



**EAGLE**  
**Environmental, Inc.**



Hazardous Building Materials > Industrial Hygiene/IAQ > Environmental Assessments > Laboratory Services & Training

August 3, 2015

Mr. David Holmes  
Capital Studio Architects  
1379 Main Street  
East Hartford, CT 06108

**RE: Environmental Assessment Report  
Department of Housing  
CDBG-DR – Sandy Disaster Recovery Program  
28 West End Drive  
Old Lyme, Connecticut  
Application 1648  
Eagle Project No. 14-028.12T31**

Dear Mr. Holmes:

Please find the Environmental Assessment Report conducted at 28 West End Drive located in Old Lyme, Connecticut (Site). The environmental assessment was performed in support of the planned renovations/repairs to the Site building under the State of Connecticut Department of Housing Community Development Block Grant – Disaster Recovery Program (Program). The assessment focused only on those areas of the building that are scheduled for renovation/repair work with the exception of the lead-based paint hazard screen, which included the interior and exterior of the entire building. The proposed scope of renovation/repair work was provided to Eagle Environmental, Inc. (Eagle) by Capital Studio Architects (CSA).

This assessment and report is intended to satisfy the review process of the National Environmental Policy Act (NEPA) Statutory Checklist Sections 13C (Lead-Based Paint), 13D (Asbestos), 13E (Radon) and 13F (Mold).

Please do not hesitate to contact us if you have any questions regarding the contents of this report.

Sincerely,  
**Eagle Environmental, Inc.**

Report Prepared By:  
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Environmental Consultant II

Report Reviewed By:  
Peter J. Folino  
Project Manager

\\Eaglesvr\public\2014 Files\2014 Reports\Capital Studio Architects\Hurricane Sandy\28 West End Drive, Old Lyme\28 W End Dr- Enviro Assessment Report.doc

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## **1. INTRODUCTION**

On November 14, 2014, Eagle Environmental, Inc. conducted an environmental assessment of portions of the site building located at 28 West End Drive in Old Lyme, Connecticut. The scope of the environmental assessment included an inspection for asbestos-containing materials, a lead-based paint hazard screen and a visual inspection for microbial contamination.

### **1.1 Inspection Area Description**

The inspection area included those areas of the building that will be impacted by planned renovation work. The areas of inspection are determined by reviewing the planned renovation work provided in CSA's Project Scope dated February 24, 2014. For the purpose of this project the following areas were inspected:

- Crawl Space
- Exterior Façades
- Any surface that has the potential to be disturbed during the elevation process

In addition to testing the areas of the building that will be impacted by the renovation work, a lead-based paint hazard screen was performed throughout the site building to comply with federal funding requirements for a residential building receiving Federal funding assistance under a Department of Housing and Urban Development (HUD) administered program.

A complete list of components that were tested may be found in the XRF Lead Inspection Detailed Report located in Appendix 4.

## **2. SCOPE OF INSPECTION**

### **2.1 Asbestos Containing Materials**

The asbestos inspection was conducted to identify and sample suspect asbestos-containing materials within the areas of proposed renovation or repair work. Although federal regulations requiring asbestos inspection do not pertain to a residential structure containing less than five (5) units, demolition or renovation activities which may disturb asbestos would be unauthorized under the State of Connecticut Department of Public Health (DPH) regulations. Disposal of asbestos containing waste in unauthorized landfills is also prohibited. The inspection was performed to facilitate compliance with these applicable abatement and disposal regulations.

The asbestos inspection was performed by Hannah Hintz; a State of Connecticut licensed Asbestos Inspector (license #000816).

### **2.2 Lead-based Paint**

A lead-based paint hazard screen was performed at the site building to comply with the Department of Housing and Urban Development (HUD) Lead Safe Housing Rule (24 CFR 35) for a residential property receiving Federal rehabilitation assistance under a program administered by HUD.

Certain lead-based paint requirements apply to each project depending on the level of Federal Funding allocated. The lead-based paint requirements include the following for each level of funding:

1. Residential property receiving \$5,000 or less per unit (Not Applicable to this Project):
  - a. Conduct lead-based paint testing or presume all painted surfaces contain toxic levels of lead-based paint. If lead-based paint testing confirms that the painted surfaces are not coated with lead-based paint, lead safe work practices and clearances are not required.
  - b. Conduct a risk assessment in each unit receiving Federal funds, in common areas and the exteriors.
  - c. Interim control measures may be utilized throughout the building
  - d. Lead safe work practices are to be utilized during rehabilitation work that will disturb painted surfaces.
  - e. After the completion of any rehabilitation work that has disturbed painted surfaces, clearances are to be performed.
2. Residential property receiving between \$5,000 and \$25,000 per unit:
  - a. Conduct lead-based paint testing or presume all painted surfaces contain toxic levels of lead-based paint. If lead-based paint testing confirms that the painted surfaces are not coated with lead-based paint, lead safe work practices and clearances are not required.
  - b. Lead safe work practices are to be utilized during rehabilitation work that will disturb lead-based painted surfaces.
  - c. Perform interim controls on all lead hazards identified during the lead hazard screen.
  - d. Perform clearance testing following interim control work and renovations.
  - e. Provide notice of lead-hazard reduction within 15 days of completion of work.
3. **Residential property receiving greater than \$25,000 per unit:**
  - a. **Conduct lead-based paint testing or presume all painted surfaces contain toxic levels of lead-based paint. If lead-based paint testing confirms that the painted surfaces are not coated with lead-based paint, lead safe work practices and clearances are not required.**
  - b. **Conduct a risk assessment in each unit receiving Federal funds, in common areas and the exteriors.**
  - c. **Abate all interior lead-based paint hazards identified during the lead inspection/risk assessment. Interim controls are acceptable on**

**exterior surfaces that are not disturbed by rehabilitation and on paint-lead hazards that are below the de minimus levels.**

- d. Lead safe work practices are to be utilized during rehabilitation work that will disturb painted surfaces.**
- e. Perform clearance testing following abatement work.**
- f. Provide notice of lead-hazard reduction within 15 days of completion of work.**

The lead-based paint hazard screen was performed by Hannah Hintz; a State of Connecticut licensed Lead Inspector/Risk Assessor (license # 002244).

In addition to HUD's Lead Safe Housing Rule, the State of Connecticut Department of Public Health Lead Poisoning Prevention and Control regulations apply when a child under the age of six (6) years old lives in the residence at the time of the inspection. The lead-based paint hazard screen was performed in accordance with State requirements, where applicable. No children under the age of six (6) years old resided in the building at the time of the inspection.

### **2.3 Radon Testing**

Radon testing for this program is performed on a case-by-case basis. Building's which are constructed on piers with its lowest level not in contact with the ground are not considered for Radon testing.

Buildings, which are not elevated off the ground are tested for Radon under this Program. Radon testing is performed to comply with the National Environmental Policy Act (NEPA).

At a minimum, the Indoor Radon Potential Map of Connecticut was reviewed to determine each sites geographic location in respect to indoor Radon potential.

### **2.4 Mold Inspection**

Eagle performed a visual inspection for the presence of suspect mold within the inspection areas. The inspection included an investigation for signs of visible microbial growth including discoloring of building materials, mal odors and water intrusion that may inhibit microbial growth. The inspection was visual in nature and did not include any sampling or destructive investigations behind rigid walls or ceilings.

## **3. INSPECTION PROTOCOLS**

### **3.1 Asbestos Containing Materials**

#### **3.1.1 Inspection**

The asbestos-containing materials (ACM) inspection included the accessible interior and exterior portions of the building that will potentially be impacted by the proposed renovation/repair work. The inspection did not include areas outside of the proposed renovation/repair work areas.

Semi-destructive testing techniques were utilized during the inspection process. This included removing small pieces of suspect materials for analysis (bulk sampling). Only those building materials that will be impacted by the proposed renovation/repair work were sampled. Wood, glass, metal and fiberglass are not defined as suspect materials and are not sampled.

During the inspection, suspect materials are located, sampled, quantified and the friability of the material is determined. Friable materials are those materials that hand pressure can crumble, pulverize or reduce to powder when dry. An estimated quantity of identified ACM is provided for positive materials only. The materials are quantified in linear or square feet, depending on the nature of the material.

### **3.1.2 Bulk Sampling**

During the sampling process, suspect ACM is separated into three (3) USEPA categories. These categories are: Thermal System Insulation (TSI), Surfacing Materials (SURF), and Miscellaneous materials (MISC). TSI includes all materials used to prevent heat loss or gain or water condensation on mechanical systems. Examples of TSI are pipe covering, boiler insulation, duct wrap, and mudpack fitting cement. Surfacing ACM includes all ACM that is sprayed, towed or otherwise applied to an existing surface. These applications are most commonly used in fireproofing, decorative, and acoustical applications. Miscellaneous materials include all ACM not listed in thermal or surfacing, such as linoleum, vinyl asbestos flooring, and ceiling tile.

Bulk sampling was performed in a random method. Bulk sampling methods and number of samples collected meets or exceeds the USEPA requirements.

### **3.1.3 Bulk Sample Analysis**

The samples of the suspect asbestos containing materials were sent to a State of Connecticut Department of Public Health (DPH) approved laboratory for analysis by Polarized Light Microscopy (PLM). PLM is the USEPA accepted method of analysis for identification of asbestos in bulk matrixes. Samples are collected individually or in sets. When sets of samples are collected, each set is systematically analyzed until one sample is determined to contain asbestos. Upon the determination of the presence of asbestos in one sample in the set, analysis of the remaining samples in the set is discontinued. If no asbestos is observed during analysis of the set of samples, the suspect material is determined to be negative for asbestos content.

Sample analysis results are reported in percentage of asbestos and non-asbestos components. The USEPA defines any material that contains greater than one percent asbestos, utilizing PLM, as being an asbestos-containing material (ACM). Suspect materials containing greater than one percent (1%) asbestos utilizing the PLM Point Count Method and the NOB TEM method are also considered to be asbestos-containing. Materials determined to contain greater than one percent (1%) asbestos is regulated by the USEPA, the State of Connecticut Department of Public Health and Department of Energy and Environmental Protection and the United States Department of Labor. Sample results indicating "no asbestos detected" (NAD) are specified as non-asbestos containing materials. Samples results indicating "Did Not Analyze" (DNA) are not analyzed due to the stop on first positive request to the laboratory.

### 3.1.3.1 Friable ACM Analysis

Certain samples of friable materials shown to contain less than 10% asbestos are analyzed further by the "Point Count Method". This procedure is recommended by the United States Environmental Protection Agency to confirm friable bulk samples shown to have less than 10% asbestos by PLM to be definitively negative or positive for asbestos. This method is accepted as providing statistically reliable results when analyzing bulk samples with very low asbestos concentrations. Friable materials containing "Trace" or "less than one percent (1%)" asbestos must be analyzed by the PLM Point Count Method. No samples were further analyzed by the PLM Point Count Method for the 28 West End Drive in Old Lyme, Connecticut.

### 3.1.3.2 Non Friable ACM Analysis

Certain samples of organically bound non-friable materials shown to contain "less than 1% asbestos", "TRACE" or "NAD" are recommended for analyses by the "NOB TEM ELAP 198.4 Method". This procedure is recommended by the United States Environmental Protection Agency to further evaluate non-friable organically bound materials for asbestos. Suspect materials confirmed by NOB TEM to be "less than 1% asbestos", "TRACE" or "NAD" are considered non-asbestos containing. No samples were further analyzed by the NOB TEM Method for the 28 West End Drive, Old Lyme, Connecticut.

## 3.2 Lead-based Paint

The lead-based paint hazard screen was performed utilizing an X-Ray Fluorescence (XRF) Radiation Monitoring Device (RMD) Lead Paint Analyzer (LPA 1), serial number 1364 throughout the building.

Due to the level of proposed Federal Funding for this project (exceeding \$25,000 per unit), the lead-based paint hazard screen included testing surfaces where defective paint or surface coatings were identified. A visual inspection was performed to evaluate the condition of surface coating associated with the building. Where surface coatings were defective (peeling, chipping, flaking, etc.), paint testing was performed. Component and surface locations are identified by side designations represented by the letters "A", "B", "C", and "D". The "A" side is considered the front of the building with the "B", "C", and "D" sides following in a clockwise order.

The data is presented on computer generated Lead Inspection Reports contained in Appendix 4. The Summary Report provides an inventory of each surface coating that contains lead at or above 1.0 mg/cm<sup>2</sup>. The Detailed Report is an inventory of each tested surface on a room-by-room basis.

For the purpose of this report, lead-based paint is defined as surface coatings that contain  $\geq 1.0$  mg/cm<sup>2</sup> of lead by XRF.

In addition to XRF testing, dust samples are collected at the time of inspection to determine if dust hazards are present in settled dust. The exterior grounds are evaluated as well and if bare areas of soil are identified, soil samples are collected. Any dust or soil hazards identified are incorporated into the Lead-Based Paint Hazard Reduction or Abatement Plan.

### **3.3 Radon Testing**

The site building is planned to be raised to proper flood elevation and the lowest level of the building will not be in contact with the ground. Radon testing was not performed for this site building.

### **3.4 Mold Inspection**

Eagle Environmental, Inc. performed a visual inspection within the limits of the inspection area for potential microbial growth. The visual inspection was performed to evaluate building materials for signs of water damage and suspect microbial growth. Building materials such as gypsum board, cellulose ceiling tiles, paper pipe coverings or duct coverings and heating, ventilation and air conditioning components were visually assessed. Only visible accessible materials were inspected within the proposed areas of renovation/repair.

Discoloration and decay of the aforementioned building materials may signify mold growth. Water damage or damp conditions may also signify suitable conditions for mold growth.

Suspect mold growth or conditions that may sustain mold growth were documented during the inspection process. In general, the location, color of suspect growth and estimated quantity of impacted building materials were recorded during the inspection process.

Eagle used an Extech Instruments Model MO290 Moisture/Humidity Meter to measure the relative moisture content of accessible representative building materials that may have been impacted by water during the storm. A “dry standard” for each component was determined by averaging the moisture measurements for materials in un-impacted areas. The “dry standard” was used as a baseline comparison to determine if the materials were wet. Moisture measurements were recorded on the Mold Moisture Reading Form.

## **4. INSPECTION RESULTS**

### **4.1 Asbestos Containing Materials**

During the course of the building inspection twelve (12) bulk samples of suspect ACM were collected and ten (10) samples were analyzed by PLM based on the “stop on first positive” request to the laboratory.

The following materials were confirmed to be ACM:

- Sheetrock/joint compound composite
- Joint compound

If the sheetrock will be impacted or require removal during the elevation process of the building, the work must be performed by a Licensed Asbestos Abatement Contractor. Based on the Architect’s plans, the elevation work will not entail impact to any sheetrock. However, The General Contractor should obtain unit price bids from a State of Connecticut licensed Asbestos Contractor to account for any potential sheetrock disturbance.

The remaining materials tested, which may be impacted by the work, were confirmed to be non-ACM and no further action is required.

The summaries of asbestos and non-asbestos materials are presented in Tables I and II respectively. The asbestos analysis laboratory reports are provided in Appendix 2.

All regulated friable and regulated non-friable ACM must be removed prior to renovation/repair activities. A State of Connecticut Licensed Asbestos Abatement Contractor must be retained to perform the removal work. Visual inspections and air clearances must be performed within each abatement area at the completion of the abatement work. The visual inspections and air clearances must be performed by a State of Connecticut licensed Asbestos Project Monitor. The abatement areas must meet final visual and air clearance inspection criteria prior to building renovation / demolition. Re-occupancy air monitoring is required if the building will be re-entered by any person following abatement and prior to demolition. This includes but is not limited to entry for utility disconnects, salvage, equipment removal, etc.

The Asbestos Abatement Contractor must submit a notice of asbestos abatement to the State of Connecticut Department of Public Health post marked or hand delivered ten (10) days prior to the commencement of any asbestos abatement activities involving the abatement of greater than ten (10) linear feet or twenty-five (25) square feet of asbestos-containing materials. The asbestos abatement notification satisfies the DPH regulatory requirements for demolition notification. For asbestos abatement projects involving less than ten (10) linear feet or twenty-five (25) square feet of asbestos-containing materials or projects where no regulated asbestos-containing materials are identified, the facility owner or any person who will be conducting demolition must submit a demolition notification to the State of Connecticut Department of Public Health post marked or hand delivered ten (10) days prior to the commencement of demolition activities.

Any suspect material not specifically identified in this report as non-ACM should be assumed to contain asbestos unless sample results prove otherwise.

#### **4.2 Lead-based Paint**

A copy of this lead-hazard screen report must be provided to residents within fifteen (15) days of the evaluation. A total of twenty-four (24) XRF readings were collected during the lead-based paint hazard screen; none of those readings were identified as containing toxic levels of lead-based paint. No further action is required. No children under the age of six (6) years old resided in the building at the time of the inspection.

A complete inventory of tested building materials is presented in Detailed Reports contained Appendix 5.

Disclaimer: If a surface that has not been tested and confirmed to be negative for lead-based paint is impacted and becomes defective during the project, the surface must be assumed to contain toxic levels of lead-based paint and be treated accordingly.

The U.S. Department of Labor Occupation Safety and Health Administration (OSHA) regulates lead dust exposure to workers in the construction industry under 29 CFR 1926.62 Lead Exposure in Construction; Interim Final Rule. Currently, OSHA does not define a threshold level of lead in paint that may cause worker exposure. Any detectable level of lead in paint ( $>0.0 \text{ mg/cm}^2 \pm 0.3 \text{ mg/cm}^2$  by XRF or  $>0.01 \%$  by AAS) requires task specific exposure monitoring. Contractors performing lead disturbing tasks on this project must comply with the OSHA Lead in Construction Standard.

#### **4.2.1 Dust Hazards**

A total of ten (10) dust wipes were collected during the assessment. No dust-lead hazards were identified at the sampled locations. Eagle Environmental, Inc. recommends that the homeowner continues to follow their regular cleaning regimen.

A copy of the dust sample laboratory reports may be found in Appendix 5.

#### **4.2.2 Soil Hazards**

No soil samples were collected at the time of inspection as there were no bare areas of soil identified. The homeowner should maintain the ground covers in their current condition.

### **4.3 Radon**

Radon is measured in Picocuries of radon per Liter of air or pCi/L. The USEPA has set a national action level of 4 pCi/L. Ambient concentrations of radon are approximately 0.4 pCi/L of radon for outside air. The USEPA recommends that short term tests that have results of 4 pCi/L or greater be confirmed with a second short-term test. Two short-term tests with results equal to or greater than 4 pCi/L require that radon mitigation be performed.

A review of the Indoor Radon Potential Map of Connecticut indicates a Radon Potential Rating of Low-Moderate (16%). The Radon Potential Rating indicates the percentage of tested homes in this geographical area with basement air radon greater than or equal to 4.0 pCi/l (USEPA Action Level for Radon)

Radon testing was not performed at this Site since the building will be elevated and the lowest level of the building will not be in contact with the ground.

### **4.4 Mold**

The physical inspection did not identify any visible suspect mold growth within the limits of the inspected areas. Moisture testing in the crawl space indicated the wood components are holding moisture and could be at risk for future microbial growth. Any materials that will no longer serve a purpose after the elevation process may be disposed of as regular construction debris. Any components that are to remain must be dried as part of the renovation project.

The mold inspection forms are provided in Appendix 7.

## **5. COST ESTIMATES**

The cost estimates include only the abatement or remediation work necessary to support the renovation/repair work. Other regulated or hazardous materials may be present and were not inspected for under this scope of services and are not included within the estimate.

This is a budgetary opinion of cost that is expected to be within -15 to + 30 percent of the actual cost. Eagle Environmental, Inc. has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor or Contractors' methods of determining prices, or over competitive bidding or market conditions. Eagle Environmental, Inc.'s opinion of probable cost of abatement are made on the basis of

Eagle Environmental, Inc.'s experience and qualifications and represent Eagle Environmental, Inc.'s judgment as an experienced and qualified consultant familiar with the abatement industry; but Eagle Environmental, Inc. cannot and does not guarantee that proposals, bids or actual Total Project or Abatement Cost will not vary from opinions of probable cost prepared by Eagle Environmental, Inc. If, prior to the bidding or negotiating phase, the Owner wishes greater assurance as to Total Project or Abatement Cost, the Owner shall employ an independent cost estimator.

The cost estimates are provided in Appendix 8.

**TABLE I**

**ASBESTOS-CONTAINING MATERIALS SUMMARY TABLE**

**TABLE I**  
**ASBESTOS CONTAINING MATERIALS**  
**SUMMARY TABLE**  
**28 WEST END DRIVE**  
**OLD LYME, CONNECTICUT**

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS				ESTIMATED QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
001, 006	Joint Compound	11-12-HH-09	MISC	2% Chrys			YES	N/A	NF
		11-12-HH-10		DNA					
001, 006	Sheetrock/Joint Compound Composite	11-12-HH-11	MISC	2% Chrys			YES	N/A	NF
		11-12-HH-12		DNA					
<b>KEY</b>									
DNA = DID NOT ANALYZE									
NAD = NO ASBESTOS DETECTED									
F = FRIABLE									
NF = NON-FRIABLE									
TSI = THERMAL SYSTEMS INSULATION									
SURF = SURFACING MATERIAL									
MISC = MISCELLANEOUS MATERIAL									
				<b>ANALYTICAL METHODS</b>					
				PLM PC = EPA 600/R-93/116 QUANTITATION 400 POINT COUNT					
				TEM NOB = NEW YORK ELAP 198.4 METHOD					
				PLM = EPA 600/R-93/116					
				PS = Previously Sampled					
				EA = Each					
<b>BOLD TEXT IN "LOCATION" COLUMN INDICATES SAMPLE LOCATION</b>									

**TABLE II**

**NON ASBESTOS-CONTAINING MATERIALS SUMMARY TABLE**

**TABLE II**  
**NON - ASBESTOS CONTAINING MATERIALS**  
**SUMMARY TABLE**  
**28 WEST END DRIVE**  
**OLD LYME, CONNECTICUT**

SAMPLE LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
Crawl Space	Batting paper at insulation (brown hash-line paper)	11-12-HH-01	MISC				NO
		11-12-HH-02					
	Batting paper at insulation (energy saver)	11-12-HH-03	MISC				NO
		11-12-HH-04					
	Batting paper at insulation (certainteed)	11-12-HH-05	MISC				NO
		11-12-HH-06					
Kitchen, 2nd Floor Hallway	Sheetrock	11-12-HH-07	MISC				NO
		11-12-HH-08					
<b>KEY</b>				<b>ANALYTICAL METHODS</b>			
DNA = DID NOT ANALYZE				PLM PC = EPA 600/R-93/116 QUANTITATION 400 POINT COUNT			
NAD=NO ASBESTOS DETECTED				TEM NOB = NEW YORK ELAP 198.4 METHOD			
F = FRIABLE				PLM = EPA 600/R-93/116			
NF = NON-FRIABLE				PS = Previously Sampled			
TSI = THERMAL SYSTEMS INSULATION				EA = Each			
SURF = SURFACING MATERIAL							
MISC = MISCELLANEOUS MATERIAL							
<b>BOLD TEXT IN "LOCATION" COLUMN INDICATES SAMPLE LOCATION</b>							

**APPENDIX 1**  
**FLOOR PLANS**

# CAPITAL STUDIO ARCHITECTS

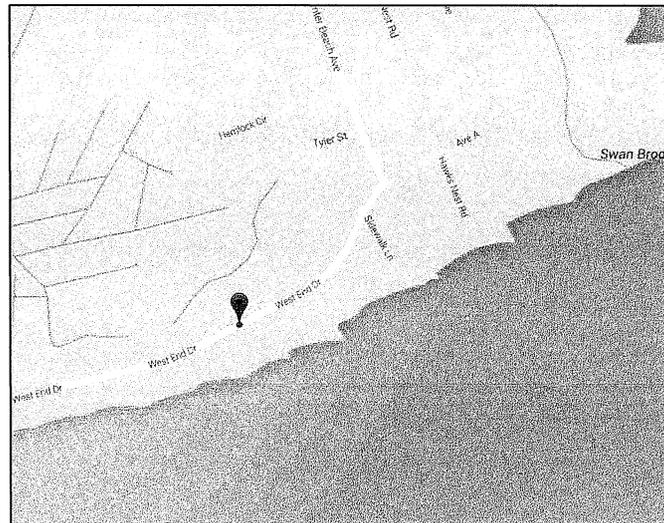
28 WEST END DRIVE  
OLD LYME, CONNECTICUT

EAGLE PROJECT NUMBER: 14-028.12T31

## INDEX OF DRAWINGS

FP-1 FIRST FLOOR PLAN  
FP-2 SECOND FLOOR PLAN

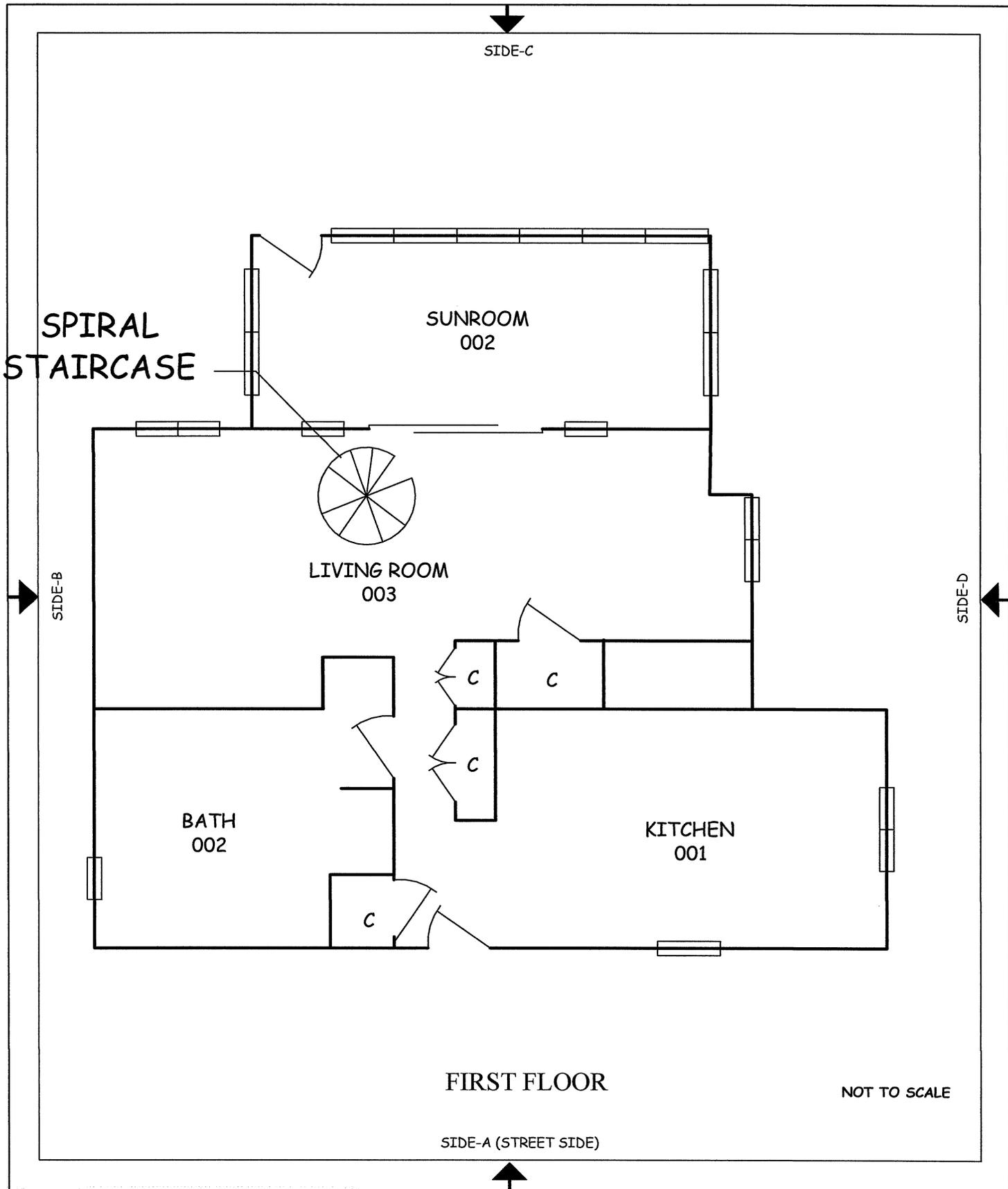
## LOCATION MAP



NOVEMBER 13, 2014



8 SOUTH MAIN STREET, SUITE 3  
TERRYVILLE, CONNECTICUT 06786  
860-589-8257



8 SOUTH MAIN STREET, SUITE 3  
TERRYVILLE, CONNECTICUT 06786  
860-589-8257

**SHEET NO.**  
**FP-1**  
SHEET 1 OF 2

DATE: 11/13/2014  
PROJECT NO.: 14-028.12T31  
DRAWN BY: VB  
REVIEWED BY: AH

**ENVIRONMENTAL REVIEW**  
**28 WEST END DRIVE**  
**OLD LYME, CONNECTICUT**



**APPENDIX 2**

**ASBESTOS BULK SAMPLE LABORATORY REPORTS**



7 Constitution Way, Ste 107  
Woburn, MA 01801  
(781) 933-8411  
(781) 933-8412 Fax

29 N. Plains Hwy, Unit 4  
Wallingford, CT 06492  
(203) 284-5948  
(203) 284-5978 Fax

307 West 38<sup>th</sup> Street  
New York, NY 10018  
(866) 448-3675  
(212) 290-0058 Fax

107 Haddon Avenue  
Westmont, NJ 08108  
(800) 220-3675  
(856) 858-4960 Fax

**Your Name:** Brandy LeBlanc **Project Manager:** PF

**Company:** Eagle Environmental, Inc.

**Street:** 8 South Main Street, Suite 3

**City/State/Zip:** Terryville, CT 06786

**Phone:** 860-589-8257 ext. 108 **Fax:** 860-585-7034 **Email:** bleblanc@eagleenviro.com; dwynne@eagleenviro.com; rsioch@eagleenviro.com

**Project Name:** CSA-SSS **Project #:** 14-028.12T31

**Project Location:** 28 West End Drive, Old Lyme **Project State (US):** CT

**TURNAROUND TIME**

3 Hours  6 Hours  24 Hours  48 Hours  72 Hours  4 Days  5 Days  6-10 Days

**SAMPLE MATRIX**

Air  Bulk  Soil  Wipe  Micro-Vac  Drinking Water  Wastewater  Chips  Other

**ASBESTOS ANALYSIS**

**PCM - Air**

- NIOSH 7400 (A) Issue 2: August 1994
- OSHA w/TWA

**TEM AIR**

- AHERA 40 CFR, Part 763 Subpart E
- NIOSH 7402 Issue 2
- EPA Level II

**PLM - Bulk**

- EPA 600/R-93/116
- NY Stratified Point Count
- California Air Resource Board (CARB) 435
- NIOSH 9002
- PLM NOB (Gravimetric) NYS 198.1
- EPA Point Count (400 Points)
- EPA Point Count (1,000 Points)
- Standard Addition Point Count

**SOILS**

- EPA Protocol Qualitative
- EPA Protocol Quantitative
- EMSL MSD 9000 Method fibers/gram
- Superfund EPA 540-R097-028 (dust generation)

**TEM BULK**

- Drop Mount (Qualitative)
- Chatfield SOP-1988-02
- TEM NOB (Gravimetric) NY 198.4

**TEM MICROVAC**

- ASTM D 5755-95 (Quantitative)

**TEM WIPE**

- ASTM D-6480-99
- Qualitative

**TEM WATER**

- EPA 100.1
- EPA 100.2
- NYS 198.2
- Other:

**LEAD ANALYSIS**

**Flame Atomic Absorption**

- Wipe, SW846-7420  ASTM  non ASTM
- Soil, SW846-7420
- Air, NIOSH 7082
- Chips, SW846-7420 or AOAC 5.009 (974.02)
- Wastewater, SW 846-7420
- TCLP LEAD SW846-1311/7420

**Graphite Furnace Atomic Absorption**

- Air, NIOSH 7105
- Wastewater, SW846-7421
- Soil, SW846-7421
- Drinking Water, EPA 239.2

**ICP - Inductively Coupled Plasma**

- Wipe, SW846-8010  ASTM  non ASTM
- Soil, SW846-6010
- Air, NIOSH 7300

**MATERIALS ANALYSIS**

- Full Particle Identification
- Optical Particle Identification
- Dust Mites and Insect Fragments
- Particle Size & Distribution
- Product Comparison
- Paint Characterization
- Failure Analysis
- Corrosion Analysis
- Glove Box Containment Study
- Petrographic Examination of Concrete
- Portland Cement in Workplace Atmospheres (OSHA ID-143)
- Man Made Vitrous Fibers - MMVF's
- Synthetic Fiber Identification
- Other:

**MICROBIAL ANALYSIS**

**Air Samples**

- Mold & Fungi by Air O Cell
- Mold & Fungi by Agar Plate count & id
- Bacterial Count and Gram Stain
- Bacterial Count and Identification

**Water Samples**

- Total Coliforms, Fecal Coliforms
- Escherichia Coli, Fecal Streptococcus
- Legionella
- Salmonella
- Giardia and Cryptosporidium

**Wipe and Bulk Samples**

- Mold & Fungi - Direct Examination
- Mold & Fungi - (Culture follow up to direct examination if necessary)
- Mold & Fungi - Culture (Count & ID)
- Mold & Fungi - Culture (Count only)
- Bacterial Count & Gram Stain
- Bacterial Count & Identification (3 most prominent types)
- Other:

**IAQ ANALYSIS**

- Nuisance Dust (NIOSH 0500-0600)
- Airborne Dust (PM10/TSPP)
- Silica Analysis by XRF  Niosh 7500
- HVAC Efficiency
- Carbon Black
- Airborne Oil Mist
- Other:

Additional Information/Comments/Instructions: **\*\*PLEASE STOP ON 1ST POSITIVE WITHIN SETS**

Client Sample # (S)	11-12-HH-01	11-12-HH-12	TOTAL SAMPLE #	12
Relinquished:	HANNAH HINTON	Date: 11-12-14	Time: PM	
Received:	RENEE SIOCH	Date: 11-12-14	Time: PM	
Relinquished:	RENEE SIOCH	Date: 11-14-14	Time: PM	
Received:		Date: 11/15/14	Time: 10:41 AM	

*Solowola Chow*  
11/16/14 4:24 PM

EMSL MANHATTAN LAB  
 RECEIVED  
 NOV 15 2014 4:11 PM



**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>[manhattanlab@emsl.com](mailto:manhattanlab@emsl.com)

EMSL Order: 031444061

CustomerID: EEVM50

CustomerPO:

ProjectID:

Attn: **Brandy LeBlanc**  
**Eagle Environmental, Inc. - CT**  
**8 South Main Street**  
**Suite 3**  
**Terryville, CT 06786**

Phone: (860) 589-8257  
 Fax: (860) 585-7034  
 Received: 11/15/14 10:41 AM  
 Analysis Date: 11/17/2014  
 Collected: 11/12/2014

Project: 14-028.12T31/ CSA- SSS/ 28 WEST END DRIVE/ OLD LYME, CT

### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos			Asbestos
			%	Fibrous	% Non-Fibrous	% Type
11-12-HH-01 031444061-0001	BATTING PAPER AT INSULATION (BROWN HASH - LINE PAPER)/ CRAWLSPACE	Brown/Black/Yellow w Fibrous Homogeneous	60% 6%	Cellulose Glass	20% Matrix 14% Non-fibrous (other)	None Detected
11-12-HH-02 031444061-0002	BATTING PAPER AT INSULATION (BROWN HASH - LINE PAPER)/ CRAWLSPACE	Brown/Black/Yellow w Fibrous Homogeneous	4% 55%	Glass Cellulose	30% Matrix 11% Non-fibrous (other)	None Detected
Result includes a small amount of inseparable attached material						
11-12-HH-03 031444061-0003	BATTING PAPER AT INSULATION (ENERGY SAVER) - CRAWLSPACE	Brown/Black/Yellow w Fibrous Homogeneous	65% 10%	Cellulose Glass	20% Matrix 5% Non-fibrous (other)	None Detected
11-12-HH-04 031444061-0004	BATTING PAPER AT INSULATION (ENERGY SAVER) - CRAWLSPACE	Brown/Black/Yellow w Fibrous Homogeneous	3% 62%	Glass Cellulose	35% Non-fibrous (other)	None Detected
Inseparable paint / coating layer included in analysis						
11-12-HH-05 031444061-0005	BATTING PAPER AT INSULATION (CERTAINTED) - CRAWLSPACE	Brown/White/Black k Non-Fibrous Homogeneous	70% 15%	Cellulose Glass	10% Matrix 5% Non-fibrous (other)	None Detected
11-12-HH-06 031444061-0006	BATTING PAPER AT INSULATION (CERTAINTED) - CRAWLSPACE	Brown/Tan/Black Fibrous Homogeneous	5% 70%	Glass Cellulose	25% Non-fibrous (other)	None Detected
Result includes a small amount of inseparable attached material						
11-12-HH-07 031444061-0007	SHEETROCK - KITCHEN HALL C	White Non-Fibrous Homogeneous	2%	Cellulose	80% Gypsum 5% Ca Carbonate 13% Non-fibrous (other)	None Detected

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC-IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 11/17/2014 06:35:22

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018

Phone/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com>[manhattanlab@emsl.com](mailto:manhattanlab@emsl.com)

EMSL Order: 031444061

CustomerID: EEVM50

CustomerPO:

ProjectID:

Attn: **Brandy LeBlanc**  
**Eagle Environmental, Inc. - CT**  
**8 South Main Street**  
**Suite 3**  
**Terryville, CT 06786**

Phone: (860) 589-8257  
 Fax: (860) 585-7034  
 Received: 11/15/14 10:41 AM  
 Analysis Date: 11/17/2014  
 Collected: 11/12/2014

Project: 14-028.12T31/ CSA- SSS/ 28 WEST END DRIVE/ OLD LYME, CT

### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
11-12-HH-08 031444061-0008	SHEETROCK - HALL 2ND FLOOR	Brown/Gray Fibrous Homogeneous	6% Cellulose 2% Glass	60% Gypsum 32% Non-fibrous (other)	None Detected
11-12-HH-09 031444061-0009	JOINT COMPOUND - KITCHEN HALL C	Tan/Green Non-Fibrous Homogeneous		3% Mica 40% Ca Carbonate 55% Non-fibrous (other)	2% Chrysotile
Inseparable paint / coating layer included in analysis					
11-12-HH-10 031444061-0010	JOINT COMPOUND - HALL 2ND FLOOR				Stop Positive (Not Analyzed)
11-12-HH-11 031444061-0011	SHEETROCK/ JOINT COMPOUND COMPOSITE - KITCHEN HALL C	White Non-Fibrous Homogeneous	20% Cellulose	45% Gypsum 20% Ca Carbonate 13% Non-fibrous (other)	2% Chrysotile
11-12-HH-12 031444061-0012	SHEETROCK/ JOINT COMPOUND COMPOSITE - HALL 2ND FLOOR				Stop Positive (Not Analyzed)

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 Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC-IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 11/17/2014 06:35:22



**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018  
Phone/Fax: (212) 290-0051 / (212) 290-0058  
<http://www.EMSL.com> [manhattanlab@emsl.com](mailto:manhattanlab@emsl.com)

EMSL Order: 031444061  
CustomerID: EEVM50  
CustomerPO:  
ProjectID:

Attn: **Brandy LeBlanc**  
**Eagle Environmental, Inc. - CT**  
**8 South Main Street**  
**Suite 3**  
**Terryville, CT 06786**

Phone: (860) 589-8257  
Fax: (860) 585-7034  
Received: 11/15/14 10:41 AM  
Analysis Date: 11/17/2014  
Collected: 11/12/2014

Project: 14-028.12T31/ CSA- SSS/ 28 WEST END DRIVE/ OLD LYME, CT

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

**Report Comments:**

Sample Receipt Date:: 11/15/2014      Sample Receipt Time: 10:41 AM  
Analysis Completed Date: 11/17/2014      Analysis Completed Time: 12:40 AM

**Analyst(s):**

  
\_\_\_\_\_  
Shahrakur Mahmud PLM (5)

  
\_\_\_\_\_  
Yolanda Chow PLM (5)

**Samples reviewed and approved by:**

  
\_\_\_\_\_  
James Hall, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%  
Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 11/17/2014 06:35:22

**APPENDIX 3**

**INTERIOR AND EXTERIOR VISUAL ASSESSMENT FORMS**

























# EAGLE Environmental, Inc.

## INTERIOR VISUAL ASSESSMENT FORM

Address: \_\_\_\_\_

Room No: Living Rm

COMPONENT	SIDE	RATING	NOTES	INTERIM CONTROL
Floor	A B C D	I F P	<i>Carpet</i>	
Wall	<i>(A) (B) (C) (D)</i>	<i>(1) F P</i>		
Ceiling	A B C D	I F P		
Door	A B <i>(C) D</i>	<i>(1) F P</i>	<i>Wing</i>	
Door Casing	A B <i>(C) D</i>	I F P		
Door Jamb	A B <i>(C) D</i>	I F P		
Baseboard	<i>(A) (B) (C) (D)</i>	<i>(1) F P</i>		
Window Casing	A B <i>(C) (D)</i>	<i>(1) F P</i>		
Window Stop	A B <i>(C) (D)</i>	<i>(1) F P</i>		
Window Jamb	A B <i>(C) (D)</i>	<i>(1) F P</i>		
Window Sash	A B <i>(C) (D)</i>	<i>(1) F P</i>		
Window Well	A B <i>(C) (D)</i>	<i>(1) F P</i>		
Window Sill	A B <i>(C) (D)</i>	<i>(1) F P</i>		
Window Apron	A B <i>(C) (D)</i>	<i>(1) F P</i>		
Closet Door	A B <i>(C) D</i>	<i>(1) F P</i>		
Closet Door Casing	A B <i>(C) D</i>	<i>(1) F P</i>		
Closet Door Jamb	A B <i>(C) D</i>	<i>(1) F P</i>		
Closet Shelf	A B <i>(C) D</i>	<i>(1) F P</i>		
Shelf Support	A B <i>(C) D</i>	<i>(1) F P</i>		
Radiator	A B C D	I F P		
Crown Molding	A B C D	I F P		
Cabinet	A B C D	I F P		
Cabinet Door	A B C D	I F P		
Cabinet Frame	A B C D	I F P		
<i>Shelving</i>	<i>(A) (B) (C) (D)</i>	<i>(1) F P</i>		
	A B C D	I F P		
	A B C D	I F P		
<i>Stair Tread</i>	A B <i>(C) D</i>	<i>(1) F P</i>		
<i>Stair Riser</i>	A B <i>(C) D</i>	<i>(1) F P</i>		
<i>Stair Colum</i>	A B <i>(C) D</i>	<i>(1) F P</i>		
<i>Stair Rail</i>	A B C D	I F P		
<i>Stair Baluster</i>	A B <i>(C) D</i>	<i>(1) F P</i>		
	A B C D	I F P		
<i>Crown Mold</i>	A <i>(B) C D</i>	<i>(1) F P</i>		
	A B C D	I F P		

**APPENDIX 4**

**XRF LEAD-BASED PAINT INSPECTION REPORTS**

# LEAD PAINT INSPECTION REPORT

REPORT NUMBER: S#01364 - 11/12/14 12:48

INSPECTION FOR: Mr. Jason Pitts  
Capital Studio Architects  
1379 Main Street  
East Hartford, CT 06108

PERFORMED AT: 28 West End Drive  
Old Lyme, Connecticut

INSPECTION DATE: 11/12/14

INSTRUMENT TYPE: R M D  
MODEL LPA-1  
XRF TYPE ANALYZER  
Serial Number: 01364

ACTION LEVEL: 1.0 mg/cm<sup>2</sup>

OPERATOR LICENSE: 002244

Confirmatory XRF testing of defective paint

SIGNED:  \_\_\_\_\_

Hannah Hintz  
Lead Inspector / Risk Assessor  
Eagle Environmental, Inc.  
8 South Main Street, Suite 3  
Terryville, CT 06786

Date: 1/28/15

**SUMMARY REPORT OF LEAD PAINT INSPECTION FOR: Mr. Jason Pitts**

Inspection Date: 11/12/14 28 West End Drive  
Report Date: 1/28/2015 Old Lyme, Connecticut  
Abatement Level: 1.0  
Report No. S#01364 - 11/12/14 12:48  
Total Readings: 24 Actionable: 0  
Job Started: 11/12/14 12:48  
Job Finished: 11/12/14 14:19

---

Reading						Paint			Lead	
No.	Wall	Structure	Location	Member	Cond	Substrate	Color	(mg/cm <sup>2</sup> )	Mode	

---

----- End of Readings -----

**DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Mr. Jason Pitts**

---

<b>Reading No.</b>	<b>Wall</b>	<b>Structure</b>	<b>Location</b>	<b>Member</b>	<b>Paint Cond</b>	<b>Substrate</b>	<b>Color</b>	<b>Lead (mg/cm<sup>2</sup>)</b>	<b>Mode</b>
------------------------	-------------	------------------	-----------------	---------------	-----------------------	------------------	--------------	-------------------------------------	-------------

---

**DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Mr. Jason Pitts**

Inspection Date: 11/12/14  
 Report Date: 1/28/2015  
 Abatement Level: 1.0  
 Report No. S#01364 - 11/12/14 12:48  
 Total Readings: 24  
 Job Started: 11/12/14 12:48  
 Job Finished: 11/12/14 14:19

28 West End Drive  
 Old Lyme, Connecticut

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm <sup>2</sup> )	Mode
Exterior Room 001 Facade A									
014	A	Break Aways	Ctr		P	Wood	white	-0.2	QM
Exterior Room 002 Facade B									
015	B	Break Aways	Ctr		P	Wood	white	0.1	QM
Exterior Room 003 Facade C									
016	C	Break Aways	Ctr		P	Wood	white	-0.1	QM
017	C	Skirtboard	Ctr		P	Wood	white	0.0	QM
013	D	Skirtboard	Ctr		P	Wood	white	0.0	QM
Exterior Room 005									
019	D	Break Away	Rgt		P	Wood	white	-0.1	QM
018	D	Skirtboard	Rgt		P	Wood	white	0.0	QM
Interior Room 001 Bed 1									
009	B	Wall	Lft		P	Dry wall	white	-0.3	QM
008	B	Window	Lft	Sill	P	Wood	white	0.0	QM
004	D	Door	Rgt		P	Wood	white	-0.1	QM
005	D	Door	Rgt	Jamb	P	Wood	white	0.0	QM
006	D	Door	Rgt	Stop	P	Wood	white	0.1	QM
007	D	Door	Rgt	Casing	P	Wood	white	0.1	QM
Interior Room 002 Hallway									
010	A	Door	Lft		P	Wood	white	-0.1	QM
Interior Room 003 Bed 3									
011	D	Window	Lft	Sill	P	Wood	white	0.0	QM
012	D	Closet	Lft	Stop	P	Wood	white	0.1	QM
Interior Room 004 Sun Room									
020	C	Door	Lft	Threshold	P	Wood	white	-0.2	QM
021	C	Door	Lft	Stop	P	Wood	pink	0.0	QM
Calibration Readings									
001								0.8	TC
002								0.8	TC
003								0.8	TC
022								0.8	TC
023								0.9	TC
024								0.9	TC

---- End of Readings ----

**APPENDIX 5**

**DUST SAMPLE LABORATORY REPORTS**

031443793



www.emsl.com

EMSL - MA
7 Constitution Way, Ste 107
Woburn, MA 01801
(781) 933-8411
(781) 933-8412 Fax

EMSL - CT
29 North Plains Hwy Unit #4
Wallingford, CT 06492
(203) 284-5948
(203) 284-5978 Fax

EMSL - NY
307 West 38th Street
New York, NY 10018
(866) 448-3675
(212) 290-0058 Fax

EMSL - NJ
107 Haddon Avenue
Westmont, NJ 08108
(800) 220-3675
(856) 858-4960 Fax

Your Name: Brandy LeBlanc
Company: Eagle Environmental, Inc.
Street: 8 South Main Street, Suite 3
City/State/Zip: Terryville, CT 06786
Phone: 860-589-8257 ext. 108
Project Name: CSA-SSS
Project Location: 28 West End Drive, Old Lyme

TURNAROUND TIME

3 Hours, 6 Hours, 24 Hours (checked), 48 Hours, 72 Hours, 4 Days, 5 Days, 6-10 Days

SAMPLE MATRIX

Air, Bulk, Soil, Wipe (checked), Micro-Vac, Drinking Water, Wastewater, Chips, Other

ASBESTOS ANALYSIS

PCM - Air
NIOSH 7400 (A) Issue 2, August 1994
OSHA w/TWA
TEM AIR
AHERA 40 CFR, Part 763 Subpart E
NIOSH 7402 Issue 2
EPA Level II
PLM - Bulk
EPA 600/R-93/116
NY Stratified Point Count
California Air Resource Board (CARB) 435
NIOSH 9002
PLM NOB (Gravimetric) NYS 198.1
EPA Point Count (400 Points)
EPA Point Count (1,000 Points)
Standard Addition Point Count
SOILS
EPA Protocol Qualitative
EPA Protocol Quantitative
EMSL MSD 9000 Method fibers/gram
Superfund EPA 540-R097-028 (dust generation)
TEM BULK
Drop Mount (Qualitative)
Chatfield SOP-1988-02
TEM MICROVAC
ASTM D 5755-95 (Quantitative)
TEM WIPE
ASTM D-6480-99
Qualitative
TEM WATER
EPA 100.1
EPA 100.2
NYS 198.2
Other

LEAD ANALYSIS

Flame Atomic Absorption
Wipe, SW846-7420 (checked) ASTM non ASTM
Soil, SW846-7420
Air, NIOSH 7082
Chips, SW846-7420 or AOAC 5.009 (974 02)
Wastewater, SW 846-7420
TCLP LEAD SW846-1311/7420
Graphite Furnace Atomic Absorption
Air, NIOSH 7105
Wastewater, SW846-7421
Soil, SW846-7421
Drinking Water, EPA 239 2
ICP - Inductively Coupled Plasma
Wipe, SW846-6010 ASTM non ASTM
Soil, SW846-6010
Air, NIOSH 7300

MICROBIAL ANALYSIS

Air Samples
Mold & Fungi by Air O Cell
Mold & Fungi by Agar Plate count & id
Bacterial Count and Gram Stain
Bacterial Count and Identification
Water Samples
Total Coliforms, Fecal Coliforms
Escherichia Coli, Fecal Streptococcus
Legionella
Salmonella
Giardia and Cryptosporidium
Wipe and Bulk Samples
Mold & Fungi - Direct Examination
Mold & Fungi - (Culture follow up to direct examination if necessary)
Mold & Fungi - Culture (Count & ID)
Mold & Fungi - Culture (Count only)
Bacterial Count & Gram Stain
Bacterial Count & Identification (3 most prominent types)
Other

MATERIALS ANALYSIS

Full Particle Identification
Optical Particle Identification
Dust Mites and Insect Fragments
Particle Size & Distribution
Product Comparison
Paint Characterization
Failure Analysis
Corrosion Analysis
Glove Box Containment Study
Petrographic Examination of Concrete
Portland Cement in Workplace Atmospheres (OSHA ID-143)
Man Made Vitrous Fibers - MMVF's
Synthetic Fiber Identification
Other

IAQ ANALYSIS

Nuisance Dust (NIOSH 0500 & 0600)
Airborne Dust (PM10, TSP)
Silica Analysis by XRD Niosh 90
HVAC Efficiency
Carbon Black
Airborne Oil Mist
Other

Additional Information/Comments/Instructions: \*\*PLEASE STOP ON 1ST POSITIVE WITHIN SETS

Table with columns: Client Sample # (S), Refiniquished, Received, Date, TOTAL SAMPLE #, Time. Includes handwritten sample numbers and dates.

EMSL MANHATTAN LAB
RECEIVED
NOV 14 AM 10:41



**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018  
 Phone/Fax: (212) 290-0051 / (212) 290-0058  
<http://www.EMSL.com> [manhattanlab@emsl.com](mailto:manhattanlab@emsl.com)

EMSL Order: 031443793  
 CustomerID: EEVM50  
 CustomerPO:  
 ProjectID:

Attn: **Eagle Environmental, Inc. - CT**  
**8 South Main Street**  
**Suite 3**  
**Terryville, CT 06786**

Phone: (860) 589-8257  
 Fax: (860) 585-7034  
 Received: 11/14/14 10:41 AM  
 Collected: 11/12/2014

Project: 14-028.12T31/ CSA-SSS/ 28 WEST END DRIVE, OLD LYME/ CT

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

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Area Sampled</i>	<i>Lead Concentration</i>
11/12 HH 01 Site: FIELD BLANK	031443793-0001	11/12/2014	11/14/2014	n/a	<10 µg/wipe
11/12 HH 02 Site: FIELD BLANK	031443793-0002	11/12/2014	11/14/2014	n/a	<10 µg/wipe
11/12 HH 03 Site: KITCHEN/ FLOOR @ ENTRY	031443793-0003	11/12/2014	11/14/2014	144 in <sup>2</sup>	<10 µg/ft <sup>2</sup>
11/12 HH 04 Site: KITCHEN/ WIN SILL	031443793-0004	11/12/2014	11/14/2014	100.75 in <sup>2</sup>	<14 µg/ft <sup>2</sup>
11/12 HH 05 Site: LIVING RM/ FLOOR	031443793-0005	11/12/2014	11/14/2014	144 in <sup>2</sup>	<10 µg/ft <sup>2</sup>
11/12 HH 06 Site: WIN SILL	031443793-0006	11/12/2014	11/14/2014	112.5 in <sup>2</sup>	<13 µg/ft <sup>2</sup>
11/12 HH 07 Site: SUN RM/ FLOOR @ ENTRY	031443793-0007	11/12/2014	11/14/2014	144 in <sup>2</sup>	<10 µg/ft <sup>2</sup>
11/12 HH 08 Site: BED 1/ FLOOR	031443793-0008	11/12/2014	11/14/2014	144 in <sup>2</sup>	<10 µg/ft <sup>2</sup>
11/12 HH 09 Site: BED 1/ WIN SILL	031443793-0009	11/12/2014	11/14/2014	60.5 in <sup>2</sup>	<24 µg/ft <sup>2</sup>
11/12 HH 10 Site: BED 2/ FLOOR	031443793-0010	11/12/2014	11/14/2014	144 in <sup>2</sup>	<10 µg/ft <sup>2</sup>
11/12 HH 11 Site: BED 2/ WIN SILL	031443793-0011	11/12/2014	11/14/2014	60.5 in <sup>2</sup>	<24 µg/ft <sup>2</sup>

*M. Apfeldorfer*

Miron Apfeldorfer, Laboratory Manager  
 or other approved signatory

Reporting limit is 10 ug/wipe. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. 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.

\* slight modifications to methods applied Samples received in good condition unless otherwise noted. Quality Control Data associated with this sample set is within acceptable limits, unless otherwise noted  
 Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--ELLAP Accredited #102581, NYS ELAP 11506

Initial report from 11/15/2014 01:21:27

## **APPENDIX 6**

### **RADON TESTING REPORTS**

Radon sampling was not performed as the building is being elevated and the lowest level of the building will not be in contact with the ground

**APPENDIX 7**  
**MOLD INSPECTION FORMS**





# EAGLE Environmental, Inc.

## MOLD CONDENSATOR FORM

Eagle Project No: 14-028-12T31 Date: 11/12/14 Inspector: HH

Facility Address: 28 West End Drive, old Lyme

CONDENSATOR MODE							
ROOM	COM- PONENT	SUB- STRATE	% REL. HUMIDITY	AIR TEMP.	DEW POINT TEMP.	SURFACE TEMP.	TEMP DIFF.
Crawl	Bottom Plate	Wood	72.2	16.6	11.6	17.8	6.5
	Pier	Wood	71.7	16.5	11.2	17.2	5.8
	Break-Away	Wood (ply)	71.7	16.7	11.2	16.8	5.4
	Decking	Wood (ply)	76.2	17.4	12.1	17.4	5.7
	Decking	Homosote	74.4	16.3	11.4	16.7	5.4
	Sub floor	Wood (ply)	71.3	16.4	10.9	20.7	9.2
	Pier	Wood (ply)	70.4	16.4	11.1	17.3	6.2
						24.7	10.4
Kitchen	Wall	Sheetrock	66.5	18.9	12.3	24.7	10.4



# EAGLE Environmental, Inc.

## MOLD MOISTURE READING FORM

Eagle Project No: 14-028.12T31 Date: 11/12/14 Inspector: HH

Facility Address: 28 West End Drive, Old Lyme

MOISTURE MODE						
ROOM	COMPONENT	SUBSTRATE	REL. SURFACE MOISTURE	DRY	AT RISK	WET
Crawl	Pier	Wood	17.8		✓	
	Bottom Plate	Wood	17.3		✓	
	Break-Aways	Wood (Ply)	17.6		✓	
	Decking	Wood (Ply)	18.5		✓	
	Subfloor	Wood (Ply)	12.2			
	Pier	Wood (Cedar)	22.4		✓	
	Decking		21.3		✓	
			.			
Kitchen	Wall	Sheetrock	13.0	✓		

HYGROMETER MODE				
TIME	ROOM	% RELATIVE HUMIDITY	AIR TEMP.	DEW POINT TEMP.
9:50 AM	Crawl	99.9 70.5	17.2°C	11.5

**APPENDIX 8**

**ABATEMENT AND CONSULTING COST ESTIMATE**

**HAZARDOUS MATERIALS ABATEMENT COST ESTIMATES**

**APPLICATION NO.1648**

**28 WEST END DRIVE**

**OLD LYME, CONNECTICUT**

**ASBESTOS ABATEMENT COST ESTIMATE**

MATERIAL	QUANTITY	UNIT COST	TOTAL COST
GYPSUM BOARD CEILING REMOVAL ALLOWANCE	1	\$ 7,500.00 EACH	\$ 7,500.00
SUBTOTAL			\$ 7,500.00
ASBESTOS ABATEMENT CONTINGENCY			\$ 750.00
ASBESTOS TOTAL			\$ 8,250.00

**HAZARDOUS MATERIALS ABATEMENT SUBTOTAL** \$ 8,250.00

**HAZARDOUS MATERIALS CONSULTING COST ESTIMATE**

CONSULTING COST	QUANTITY	UNIT COST	TOTAL COST
HAZARDOUS MATERIALS CONSULTING CONTIN.	1	\$1,500.00 EACH	\$ 1,500.00
SUBTOTAL			\$ 1,500.00
CONSULTING CONTINGENCY			\$ 150.00
CONSULTING TOTAL			\$ 1,650.00

**GRAND TOTAL** \$ 9,900.00

**APPENDIX 9**  
**EAGLE ENVIRONMENTAL, INC. LICENSES**  
**AND LABORATORY CERTIFICATES**

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT  
THE INDIVIDUAL NAMED BELOW IS LICENSED  
BY THIS DEPARTMENT AS A

LEAD CONSULTANT CONTRACTOR

EAGLE ENVIRONMENTAL INC.

LICENSE NO.  
001723  
CURRENT THROUGH  
04/30/15  
VALIDATION NO.  
03-794089

SIGNATURE

COMMISSIONER

# CERTIFICATE OF ACHIEVEMENT

*This certifies that*

**Hannah Hintz**

*has successfully completed the*  
**Asbestos Site Inspector Refresher Training  
Asbestos Accreditation Under TSCA Title II  
40 CFR Part 763**

*conducted by*

*Cardno ATC*  
73 William Franks Drive  
West Springfield, MA 01089  
(413) 781-0070

*Gregory J. Morack*

Principal Instructor

May 13, 2014

Date of Course

May 15, 2015

Expiration Date

*Gregory J. Morack*

Regional Manager

STAR-4897

Certificate Number

May 15, 2014

Examination Date

## STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED  
BY THIS DEPARTMENT AS A

**ASBESTOS CONSULTANT-INSPECTOR**

HANNAH E HINTZ

CERTIFICATE NO.

000816

CURRENT THROUGH

06/30/16

VALIDATION NO.

03-912706

SIGNATURE

COMMISSIONER

# CERTIFICATE OF ACHIEVEMENT

*This certifies that*

**Hannah Hintz**

263 Queen Street, Bristol, CT 06010  
000-00-0583

*has successfully completed the*

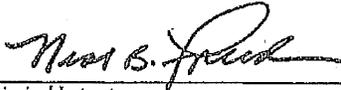
## **INSPECTOR RISK ASSESSOR REFRESHER**

Training Course

conducted by

Cardo ATC

73 William Franks Drive  
West Springfield, MA 01089  
(413) 781-0070



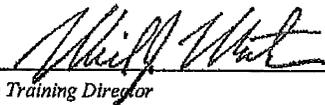
Principal Instructor:

October 2, 2014  
Date of Course

October 2, 2014  
Exam Date

CTLIRAR-377  
Certificate Number

October 2, 2015  
Expiration Date



Interim Training Director

Training received complies with the requirements of the  
Connecticut Department of Public Health pursuant to Section 20-  
477 of the Connecticut General Statutes.

### STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

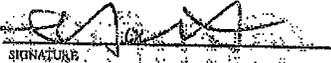
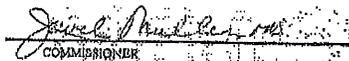
THE INDIVIDUAL NAMED BELOW IS CERTIFIED  
BY THIS DEPARTMENT AS A  
**LEAD INSPECTOR RISK ASSESSOR**

HANNAH E HINTZ

CERTIFICATE NO.  
002244

CURRENT THROUGH  
06/30/15

VALIDATION NO.  
03-912707

  
SIGNATURE  
COMMISSIONER

CERT# PD-001 - 384

**CHEMSCOPE TRAINING DIVISION  
ASBESTOS PROJECT DESIGNER REFRESHER  
8 HOUR TRAINING CERTIFICATE**

**Peter J. Folino**

**8 South Main Street Suite 3, Terryville CT**

Has attended an 8 hour course on the subject discipline on

04/30/2014 and has passed a written examination.

"The person receiving this certificate has completed the requisite training required for asbestos accreditation as a project designer under TSCA Title II"

Course topics include Background Information on Asbestos, Abatement Construction Projects, Safety System Design Specifications, Personal Protective Equipment, Additional Safety Hazards, Fiber Aerodynamics and Control, Designing Abatement Solutions, Cost Estimating, Specifications, Abatement Drawings, Contract Preparation and Administration, Legal Issues, Replacement substitutes, Role of Other Consultants, Occupied Building and Regulations.

**Examination Date: 04/30/2014**

**Expiration Date: 04/30/2015**

This training course has been accredited by the State of Connecticut.



Ronald D. Arena  
Training Manager

Chem Scope, Inc.  
15 Moulthrop Street  
North Haven CT 06473  
(203) 865-5605

**STATE OF CONNECTICUT**  
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT  
THE INDIVIDUAL NAMED BELOW IS CERTIFIED  
BY THIS DEPARTMENT AS A  
**ASBESTOS CONSULTANT-PROJECT DESIGNER**

PETER J. FOLINO

CERTIFICATE NO.  
000195

CURRENT THROUGH  
05/31/15

VALIDATION NO.  
03-847327

  
SIGNATURE

  
COMMISSIONER

# State of Connecticut, Department of Public Health

## Approved Environmental Laboratory

THIS IS TO CERTIFY THAT THE LABORATORY DESCRIBED BELOW HAS BEEN APPROVED BY THE STATE DEPARTMENT OF PUBLIC HEALTH PURSUANT TO APPLICABLE PROVISIONS OF THE PUBLIC HEALTH CODE AND GENERAL STATUTES OF CONNECTICUT, FOR MAKING THE EXAMINATIONS, DETERMINATIONS OR TESTS SPECIFIED BELOW WHICH HAVE BEEN AUTHORIZED IN WRITING BY THAT DEPARTMENT.

### EMSL ANALYTICAL, INC. - MANHATTAN, NY

LOCATED AT 307 West 38th Street IN New York, NY 10018  
AND REGISTERED IN THE NAME OF Peter Frasca, Ph.D.

THIS CERTIFICATE IS ISSUED IN THE NAME OF James Hall WHO HAS BEEN DESIGNATED  
BY THE REGISTERED OWNER/AUTHORIZED AGENT TO BE IN CHARGE OF THE LABORATORY WORK COVERED BY THIS CERTIFICATE OF  
APPROVAL AS FOLLOWS:

#### ASBESTOS

##### Examination For:

Bulk - Identification (PLM, TEM)  
Air - Fiber Counting (PCM, TEM)  
Water - TEM

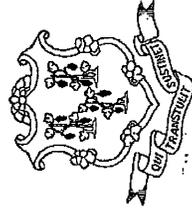
#### Environmental Health & Housing

##### Examination For:

Lead in Paint  
Lead Paint in Soil  
Lead in Dust Wipes

#### SEE COMPUTER PRINT-OUT FOR SPECIFIC TESTS APPROVED

THIS CERTIFICATE EXPIRES September 30, 2016 AND IS REVOCABLE FOR CAUSE BY THE STATE DEPARTMENT OF PUBLIC HEALTH  
DATED AT HARTFORD, CONNECTICUT, THIS 3<sup>rd</sup> DAY OF September 2014



Registration No.

PH-0170

SUZANNE BLANCAFLOR, MS  
CHIEF, ENVIRONMENTAL HEALTH SECTION