	Volume/Area	Date/Time Sampled
LP-06	Beige inside Garage/Bay -wall	1" x 1"	4/14
LP-07	Gray Paint inside Garage/Bay-wall	↓	4/14

Comments/Special Instructions:

RECEIVED
EMSL
CINNAMINSON, NJ
2014 APR 15 A 10: 34

Page 2 of 2 pages

Controlled Document — Lead (Pb) COC – R6– 6/12/2012

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 786-5974
http://www.EMSL.com cinnaminsonleadlab@emsl.com

EMSL Order:	201405601
CustomerID:	HILL63
CustomerPO:	M3-2719
ProjectID:	

Attn: **Jordan Perry**
Hillmann Environmental Group LLC
27 Mica Lane
Suite 204
Wellesley, MA 02481

Phone:	(781) 431-7779
Fax:	(781) 431-7877
Received:	04/15/14 10:34 AM
Collected:	4/14/2014

Project: **Town of Andover / M3-2719**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead* ***Concentration***
Lp-01	*0001*	4/14/2014	4/15/2014	0.29 % wt
	Site: 2nd Fl bedroom (white)			
Lp-02	*0002*	4/14/2014	4/15/2014	25 % wt
	Site: 2nd Fl bedroom closet (cream)			
Lp-03	*0003*	4/14/2014	4/15/2014	20 % wt
	Site: Exterior 2nd coat (red)			
Lp-04	*0004*	4/14/2014	4/15/2014	0.026 % wt
	Site: Exterior near driveway (white)			
Lp-05	*0005*	4/14/2014	4/15/2014	0.27 % wt
	Site: 1st Fl M side Garage (dark blue) wall			
Lp-06	*0006*	4/14/2014	4/16/2014	0.22 % wt
	Site: Beige inside Garage / Bay -wall			
Lp-07	*0007*	4/14/2014	4/16/2014	0.18 % wt
	Site: Gray paint inside Garage Bay-Wall			

Julie Smith - Laboratory Director
NJ-NELAP Accredited:03036
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. * slight modifications to methods applied. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA-LAP, unless specifically indicated otherwise

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, AIHA-LAP, LLC ELLAP 100194, A2LA 2845.01

Initial report from 04/16/2014 15:15:54

HILLMANN CONSULTING

#041243

BULK SAMPLE IDENTIFICATION FORM

Environmental Consulting & Lab Services
1600 Route 22 East, Union NJ 07083
(908) 688-7800 Fax (908) 688-2441

CLIENT: Town of Andover

DATE: 4/14/14
JOB #: M3-2719
Need Results by: 3 Day TAT

LOCATION: 1 Clark St, Andover, MA

Time Sample Collected	Sample # Lab # / (Lab use)	Floor/ Room	Description of Location	Sample of: Color of:	NOB (NY Only)	Lab Results:
1015	-01 W110762	Basement	Concrete Wallboard Panel on Ceiling	Wall Panel Gray		Nf/100
	-02 63	↓	↓	↓		Nf/100
	-03 64	Basement	Joint Compound on Concrete Wallboard	Joint Compound White		Nf/100
	-04 65	↓	↓	↓		Nf/100
	-05 66	2nd Floor Garage	Plaster on Wall	Gray		Nf/100
	-06 67	↓	↓	↓		Nf/100
	-07 68	2nd Floor Weight Rm	Plaster on wall / Ceiling	Gray		Nf/100
	-08 69	↓	↓	↓		Nf/100
	-09 (2) 70	2nd floor Stairs	Gypsum Wallboard	off-white		Cell 10 Nf 90
	-10 (2) 71	2nd floor Weight Rm	↓	↓		Cell 10 Nf 90
	-11 72	↓	Black Roofing Shingle (Loose) - from exterior roof	Black		Cell 30 Nf 70
	-12 73	↓	↓	↓		Cell 30 Nf 70
	-13 74	2nd floor Bedroom	Plaster on wall in Closet	Gray		Nf/100
	-14 75	↓	Plaster on wall	↓		Nf/100
	-15 76	↓	↓	↓		Nf/100

SAMPLED BY:	CHAIN OF CUSTODY TRANSPORTED BY:	RECEIVED BY:	ANALYZED BY:
Print Jordan Perry			
Sign	Fedex		
Date 4/14/14		1000 4/15/14	4-15-14

PLM COC Version 1.2

HILLMANN CONSULTING

#041412-13

BULK SAMPLE IDENTIFICATION FORM

Environmental Consulting & Lab Services
1600 Route 22 East, Union NJ 07083
(908) 688-7800 Fax (908) 688-2441

CLIENT: Town of Andover

DATE: 4/14/14
JOB #: M3-2718
Need Results by: 3 Day TAT

LOCATION: 1 Clark St, Andover, MA

Time Sample Collected	Sample # / Lab # / (Lab use)	Floor/ Room	Description of Location	Sample of: Color of:	NOB (NY Only)	Lab Results:
1205	-16 / W110777	Garage/ Bay Area	Wood Cellulose Wall-board	Tan		Cell60 Nf40
	17 / 78	↓	↓	↓		Cell60 Nf40
	18 / (2) 79		Gypsum Wallboard on Back Bay Wall	Gray		Cell10 Nf90
	19 / (2) 80		↓	↓		Cell10 Nf90
	20 / 81		Joint Compound on Back Bay Wall	White		Nf100
	21 / 82	↓	↓	↓		Nf100
1235	22 / 83	Kitchen Area / Living Room	Gray 12x12 vinyl floor tile	Gray		Nf100
	23 / 84	↓	↓	↓		Nf100
	24 / 85		Yellow Mastic under vinyl floor tile	Yellow		Nf100
	25 / 86		↓	↓		Nf100
	26 / 87		Tan/Gray 12x12 vinyl floor tile	Tan/Gray		Nf100
	27 / 88	↓	↓	↓		Nf100
	28 / 89	Kitchen	4" Black vinyl cove base	Black		Nf100
	29 / 90	↓	↓	↓		Nf100
	30 / 91	↓	Tan mastic on Black VCB	Tan		Nf100

SAMPLED BY:	CHAIN OF CUSTODY TRANSPORTED BY:	RECEIVED BY:	ANALYZED BY:
Print Jordan Perry			
Sign	Fedex	SW 4/15/14	
Date 4/14/14			4-15-14

PLM COC Version 1.2

HILLMANN
CONSULTING

#04142243

BULK SAMPLE IDENTIFICATION FORM

Environmental Consulting & Lab Services
1600 Route 22 East, Union NJ 07083
(908) 688-7800 Fax (908) 688-2441

CLIENT: Town of Andover, MA

DATE: 4/14/14
JOB #: M3-2719
Need Results by: 3 Day TAT

LOCATION: 1 Clark St, Andover, MA

Time Sample Collected	Sample # Lab # / (Lab use)	Floor/ Room	Description of Location	Sample of: Color of:	NOB (NY Only)	Lab Results:
	-31 W110712	Kitchen	Tan mastic on Black VCB	Tan		NAD
	32 93	↓	White Sink under-coating	White		Coll 26 NAD
	33 94	↓	↓	↓		Coll 15 NAD
	34 95	Kitchen / Living Room	2x2 White Ceiling tile	White		Coll 20 FG 40 NAD
	35 96	↓	↓	↓		Coll 20 FG 40 NAD
1325	36 97	Exterior Façade	Black Asphalt shingle under wood siding	Black		Coll 30 NAD
	37 98	↓	↓	↓		Coll 35 NAD
	38 99	Exterior - Basement window	white caulking on window exterior	white		NAD
	39 800	↓	↓	↓		NAD
	40 01	Exterior - 1st floor window	white caulking under window sill	↓		NAD
	41 02	↓	↓	↓		NAD

SAMPLED BY:	CHAIN OF CUSTODY TRANSPORTED BY:	RECEIVED BY:	ANALYZED BY:
Print Jordan Perry			
Sign	Fedex	SW	
Date 4/14/14		4/15/14	4-15-14

PLM COC Version 1.2

Date of Sampling: 04/14/2014 **Job #:** M3-2719
Date of Sample Receipt: 04/15/2014 **Order#:** 0414243

Client: TOWN OF ANDOVER
36 BARTLET STREET
ANDOVER, MA 01810

Attn: EDWIN ATAIDE

Location: 1 CLARK STREET/ ANDOVER/ MA/ 01810

Field Technician: Jordan Perry
Date of Analysis: 04/15/2014
Date of Issue: 04/18/2014

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HILLMANN CONSULTING, L.L.C.
ENVIRONMENTAL CONSULTING, LAB SERVICES
1600 ROUTE 22 EAST
P.O. BOX 1597
UNION, NEW JERSEY 07083-1597
PHONE: (908) 688-7800 FAX: (908) 686-2636
www.hillmannconsulting.com

BULK SAMPLE CERTIFICATE OF ANALYSIS

Method: EPA/600/M4-82-020 per 40CFR: PLM with Dispersion Staining

LAB ID #	Location	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)	
W110762	01/ Basement/ Concrete Wallboard Panel on Ceiling	Wall Panel, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110763	02/ Basement/ Concrete Wallboard Panel on Ceiling	Wall Panel, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110764	03/ Basement/ Joint Compound on Concrete Wallboard	Joint Compound, White, Homogeneous	No		Non-Fibrous Material	100%
W110765	04/ Basement/ Joint Compound on Concrete Wallboard	Joint Compound, White, Homogeneous	No		Non-Fibrous Material	100%
W110766	05/ 2nd Floor/ Garage	Wall Plaster, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110767	06/ 2nd Floor/ Garage	Wall Plaster, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110768	07/ 2nd Floor/ Weight Room/ Plaster on Wall & Ceiling	Plaster, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110769	08/ 2nd Floor/ Weight Room/ Plaster on Wall & Ceiling	Plaster, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110770	09/ 2nd Floor/ Stairs	Gypsum Wallboard, Off-White, Non-homogeneous	No		Cellulose Fiber Non-Fibrous Material	10% 90%
W110771	10/ 2nd Floor/ Weight Room	Gypsum Wallboard, Off-White, Non-homogeneous	No		Cellulose Fiber Non-Fibrous Material	10% 90%

Signature: Mina Beshay

Mina Beshay Senior TEM Analyst

NVLAP Lab Code 101421-0

Date of Sampling: 04/14/2014 **Job #:** M3-2719
Date of Sample Receipt: 04/15/2014 **Order#:** 0414243

Client: TOWN OF ANDOVER
36 BARTLET STREET
ANDOVER, MA 01810

Attn: EDWIN ATAIDE

Location: 1 CLARK STREET/ ANDOVER/ MA/ 01810

Field Technician: Jordan Perry
Date of Analysis: 04/15/2014
Date of Issue: 04/18/2014

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BULK SAMPLE CERTIFICATE OF ANALYSIS

Method: EPA/600/M4-82-020 per 40CFR: PLM with Dispersion Staining

LAB ID #	Location	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)	
W110772	11/ 2nd Floor/ Weight Room/ Roofing Shingle From Exterior Roof	Roofing Shingle (Black), Black, Homogeneous	No		Cellulose Fiber Non-Fibrous Material	30% 70%
W110773	12/ 2nd Floor/ Weight Room/ Roofing Shingle From Exterior Roof	Roofing Shingle (Black), Black, Homogeneous	No		Cellulose Fiber Non-Fibrous Material	30% 70%
W110774	13/ 2nd Floor/ Bedroom/ Closet	Wall Plaster, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110775	14/ 2nd Floor/ Bedroom/ Closet	Wall Plaster, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110776	15/ 2nd Floor/ Bedroom/ Closet	Wall Plaster, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110777	16/ Garage/ Bay Area	Wood Cellulose Wallboard, Tan, Homogeneous	No		Cellulose Fiber Non-Fibrous Material	60% 40%
W110778	17/ Garage/ Bay Area	Wood Cellulose Wallboard, Tan, Homogeneous	No		Cellulose Fiber Non-Fibrous Material	60% 40%
W110779	18/ Garage/ Bay Area/ Back of Bay Wall	Gypsum Wallboard, Gray, Non-homogeneous	No		Cellulose Fiber Non-Fibrous Material	10% 90%
W110780	19/ Garage/ Bay Area/ Back of Bay Wall	Gypsum Wallboard, Gray, Non-homogeneous	No		Cellulose Fiber Non-Fibrous Material	10% 90%
W110781	20/ Garage/ Bay Area/ Back of Bay Wall	Joint Compound, White, Homogeneous	No		Non-Fibrous Material	100%

Signature: Mina Beshay

Mina Beshay Senior TEM Analyst

NVLAP Lab Code 101421-0

Date of Sampling: 04/14/2014 **Job #:** M3-2719
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Client: TOWN OF ANDOVER
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BULK SAMPLE CERTIFICATE OF ANALYSIS

Method: EPA/600/M4-82-020 per 40CFR: PLM with Dispersion Staining

LAB ID #	Location	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)	
W110782	21/ Garage/ Bay Area/ Back of Bay Wall	Joint Compound, White, Homogeneous	No		Non-Fibrous Material	100%
W110783	22/ Kitchen Area/ Living Room	12x12 Vinyl Floor Tile, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110784	23/ Kitchen Area/ Living Room	12x12 Vinyl Floor Tile, Gray, Homogeneous	No		Non-Fibrous Material	100%
W110785	24/ Kitchen Area/ Living Room/ Mastic Under Vinyl Floor Tile	Mastic, Yellow, Homogeneous	No		Non-Fibrous Material	100%
W110786	25/ Kitchen Area/ Living Room/ Mastic Under Vinyl Floor Tile	Mastic, Yellow, Homogeneous	No		Non-Fibrous Material	100%
W110787	26/ Kitchen Area/ Living Room	12x12 Vinyl Floor Tile, Tan/ Gray, Homogeneous	No		Non-Fibrous Material	100%
W110788	27/ Kitchen Area/ Living Room	12x12 Vinyl Floor Tile, Tan/ Gray, Homogeneous	No		Non-Fibrous Material	100%
W110789	28/ Kitchen	4" Vinyl Cove Base, Black, Homogeneous	No		Non-Fibrous Material	100%
W110790	29/ Kitchen	4" Vinyl Cove Base, Black, Homogeneous	No		Non-Fibrous Material	100%
W110791	30/ Kitchen	Mastic on Black Vinyl Cove Base, Tan, Homogeneous	No		Non-Fibrous Material	100%
W110792	31/ Kitchen	Mastic on Black Vinyl Cove Base, Tan, Homogeneous	No		Non-Fibrous Material	100%

Signature: Mina Beshay
Mina Beshay Senior TEM Analyst

NVLAP Lab Code 101421-0

Date of Sampling: 04/14/2014 **Job #:** M3-2719
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Client: TOWN OF ANDOVER
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BULK SAMPLE CERTIFICATE OF ANALYSIS

Method: EPA/600/M4-82-020 per 40CFR: PLM with Dispersion Staining

LAB ID #	Location	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)	
W110793	32/ Kitchen	Sink Undercoating, White, Homogeneous	No		Cellulose Fiber Non-Fibrous Material	20% 80%
W110794	33/ Kitchen	Sink Undercoating, White, Homogeneous	No		Cellulose Fiber Non-Fibrous Material	15% 85%
W110795	34/ Kitchen/ Living Room	2x2 Ceiling Tile, White, Homogeneous	No		Cellulose Fiber Fibrous Glass Non-Fibrous Material	20% 40% 40%
W110796	35/ Kitchen/ Living Room	2x2 Ceiling Tile, White, Homogeneous	No		Cellulose Fiber Fibrous Glass Non-Fibrous Material	20% 40% 40%
W110797	36/ Exterior Façade/ Shingle Under Wood Siding	Asphalt Shingle, Black, Homogeneous	No		Cellulose Fiber Non-Fibrous Material	30% 70%
W110798	37/ Exterior Façade/ Shingle Under Wood Siding	Asphalt Shingle, Black, Homogeneous	No		Cellulose Fiber Non-Fibrous Material	35% 65%
W110799	38/ Exterior/ Basement Window/ Caulking on Exterior Window	Caulk, White, Homogeneous	No		Non-Fibrous Material	100%
W110800	39/ Exterior/ Basement Window/ Caulking on Exterior Window	Caulk, White, Homogeneous	No		Non-Fibrous Material	100%
W110801	40/ Exterior/ 1st Floor Window/ Caulking Under Window Sill	Caulk, White, Homogeneous	No		Non-Fibrous Material	100%

Signature: Mina Beshay

Mina Beshay Senior TEM Analyst

NVLAP Lab Code 101421-0

Date of Sampling: 04/14/2014 **Job #:** M3-2719
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Client: TOWN OF ANDOVER
36 BARTLET STREET
ANDOVER, MA 01810

Attn: EDWIN ATAIDE

Location: 1 CLARK STREET/ ANDOVER/ MA/ 01810

Field Technician: Jordan Perry
Date of Analysis: 04/15/2014
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BULK SAMPLE CERTIFICATE OF ANALYSIS

Method: EPA/600/M4-82-020 per 40CFR: PLM with Dispersion Staining

LAB ID #	Location	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)	
W110802	41/ Exterior/ 1st Floor Window/ Caulking Under Window Sill	Wall Panel, Gray, Homogeneous	No		Non-Fibrous Material	100%

This report relates only to the materials tested and may not be duplicated in part without written permission by Hillmann Consulting. Samples are analyzed according to the EPA Test Method and are subject to the inherent limitations of Polarized Light Microscopy and interference of matrix components. This report must not be used to claim product endorsement by NVLAP or any agency of the US government.

This report is not complete without the chain of custody, which contains the time of sample collection. The laboratory is not responsible for time of sample collection, which is dependent on non-laboratory personnel, if it is not provided.

Signature: Mina Beshay

Mina Beshay Senior TEM Analyst

NVLAP® Lab Code 101421-0

BULK SAMPLE RESULTS

Enclosed please find the Certificates of Analysis for bulk samples analyzed for asbestos content by Hillmann Consulting, LLC. All fibrous components including type and percentage of asbestos, of present, are reported. Percentages given are visual estimates under microscopial observation, unless otherwise indicated by codes. This test report only relates to items tested.

The method of analysis used is Polarized Light Microscopy (PLM) with dispersion staining. Hillmann follows the EPA and the National Voluntary Laboratory Accreditation Program (NVLAP) recommended method of analysis EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples and EPA 600/R-93/116 published July 1993 is also used for guidance.

Non-friable organically bound (NOB) sample results reported as negative (less than 1% asbestos) must be considered Inconclusive (ELAP Item 198.6, 01/02/09).

Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing (ELAP Item 198.6, 01/02/09).

All analysis and certificates of analysis shall meet all requirements of the most current NELAC Standards, NYELAP Regulations, and NVLAP-NIST Handbook 150-2006 Edition.

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NY ELAP Item 198.6 does not remove vermiculite and may underestimate the level of asbestos present in a sample containing greater than 10% vermiculite.

Listed below are explanations of notes and or sample descriptions contained within certificates of analysis.

- Homogeneous- Sample is composed of a uniformed material, and analyzed as such.
- Non-homogenous- All components were analyzed as discreet layers. The results reported indicated the contents of the sample as a whole. Results of each layer are available upon request by the client.
- Recommended TEM- Polarized Light Microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing. (NY ELAP Regulation Item 198.6, 1/11/05).
- 400 Point Counting- Sample was determined less than 10% positive by visual estimation. Sample was point counted as specified in NESHAPS regulations Federal Registration Vol. 55, No. 224, November 20, 1990, EPA to verify asbestos content quantification.
- Stratified Point Counting - Point Counting Criteria for friable bulk sample as dictated by NY ELAP Regulation Item 198.1, 1/11/05.
- Gravimetric Reduction- Sample has been heated, and undergone acid digestion to reduce interfering substances before analysis. (Item 198.6 of NY ELAP Manual (NOB by PLM))
- Final % Inorganic < 1- The percentage of Inorganic material is less than 1, resulting in the sample being Non-ACM. (NY ELAP Regulation Item 198.6, 1/11/05).

Hillmann's Laboratory Accreditations:

ELAP # 10926
NJ NELAC # 20037
NVLAP # 101421-0
VA # 3333 000203
MA # AA000183
TX # 300405
WV # LT000427
PA # 68-00774

Signature: Mina Beshay

Mina Beshay Senior TEM Analyst

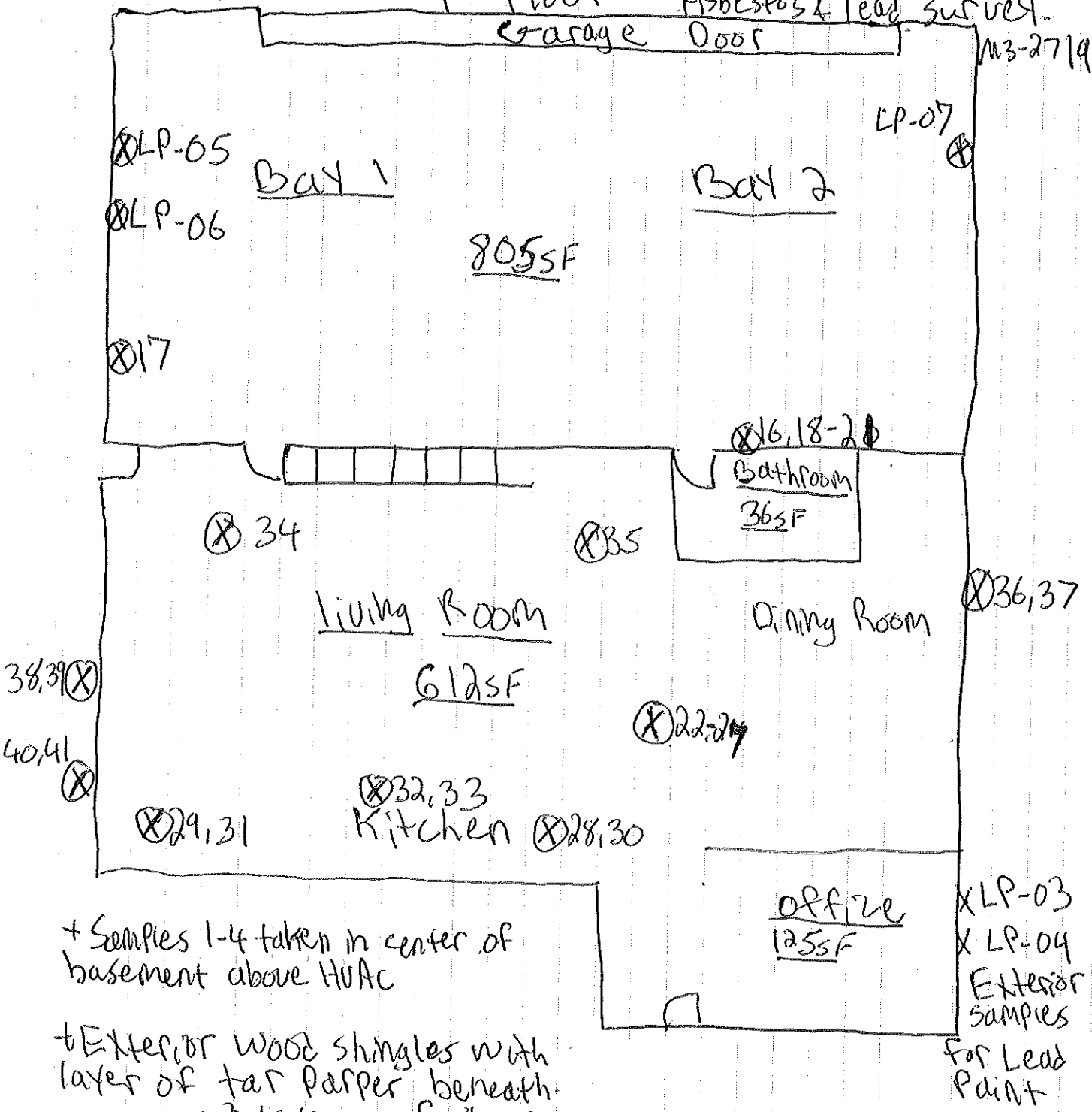
NVLAP Lab Code 101421-0

APPENDIX D

SAMPLE LOCATIONS

Andover Fire Department
4/14/14

1st Floor Asbestos & Lead Survey.



+ Samples 1-4 taken in center of basement above HVAC

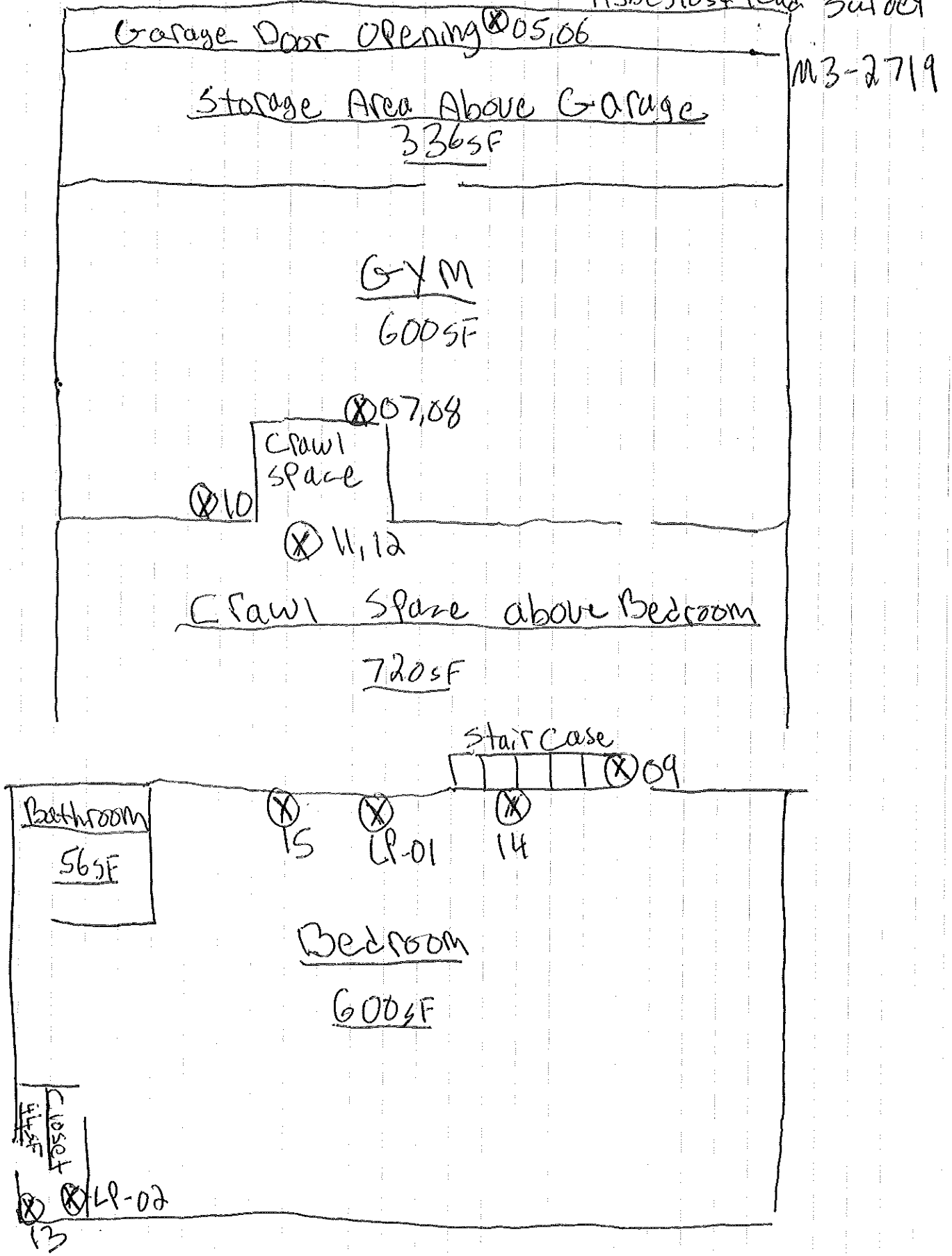
+ Exterior wood shingles with layer of tar paper beneath.
- 3 layers of shingles

+ 26 - 4'x2' windows
+ 4 - 1'x2' windows

Red Paint on 2nd layer of exterior positive for lead.

2nd Floor

Andover Fire Department
4/14/19
Asbestos & lead survey



APPENDIX E

LEAD SAFETY DURING RENOVATION

Lead-Safety Shopping List

EPA Lead Pamphlet

- ***Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools***

Currently Federal regulations require contractors to provide a copy of the *Renovate Right* pamphlet to owners and occupants prior to starting work in pre-1978 housing.

Contractors must also provide the *Renovate Right* pamphlet to owners and operators of child-care facilities and schools built prior to 1978 and provide information to parents or guardians of children under age 6 that attend.

To learn more about the requirements and how to obtain copies of the pamphlet contact the National Lead Information Center at **1-800-424-LEAD (5323)** or visit EPA's Web site at **www.epa.gov/lead**.

Tools and Supplies

- Barriers and signs
- Tape
- Stapler
- Heavy plastic sheeting
- Utility knife or scissors
- Wet/dry sandpaper, sanding sponge
- Misting bottle, pump sprayer
- Chemical stripper
- Power tools with high efficiency particulate air (HEPA) filter-equipped vacuum attachments
- Low-temperature heat gun
- Heavy-duty plastic bags
- HEPA vacuum cleaner
- Paper towels or disposable wipes
- Mop and disposable mop heads
- General-purpose cleaner
- Buckets
- Shovel and rake

Personal Protective Equipment

- Eye wear
- Painters' hats
- Gloves
- Coveralls
- Disposable shoe covers
- N-100-rated disposable respirator

EPA 740-F-08-001
March 2008

Office of Pollution Prevention and Toxics
United States
Environmental Protection Agency
Washington, D.C. 20460

To learn more about working safely with lead, contact the National Lead Information Center at 1-800-424-LEAD (5323) or visit EPA's Web site at www.epa.gov/lead.

Recycled/Recyclable
Printed with Vegetable Oil-Based Inks on Recycled Paper
(Minimum 50% Postconsumer) Process Chlorine Free

CONTRACTORS

Lead Safety During Renovation

LEAD Awareness Program

1-800-424-LEAD (5323)
www.epa.gov/lead

As a contractor, you play an important role in protecting public health by helping prevent lead exposure. Ordinary renovation and maintenance activities can create dust that contains lead—even small amounts of lead can harm children and adults.

New Rules for Contractors

Beginning April 2010 contractors performing work that disturbs lead-based paint in homes, child care facilities, and schools built before 1978 must:

- Be EPA certified, and
- Follow specific work practices to prevent lead contamination.

To learn more about how you can meet these requirements contact the National Lead Information Center at **1-800-424-LEAD (5323)** or visit **www.epa.gov/lead**.

Be prepared for these new requirements. Adopt the following simple practices and you can work safely with lead.

Talk to the Residents

- Explain the steps you will take to protect residents from lead:
  - Set up work areas that will not expose residents.
  - Minimize the dust.
  - Leave the work area clean.

When working in homes, child care facilities and schools built before 1978 you must provide the *Renovate Right* pamphlet to residents, or the facility operator before the job begins. You must also provide information to families whose children attend the child care facility or school.

Set Up Safe Work Areas

Select Appropriate Personal Protective Equipment

- Review the lead-safety shopping list contained in this pamphlet to determine what items you need to safely perform the work.
- Ensure your workers have appropriate eyewear, clothing, and respiratory protection for the job.

The Work Area Should Be Contained So That No Dust Or Debris Leaves the Work Area.

What To Do Inside:

- Use signs to keep residents and pets out of the work area.
- Remove furniture and belongings, or cover them securely with heavy plastic sheeting.
- Use heavy plastic sheeting to cover floors and other fixed surfaces like large appliances in the work area.
- When appropriate, use heavy plastic sheeting to separate the work area from the rest of the residence.
- Close and seal vents in the work area and, if necessary, turn off forced-air heating and air conditioning systems.

What To Do Outside:

- Mark off the work area to keep non-workers away.
- Cover the ground and plants with heavy plastic sheeting.
- Close windows and doors near the work area.
- Move or cover play areas near the work area.

Minimize the Dust

You Should Use Work Practices That Minimize Dust:

- Mist areas before sanding, scraping, drilling, and cutting.
- Score paint before separating components.
- Pry and pull apart components instead of pounding and hammering.
- Always use a shroud with HEPA vacuum attachment when using power tools and equipment.

Do Not Use These Dangerous Practices When Working With Lead-Based Paint:

- Open flame burning or torching.
- Sanding, grinding, planing, needle gunning, or blasting with power tools unless equipped with a shroud and HEPA vacuum attachment.
- Using a heat gun at temperatures greater than 1100°F.

Leave the Work Area Clean

On a Daily Basis You Should:

- Put trash and debris in heavy-duty plastic bags.
- Wrap waste building components, such as windows and doors, in heavy plastic sheeting and tape shut.
- Ensure everything, including tools, equipment, and even workers, are free of dust and debris before leaving the work area.
- HEPA vacuum the work area.
- Wash up and change out of work clothes before you and your workers go home. Remember, you do not want to bring lead-based paint dust home and expose your family.
- Remind residents to stay out of the work area.

When the Job Is Complete, You Should Also:

- Remove the plastic sheeting carefully, mist with water, fold dirty side in, tape shut, and dispose of it.
- HEPA vacuum all surfaces, including walls.
- Wash the work area with a general purpose cleaner.
- Check your work carefully for lead dust because hazardous amounts may be minute and not easily visible. If you see any dust or debris, then re-clean the area.
  - Perform a final clean-up check. Use disposable cleaning cloths to wipe the floor of the work area and compare them to a cleaning verification card to determine if the work area was adequately cleaned.
  - To order a cleaning verification card and detailed instructions visit our website at **www.epa.gov/lead** or contact the National Lead Information Center at **1-800-424-LEAD (5323)**.

These Simple Practices Ensure That Your Jobs Are Better, Cleaner, And Safer. Your Customers Will Notice The Difference.

To learn more about working safely with lead and upcoming requirements, contact the National Lead Information Center at 1-800-424-LEAD (5323) or visit EPA's Web site at www.epa.gov/lead.