LEAD HAZARD EVALUATION NOTICE

Address: 840 Mantoloking Road, Apt. No. 3, Brick, NJ

Evaluation Completed (circle one): Paint Inspection Paint Testing Risk Assessment

Date: 3/8/2014

Summary of Results:

_X_ No lead-based paint or lead-based paint hazards were found.

___ Lead-based paint and/or lead-based paint hazards were found. See attachment for details

Contact person for more information about the risk evaluation:

Printed name: Firoz Jan

Signature: Firoz Jan

Date: 3/17/201

Organization: PARS Environmental, Inc.

Street: 500 Horizon Drive, Suite 540

City & State Robbinsville, NJ

Zip 08691

Phone #: 609-890-7277

Person who prepared this notice:

Printed name: Margaret Halasnik

Signature: Margaret Halasnik

Date: 3/17/2014

Organization: PARS Environmental, Inc.

Street: 500 Horizon Drive, Suite 540

City & State Robbinsville, NJ

Zip 08691

Phone #: 609-890-7277

Summarize the types and locations of lead-based paint hazards below or attach your own summary. The summary must list at least the bare soil locations, dust-lead locations, and/or building components (including type of room or space and the material underneath the paint), and types of lead-based paint hazards found:

Contaminated Soil		
Area	**mg/g (ppm)**	**Location**
___ None		**Refer to Common Area**
___ Perimeter	___ mg/g (ppm)	**Report**
___ Play Area	___ mg/g (ppm)	
___ Other	___ mg/g (ppm)	

Contaminated Dust		
Area	**µg/SF**	**Location**
_X_ None		**See Table 3**
___ Windowsill	___ µg/SF	
___ Floor	___ µg/SF	
___ Other	___ µg/SF	
___ Other	___ µg/SF	

Other Hazards				
Component*	**Location**	**Condition (good, fair, poor)**	**Friction or Impact Surface?**	**Lead Content (if known)**
1. See Table 1				___ mg/cm² (ppm)
2.				___ mg/cm² (ppm)
3.				___ mg/cm² (ppm)
4.				___ mg/cm² (ppm)
5.				___ mg/cm² (ppm)
6.				___ mg/cm² (ppm)
7.				___ mg/cm² (ppm)
8.				___ mg/cm² (ppm)
9.				___ mg/cm² (ppm)
10.				___ mg/cm² (ppm)
11.				___ mg/cm² (ppm)
12.				___ mg/cm² (ppm)
13.				___ mg/cm² (ppm)
14.				___ mg/cm² (ppm)

***** Components include but are not limited to (interior and exterior) windows, doors, trim, fences, porches, walls and floors.

PARS
Environmental
Inc.

LEAD-BASED PAINT RISK ASSESSMENT
840 MANTOLOKING ROAD
APARTMENT NO. 3
BRICK, NEW JERSEY
SRP0037020.05.03.D.003

PREPARED BY

PARS Environmental, Inc.

500 Horizon Drive Suite 540

Robbinsville, N.J. 08691

(609) 890-7277

PARS Project No.: 1011-02

MARCH 17, 2014

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LEAD-BASED PAINT RISK ASSESSMENT
840 MANTOLOKING ROAD, APARTMENT NO.3
BRICK, NEW JERSEY
SRP0037020.05.03.D.003

EXECUTIVE SUMMARY

On March 8, 2014, PARS Environmental, Inc. (PARS) conducted a Lead-Based Paint Risk Assessment (hereinafter the "Assessment") of the residential property located at 840 Mantoloking Road, Apartment No. 3, Brick, New Jersey (hereinafter the "Property"). The Property had sustained damage during the October 2012 Hurricane Sandy and could be eligible for funding under the New Jersey Landlord Rental Repair (LRR) Program, which is being administered by the State of New Jersey Department of Community Affairs (NJDCA). NJDCA is providing funds made available by the US Department of Housing and Urban Development (HUD). PARS was authorized to perform this work by Gilbane Building Company (GBCO).

The purpose of the Assessment was to identify the potential presence of lead hazards on/ in painted surfaces inside and outside the structure, including deteriorated LBP and LBP that may be disturbed during planned renovations.

The Property consists of five apartments on a slab constructed in 1970s. **This Assessment presents the findings only for Apartment No. 3 of the structure.** The results of the Assessment indicate that LBP surface coatings and LBP hazards were not identified in Apartment No. 3 of the Property at the time of the Assessment.

Identified LBP Surfaces

- **No LBP surfaces were identified during the Assessment.**

Existing LBP Hazards and Potential Lead Hazards

The following substrates coated with LBP are deteriorated (poor condition) and currently present existing LBP hazards:

- **No LBP hazards and potential lead hazards were identified during the Assessment.**

Identified Intact LBP Surfaces-No Current Hazard

The following area is coated with LBP that is intact and does not currently present lead hazards.

- **No LBP surfaces were identified during the Assessment.**

Lead Dust Hazards

A lead dust hazard was identified in the following locations:

- **No Lead Dust Hazards were identified during the Assessment.**

Soil Contamination
A lead hazard was identified in soil at the following building location:

- **Soil at the Property is common to each of the units and is addressed under separate cover.**

Non-LBP Renovation Components
The planned renovation includes disturbance of the following components that do not contain LBP:

- Interior walls in the rooms that were tested;
- Interior doors and door components that were tested; and
- Interior windows and window components that were tested.

Refer to **Table 1** for a list of those components that do not contain LBP.

Recommendations
No further action is recommended.

1.0 INTRODUCTION, PURPOSE, AND SCOPE OF WORK

On March 8, 2014, PARS Environmental, Inc. (PARS) conducted a Lead-Based Paint Risk Assessment (hereinafter the "Assessment") of the residential property located at 840 Mantoloking Road, Apartment No. 3, Brick, New Jersey (hereinafter the "Property"). The Property had sustained damage during the October 2012 Hurricane Sandy and could be eligible for funding under the New Jersey Landlord Rental Repair (LRR) Program, which is being administered by the State of New Jersey Department of Community Affairs (NJDCA). NJDCA is providing funds made available by the US Department of Housing and Urban Development (HUD). PARS was authorized to perform this work by Gilbane Building Company (GBCO).

The purpose of the Assessment was to identify the potential presence of lead hazards on/ in surfaces inside and outside the structure, including deteriorated LBP and LBP that may be disturbed during planned renovations. HUD, the United States Environmental Protection Agency (USEPA), and the NJDCA New Jersey Lead Hazard Evaluation and Abatement Code (N.J.A.C. 5:17) consider painted surfaces containing lead at a concentration of 1.0 milligram per square centimeter (mg/cm^2) or greater to be LBP. LBP testing was conducted to assess whether LBP was present at levels exceeding the HUD, USEPA, and New Jersey Lead Hazard Evaluation and Abatement Code.

The Scope of Work included the following:

- Owner/occupant interview and a visual inspection of all painted and coated interior and exterior surfaces of the dwelling, all common areas, and, if present, all outbuildings and fences;
- X-Ray Fluorescence (XRF) analyzer testing for lead content of all coatings on surfaces that may be disturbed during the renovation;
- Lead hazard identification of deteriorated paint, friction, impact and chewable surfaces; and
- Soil sampling, if appropriate.

2.0 APPLICABLE REGULATORY STANDARDS AND FIELD METHODOLOGIES

2.1 APPLICABLE REGULATORY STANDARDS

The inspection and Assessment were performed in accordance with the regulatory standards listed below, as appropriate:

1. HUD Community Development Block Grant (CDBG) Lead Safe Housing Rule;
2. The guidelines of the Steel Structures Painting Council referenced in N.J.A.C. 5:17-1.3; and
3. Rules adopted by the U.S. Environmental Protection Agency at 40 C.F.R. 745.

2.2 Owner/Interview Visual Inspection

The Assessment was performed on March 8, 2014, by Mr. Firoz Jan, a licensed New Jersey Department of Health (NJDOH) Lead Inspector/Risk Assessor (Permit # 026145). PARS is certified by the NJDCA as a Lead Evaluation Contractor (Cert #00416E). The Assessment commenced at 12:00 pm and concluded at approximately 3:30 pm. A copy of Mr. Jan's license is provided in **Appendix A**.

The property owner contact information is:

Owner: Mr. Christopher Alino
Address: 840 Mantoloking Road, Apartment No. 3
Brick, NJ 08723
Day Phone # - 732-779-0560
Evening Phone # - 732-779-0560

Based on an interview with the Owner, there has not been previous LBP testing/assessment at the Property.

2.3 XRF Testing and Lead Hazard Identification

Painted surfaces were evaluated according to the specifications described in the protocols for LBP inspection in the HUD Guidelines for the Evaluation and Control of Lead-Based Paint and requirements of the Lead Hazard Evaluation and Abatement Code using an X-Ray Fluorescence (XRF) analyzer. The XRF used for this evaluation was an INNOV-X SYSTEM, Model No. ALPHA-6500, Serial No. 10768.

A rough sketch is made of the Property. Instrument calibrations are performed at least three times before the start of testing and performed at least every four hours, and at the end of each inspection. At least one test location per testing combination, four readings are obtained, one on each wall, (interior room equivalent or exterior). When upper and lower walls have a different painting history, four tests are required of each.

The selection of the test locations is representative of the paint over the areas which are most likely to be coated with old paint or other lead-based coatings. Thus, locations, where the paint appears to be thickest are selected. Locations where paint has worn away or been scraped off are not selected. At each test location:

- All layers of paint are included; and
- The XRF probe faceplate is placed flat against the surface.

Areas over pipes, electrical surfaces, nails and other possible interferences are avoided, if possible, as these materials may contain lead and contribute to the XRF reading. When testing combinations are repeated within a room equivalent (e.g., window, or door system), one test is taken on one part of the component system (e.g., the casing from window B) and another test from another part of the system from a separate component (e.g., the sash from window C-2), the same strategy would apply to the door system. If a room has two or more doors (including closet or pantry doors), the casing or jamb of the door itself is tested. If each door may have a different painting history, then each door system is tested separately.

Calibration and actual readings were taken using the Lead-in-Paint K+L variable reading time mode. The instrument calibration was performed in accordance with the Performance Characteristic Sheet (PCS) for this instrument. The instrument PCS is in **Appendix B**. The instrument was calibrated using the paint film nearest 1.0 mg/cm^2 in the National Institute of Standard & Technology (NIST) Standard Reference Material. At least three calibration readings were taken before and after the testing to insure manufacturer standards were met.

The tested surfaces included:

- Walls
- Doors and its components

A total of 48 measurements were taken from painted surfaces. The XRF measurements were collected following the regulatory standards referenced in Section 2.1 of this report to evaluate the potential presence of LBP in the dwelling.

2.4 Interior Dust Wipe Sampling

Interior dust wipe sampling is conducted in areas where the LBP surfaces are observed to be in deteriorated condition. USEPA and HUD define "*deteriorated paint*" as "*any interior or exterior paint or other coating that is peeling, chipping, chalking or cracking, or any paint or coating located on an interior or exterior surface or fixture that is otherwise damaged or separated from the substrate*". This definition is most typically associated with surface conditions only. Usage of this term in describing conditions other than those associated with surface coatings are not known to be defined by USEPA or HUD. Wipe samples are collected from locations as observed during the Assessment:

1) In or near areas testing positive for LBP (window troughs, window sills, etc.);
2) In or near friction or impact areas (window troughs/sills, floors at doorway entrances, etc.);
3) In high traffic /common areas (doorway entrances, laundry rooms, bedrooms, etc.); and,
4) In or near areas where deteriorated paint exists (wherever observed during the Assessment).

Wipe sampling was conducted in the affected living areas (i.e., bedrooms, living room, kitchen, and bathroom) to assess the presence of potential lead-dust concentrations. USEPA considers lead in dust to be a hazard if lead concentrations, as determined by wipe sampling, are equal to or greater than 40 micrograms per square foot (µg/ft^2) on floors, 250 µg/ft^2 on window sills, and 400 µg/ft^2 on troughs and exterior surfaces.

Nine (9) wipe samples including one (1) quality control wipe sample were collected from the floors in the front entrance, kitchen, bedrooms (two), living room, and bathroom and window sills in the kitchen and bedroom #1. The samples were collected from areas most likely to be lead contaminated if lead-in-dust is present, in accordance with the requirements of ASTM Standard E-1728, *Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques*.

Samples were collected by wiping either a 12 inch x 12 inch surface area or other pre-measured surface with alcohol free Ghost Wipes. The surface area was wiped side-to-side in 'S' like motions. The samples were placed in plastic tubes and submitted for laboratory analysis to EMSL Analytical Inc. (EMSL), which is an American Industrial Hygiene Association, Environmental Lead Laboratory Accreditation Program (AIHA-ELLAP # 100194) certified laboratory.

2.5 Soil Sampling

Soil at the Property is common to each of the units and is addressed under separate cover.

3.0 RESULTS

3.1 Owner/Interview Visual Inspection

The Property is consists of five apartments on a slab constructed in 1970s. **This Assessment presents the findings only for Apartment No. 3 of the structure.** The results of the Assessment indicate that LBP surface coatings and LBP hazards were not identified in Apartment No. 2 at the Property at the time of the Assessment. The following potential LBP painted/coated surfaces were identified:

- Walls
- Doors and its components

3.2 XRF Testing and Lead Hazard Identification

XRF testing was conducted on painted components listed above. The XRF readings and their associated LBP levels are summarized in **Table 1**. XRF Direct Readings are provided in **Table 2**.

Identified LBP Surfaces

LBP in amounts equal to or exceeding the USEPA and/or HUD criteria of 1.0 mg/cm^2 was found on the following painted substrates:

- **No LBP surfaces or potential lead hazards were identified during the Assessment.**

Existing LBP Hazards

The following substrates coated with LBP are deteriorated (poor condition) and currently present existing LBP hazards:

- **No LBP hazards or potential lead hazards were identified during the Assessment.**

A glossary of terms and a list of publications and resources addressing lead hazards and their health effects is provided in **Appendix C.**

Intact LBP Surfaces-No Current Hazard

The following area is coated with LBP that is intact and does not currently present lead hazards.

- **No additional LBP surfaces were identified during the Assessment.**

3.3 Interior Dust Wipe Sampling

None of the nine (9) wipe samples exceeded the respective lead dust concentration of 40 µg/ft^2 on floors and 250 µg/ft^2 on window sills. The results of the wipe sampling are presented as **Table 3**. Laboratory analytical results are provided in **Appendix D**.

3.4 Soil Sampling

Soil at the Property is common to each of the units and is addressed under separate cover.

4.0 LEAD HAZARD CONTROL OPTIONS

Lead-safe work practices and worker/occupant protection practices complying with current USEPA, HUD, and Occupational Safety and Health Administration (OSHA) standards will be necessary to safely complete all work involving the disturbance of LBP coated surfaces and components. In addition, any work considered lead hazard control will enlist the use of interim control (temporary) methods and/or abatement (permanent) methods. It should be noted that all lead hazard control activities have the potential of creating additional hazards, or even creating hazards that were not present before. All persons and/or firms performing lead hazard control activities must have received proper training in Lead-Safe Work Practices and/or Lead Abatement. Details for the listed lead hazard control options and issues surrounding occupant/worker protection practices can be found in the publication titled: *Guidelines for the Evaluation and Control of LBP Hazards in Housing (Second Edition, July 2012)* (HUD Guidelines), published by HUD, as well as in the OSHA regulations found in 29 CPR, Part 1926.62, known as the OSHA Lead Exposure in Construction Industry Standard.

The associated cost estimates, unless otherwise noted, include the labor and materials to accomplish the stated activity and most additional funds typically found to be necessary to complete worker protection, site containment, and cleanup procedures. These are approximate estimates only and due to a variety of potential factors, may not accurately reflect all local cost factors. A precise estimate must be obtained from a NJ certified LBP abatement contractor or a contractor trained in lead safe work practices. Properly trained and/or licensed persons, as well as properly licensed firms (as mandated) should accomplish all abatement/interim control activities conducted at this residence.

Interim controls, as defined by HUD, means a set of measures designed to temporarily reduce human exposure to LBP hazards and/or lead containing materials. These measures include, but are not limited to: component and/or substrate repairs; paint and varnish repairs; the removal of dust-lead hazards; renovation; remodeling; maintenance; temporary containment; placement of seed, sod or other forms of vegetation over bare soil areas; the placement of at least six (6) inches of an appropriate mulch material over an impervious material, laid on top of bare soil areas; the tilling of bare soil areas; extensive and specialized cleaning; and ongoing LBP maintenance activities.

Abatement, as defined by HUD, means any set of measures designed to permanently eliminate LBP and/or LBP hazards. The product manufacturer and/or contractor must warrant abatement methods to last a minimum of 20 years, or these methods must have a design life of at least 20 years. These activities include, but are not limited to:

- The removal of LBP from substrates and components;
- The replacement of components or fixtures with lead containing materials and/or LBP;
- The permanent enclosure of LBP with construction materials;
- The encapsulation of LBP with approved products;
- The removal or permanent covering (concrete or asphalt) of soil-lead hazards; and,
- Extensive and specialized cleaning activities.

Based on the findings of the Assessment, PARS recommends the following action be implemented to minimize the potential exposure to LBP:

- **No further action is recommended at this time.**

5.0 SPECIAL CLEANING PRECEDING LEAD HAZARD CONTROL ACTIVITIES

No special cleaning preceding lead hazard control activities are warranted at this time.

6.0 SPECIAL CLEANING FOLLOWING LEAD HAZARD CONTROL ACTIVITIES

No special cleaning following lead hazard control activities are warranted at this time.

7.0 ONGOING MONITORING

Ongoing monitoring is necessary in all dwellings in which LBP is known or assumed to be present. At these dwellings, the very real potential exists for LBP hazards to develop. Hazards can develop by means such as, but not limited to: the failure of lead hazard control measures; previously intact LBP becoming deteriorated; dangerous levels of lead-in-dust (dust lead) re-accumulating through friction, impact, and deterioration of paint; or, through the introduction of contaminated exterior dust and soil into the interior of the structure.

Ongoing monitoring typically includes two different activities: re-evaluation and annual visual surveys. A re-evaluation is a risk assessment that includes limited soil and dust sampling and a visual evaluation of paint films and any existing lead hazard controls. Re-evaluations are supplemented with visual surveys by the Homeowner, which should be conducted at least once a year. Homeowner conducted visual surveys do not replace the need for professional re-evaluations. Visual surveys should confirm that all paint with known or suspected LBP are not deteriorating, that lead hazard control methods have not failed, and that structural problems do not

threaten the integrity of any remaining known, assumed or suspected LBP. The partial table below is taken from **Table 6.1, Standard Re-evaluation Schedules**, as found in the HUD Guidelines. It is intended as a guideline for the Homeowner to assess the condition of areas where hazard control activities occurred.

Factors at this residence require the use of **Ongoing Monitoring Schedule Number 1 (No Action)** to dictate monitoring protocol.

LBP Schedule	Original Evaluation Results	Action taken	Re-evaluation Frequency & Duration	Visual Survey Schedule
1	Combination risk assessment/inspection finds no leaded dust and no lead-based paint.	None.	None.	None

8.0 DISCLOSURE REGULATIONS

Every purchaser of any interest in residential real property on which a residential dwelling was built prior to 1978 must be notified that such property may present exposure to lead from LBP that may place young children at risk of developing lead poisoning. The seller must disclose any known information concerning LBP or LBP hazards. The seller must also disclose information such as the location of the LBP and/or LBP hazards, and the condition of the painted surfaces. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. Lead poisoning also poses a particular risk to pregnant women. The seller of any interest in residential real property is required to provide the buyer with any information on LBP hazards from risk assessments or inspections in the seller's possession and notify the buyer of any known lead-based paint hazards. A risk assessment or inspection for possible LBP hazards is recommended prior to purchase.

9.0 FUTURE REMODELING PRECAUTIONS

Deteriorated or disturbed painted surfaces may still contain LBP and may pose a hazard, especially during renovation. The OSHA Lead in Construction Standard 29 CFR 1926.62 states that those "negative" readings (i.e., those below the HUD/USEPA definition of what constitutes LBP (1.0 mg/cm^2)) do not relieve contractors from performing exposure assessments (personal air monitoring) on their employees, and should not be interpreted as lead free. Although a reading may indicate "negative", airborne lead concentrations still may exceed the OSHA Action Level or the OSHA Permissible Exposure Limit (PEL) depending on the work activity.

A limited number of painted surfaces observed during the Assessment were tested for the presence of LBP. Only LBP hazards that were identified are addressed in this report. However, LBP, dust lead hazards, and/or soil lead hazards may be present at other locations on the property. Additional paint testing should precede any future remodeling activities that occur at any untested areas. Additional dust and/or soil sample collection and analysis should follow any hazard control activity, repair, remodeling, or renovation effort, and any other work efforts that may in any way disturb LBP and/or any lead containing materials. These Assessment activities will help the Homeowner to ensure the health and safety of the occupants and the neighborhood. Details concerning lead safe work techniques and approved hazard control methods can be found in the HUD publication titled*: "Guidelines for the Evaluation and Control of LBP Hazards in Housing" (Second Edition, July 2012).*

10.0 CONDITIONS AND LIMITATIONS

This report is prepared for the sole benefit of NJDCA and GBCO under the LRR Program and may not be relied upon by any other person or entity without the written authorization of PARS. This is our report of a visual survey, XRF analysis of the tested components, and wipe samples. The presence or absence of LBP or LBP hazards applies only to the tested or assessed surfaces on the date of the field visit and it should be understood that the conditions may change due to deterioration or maintenance. The results and material conditions noted within this report were accurate at the time of the evaluation and in no way reflect the conditions at the site tested after March 8, 2014. No other environmental concerns or conditions were addressed during this evaluation.

-o0o-

PARS appreciates the opportunity to assist the NJDCA and GBCO with this project. Should you have any questions or comments please feel free to contact us at (609) 890-7277.

Respectfully submitted,

PARS ENVIRONMENTAL, INC.

Firoz Jan
Project Industrial Hygienist
NJDOH Lead Inspector / Risk Assessor
Permit # 026145

Margaret Halasnik
Principal Environmental Scientist

TABLE 1

XRF Lead-Based Paint Test Results

PARS ENVIRONMENTAL INC.

TABLE 1
XRF Lead-Based Paint Test Results
840 Mantoloking Road, APT #3
Brick, NJ
SRP0037020.05.03.D.003

Date	Reading	Room	Component	Substrate	Paint Condition	Paint Color	Friction, Impact, or Teeth Marked surface F/I/TM	Result	Lead Content (mg/cm^2)
8-Mar-14	52	Standardization						PASS	
8-Mar-14	**53**	**Calibration**	**Red Film**	**Film**	**Good**	**Red**		**Positive**	**1.12**
8-Mar-14	**54**	**Calibration**	**Red Film**	**Film**	**Good**	**Red**		**Positive**	**1.08**
8-Mar-14	**55**	**Calibration**	**Red Film**	**Film**	**Good**	**Red**		**Positive**	**1.08**
8-Mar-14	56	Kitchen	North Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	57	Kitchen	South Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	58	Kitchen	East Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	59	Kitchen	West wall	Drywall	Good	Beige		Negative	0
8-Mar-14	60	Kitchen	Door	Wood	Good	White		Negative	0
8-Mar-14	61	Kitchen	Door Jamb	Wood	Good	White		Negative	0
8-Mar-14	62	Kitchen	Door Frame	Wood	Good	White		Negative	0
8-Mar-14	63	Kitchen	Window Frame	Wood	Good	White		Negative	0
8-Mar-14	64	Kitchen	Window Sill	Wood	Good	White		Negative	0
8-Mar-14	65	Kitchen	Window sash	Wood	Good	White		Negative	0
8-Mar-14	66	Bedroom # 1	North Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	67	Bedroom # 1	East Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	68	Bedroom # 1	South Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	69	Bedroom # 1	West wall	Drywall	Good	White		Negative	0
8-Mar-14	70	Bedroom # 1	Door Jamb	Wood	Good	White		Negative	0
8-Mar-14	71	Bedroom # 1	Door Frame	Wood	Good	White		Negative	0
8-Mar-14	72	Bedroom # 1	Door	Wood	Good	White		Negative	0
8-Mar-14	73	Bedroom # 1	Window sill	Wood	Good	White		Negative	0
8-Mar-14	74	Bedroom # 1	Window Frame	Wood	Good	White		Negative	0
8-Mar-14	75	Bedroom # 1	Window sash	Wood	Good	White		Negative	0
8-Mar-14	76	Bedroom # 2	South Wall	Drywall	Good	Purple		Negative	0
8-Mar-14	77	Bedroom # 2	East Wall	Drywall	Good	Purple		Negative	0

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Date	Reading	Room	Component	Substrate	Paint Condition	Paint Color	Friction, Impact, or Teeth Marked surface F/I/TM	Result	Lead Content (mg/cm^2)
8-Mar-14	78	Bedroom # 2	North Wall	Drywall	Good	Purple		Negative	0
8-Mar-14	79	Bedroom # 2	West wall	Drywall	Good	Purple		Negative	0
8-Mar-14	80	Bedroom # 2	Door	Wood	Good	White		Negative	0
8-Mar-14	81	Bedroom # 2	Door Frame	Wood	Good	White		Negative	0
8-Mar-14	82	Bedroom # 2	Door Jamb	Wood	Good	White		Negative	0
8-Mar-14	83	Bedroom # 2	Window Sill	Wood	Good	White		Negative	0
8-Mar-14	84	Bedroom # 2	Window sash	Wood	Good	White		Negative	0
8-Mar-14	85	Bedroom # 2	Window Frame	Wood	Good	White		Negative	0
8-Mar-14	86	Living room	North Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	87	Living room	East Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	88	Living room	South Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	89	Living room	West wall	Drywall	Good	Beige		Negative	0
8-Mar-14	90	Living room	Window Sill	Wood	Good	White		Negative	0
8-Mar-14	91	Living room	Window Frame	Wood	Good	White		Negative	0
8-Mar-14	92	Living room	Window	Wood	Good	White		Negative	0
8-Mar-14	93	Living room	Door	Wood	Good	White		Negative	0
8-Mar-14	94	Living room	Door Jamb	Wood	Good	White		Negative	0
8-Mar-14	95	Living room	Door Frame	Wood	Good	White		Negative	0
8-Mar-14	96	Bathroom	North Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	97	Bathroom	East Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	98	Bathroom	South Wall	Drywall	Good	Beige		Negative	0
8-Mar-14	99	Bathroom	West wall	Drywall	Good	Beige		Negative	0
8-Mar-14	100	Bathroom	Door	Wood	Good	White		Negative	0
8-Mar-14	101	Bathroom	Door Jamb	Wood	Good	White		Negative	0
8-Mar-14	102	Bathroom	Door Frame	Wood	Good	White		Negative	0
8-Mar-14	103	Exterior	Wall	Concrete	Good	Gray		Negative	0

PARS ENVIRONMENTAL INC.

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Date	Reading	Room	Component	Substrate	Paint Condition	Paint Color	Friction, Impact, or Teeth Marked surface F/I/TM	Result	Lead Content (mg/cm^2)
8-Mar-14	104	Exterior	Wall	Concrete	Good	Gray		Negative	0
8-Mar-14	**105**	**Calibration**	**Red Film**	**Film**	**Good**	**Red**		**Positive**	**1.08**
8-Mar-14	**106**	**Calibration**	**Red Film**	**Film**	**Good**	**Red**		**Positive**	**1.04**
8-Mar-14	**107**	**Calibration**	**Red Film**	**Film**	**Good**	**Red**		**Positive**	**1.06**

TABLE 2

XRF Direct Reading Results

PARS ENVIRONMENTAL INC.

Table 2
XRF Direct Reading Results
840 Mantoloking Road, APT #3
Brick, NJ
SRP0037020.05.03.D.003

Date	Time	Reading	Mode	LiveTime	Pass Fail Standard	Pb	Pb +/-
8-Mar-14	13:51:32	52	Standardization	49.48	PASS		
8-Mar-14	**13:53:20**	**53**	**Lead Paint Fixed-Time**	**22.34**	**Positive**	**1.12**	**0.04**
8-Mar-14	**13:54:18**	**54**	**Lead Paint Fixed-Time**	**22.36**	**Positive**	**1.08**	**0.04**
8-Mar-14	**13:55:00**	**55**	**Lead Paint Fixed-Time**	**22.49**	**Positive**	**1.08**	**0.04**
8-Mar-14	13:56:14	56	Lead Paint Fixed-Time	24.47	Negative	0	0
8-Mar-14	13:56:56	57	Lead Paint Fixed-Time	24.59	Negative	0	0
8-Mar-14	13:57:43	58	Lead Paint Fixed-Time	24.43	Negative	0	0
8-Mar-14	13:58:24	59	Lead Paint Fixed-Time	24.58	Negative	0	0
8-Mar-14	13:59:26	60	Lead Paint Fixed-Time	25.56	Negative	0	0
8-Mar-14	14:00:08	61	Lead Paint Fixed-Time	23.08	Negative	0	0
8-Mar-14	14:00:52	62	Lead Paint Fixed-Time	23.15	Negative	0	0
8-Mar-14	14:01:58	63	Lead Paint Fixed-Time	23.41	Negative	0	0
8-Mar-14	14:02:41	64	Lead Paint Fixed-Time	23.55	Negative	0	0
8-Mar-14	14:03:22	65	Lead Paint Fixed-Time	23.22	Negative	0	0
8-Mar-14	14:04:43	66	Lead Paint Fixed-Time	24.29	Negative	0	0
8-Mar-14	14:05:25	67	Lead Paint Fixed-Time	24.56	Negative	0	0
8-Mar-14	14:06:08	68	Lead Paint Fixed-Time	24.61	Negative	0	0
8-Mar-14	14:06:50	69	Lead Paint Fixed-Time	24.53	Negative	0	0
8-Mar-14	14:07:34	70	Lead Paint Fixed-Time	24.2	Negative	0	0
8-Mar-14	14:08:15	71	Lead Paint Fixed-Time	23.17	Negative	0	0
8-Mar-14	14:08:55	72	Lead Paint Fixed-Time	22.58	Negative	0	0
8-Mar-14	14:10:29	73	Lead Paint Fixed-Time	23.5	Negative	0	0
8-Mar-14	14:11:07	74	Lead Paint Fixed-Time	23.46	Negative	0	0
8-Mar-14	14:11:48	75	Lead Paint Fixed-Time	23.38	Negative	0	0
8-Mar-14	14:13:09	76	Lead Paint Fixed-Time	24.49	Negative	0	0
8-Mar-14	14:13:56	77	Lead Paint Fixed-Time	24	Negative	0	0
8-Mar-14	14:14:37	78	Lead Paint Fixed-Time	24.35	Negative	0	0
8-Mar-14	14:15:19	79	Lead Paint Fixed-Time	24.45	Negative	0	0
8-Mar-14	14:16:00	80	Lead Paint Fixed-Time	24.06	Negative	0	0
8-Mar-14	14:16:40	81	Lead Paint Fixed-Time	23.66	Negative	0	0
8-Mar-14	14:17:21	82	Lead Paint Fixed-Time	23.64	Negative	0	0
8-Mar-14	14:18:10	83	Lead Paint Fixed-Time	23.64	Negative	0	0
8-Mar-14	14:18:51	84	Lead Paint Fixed-Time	23.45	Negative	0	0
8-Mar-14	14:19:31	85	Lead Paint Fixed-Time	23.61	Negative	0	0
8-Mar-14	14:20:59	86	Lead Paint Fixed-Time	24.57	Negative	0	0
8-Mar-14	14:21:41	87	Lead Paint Fixed-Time	24.59	Negative	0	0
8-Mar-14	14:22:24	88	Lead Paint Fixed-Time	24.61	Negative	0	0
8-Mar-14	14:23:05	89	Lead Paint Fixed-Time	24.65	Negative	0	0
8-Mar-14	14:23:48	90	Lead Paint Fixed-Time	23.29	Negative	0	0
8-Mar-14	14:24:29	91	Lead Paint Fixed-Time	23.21	Negative	0	0
8-Mar-14	14:25:10	92	Lead Paint Fixed-Time	23.01	Negative	0	0
8-Mar-14	14:26:25	93	Lead Paint Fixed-Time	24.51	Negative	0	0

PARS ENVIRONMENTAL INC.

Table 2
XRF Direct Reading Results
840 Mantoloking Road, APT #3
Brick, NJ
SRP0037020.05.03.D.003

Date	Time	Reading	Mode	LiveTime	Pass Fail Standard	Pb	Pb +/-
8-Mar-14	14:27:05	94	Lead Paint Fixed-Time	24.39	Negative	0	0
8-Mar-14	14:27:47	95	Lead Paint Fixed-Time	24.23	Negative	0	0
8-Mar-14	14:28:31	96	Lead Paint Fixed-Time	22.53	Negative	0	0
8-Mar-14	14:29:10	97	Lead Paint Fixed-Time	24.46	Negative	0	0
8-Mar-14	14:29:49	98	Lead Paint Fixed-Time	22.86	Negative	0	0
8-Mar-14	14:30:36	99	Lead Paint Fixed-Time	23.65	Negative	0	0
8-Mar-14	14:31:16	100	Lead Paint Fixed-Time	23.66	Negative	0	0
8-Mar-14	14:32:46	101	Lead Paint Fixed-Time	23.26	Negative	0	0
8-Mar-14	14:35:06	102	Lead Paint Fixed-Time	23.8	Negative	0	0
8-Mar-14	14:35:49	103	Lead Paint Fixed-Time	24.03	Negative	0	0
8-Mar-14	14:36:31	104	Lead Paint Fixed-Time	23.91	Negative	0	0
8-Mar-14	**14:37:18**	**105**	**Lead Paint Fixed-Time**	**23.15**	**Positive**	**1.08**	**0.04**
8-Mar-14	**14:37:58**	**106**	**Lead Paint Fixed-Time**	**23.26**	**Positive**	**1.04**	**0.04**
8-Mar-14	**14:38:40**	**107**	**Lead Paint Fixed-Time**	**23.28**	**Positive**	**1.06**	**0.04**

TABLE 3

Lead Dust Wipe Sample Results

PARS ENVIRONMENTAL INC.

TABLE 3
LBP Dust Wipe Sample Test Results
840 Mantoloking Road, APT #3
Brick, NJ
SRP0037020.05.03.D.003

Sample ID	Date	Room	Location	Lead Dust Concentration indicative of Lead Hazard ($\mu g/ft^2$)	Wipe Sample Result ($\mu g/ft^2$)
ML-01	3/8/2014	Front Entrance	Floor	40	<10
ML-02	3/8/2014	Kitchen	Floor	40	<10
ML-03	3/8/2014	Bedroom # 1	Floor	40	<10
ML-04	3/8/2014	Bedroom # 2	Floor	40	<10
ML-05	3/8/2014	Living Room	Floor	40	<10
ML-06	3/8/2014	Bathroom	Floor	40	<10
ML-07	3/8/2014	Kitchen	Window sill	250	<23
ML-08	3/8/2014	Bedroom # 1	Window sill	250	<23
ML-09	3/8/2014	QC	Blank	N/A	<10

4400 = Exceeds lead dust concentration

APPENDIX A

Licenses

Lead Identification Permit

New Jersey Department of Health

FIROZ JAN

Permit No.: 026145

ID No.: R00230

Expires: 7/25/2015

Authorization Signature

Joseph D. Eldridge, M.P.H., Director

Inspector/Risk Assessor

36948

National Asbestos & Environmental Training Institute

CERTIFICATE OF COMPLETION

This is to certify that

Firoz Jan

Successfully completed the course entitled

1-Day New Jersey/EPA Model Lead Inspector/Risk Assessor Refresher on November 21, 2012

Examination Passed on November 21, 2012 *Expiration Date November 21, 2014*

~~Doris L. Adler~~
President, NAETI

Language: English | 3 CE Units | ABIH 1 CM POINT

3321 Doris Avenue, Building B, Ocean, NJ 07712 Phone (732) 531-5571 Fax (732) 531-5956 www.naeti.com

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

LOCATION
101 SOUTH BROAD STREET
TRENTON, NEW JERSEY 08618

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF CODES AND STANDARDS
BUREAU OF CODE SERVICES
LEAD HAZARD ABATEMENT

RICHARD E. CONSTABLE, III
Commissioner

MAILING ADDRESS
PO BOX 816
TRENTON, NJ 08625-0816

Certificate - Lead Evaluation Contractor

This is to certify that the Department of Community Affairs has

( ) CERTIFIED
(XX) RECERTIFIED

PARS ENVIRONMENTAL
500 HORIZON DRIVE
SUITE 540
ROBBINSVILLE, NJ 08691

To act as a Lead Evaluation Contractor on the following projects

Residential
Public Buildings

Cert # 00416 E

Effective Date: MARCH 1, 2014

Date of Expiration: FEBRUARY 29, 2016

Certificate Type: 2 YEAR

Sincerely,

James L. Amici
Supervisor of Certification
Lead Hazard Abatement Unit

APPENDIX B

Performance Characteristic Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: **October 12, 2006** **EDITION NO.: 1**

MANUFACTURER AND MODEL:

Make: ***Innov-X Systems, Inc.***
Models: ***LBP4000 with software version 1.4 and higher***
Source: ***X-ray tube (no radioactive isotopes)***

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Inspection mode, variable reading time.

XRF CALIBRATION CHECK LIMITS:

1.0 to 1.1 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

INSPECTION MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias on any substrate	Brick	0.6 to 1.1
	Concrete	0.6 to 1.1
	Drywall	0.6 to 1.1
	Metal	0.6 to 1.1
	Plaster	0.6 to 1.1
	Wood	0.6 to 1.1

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted on 146 test locations, with two separate instruments, in December 2005.

OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If the average (rounded to 1 decimal place) of three readings is outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

Correction value = (1st + 2nd + 3rd + 4th + 5th + 6th *Reading*) / 6 - 1.02 mg/cm^2

Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing.

Take one XRF reading on each of the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Calculate the average of the original XRF reading and the retest XRF reading for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF readings.

Compute the average of all ten re-test XRF readings.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

For the variable-time inspection paint test mode, the instrument continues to read until it has determined whether the result is positive or negative (with respect to the 1.0 mg/cm^2 Federal standard), with 95% confidence. The following table provides testing time information for this testing mode.

Testing Times Using Variable Reading Time Inspection Mode (Seconds)						
	All Data			Median for laboratory-measured lead levels (mg/cm^2)		
Substrate	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood, Drywall	2.1	2.3	5.4	2.2	5.4	2.2
Metal	2.6	3.2	5.3	2.7	5.1	5.1
Brick, Concrete, Plaster	3.1	4.0	5.7	3.2	4.0	5.9

CLASSIFICATION OF RESULTS:

When an inconclusive range is specified on the *Performance Characteristic Sheet*, XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. If the instrument reads "> x mg/cm^2", the value "x" should be used for classification purposes, ignoring the ">". For example, a reading reported as ">1.0 mg/cm^2" is classified as 1.0 mg/cm^2 , or inconclusive. When the inconclusive range reported in this PCS is used to classify the readings obtained in the EPA/HUD evaluation, the following False Positive, False Negative and Inconclusive rates are obtained:

FALSE POSITIVE RATE: 2.5% (2/80)

FALSE NEGATIVE RATE**:** 1.9% (4/212)

INCONCLUSIVE RATE: 16.4% (48/212)

DOCUMENTATION:

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) and QuanTech, Inc., under a contract between MRI and the XRF manufacturer. XRF Performance Characteristic Sheets were originally developed by the MRI under a grant from the U. S. Environmental Protection Agency and the U.S. Department of Housing and Urban Development. HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

Margaret Halasnik

From: Juan Payan <juan.payan@olympusndt.com>
Sent: Monday, August 12, 2013 12:58 PM
To: Margaret Halasnik
Subject: Performance Characteristics Sheet
Attachments: Lead paint Hud sheet.pdf

Hi Margaret,

Please see the Performance Characteristics Sheet attached, and let me know if you need anything else. This sheet is valid for all Alpha models.

Regards,

JC Payan
Technical Support
Olympus NDT - Analytical Instruments Division
241 Riverview Ave
Auburndale, MA 02466
T: 781-419-3900
F: 781-973-2200

APPENDIX C

Lead Glossary

APPENDIX C

"LEAD SPEAK" A BRIEF GLOSSARY

COMMON LBP TERMS

LBP: Any and all paint that contains at least 1 milligram of lead per square centimeter of surface area (1.0 mg/cm^2). This is infrequently expressed as 0.5% lead by weight and/or 5,000 parts per million lead concentrations by dry weight.

LBP HAZARDS: Housing conditions that cause human exposure to unsafe levels of lead from paint. These conditions include, but are not necessarily limited to: deteriorated LBP; friction, impact, or chewable surfaces; lead contaminated dust; or lead contaminated soil.

PAINT: Any and all paints, stains, varnishes, shellacs, epoxies, lacquers, polyurethanes, etc.

HOUSE WALL IDENTIFICATION GUIDE: The exterior wall that contains the front entry to the house is labeled as the A wall of the house. Proceeding clock-wise around the house label the remaining walls B, C, and D respectively. The interior room walls correspond to the exterior walls

LEAD HAZARD EVALUATION METHODS

VISUAL EVALUATION: A visual evaluation of interior and exterior paint and surfaces in an effort to try to identify specific conditions that contribute to LBP hazards. A certified risk assessor or a Housing Quality Standards inspector trained in visual assessments should perform these inspections.

PAINT TESTING: Testing of specific surfaces that are coated with paint, by XRF (x-ray fluorescence) or laboratory analysis, to determine the lead content of these surfaces, performed by a NJ certified Lead Inspector/Risk Assessor.

RISK ASSESSMENT: An on-site investigation to help determine the existence of LBP hazards. This can include paint testing, dust, and soil sampling, water sampling and a visual inspection. The risk assessment report identifies lead hazards and potential options for lead hazard control. A certified risk assessor must conduct the assessment.

CLEARANCE EXAMINATION: Clearance is performed after hazard reduction, rehabilitation, renovation, repair, modernization, or maintenance activities to determine if a unit is safe for occupancy. It involves a visual inspection, analysis of dust and soil samples, and preparation of a report. A certified risk assessor that is independent from the company or individual conducting the lead hazard control activities should conduct the clearance examination.

X-RAY FLUORESCENCE ANALYZER (XRF): This device, often called an XRF, is used to help identify levels of lead in paint without disturbing the painted surfaces themselves. The unit uses X-rays to measure the lead content in the paint on a per square centimeter basis.

APPENDIX C

"LEAD SPEAK" A BRIEF GLOSSARY

LEAD POISONING: Environmental Intervention Blood Lead Level (EIBLL): The level of lead in blood that requires intervention in a child under the age of seventy-two (72) months (6 years). This is typically defined as a blood lead level of 20 µg/dL (micrograms per deciliter) of whole blood or above for a single test, or blood levels of 15-19 in two tests taken at least three months apart.

KEY UNITS OF MEASUREMENT

µg (Microgram): A microgram is 1/1000th of a milligram. To put this into perspective, a penny weighs 2 grams. To get a microgram, you would need to divide the penny into 2 million pieces. A microgram is one of those two million pieces.

µg/dL (microgram per deciliter): Used to measure the level of lead in children's and worker's blood to establish whether intervention is needed. A deciliter is a little less than a half a cup.

µg/ft^2 (micrograms per square foot): the unit used to express levels of lead in dust samples. All reports should report levels of lead in dust in µg/ft^2, mg/cm^2 (milligrams per centimeter square): used to report levels of lead in paint thru XRF testing.

PPM (parts per million): Typically used to express the concentrations of lead in soil. Can also be used to express the amount of lead in a surface coating on a mass concentration basis. This measurement can also be shown as: µg/gram or mg/kg (soil) or mg/1 (aqueous).

PPB (parts per billion)**:** Typically used to express the amount of lead found in drinking water. This measurement is also sometimes expressed as: µg/l.

EPA/HUD PUBLISHED LBP STANDARDS

Dust-thresholds for Lead Contamination

- Floors: less than (<) 40 µg/ft^2
- Interior Window Sills: <250 µg/ft^2
- Window Troughs: <400 µg/ft^2

Soil-thresholds for Lead Contamination

- Play areas used by children 6 and under: <400 µg/gram or 400 PPM
- Other areas: < 1200 µg/gram or 1200 PPM
- Threshold for abatement: <5000 µg/gram or 5000 PPM

APPENDIX C

"LEAD SPEAK" A BRIEF GLOSSARY

NATIONAL CENTER FOR HEALTHY HOUSING: http://www.leadsafehousing.org/

NATIONAL LEAD INFORMATION CENTER AND CLEARINGHOUSE:
1-800-424 LEAD, Fax: 301-585-7976 www.epa.gov/lead/nlic.htm

NATIONAL LEAD ASSESSMENT AND ABATEMENT COUNCIL:
1-800-590-6522 Fax: 301-924-0265 http://www.nlaac.org

HUD's OFFICE OF HEALTH HOMES AND LEAD HAZARD CONTROL:
http://www.hud.gov/offices/lead

THE ALLIANCE TO END CHILDHOOD LEAD POISONING:
http://www.aeclp.org

THE ENVIRONMENTAL PROTECTION AGENCY LEAD PROGRAMS:
http://www.epa.gov/opptintr/lead Voice: 1-202-260-2090

NEW JERSEY DEPARTMENT OF HEALTH, INDOOR ENVIRONMENTS PROGRAM
http://www.state.nj.us/health/iep/lead.shtml

ADDITIONAL INFORMATION:
Lists of recalled products containing lead: www.safetyalerts.com. The Lead listing for info On lead-safe service providers and EPA accredited laboratories throughout the United States: http://www.leadlisting.org

APPENDIX D

EMSL Laboratories Lead Report

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:	201403046
CustomerID:	PARS51
CustomerPO:	
ProjectID:	GILBANE

Attn: **Firoz Jan**
PARS Environmental
500 Horizon Drive
Suite 540
Robbinsville, NJ 08691

Phone:	(609) 890-7277
Fax:	(609) 890-9116
Received:	03/08/14 4:05 PM
Collected:	3/8/2014

Project: **Gilbane/ Apt #3; 840 Mantlooking Rd. Brick, NJ**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Area Sampled*	*Lead Concentration*
ML-01	*0001*	3/8/2014	3/10/2014	144 in²	<10 µg/ft²
Site: Front Entrance Floor					
ML-02	*0002*	3/8/2014	3/10/2014	144 in²	<10 µg/ft²
Site: Kitchen Floor					
ML-03	*0003*	3/8/2014	3/10/2014	144 in²	<10 µg/ft²
Site: Bedroom 1 Floor					
ML-04	*0004*	3/8/2014	3/10/2014	144 in²	<10 µg/ft²
Site: Bedroom 2 Floor					
ML-05	*0005*	3/8/2014	3/10/2014	144 in²	<10 µg/ft²
Site: Living Room Floor					
ML-06	*0006*	3/8/2014	3/10/2014	144 in²	<10 µg/ft²
Site: Bathroom Floor					
ML-07	*0007*	3/8/2014	3/10/2014	64 in²	<23 µg/ft²
Site: Window Sill Kitchen					
ML-08	*0008*	3/8/2014	3/10/2014	64 in²	<23 µg/ft²
Site: Window Sill/Bedroom #1					
ML-09	*0009*	3/8/2014	3/10/2014	n/a	<10 µg/wipe
Site: QA/QC Blank					

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

*Analysis following Lead in Dust by EMSL SOP/ Determination of Environmental Lead by FLAA. Reporting limit is 10 ug/wipe. ug/wipe = ug/ft2 x area sampled in ft2. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities (such as volume sampled) or analytical method limitations. Samples received in good condition unless otherwise noted. The lab is not responsible for data reported in µg/ft² which is dependant on the area provided by non-lab personnel. The test results contained within this report meet the requirements of NELAC unless otherwise noted. * slight modifications to methods applied. "<" (less than) results 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 03/10/2014 16:11:15

OrderID: 201403046

201403046

Lead (Pb) Chain of Custody

EMSL Order ID *(Lab Use Only):*

APT #3 · 640 Mantloding Rd
BRICK- NJ

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (856) 303-2533
FAX: (856) 786-5974

Company: PARS Environmental Inc.		**EMSL-Bill to:** ☐ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*	
Street: 500 HORIZON DR- STE-540			
City: Robbinsville	**State/Province:** NJ	**Zip/Postal Code:**	**Country:**
Report To (Name): FIROZ JAN		**Telephone #:**	
Telephone #: **Email Address:** FJan@Parsenviro.com		**Fax #:**	**Purchase Order:**
Project Name/Number:		**Please Provide Results:** ☐ Fax ☐ Email	
U.S. State Samples Taken:		**Connecticut Samples:** ☐ Commercial ☐ Residential	

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/7420 or AOAC 974.02	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	0.5 µg/filter	☐
Wipe* ☒ ASTM ☐ non ASTM *if no box is checked, non-ASTM Wipe is assumed	SW846-7000B/7420	Flame Atomic Absorption	10 µg/wipe	☐
	SW846-6010B or C	ICP-AES	0.5 µg/wipe	☐
TCLP	SW846-1311/7420/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-6010B or C	ICP-AES	0.1 mg/L (ppm)	☐
Soil	SW846-7000B/7420	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	SW846-7421	Graphite Furnace AA	0.3 mg/kg (ppm)	☐
	SW846-6010B or C	ICP-AES	1 mg/kg (ppm)	☐
Wastewater	SM3111B or SW846-7000B/7420	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	SW846-6010B or C	ICP-AES	0.020 mg/L (ppm)	☐
Drinking Water	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐

Other:	**Preservation Method (Water):**
Name of Sampler: FIROZ JAN	**Signature of Sampler:**

Sample #	Location	Volume/Area	Date/Time Sampled

Client Sample #'s	-			**Total # of Samples:**	9
Relinquished (Client):		**Date:**	3/8/14	**Time:**	
Received (Lab):	Holland WI	**Date:**	3/8/14	**Time:**	4:05pm
Comments:					

Paul Wright 3/11/14 sz.

201403046

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

LEAD (Pb) CHAIN OF CUSTODY

EMSL ORDER ID *(Lab Use Only):*

APT #3/840 Mantoloking Rd.
BRICK-NJ.

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
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
1	ML-01	Front entrance Floor	12x12	3/8/14
2	ML-02	KITCHEN		
3	ML-03	Bedroom #1		
4	ML-04	Bedroom #2		
5	ML-05	Living Room		
6	ML-06	Bathroom		
7	ML-07	Window SILL - Kitchen	8x8	
8	ML-08	Window SILL / Bed Room #1	8x8	
9	ML-09	QA/QC Blank	N/A	

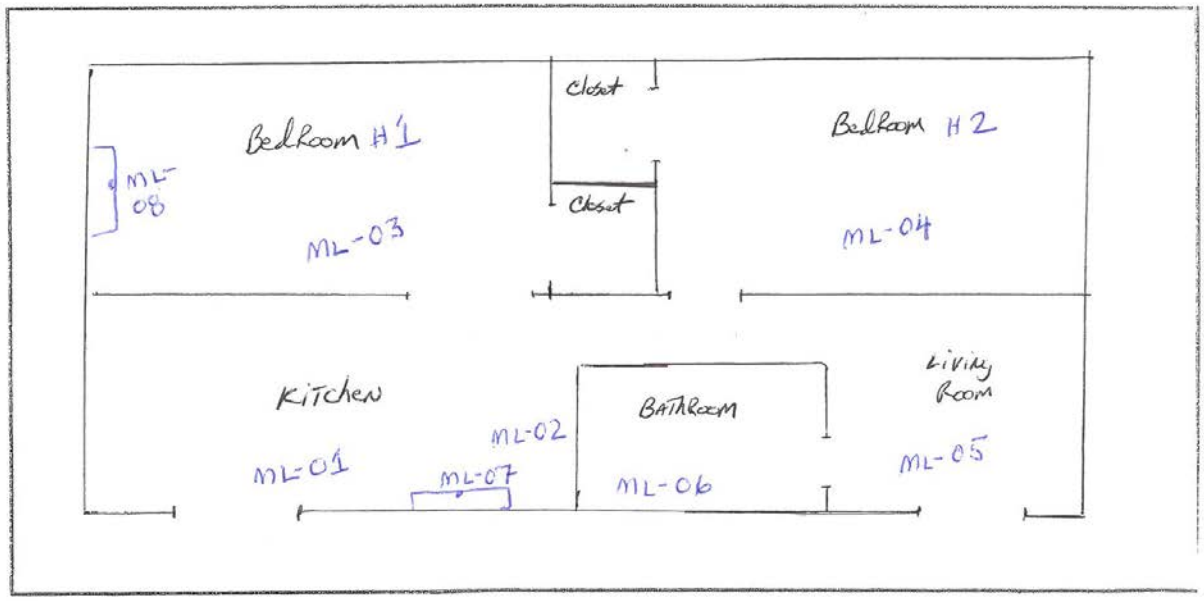
RECEIVED EMSL CINNAMINSON, NJ 14 MAR -8 PM 4:05

Comments/Special Instructions:
BillTo: PARS Environmental, 500 Horizon Drive, Suite 540, Robbinsville, NJ, 08691, United States
Attention: Margaret Halasnik Phone: 609-890-7277 Email: mhalasnik@parsenviro.com Purchase Order: 1101

APPENDIX E

Bare Soil / Deteriorated Paint / Lead Dust Wipe Sample Location

Site Sketch



ML-01 = Wipe Sample Location

LEAD HAZARD EVALUATION NOTICE – SAMPLE FORM

Address: 840 Mantoloking Road, Unit #4, Brick, New Jersey 08723

SRP0037020

Evaluation Completed (circle one): Paint Inspection Paint Testing (Risk Assessment)

Date: 10/22/13

Summary of Results:

_X_ No lead-based paint or lead-based paint hazards were found.

____ Lead-based paint and/or lead-based paint hazards were found. See attachment for details

Contact person for more information about the risk evaluation:

Printed name: Robert Carlucci
Signature: Robert Carlucci
Date: 01/28/14
Organization: Creative Environment Solutions Corp.
Street: 759 Bloomfield Avenue Box 318
City & State West Cadwell, New Jersey
Zip 07006
Phone #: 973-432-5233

Person who prepared this notice:

Printed name: Michael Rattacasa
Signature:
Date: 01/28/14
Organization: Creative Environment Solutions Corp.
Street: 39 West 37th Street, 14th Fl.
City & State New York, New York,
Zip 10018
Phone #: 212-290-6323

Contaminated Soil		
Area	**mg/g (ppm)**	**Location**
_X_ None		
___ Perimeter	___ mg/g (ppm)	
___ Play Area	___ mg/g (ppm)	
___ Other	___ mg/g (ppm)	

Contaminated Dust		
Area	**µg/SF**	**Location**
_X_ None		
___ Windowsill	___ µg/SF	
___ Floor	___ µg/SF	
___ Other	___ µg/SF	
___ Other	___ µg/SF	

Other Hazards				
Component*	**Location**	**Condition (good, fair, poor)**	**Friction or Impact Surface?**	**Lead Content (if known)**
1.				___ mg/cm² (ppm)
2.				___ mg/cm² (ppm)
3.				___ mg/cm² (ppm)
4.				___ mg/cm² (ppm)
5.				___ mg/cm² (ppm)
6.				___ mg/cm² (ppm)
7.				___ mg/cm² (ppm)
8.				___ mg/cm² (ppm)
9.				___ mg/cm² (ppm)
10.				___ mg/cm² (ppm)
11.				___ mg/cm² (ppm)
12.				___ mg/cm² (ppm)
13.				___ mg/cm² (ppm)

***** Components include but are not limited to (interior and exterior) windows, doors, trim, fences, porches, walls and floors.

WBE Certified
www.CEScenter.com

Creative Environment Solutions Corp.
39 West 37th Street, 14th Floor, New York, NY 10018
Phone: 212.290.6323 Fax: 212.290.6325
LICENSED & APPROVED by NYS DOH/DOL/DOS, NYC DOB/DEP, FDNY, PIE

LIMITED LEAD-BASED PAINT RISK ASSESSMENT REPORT

Site Location:

840 Mantoloking Road
Unit #4
Brick, New Jersey 08723
SRP0037020

Prepared for:

Gilbane Building Company
New Jersey LLR Program
3150 Brunswick Pike, Suite 300
Lawrenceville, New Jersey 08648

Prepared by:

Creative Environment Solutions Corp.
39 West 37th Street, 14th Floor
New York, New York 10018

January 28, 2014

EXECUTIVE SUMMARY

Creative Environment Solutions Corp. (CES) was retained by Gilbane Building Company; located at, 3150 Brunswick Pike, Suite 300, Lawrenceville, New Jersey 08648, to perform a limited Risk Assessment for Lead-Based Paint (LBP) at the Private Residence; located at, 840 Mantoloking Road, Unit #4, Brick, New Jersey 08723. The inspection was conducted in conjunction with the residence's participation in the New Jersey Landlord Repair Program (LLRP).

CES' New Jersey Department of Health and Senior Services certified Lead Paint Inspector/Risk Assessor, Robert Carlucci, performed a LBP Risk Assessment at the above-referenced location. The inspection was conducted to identify the presence of any LBP and/or lead hazards located within the aforementioned interior and/or exterior of the residence. Mr. Carlucci utilized an [RMD, LPA-1 X-Ray Fluorescence Spectrometer] (XRF) to determine the presence or absence of lead in paint.

The analytical results from this Assessment effort identified the following lead-based paint (LBP) and Lead hazards, as defined by the United States Environmental Protection Agency (USEPA) and/or the department of Housing and Urban Development (HUD) standards:

Interior LBP

• No LBP was identified on the interior.

Exterior LBP

• Not Applicable.

Existing Lead-Based Paint Hazards and Potential Lead Hazards

There were no areas coated with Lead-Based Paint (LBP) that is deteriorated and currently present existing lead-based paint hazards.

No dust hazards were identified.

Future renovations plans were not provided to CES at the time of the inspection.

Please refer to the enclosed for further inspection details, XRF results and/or laboratory analytical results.

Please refer to Table I for a full summary of inspection results.

IDENTIFYING INFORMATION

A Lead Hazard Risk Assessment and Limited LBP Testing (Assessment) was conducted at 840 Mantoloking Road, Unit #4, Brick, New Jersey 08723 on October 22, 2013. The Assessment was conducted by Robert Carlucci, (NJ-027111). The purpose of the Assessment was to identify the presence of lead hazards on and/or in a limited number of surfaces inside and outside the residence, as well as to identify the presence of deteriorated lead-based paint (LBP) and LBP that may be disturbed during planned renovation and/or restoration activities.

PROPERTY RENOVATION AND REPAIR HISTORY

Historic renovation and repair history for the subject property were not provided to CES at the time of the assessment.

PREVIOUS SAMPLING AND TESTING

Records regarding previous lead sampling and/or testing at the subject property were not provided to CES at the time of the assessment.

IDENTIFIED LEAD HAZARDS

The subject property was impacted by Hurricane Sandy; therefore, all materials coated with LBP have the potential to be impacted by future renovation and/or restoration activities.

Existing Lead Hazards

The following areas are coated with Lead-Based Paint (LBP) that is *deteriorated* and currently present existing lead-based paint hazards.

No areas were identified.

Potential Lead Hazards

No areas were identified.

Please refer to the enclosed for further inspection details, XRF results and/or laboratory analytical results.

PAINT SAMPLING AND TESTING

Limited LBP Testing, conforming with HUD Guidelines 24 CFR 35 Section 35.930 (c), (d) was accomplished at this residence on surfaces found to have deteriorated paint and/or where it was indicated to the Assessor that planned renovation would occur. No paint chip samples were taken. On October 22, 2013, a total of fifty four (54) tests (assays) were taken at a limited number of specified surfaces on the inside and outside of the residence using an XRF analyzer. Deteriorated paint and areas that were specified to be disturbed during the planned renovation project were tested. Lead concentrations that meet or exceed the HUD published levels identified as being potentially dangerous (e. g., greater than or equal to 1.0 milligrams per centimeter square [> 1.0 mg/cm2]) were not encountered.

It should be noted that lead concentrations (in paint) that are less than the levels that identify a surface coating as LBP still have the potential of causing lead poisoning. Should these or any potential LBP painted components and/or surfaces be disturbed in any manner that generates dust, extreme care must be taken to limit its spread. It should be assumed that any and all painted surfaces, components, or surfaces not requested to be tested as part of this investigation, or any previous investigations, are coated with LBP, and that renovation or repair activities in these areas dictate the use of safe work practices that limit dust generation and area contamination.

INTERIOR DUST SAMPLING

A total of six (6) single surface dust wipe samples were collected in an effort to help to determine the levels of lead-containing dust on the interior windowsills and floors. These samples were collected from areas most likely to be lead contaminated if lead-in-dust is present. These samples were collected in accordance with the requirements of ASTM Standard E-1728, Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques. USEPA and HUD regulations define the following as dangerous levels for lead dust in residences: floors – ≥40 µg/ft2 (micrograms per square foot); interior windowsills – ≥250 µg/ft2; and, interior window troughs – ≥400 µg/ft2. Please refer to **Appendix B – Laboratory Analytical Results** for the detailed information regarding dust sampling results. According to the laboratory analytical results, zero (0) of the six (6) samples collected exhibited lead concentrations in excess of the aforementioned regulatory thresholds.

SOIL SAMPLING AND LABORATORY INFORMATION

Not applicable.

ONGOING MONITORING

Ongoing monitoring is necessary in all dwellings in which LBP is known or assumed to be present. At these dwellings, the very real potential exists for LBP hazards to develop. Hazards can develop by means such as, but not limited to: the failure of lead hazard control measures; previously intact LBP becoming deteriorated; dangerous levels of lead-in-dust (dust lead) re-accumulating through friction, impact, and deterioration of paint; or, through the introduction of contaminated exterior dust and soil into the interior of the structure. Ongoing monitoring typically includes two different activities: re-evaluation and annual visual surveys. A re-evaluation is a risk assessment that includes limited soil and dust sampling and a visual evaluation of paint films and any existing lead hazard controls. Re-evaluations are supplemented with visual surveys by the Owner, which should be conducted at least once a year. Owner conducted visual surveys do not replace the need for professional re-evaluations. Visual surveys should confirm that all Paint with known or suspected LBP are not deteriorating, that lead hazard control methods have not failed, and that structural problems do not threaten the integrity of any remaining known, assumed or suspected LBP. The partial table below is taken from Table 6.1, Standard Re-evaluation Schedules, as found in the HUD publication entitled; Guidelines for the Evaluation and Control of LBP

Hazards in Housing, dated June 1995, with September 1997 revisions. It is intended as a guideline for the Owner to assess the condition of areas where hazard control activities occurred.

Factors at this residence require the use of Ongoing Monitoring Schedule item number one (1), to dictate monitoring protocol. Visual surveys by the Owner should occur on at least a yearly basis for all painted surfaces. All surfaces that have undergone the hazard control strategy of Interim Controls, Encapsulation or Enclosure should also be checked during this survey. If components are replaced (windows), no re-evaluation or visual survey would be needed, since the LBP would have been removed with the old windows. Please refer to your community development agency, housing authority, or other applicable agency for additional local/regional regulations and guidelines governing re-evaluation activities.

Standard Re-evaluation Schedule

Schedule	Original Evaluation Results	Action taken	Re-evaluation Frequency & Duration	Visual Survey Schedule
1	Combination risk assessment/inspection finds no leaded dust or soil and no lead-based paint.	None.	None.	None

DISCLOSURE REGULATIONS

A copy of this complete report must be made available to new lessees (tenants) and/or must be provided to purchasers of this property under Federal law before they become obligated under any future lease or sales contract transactions (Section 1018 of Title X – found in 24 CFR Part 35 and 40 CFR Part 745), until the demolition of this property. Landlords (Lessors) and/or sellers are also required to distribute an educational pamphlet developed by the EPA entitled "Protect Your Family From Lead in Your Home" and include standard warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from LBP hazards.

FUTURE RENOVATION AND/OR REHABILITATION PRECAUTIONS

It should be noted that during this Assessment, a limited number of areas were tested for the presence of LBP. All LBP, dust, and soil hazards that were identified are addressed in this report. However, LBP, dust lead hazards, and/or soil lead hazards may be present at other locations of the property. Additional paint testing should precede any future remodeling activities that occur at any untested areas. Additional dust and/or soil sample collection and analysis should follow any hazard control activity, repair, remodeling, or renovation effort, and any other work efforts that may in any way disturb LBP and/or any lead containing materials. These Assessment activities will help the Client and owner to ensure the health and safety of the occupants and the neighborhood. Details concerning lead safe work techniques and approved hazard control methods can be found in the HUD publication entitled: "Guidelines for the Evaluation and Control of LBP Hazards in Housing" (June 1995 & 1997 Revision).

LEAD HAZARD CONTROL OPTIONS AND COST ESTIMATES

Lead-safe work practices and worker/occupant protection practices complying with current EPA, HUD and OSHA standards will be necessary to safely complete all work involving the disturbance of LBP coated surfaces and components. In addition, any work considered Lead hazard control will enlist the use of interim control (temporary) methods and/or abatement (permanent) methods. It should be noted that all lead hazard control activities have the potential of creating additional hazards, or even creating hazards that were not present before. All persons and/or firms performing lead hazard control activities must have received proper training in Lead-Safe Work Practices and/or Lead Abatement. Details for the listed lead hazard control options and issues surrounding occupant/worker protection practices can be found in the publication entitled: Guidelines for the Evaluation and Control of LBP Hazards in Housing (June 1995 & 1997 Revision) published by the HUD, as well as in the Occupational Safety and Health Administration (OSHA) regulations found in 29 CFR, Part 1926.62, known as the OSHA Lead Exposure in Construction Industry Standard.

The associated cost estimates, unless otherwise noted, include the labor and materials to accomplish the stated activity and most additional funds typically found to be necessary to complete worker protection, site containment, and cleanup procedures. These are approximate estimates only and due to a variety of potential factors, may not accurately reflect all local cost factors. A precise estimate must be obtained from a certified LBP abatement contractor or a contractor trained

in lead safe work practices. Properly trained and/or licensed persons, as well as properly licensed firms (as mandated) should accomplish all abatement/interim control activities conducted at this residence.

Interim controls, as defined by HUD, means a set of measures designed to temporarily reduce human exposure to LBP hazards and/or lead containing materials. These activities include, but are not limited to: component and/or substrate repairs; paint and varnish repairs; the removal of dust-lead hazards; renovation; remodeling; maintenance; temporary containment; placement of seed, sod or other forms of vegetation over bare soil areas; the placement of at least 6 inches of an appropriate mulch material over an impervious material, laid on top of bare soil areas; the tilling of bare soil areas; extensive and specialized cleaning; and, ongoing LBP maintenance activities.

Abatement, as defined by HUD, means any set of measures designed to permanently eliminate LBP and/or LBP hazards. The product manufacturer and/or contractor must warrant abatement methods to last a minimum of twenty (20) years, or these methods must have a design life of at least twenty (20) years. These activities include, but are not necessarily limited to: the removal of LBP from substrates and components; the replacement of components or fixtures with lead containing materials and/or lead containing paint; the permanent enclosure of LBP with construction materials; the encapsulation of LBP with approved products; the removal or permanent covering (concrete or asphalt) of soil-lead hazards; and, extensive and specialized cleaning activities.

Special Cleaning Preceding Lead Hazard Control Activities

Before any lead hazard control activities begin, the structure and site must be inspected and pre-cleaned following HUD specified cleaning protocols, as detailed in the Guidelines for the Evaluation and Control of LBP Hazards in Housing (June 1995 & 1997 Revision), published by the U.S. Department of Housing and Urban Development. Some of the required steps include removing large debris and paint chips followed by HEPA vacuuming of all horizontal surfaces (floors, windowsills, troughs, etc.). The cleaning protocols described in this publication can assist the contractor in doing a preliminary cleaning and improving the chances of passing clearance inspections after remediation.

LIMITATIONS AND CONDITIONS

CES has performed the tasks set forth above in a thorough and professional manner consistent with industry standards. CES cannot guarantee and does not warrant that this limited assessment has revealed all adverse environmental conditions affecting the site. Nor can CES warrant that the assessment requested will satisfy the dictates of, or provide a legal defense in connection with, environmental laws or regulations. The observations and findings were representative of the conditions from the site on the date of inspection. Often materials are located in confined or inaccessible locations with little or no visible manifestation of their presence. These materials may be found in various areas under existing flooring materials, above ceilings, behind walls, materials within fixtures, electrical wire casing, or buried pipes and wires. Due to the potential for hidden materials to be present, it may not be possible to determine if all suspect building materials have been identified, located, and subsequently tested. Destructive measures to access these and other potentially hidden materials were not employed by CES as part of this project. However, CES does warrant that its investigations and methodology reflect our best efforts based upon prevailing standard of care in the environmental industry.

The information contained in this report was prepared based upon specific parameters and regulations in force at the time of this report. The information herein is only for the specific use of the client and CES. CES accepts no responsibility for the use, interpretation, or reliance by other parties on the information contained herein, unless written authorization has been obtained from CES.

11/06/2013

Robert Carlucci — Date

Certified Lead Paint Inspector/Risk Assessor

11/06/2013

Michael J. Rattacasa — Date

Operations Director

APPENDIX A

XRF Testing Results Table

840 Mantoloking Rd, Unit #4
Brick, New Jersey 08723

Reading #	Room location	Wall	Component	Subcomponent	Substrate	Color	Condition	Result	Lead mg cm2
1	CALIBRATE								0
2	CALIBRATE								0.8
3	**CALIBRATE**								**1.1**
4	Kitchen	A	Wall		Drywall	White	Good	Negative	-0.5
5	Kitchen	B	Wall		Drywall	White	Good	Negative	-0.5
6	Kitchen	C	Wall		Drywall	White	Good	Negative	-0.3
7	Kitchen	D	Wall		Drywall	White	Good	Negative	-0.2
8	Kitchen		Ceiling		Drywall	White	Good	Negative	-0.4
9	Kitchen	A	Door		Metal	White	Good	Negative	-0.4
10	Kitchen	A	Door Component	Casing/Trim	Wood	White	Good	Negative	0.2
11	Kitchen	A	Door Component	Jamb (latch side)	Wood	White	Good	Negative	0.2
12	Kitchen	A	Window Component	Casing/Trim	Wood	White	Good	Negative	-0.7
13	Kitchen	A	Window Component	Interior Sill/Stool	Wood	White	Good	Negative	-0.4
14	Bathroom	A	Wall		Drywall	White	Good	Negative	-0.3
15	Bathroom	B	Wall		Drywall	White	Good	Negative	-0.2
16	Bathroom	C	Wall		Drywall	White	Good	Negative	-0.3
17	Bathroom	D	Wall		Drywall	White	Good	Negative	-0.3
18	Bathroom	C	Window Component	Casing/Trim	Wood	White	Good	Negative	-0.2
19	Bathroom	C	Window Component	Interior Sill/Stool	Wood	White	Good	Negative	-0.2
20	Bathroom	D	Door Component	Casing/Trim	Wood	White	Good	Negative	-0.3
21	Bathroom	D	Door Component	Jamb (latch side)	Wood	White	Good	Negative	-0.2
22	Living Room	A	Wall		Drywall	Yellow	Good	Negative	0
23	Living Room	B	Wall		Drywall	Yellow	Good	Negative	-0.3
24	Living Room	C	Wall		Drywall	Yellow	Good	Negative	-0.5
25	Living Room	D	Wall		Drywall	Yellow	Good	Negative	-0.3
26	Living Room		Ceiling		Drywall	White	Good	Negative	-0.4
27	Living Room	A	Door Component	Casing/Trim	Wood	White	Good	Negative	-0.3
28	Living Room	A	Door Component	Jamb (latch side)	Wood	White	Good	Negative	-0.5
29	Living Room	A	Door		Wood	White	Good	Negative	-0.3
30	Living Room	A	Window Component	Casing/Trim	Wood	White	Good	Negative	-0.2
31	Living Room	A	Window Component	Interior Sill/Stool	Wood	White	Good	Negative	-0.7
32	Left Bedroom	A	Wall		Drywall	White	Good	Negative	-0.3
33	Left Bedroom	B	Wall		Drywall	White	Good	Negative	0
34	Left Bedroom	C	Wall		Drywall	White	Good	Negative	-0.3
35	Left Bedroom	D	Wall		Drywall	White	Good	Negative	-0.2
36	Left Bedroom		Ceiling		Drywall	White	Good	Negative	-0.3
37	Left Bedroom	A	Door Component	Casing/Trim	Wood	White	Good	Negative	-0.3
38	Left Bedroom	A	Door Component	Jamb (latch side)	Wood	White	Good	Negative	-0.4
39	Left Bedroom	B	Window Component	Interior Sill/Stool	Wood	White	Good	Negative	-0.3
40	Left Bedroom	B	Window Component	Casing/Trim	Wood	White	Good	Negative	-0.5
41	Right Bedroom	A	Wall		Drywall	White	Good	Negative	-0.4
42	Right Bedroom	B	Wall		Drywall	White	Good	Negative	-0.4
43	Right Bedroom	C	Wall		Drywall	White	Good	Negative	-0.3
44	Right Bedroom	D	Wall		Drywall	White	Good	Negative	-0.3
45	Right Bedroom		Ceiling		Drywall	White	Good	Negative	-0.4
46	Right Bedroom	C	Window Component	Casing/Trim	Wood	White	Good	Negative	-0.2
47	Right Bedroom	C	Door Component	Casing/Trim	Wood	White	Good	Negative	-0.2
52	**CALIBRATE**								**1.1**
53	**CALIBRATE**								**1.3**
54	**CALIBRATE**								**1.3**

APPENDIX B

Laboratory Analytical Results

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:	201310913
CustomerID:	CES50
CustomerPO:	
ProjectID:	

Attn: **B. Carlucci**
Creative Environment Solutions Corp.
39 West 37th Street
14th Floor
New York, NY 10018

Phone:	(212) 290-6323
Fax:	(212) 290-6325
Received:	10/23/13 8:29 PM
Collected:	10/22/2013

Project: **13-07.339 / Gilbane LLRP SRP0037020 / 840 Mantaloking Rd. Brick, Unit #4**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Area Sampled*	*Lead Concentration*
01	*0001*	10/22/2013	10/25/2013	144 in²	<10 µg/ft²
Site: Living Room Floor					
02	*0002*	10/22/2013	10/25/2013	132 in²	68 µg/ft²
Site: Living Room Sil					
03	*0003*	10/22/2013	10/25/2013	144 in²	<10 µg/ft²
Site: Left Bed Flr					
04	*0004*	10/22/2013	10/25/2013	132 in²	<11 µg/ft²
Site: Left Bed Sill					
05	*0005*	10/22/2013	10/25/2013	144 in²	<10 µg/ft²
Site: Right Bed Floor					
06	*0006*	10/22/2013	10/25/2013	132 in²	<11 µg/ft²
Site: Right Bed Sill					
07	*0007*	10/22/2013	10/25/2013	144 in²	<10 µg/ft²
Site: Exterior Flr					

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

Reporting limit is 10 ug/wipe. ug/wipe = ug/ft2 x area sampled in ft2. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities (such as volume sampled) or analytical method limitations. Samples received in good condition unless otherwise noted. QC data associated with this sample set is within acceptable limits, unless otherwise noted. The lab is not responsible for data reported in µg/ft² which is dependant on the area provided by non-lab personnel. The test results contained within this report meet the requirements of NELAC unless otherwise noted. * slight modifications to methods applied. "<" (less than) results signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request.

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 10/25/2013 17:45:59

201310913

201310913

Creative Environment Solutions Corp.

39 West 37th Street, 14th Floor, New York, NY 10018
Phone: 212.290.6323 Fax: 212.290.6325

WBE Certified
www.CEScenter.com

LICENSED & APPROVED by NYS DOH/DOL/DOS, NYC DOB/DEP, FDNY, PIE

SAMPLING CHAIN-OF-CUSTODY FORM PAGE (1 OF 1)

Date Collected:	Project Name:	Client:
10-22-13	Gilbane LLRP SRP0037020	Gilbane
Collected by:	**Project Location:**	**Project No.:**
Bob Carlucci	840 Mantaloking Rd. Brick UNIT #4	13-07.339

Task / Activity: ☐ Background, ☐ Pre-Abatement/Clean-Up, ☐ During Abatement/Clean-Up, ☐ Post Abatement/Clean-Up, ☒ Inspection, ☐ Repair/ Interim Control, ☐ Construction/Alteration/Demolition, ☐ Other:_____

Matrix: **S** = SOIL; **L** = LIQUID; **A** = AIR; **SL** = SLUDGE; **W** = WIPE; **P** = PAINT CHIPS; **B** = BULK MATERIAL

Laboratory: ☒ EMSL ELAP No. 11506 ☐ _____ ELAP No._____ ☐ _____ ELAP No._____

Analysis Requested: ☐ NIOSH 7400A ☐ TEM (AHERA) ☐ Other: ☐ As Indicated

	Sample ID	Matrix	Flow Rate Start	Flow Rate Finish	Average Flow Rate	Time Start	Time Finish	Total Minutes	Total Volume	Sample Location / Description	Analysis Requested/Results: Lead	Asbestos PLM	Asbestos TEM	VOC	SVOC
1	01	W								Living Room Flor 12x12	X	8			
2	02	W								Living Room Sill 33x4	X	29			
3	03	W								Left Bed Flr 12x12	X				
4	04	W								Left Bed Sill 33x4	X				
5	05	W								Right Bed Flr 12x12	X				
6	06	W								Right Bed Sill 33x4	X				
7	07	W								Exterior Flr 12x12	X				

Turn-Around-Time: ☐ Immediate, ☐ 4 Hr, ☐ 24 Hr, ☒ 48 Hr, ☐ 72 Hr ☐ 3-5 Days, ☐ 5-10 Days, ☐ Other _____

Special Instructions: _____

Results to: X Fax: 212-290-6325 X E-mail: ~~ceslabresults@aol.com~~ ☐ Other: CESCenter@aol.com

Site		Laboratory	
Relinquished By	**Delivery Method**	**Received By**	**Date**
Robert Carlucci	Rec: A. Long EMSL Rise 10/23/13 3:50pm	[illegible] Carmen	10/23/13 8:36am

(7) Lodged 10/24/13 8:34 am

APPENDIX C

Licenses and Certifications

Performance Characteristic Sheet

EFFECTIVE DATE: **October 25, 2006** **EDITION NO.: 5**

MANUFACTURER AND MODEL:

Make: ***Radiation Monitoring Devices***
Model: ***LPA-1***
Source: ^{57}***Co***
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above ***for instruments sold or serviced after June 26, 1995. For other instruments, see prior editions.***

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Quick mode or 30-second equivalent standard (Time Corrected) mode readings.

XRF CALIBRATION CHECK LIMITS:

0.7 to 1.3 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

For XRF results below 4.0 mg/cm^2, substrate correction is recommended for:

Metal using 30-second equivalent standard (Time Corrected) mode readings.
None using quick mode readings.

Substrate correction is not needed for:

Brick, Concrete, Drywall, Plaster, and Wood using 30-second equivalent standard (Time Corrected) mode readings
Brick, Concrete, Drywall, Metal, Plaster, and Wood using quick mode readings

THRESHOLDS:

30-SECOND EQUIVALENT STANDARD MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Results corrected for substrate bias on metal substrate only	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	0.9
	Plaster	1.0
	Wood	1.0

QUICK MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Readings not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations in July 1995. The instrument that performed testing in September had a new source installed in June 1995 with 12 mCi initial strength.

OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.02 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

> Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.
>
> Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.
>
> For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):
>
> $$\text{Correction value} = (1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \textit{Reading}) / 6 - 1.02\ \text{mg/cm}^2$$
>
> Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either the Quick Mode or 30-second equivalent standard (Time Corrected) Mode readings.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten re-test XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

BIAS AND PRECISION:

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with reported laboratory results less than 4.0 mg/cm^2 lead. The data which were used to determine the bias and precision estimates given in the table below have the following properties. During the July 1995 testing, there were 15 test locations with a laboratory-reported result equal to or greater than 4.0 mg/cm^2 lead. Of these, one 30-second standard mode reading was less than 1.0 mg/cm^2 and none of the quick mode readings were less than 1.0 mg/cm^2. The instrument that tested in July is representative of instruments sold or serviced after June 26, 1995. These data are for illustrative purposes only. Actual bias must be determined on the site. Results provided above already account for bias and precision. Bias and precision ranges are provided to show the variability found between machines of the same model.

30-SECOND STANDARD MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm^2)	PRECISION* (mg/cm^2)
0.0 mg/cm^2	Brick	0.0	0.1
	Concrete	0.0	0.1
	Drywall	0.1	0.1
	Metal	0.3	0.1
	Plaster	0.1	0.1
	Wood	0.0	0.1
0.5 mg/cm^2	Brick	0.0	0.2
	Concrete	0.0	0.2
	Drywall	0.0	0.2
	Metal	0.2	0.2
	Plaster	0.0	0.2
	Wood	0.0	0.2
1.0 mg/cm^2	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.0	0.3
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.0	0.3
2.0 mg/cm^2	Brick	-0.1	0.4
	Concrete	-0.1	0.4
	Drywall	-0.1	0.4
	Metal	0.1	0.4
	Plaster	-0.1	0.4
	Wood	-0.1	0.4

*Precision at 1 standard deviation.

CLASSIFICATION RESULTS:

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION:

An EPA document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD. A HUD document titled *A Nonparametric Method for Estimating the 5th and 95th Percentile Curves of Variable-Time XRF Readings Based on Monotone Regression* provides supplemental information on the methodology for variable-time XRF instruments. A copy of this document can be obtained from the HUD lead web site, www.hud.gov/offices/lead.

This XRF Performance Characteristic Sheet was developed by QuanTech, Inc., under a contract from the U.S. Department of Housing and Urban Development (HUD). HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

State of New Jersey
DEPARTMENT OF COMMUNITY AFFAIRS
101 SOUTH BROAD STREET
PO BOX 816
TRENTON, NJ 08625-0816

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

RICHARD E. CONSTABLE, III
Commissioner

Certificate - Lead Evaluation Contractor

This is to certify that the Department of Community Affairs has

(**XX**) Certified
() Recertified

Creative Environmental Solutions Corp.
39 West 37th Street 14th Floor
New York, NY 10018

To act as a Lead Evaluation Contractor on the following projects

Residential Buildings and Public Buildings

Cert # - 559 - E

Effective Date: November 1, 2013

Date of Expiration: October 31, 2015

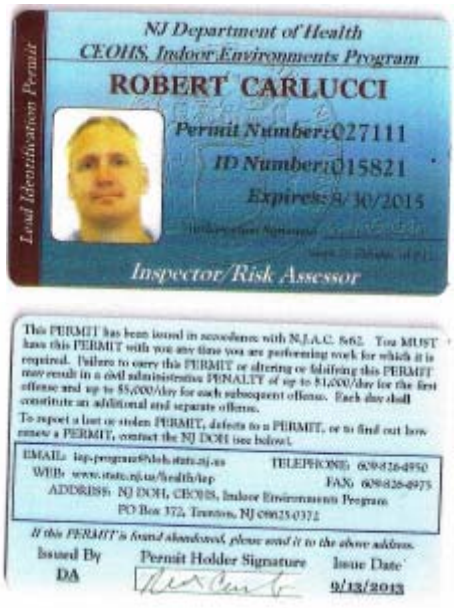
Sincerely

Michael Baier
Bureau of Code Services

WBE Certified
www.CEScenter.com

Creative Environment Solutions Corp.

39 West 37th Street, 14th Floor, New York, NY 10018
Phone: 212.290.6323 Fax: 212.290.6325
LICENSED & APPROVED by NYS DOH/DOL/DOS, NYC DOB/DEP, FDNY, PIE



LEAD HAZARD EVALUATION NOTICE – SAMPLE FORM

Address: 840 Mantoloking Road, Unit #5, Brick, New Jersey 08723

SRP0037020

Evaluation Completed (circle one): Paint Inspection Paint Testing (Risk Assessment)

Date: 10/22/13

Summary of Results:

____ No lead-based paint or lead-based paint hazards were found.

_X_ Lead-based paint and/or lead-based paint hazards were found. See attachment for details

Contact person for more information about the risk evaluation:

Printed name: Robert Carlucci
Signature: Robert Carlucci
Date: 01/28/14
Organization: Creative Environment Solutions Corp.
Street: 759 Bloomfield Avenue Box 318
City & State West Cadwell, New Jersey
Zip 07006
Phone #: 973-432-5233

Person who prepared this notice:

Printed name: Michael Rattacasa
Signature:
Date: 01/28/14
Organization: Creative Environment Solutions Corp.
Street: 39 West 37th Street, 14th Fl.
City & State New York, New York,
Zip 10018
Phone #: 212-290-6323

Contaminated Soil		
Area	**mg/g (ppm)**	**Location**
_X_ None		
___ Perimeter	___ mg/g (ppm)	
___ Play Area	___ mg/g (ppm)	
___ Other	___ mg/g (ppm)	

Contaminated Dust		
Area	**µg/SF**	**Location**
_X_ None		
___ Windowsill	___ µg/SF	
___ Floor	___ µg/SF	
___ Other	___ µg/SF	
___ Other	___ µg/SF	

Other Hazards				
Component*	**Location**	**Condition (good, fair, poor)**	**Friction or Impact Surface?**	**Lead Content (if known)**
1. Wall	Living Room	Good	No	2.5 mg/cm² (ppm)
2.				___ mg/cm² (ppm)
3.				___ mg/cm² (ppm)
4.				___ mg/cm² (ppm)
5.				___ mg/cm² (ppm)
6.				___ mg/cm² (ppm)
7.				___ mg/cm² (ppm)
8.				___ mg/cm² (ppm)
9.				___ mg/cm² (ppm)
10.				___ mg/cm² (ppm)
11.				___ mg/cm² (ppm)
12.				___ mg/cm² (ppm)
13.				___ mg/cm² (ppm)

***** Components include but are not limited to (interior and exterior) windows, doors, trim, fences, porches, walls and floors.

WBE Certified
www.CEScenter.com

Creative Environment Solutions Corp.
39 West 37th Street, 14th Floor, New York, NY 10018
Phone: 212.290.6323 Fax: 212.290.6325
LICENSED & APPROVED by NYS DOH/DOL/DOS, NYC DOB/DEP, FDNY, PIE

LIMITED LEAD-BASED PAINT RISK ASSESSMENT REPORT

Site Location:

840 Mantoloking Road
Unit #5
Brick, New Jersey 08723
SRP0037020

Prepared for:

Gilbane Building Company
New Jersey LLRP Program
3150 Brunswick Pike, Suite 300
Lawrenceville, New Jersey 08648

Prepared by:

Creative Environment Solutions Corp.
39 West 37th Street, 14th Floor
New York, New York 10018

January 28, 2014

EXECUTIVE SUMMARY

Creative Environment Solutions Corp. (CES) was retained by Gilbane Building Company; located at, 3150 Brunswick Pike, Suite 300, Lawrenceville, New Jersey 08648, to perform a limited Risk Assessment for Lead-Based Paint (LBP) at the Private Residence; located at, 840 Mantoloking Road, Unit #5, Brick, New Jersey 08723. The inspection was conducted in conjunction with the residence's participation in the New Jersey Landlord Repair Program (LLRP).

CES' New Jersey Department of Health and Senior Services certified Lead Paint Inspector/Risk Assessor, Robert Carlucci, performed a LBP Risk Assessment at the above-referenced location. The inspection was conducted to identify the presence of any LBP and/or lead hazards located within the aforementioned interior and/or exterior of the residence. Mr. Carlucci utilized an [RMD, LPA-1 X-Ray Fluorescence Spectrometer] (XRF) to determine the presence or absence of lead in paint.

The analytical results from this Assessment effort identified the following lead-based paint (LBP) and Lead hazards, as defined by the United States Environmental Protection Agency (USEPA) and/or the department of Housing and Urban Development (HUD) standards:

Interior LBP

• Living Room Wall

Exterior LBP

• Not Applicable

Existing Lead-Based Paint Hazards and Potential Lead Hazards

There were no areas coated with LBP that is deteriorated and currently present existing lead-based paint hazards.

No dust hazards were identified.

The following areas are coated with LBP that is intact and that do not currently present lead hazards. However, the upcoming renovation plans include work inside the house and scraping and repainting the exterior. If these renovations occur, lead-safe work practices will need to be implemented during the project to ensure that lead hazards are not created.

• LBP on the living room wall

Future renovations plans were not provided to CES at the time of the inspection.

Please refer to the enclosed for further inspection details, XRF results and/or laboratory analytical results.

Please refer to Table I for a full summary of inspection results.

IDENTIFYING INFORMATION

A Lead Hazard Risk Assessment and Limited LBP Testing (Assessment) was conducted at 840 Mantoloking Road, Unit #5, Brick, New Jersey 08723 on October 22, 2013. The Assessment was conducted by Robert Carlucci, (NJ-027111). The purpose of the Assessment was to identify the presence of lead hazards on and/or in a limited number of surfaces inside and outside the residence, as well as to identify the presence of deteriorated lead-based paint (LBP) and LBP that may be disturbed during planned renovation and/or restoration activities.

PROPERTY RENOVATION AND REPAIR HISTORY

Historic renovation and repair history for the subject property were not provided to CES at the time of the assessment.

PREVIOUS SAMPLING AND TESTING

Records regarding previous lead sampling and/or testing at the subject property were not provided to CES at the time of the assessment.

IDENTIFIED LEAD HAZARDS

The subject property was impacted by Hurricane Sandy; therefore, all materials coated with LBP have the potential to be impacted by future renovation and/or restoration activities.

Existing Lead Hazards

The following areas are coated with Lead-Based Paint (LBP) that is *deteriorated* and currently present existing lead-based paint hazards.

No areas were identified.

Potential Lead Hazards

1. LBP is present on the living room wall

Please refer to the enclosed for further inspection details, XRF results and/or laboratory analytical results.

PAINT SAMPLING AND TESTING

Limited LBP Testing, conforming with HUD Guidelines 24 CFR 35 Section 35.930 (c), (d) was accomplished at this residence on surfaces found to have deteriorated paint and/or where it was indicated to the Assessor that planned renovation would occur. No paint chip samples were taken. On October 22, 2013, a total of forty nine (49) tests (assays) were taken at a limited number of specified surfaces on the inside and outside of the residence using an XRF analyzer. Deteriorated paint and areas that were specified to be disturbed during the planned renovation project were tested. Lead concentrations that meet or exceed the HUD published levels identified as being potentially dangerous (e. g., greater than or equal to 1.0 milligrams per centimeter square [> 1.0 mg/cm2]) were encountered on the living room wall.

It should be noted that lead concentrations (in paint) that are less than the levels that identify a surface coating as LBP still have the potential of causing lead poisoning. Should these or any potential LBP painted components and/or surfaces be disturbed in any manner that generates dust, extreme care must be taken to limit its spread. It should be assumed that any and all painted surfaces, components, or surfaces not requested to be tested as part of this investigation, or any previous investigations, are coated with LBP, and that renovation or repair activities in these areas dictate the use of safe work practices that limit dust generation and area contamination.

INTERIOR DUST SAMPLING

A total of six (6) single surface dust wipe samples were collected in an effort to help to determine the levels of lead-containing dust on the interior windowsills and floors. These samples were collected from areas most likely to be lead contaminated if lead-in-dust is present. These samples were collected in accordance with the requirements of ASTM Standard E-1728, Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques. USEPA and HUD regulations define the following as dangerous levels for lead dust in residences: floors – ≥40 µg/ft2 (micrograms per square foot); interior windowsills – ≥250 µg/ft2; and, interior window troughs – ≥400 µg/ft2. Please refer to **Appendix B – Laboratory Analytical Results** for the detailed information regarding dust sampling results. According to the laboratory analytical results, zer (0) of the six (6) samples collected exhibited lead concentrations in excess of the aforementioned regulatory thresholds.

SOIL SAMPLING AND LABORATORY INFORMATION

Not Applicable.

ONGOING MONITORING

Ongoing monitoring is necessary in all dwellings in which LBP is known or assumed to be present. At these dwellings, the very real potential exists for LBP hazards to develop. Hazards can develop by means such as, but not limited to: the failure of lead hazard control measures; previously intact LBP becoming deteriorated; dangerous levels of lead-in-dust (dust lead) re-accumulating through friction, impact, and deterioration of paint; or, through the introduction of contaminated exterior dust and soil into the interior of the structure. Ongoing monitoring typically includes two different activities: re-evaluation and annual visual surveys. A re-evaluation is a risk assessment that includes limited soil and dust sampling and a visual evaluation of paint films and any existing lead hazard controls. Re-evaluations are supplemented with visual surveys by the Owner, which should be conducted at least once a year. Owner conducted visual surveys do not replace the need for professional re-evaluations. Visual surveys should confirm that all Paint with known or suspected LBP are not deteriorating, that lead hazard control methods have not failed, and that structural problems do not threaten the integrity of any remaining known, assumed or suspected LBP. The partial table below is taken from Table 6.1, Standard Re-evaluation Schedules, as found in the HUD publication entitled: Guidelines for the Evaluation and Control of LBP Hazards in Housing, dated June 1995, with September 1997 revisions. It is intended as a guideline for the Owner to assess the condition of areas where hazard control activities occurred.

Factors at this residence require the use of Ongoing Monitoring Schedule item number five (5), to dictate monitoring protocol. Visual surveys by the Owner should occur on at least a yearly basis for all painted surfaces. All surfaces that have undergone the hazard control strategy of Interim Controls, Encapsulation or Enclosure should also be checked during this survey. If components are replaced (windows), no re-evaluation or visual survey would be needed, since the LBP would have been removed with the old windows. Please refer to your community development agency, housing authority, or other applicable agency for additional local/regional regulations and guidelines governing re-evaluation activities.

Standard Re-evaluation Schedule

Schedule	Original Evaluation Results	Action taken	Re-evaluation Frequency & Duration	Visual Survey Schedule
5	No leaded dust or leaded soil hazards identified, but lead-based paint or lead-based paint hazards are found.	A. Interim controls or a mixture of interim controls and abatement (not including window replacement).	2 Years.	Annually and whenever information indicates a possible problem except for encapsulants. The first visual survey of encapsulants should be done one month after clearance; the second should be done 6 months later and annually thereafter.
		B Mixture of interim controls and abatement, including window replacement.	3 Years.	
		C. Abatement of all lead-based paint hazards, but not all lead-based paint.	4 Years.	
		D. Abatement of all lead-based paint using encapsulation or enclosure.	None.	Same as above
		E. Removal of all lead-based paint.	None.	None

DISCLOSURE REGULATIONS

A copy of this complete report must be made available to new lessees (tenants) and/or must be provided to purchasers of this property under Federal law before they become obligated under any future lease or sales contract transactions (Section 1018 of Title X – found in 24 CFR Part 35 and 40 CFR Part 745), until the demolition of this property. Landlords (Lessors) and/or sellers are also required to distribute an educational pamphlet developed by the EPA entitled “Protect Your Famly From Lead in Your Home” and include standard warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from LBP hazards.

FUTURE RENOVATION AND/OR REHABILITATION PRECAUTIONS

It should be noted that during this Assessment, a limited number of areas were tested for the presence of LBP. All LBP, dust, and soil hazards that were identified are addressed in this report. However, LBP, dust lead hazards, and/or soil lead hazards may be present at other locations of the property. Additional paint testing should precede any future remodeling activities that occur at any untested areas. Additional dust and/or soil sample collection and analysis should follow any hazard control activity, repair, remodeling, or renovation effort, and any other work efforts that may in any way disturb LBP and/or any lead containing materials. These Assessment activities will help the Client and owner to ensure the health and safety of the occupants and the neighborhood. Details concerning lead safe work techniques and approved hazard control methods can be found in the HUD publication entitled: "Guidelines for the Evaluation and Control of LBP Hazards in Housing" (June 1995 & 1997 Revision).

LEAD HAZARD CONTROL OPTIONS AND COST ESTIMATES

Lead-safe work practices and worker/occupant protection practices complying with current EPA, HUD and OSHA standards will be necessary to safely complete all work involving the disturbance of LBP coated surfaces and components. In addition, any work considered Lead hazard control will enlist the use of interim control (temporary) methods and/or abatement (permanent) methods. It should be noted that all lead hazard control activities have the potential of creating additional hazards, or even creating hazards that were not present before. All persons and/or firms performing lead hazard control activities must have received proper training in Lead-Safe Work Practices and/or Lead Abatement. Details for the listed lead hazard control options and issues surrounding occupant/worker protection practices can be found in the publication entitled: Guidelines for the Evaluation and Control of LBP Hazards in Housing (June 1995 & 1997 Revision) published by the HUD, as well as in the Occupational Safety and Health Administration (OSHA) regulations found in 29 CFR, Part 1926.62, known as the OSHA Lead Exposure in Construction Industry Standard.

The associated cost estimates, unless otherwise noted, include the labor and materials to accomplish the stated activity and most additional funds typically found to be necessary to complete worker protection, site containment, and cleanup procedures. These are approximate estimates only and due to a variety of potential factors, may not accurately reflect all local cost factors. A precise estimate must be obtained from a certified LBP abatement contractor or a contractor trained in lead safe work practices. Properly trained and/or licensed persons, as well as properly licensed firms (as mandated) should accomplish all abatement/interim control activities conducted at this residence.

Interim controls, as defined by HUD, means a set of measures designed to temporarily reduce human exposure to LBP hazards and/or lead containing materials. These activities include, but are not limited to: component and/or substrate repairs; paint and varnish repairs; the removal of dust-lead hazards; renovation; remodeling; maintenance; temporary containment; placement of seed, sod or other forms of vegetation over bare soil areas; the placement of at least 6 inches of an appropriate mulch material over an impervious material, laid on top of bare soil areas; the tilling of bare soil areas; extensive and specialized cleaning; and, ongoing LBP maintenance activities.

Abatement, as defined by HUD, means any set of measures designed to permanently eliminate LBP and/or LBP hazards. The product manufacturer and/or contractor must warrant abatement methods to last a minimum of twenty (20) years, or these methods must have a design life of at least twenty (20) years. These activities include, but are not necessarily limited to: the removal of LBP from substrates and components; the replacement of components or fixtures with lead containing materials and/or lead containing paint; the permanent enclosure of LBP with construction materials; the encapsulation of LBP with approved products; the removal or permanent covering (concrete or asphalt) of soil-lead hazards; and, extensive and specialized cleaning activities.

Special Cleaning Preceding Lead Hazard Control Activities

Before any lead hazard control activities begin, the structure and site must be inspected and pre-cleaned following HUD specified cleaning protocols, as detailed in the Guidelines for the Evaluation and Control of LBP Hazards in Housing (June 1995 & 1997 Revision), published by the U.S. Department of Housing and Urban Development. Some of the required steps include removing large debris and paint chips followed by HEPA vacuuming of all horizontal surfaces (floors, windowsills, troughs, etc.). The cleaning protocols described in this publication can assist the contractor in doing a preliminary cleaning and improving the chances of passing clearance inspections after remediation.

Table I: Lead-Containing Material(s)-Lead Based Paint Cost Estimate

Line Items	Material(s)	Cost Estimate
1	Living Room Wall	$1,100.00

*The aforereferenced cost estimate assumes all abatement activities are conducted by Union Labor.

LIMITATIONS AND CONDITIONS

CES has performed the tasks set forth above in a thorough and professional manner consistent with industry standards. CES cannot guarantee and does not warrant that this limited assessment has revealed all adverse environmental conditions affecting the site. Nor can CES warrant that the assessment requested will satisfy the dictates of, or provide a legal defense in connection with, environmental laws or regulations. The observations and findings were representative of the conditions from the site on the date of inspection. Often materials are located in confined or inaccessible locations with little or no visible manifestation of their presence. These materials may be found in various areas under existing flooring materials, above ceilings, behind walls, materials within fixtures, electrical wire casing, or buried pipes and wires. Due to the potential for hidden materials to be present, it may not be possible to determine if all suspect building materials have been identified, located, and subsequently tested. Destructive measures to access these and other potentially hidden materials were not employed by CES as part of this project. However, CES does warrant that its investigations and methodology reflect our best efforts based upon prevailing standard of care in the environmental industry.

The information contained in this report was prepared based upon specific parameters and regulations in force at the time of this report. The information herein is only for the specific use of the client and CES. CES accepts no responsibility for the use, interpretation, or reliance by other parties on the information contained herein, unless written authorization has been obtained from CES.

01/28/2014

Robert Carlucci — Date

Certified Lead Paint Inspector/Risk Assessor

01/28/2014

Michael J. Rattacasa — Date

Operations Director

APPENDIX A

XRF Testing Results Table

840 Mantoloking Road Unit #5
Brick, New Jersey 08723

Reading #	Room location	Wall	Component	Subcomponent	Substrate	Color	Condition	Result	Lead mg cm2
1	**CALIBRATE**								**1.1**
2	**CALIBRATE**								**1.2**
3	CALIBRATE								0.8
4	Living Room	A	Wall		Drywall	Orange	Good	Negative	-0.3
5	***Living Room***	***B***	***Wall***		***Cement***	***White***	***Good***	***Positve***	***2.5***
6	Living Room	C	Wall		Drywall	Orange	Good	Negative	-0.2
7	Living Room	D	Wall		Drywall	Orange	Good	Negative	0
8	Living Room		Ceiling		Drywall	White	Good	Negative	-0.2
9	Living Room	B	Window Component	Interior Sill/Stool	Wood	White	Good	Negative	-0.3
10	Living Room	A	Door		Metal	White	Good	Negative	-0.2
11	Living Room	A	Door Component	Casing/Trim	Wood	White	Good	Negative	-0.3
12	Living Room	A	Door Component	Jamb (latch side)	Wood	White	Good	Negative	-0.3
13	Kitchen	A	Wall		Drywall	White	Good	Negative	0
14	Kitchen	B	Wall		Drywall	White	Good	Negative	-0.2
15	Kitchen	C	Wall		Drywall	White	Good	Negative	-0.2
16	Kitchen	D	Wall		Drywall	White	Good	Negative	-0.4
17	Kitchen		Ceiling		Drywall	White	Good	Negative	-0.3
18	Kitchen	C	Window Component	Casing/Trim	Wood	White	Good	Negative	-0.3
19	Kitchen	D	Door Component	Jamb (latch side)	Wood	White	Good	Negative	-0.4
20	Kitchen	D	Door Component	Casing/Trim	Wood	White	Good	Negative	-0.3
21	Bathroom	A	Wall		Drywall	White	Good	Negative	-0.1
22	Bathroom	B	Wall		Drywall	White	Good	Negative	0.2
23	Bathroom	C	Wall		Drywall	White	Good	Negative	-0.3
24	Bathroom	D	Wall		Drywall	White	Good	Negative	-0.3
25	Bathroom		Ceiling		Drywall	White	Good	Negative	-0.1
26	Bathroom	A	Window Component	Casing/Trim	Wood	White	Good	Negative	0.1
27	Bathroom	D	Door Component	Jamb (latch side)	Wood	White	Good	Negative	-0.1
28	Bathroom	D	Door Component	Casing/Trim	Wood	White	Good	Negative	0.1
30	Rear Bedroom	A	Wall		Drywall	White	Good	Negative	-0.4
31	Rear Bedroom	B	Wall		Drywall	White	Good	Negative	-0.4
32	Rear Bedroom	C	Wall		Drywall	White	Good	Negative	-0.2
33	Rear Bedroom	D	Wall		Drywall	White	Good	Negative	-0.3
34	Rear Bedroom		Ceiling		Drywall	White	Good	Negative	-0.4
35	Rear Bedroom	C	Window Component	Casing/Trim	Wood	White	Good	Negative	-0.2
36	Rear Bedroom	C	Window Component	Interior Sill/Stool	Wood	White	Good	Negative	-0.4
37	Rear Bedroom	A	Door Component	Jamb (latch side)	Wood	White	Good	Negative	-0.4
38	Rear Bedroom	A	Door		Wood	White	Good	Negative	-0.3
39	Rear Bedroom	A	Door Component	Casing/Trim	Wood	White	Good	Negative	-0.4
40	Front Bedroom	A	Wall		Drywall	White	Good	Negative	-0.4
41	Front Bedroom	B	Wall		Drywall	White	Good	Negative	-0.3
42	Front Bedroom	C	Wall		Drywall	White	Good	Negative	0
43	Front Bedroom	D	Wall		Drywall	White	Good	Negative	-0.4
44	Front Bedroom		Ceiling		Drywall	White	Good	Negative	-0.3
45	Front Bedroom	A	Window Component	Casing/Trim	Wood	White	Good	Negative	-0.3
46	Front Bedroom	A	Window Component	Interior Sill/Stool	Wood	White	Good	Negative	-0.3
47	Front Bedroom	D	Door		Wood	White	Good	Negative	-0.4
48	Front Bedroom	D	Door Component	Casing/Trim	Wood	White	Good	Negative	-0.3
49	Front Bedroom	D	Door Component	Jamb (latch side)	Wood	White	Good	Negative	-0.3

APPENDIX B

Laboratory Analytical Results

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:	201310904
CustomerID:	CES50
CustomerPO:	
ProjectID:	

Attn: **B. Carlucci**
Creative Environment Solutions Corp.
39 West 37th Street
14th Floor
New York, NY 10018

Phone:	(212) 290-6323
Fax:	(212) 290-6325
Received:	10/23/13 8:29 PM
Collected:	10/22/2013

Project: **13-07.339 / Gilbane LLRP SRP0037020/ 840 Mantolokin Rd. Brick, Unit #5**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Area Sampled*	*Lead* ***Concentration***
01	*0001*	10/22/2013	10/25/2013	144 in²	12 µg/ft²
Site: Front Bedroom Floor					
02	*0002*	10/22/2013	10/25/2013	178.5 in²	33 µg/ft²
Site: Front Bedroom Sill					
03	*0003*	10/22/2013	10/25/2013	144 in²	11 µg/ft²
Site: Rear Bed Floor					
04	*0004*	10/22/2013	10/25/2013	178.5 in²	<8.1 µg/ft²
Site: Rear Bed Sill					
05	*0005*	10/22/2013	10/25/2013	144 in²	<10 µg/ft²
Site: Living Room Floor					
06	*0006*	10/22/2013	10/25/2013	102 in²	<14 µg/ft²
Site: Living Room Sill					
07	*0007*	10/22/2013	10/25/2013	144 in²	<10 µg/ft²
Site: Exterior Floor					

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

Reporting limit is 10 ug/wipe. ug/wipe = ug/ft2 x area sampled in ft2. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities (such as volume sampled) or analytical method limitations. Samples received in good condition unless otherwise noted. QC data associated with this sample set is within acceptable limits, unless otherwise noted. The lab is not responsible for data reported in µg/ft² which is dependant on the area provided by non-lab personnel. The test results contained within this report meet the requirements of NELAC unless otherwise noted. * slight modifications to methods applied. "<" (less than) results signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request.

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 10/25/2013 17:48:12

201310904

2013/0904

Creative Environment Solutions Corp.

39 West 37th Street, 14th Floor, New York, NY 10018
Phone: 212.290.6323 Fax: 212.290.6325

WBE Certified
www.CEScenter.com

LICENSED & APPROVED by NYS DOH/DOL/DOS, NYC DOB/DEP, FDNY, PIE

SAMPLING CHAIN-OF-CUSTODY FORM PAGE (1 OF 1)

Date Collected:	Project Name:	Client:
10-22-13	Gilbane LLRP SRP003720	Gilbane
Collected by:	**Project Location:**	**Project No.:**
Bob Carlucci	840 Mamaroneck Rd Bridle Unit # 5	13-07.339

Task / Activity: ☐ Background, ☐ Pre-Abatement/Clean-Up, ☐ During Abatement/Clean-Up, ☐ Post Abatement/Clean-Up, X Inspection, ☐ Repair/ Interim Control, ☐ Construction/Alteration/Demolition, ☐ Other:_____

Matrix: **S** = SOIL; **L** = LIQUID; **A** = AIR; **SL** = SLUDGE; **W** = WIPE; **P** = PAINT CHIPS; **B** = BULK MATERIAL

Laboratory: X EMSL ELAP No. 11506
☐ _____ ELAP No._____
☐ _____ ELAP No._____

Analysis Requested: ☐ NIOSH 7400A ☐ TEM (AHERA) ☐ Other: ☐ As Indicated

Sample ID	Matrix	Flow Rate Start	Flow Rate Finish	Average Flow Rate	Time Start	Time Finish	Total Minutes	Total Volume	Sample Location / Description	Analysis Requested/Results: Lead	Asbestos PLM	Asbestos TEM	VOC	SVOC
01	W								Front Bedroom Floor 12x12	X				
02	W								Front bedroom Sill 34x5¼	X				
03	W								Rear Bed Floor 12x12	X				
04	W								Rear Bed Sill 34x5¼	X				
05	W								Living Room Floor 12x12	X				
06	W								Living Room Sill 34x3	X				
07	W								Exterior floor 12x12	X				
08	S								A Dripline	X				

Turn-Around-Time: ☐ Immediate, ☐ 4 Hr, ☐ 24 Hr, X 48 Hr, ☐ 72 Hr ☐ 3-5 Days, ☐ 5-10 Days, ☐ Other

Special Instructions:_____

Results to: X Fax: 212-290-6325
X E-mail: ~~ceslabresults@aol.com~~
☐ Other: CESCenter@aol.com

Site		Laboratory	
Relinquished By	**Delivery Method**	**Received By**	**Date**
Robert Carlucci	Rec'd A. Longo EMSC Price 10/23/13 350pm	[signature]	10/23/13 9:34am

APPENDIX C

Licenses and Certifications

Performance Characteristic Sheet

EFFECTIVE DATE: **December 1, 2006** **EDITION NO.: 5**

MANUFACTURER AND MODEL:

Make: ***Radiation Monitoring Devices***
Model: ***LPA-1***
Source: ^{57}***Co***
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above ***for instruments sold or serviced after June 26, 1995. For other instruments, see prior editions.***

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Quick mode or 30-second equivalent standard (Time Corrected) mode readings.

XRF CALIBRATION CHECK LIMITS:

0.7 to 1.3 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

For XRF results below 4.0 mg/cm^2, substrate correction is recommended for:

Metal using 30-second equivalent standard (Time Corrected) mode readings.
None using quick mode readings.

Substrate correction is not needed for:

Brick, Concrete, Drywall, Plaster, and Wood using 30-second equivalent standard (Time Corrected) mode readings
Brick, Concrete, Drywall, Metal, Plaster, and Wood using quick mode readings

THRESHOLDS:

30-SECOND EQUIVALENT STANDARD MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Results corrected for substrate bias on metal substrate only	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	0.9
	Plaster	1.0
	Wood	1.0

QUICK MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Readings not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations in July 1995. The instrument that performed testing in September had a new source installed in June 1995 with 12 mCi initial strength.

OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds.

SUBSTRATE CORRECTION VALUE COMPUTATION :

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

> Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.
>
> Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.
>
> For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):
>
> Correction value = (1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th} *Reading*) / 6 - 1.02 mg/cm²
>
> Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either the Quick Mode or 30-second equivalent standard (Time Corrected) Mode readings.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten re-test XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

BIAS AND PRECISION:

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with reported laboratory results less than 4.0 mg/cm^2 lead. The data which were used to determine the bias and precision estimates given in the table below have the following properties. During the July 1995 testing, there were 15 test locations with a laboratory-reported result equal to or greater than 4.0 mg/cm^2 lead. Of these, one 30-second standard mode reading was less than 1.0 mg/cm^2 and none of the quick mode readings were less than 1.0 mg/cm^2. The instrument that tested in July is representative of instruments sold or serviced after June 26, 1995. These data are for illustrative purposes only. Actual bias must be determined on the site. Results provided above already account for bias and precision. Bias and precision ranges are provided to show the variability found between machines of the same model.

30-SECOND STANDARD MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm^2)	PRECISION* (mg/cm^2)
0.0 mg/cm^2	Brick	0.0	0.1
	Concrete	0.0	0.1
	Drywall	0.1	0.1
	Metal	0.3	0.1
	Plaster	0.1	0.1
	Wood	0.0	0.1
0.5 mg/cm^2	Brick	0.0	0.2
	Concrete	0.0	0.2
	Drywall	0.0	0.2
	Metal	0.2	0.2
	Plaster	0.0	0.2
	Wood	0.0	0.2
1.0 mg/cm^2	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.0	0.3
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.0	0.3
2.0 mg/cm^2	Brick	-0.1	0.4
	Concrete	-0.1	0.4
	Drywall	-0.1	0.4
	Metal	0.1	0.4
	Plaster	-0.1	0.4
	Wood	-0.1	0.4

*Precision at 1 standard deviation.

CLASSIFICATION RESULTS:

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristic Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION:

An EPA document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD. A HUD document titled *A Nonparametric Method for Estimating the 5th and 95th Percentile Curves of Variable-Time XRF Readings Based on Monotone Regression* provides supplemental information on the methodology for variable-time XRF instruments. A copy of this document can be obtained from the HUD lead web site, www.hud.gov/offices/lead.

This XRF Performance Characteristic Sheet was developed by QuanTech, Inc., under a contract from the U.S. Department of Housing and Urban Development (HUD). HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

State of New Jersey
DEPARTMENT OF COMMUNITY AFFAIRS
101 SOUTH BROAD STREET
PO BOX 816
TRENTON, NJ 08625-0816

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

RICHARD E. CONSTABLE, III
Commissioner

Certificate - Lead Evaluation Contractor

This is to certify that the Department of Community Affairs has

(**XX**) Certified
() Recertified

Creative Environmental Solutions Corp.
39 West 37th Street 14th Floor
New York, NY 10018

To act as a Lead Evaluation Contractor on the following projects

Residential Buildings and Public Buildings

Cert # - 559 - E

Effective Date: November 1, 2013

Date of Expiration: October 31, 2015

Sincerely

Michael Baier
Bureau of Code Services

WBE Certified
www.CEScenter.com

Creative Environment Solutions Corp.

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