Limited Hazardous Materials Survey Report

Front Porch Replacement Project
Brownell House
New Haven, Connecticut

Lothrop Associates, LLP

Valhalla, New York

November 2010

FUSS & O'NEILL
Disciplines to Deliver

Fuss & O'Neill EnviroScience, LLC
56 Quarry Road
Trumbull, CT 06611

20081185.Q1E

FUSS & O'NEILL
EnviroScience, LLC

Disciplines to Deliver

November 23, 2010

Mr. Arthur Seckler
Senior Associate
Lothrop Associates, LLP
200 Summit Lake Drive, Suite 200
Valhalla, New York 10595

RE: **Limited Hazardous Materials Survey Report**
Front Porch Replacement Project
Brownell House
121/122 Brownell Street, New Haven, Connecticut
Fuss & O'Neill EnviroScience Project No. 20081185.Q1E

Dear Mr. Seckler:

Enclosed is the report for the limited hazardous materials survey related to the Front Porch Replacement Project performed at the Brownell House located at 121/122 Brownell Street in New Haven, Connecticut.

This initial survey was performed on November 15, 2010, by Fuss & O'Neill EnviroScience, LLC licensed inspectors and included a limited asbestos inspection as well as a screening for lead-based paint and subsequent TCLP analysis of demolition waste for disposal purposes.

The information summarized in this document is for the above-mentioned materials and locations only. It does not include information on other hazardous materials that may exist in the property (such as underground storage tanks).

If you have any questions regarding the contents of this report, please do not hesitate to contact me at (203) 374-23748, extension 3533. Thank you for this opportunity to have served your environmental needs.

Sincerely,

Kevin McCarthy (MS)

Kevin McCarthy
Environmental Analyst III

Mathew Myers
Associate

KM/nw

Enclosure

56 Quarry Road
Trumbull, CT
06611

t (203) 374-3748
(800) 286-2469
f (203) 374-4391

www.FandO.com

Connecticut
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Limited Hazardous Materials Survey Report
Lothrop Associates, LLP

Appendices

1 Introduction

On November 15, 2010, Fuss & O'Neill EnviroScience, LLC (EnviroScience) performed a limited hazardous materials survey related to the Front Porch Replacement Project at the Brownell House located at 121/122 Brownell Street in New Haven, Connecticut. This limited inspection was performed by Environmental Analyst III, Kevin McCarthy, and Environmental Technician I, John Hobbins, both of whom are State of Connecticut licensed Asbestos Consultants – Inspectors and Lead Inspectors.

This limited inspection was performed in response to the planned replacement project involving the front porch structure at the building and consisted of an inspection for asbestos containing materials (ACM), a screening of painted surfaces for lead, and a TCLP analysis of demolition waste for disposal purposes.

The interior of the inspection area was inspected in accordance with EnviroScience's written proposal dated November 3, 2010.

2 Asbestos Inspection

During this inspection, suspect ACM were separated into three USEPA categories. These categories are: thermal system insulation (TSI), surfacing ACM, and miscellaneous ACM. TSI includes all materials used to prevent heat loss or gain or water condensation on mechanical systems. Examples of TSI are pipe insulation, boiler insulation, duct insulation, and mudded insulation on pipe fittings. Surfacing ACM includes all ACM that is sprayed, troweled, or otherwise applied to an existing surface. Surfacing ACM is commonly used for fireproofing, decorative, and acoustical applications. Miscellaneous materials include all ACM not listed in thermal or surfacing, such as linoleum, vinyl asbestos flooring, and ceiling tiles.

All visible, accessible suspect ACM was sampled. Materials that were sampled were analyzed by Polarized Light Microscopy (PLM) to determine asbestos content.

2.1 Results

Utilizing the USEPA protocol and criteria, none of the sampled materials were determined to be ACM.

Utilizing the USEPA protocol and criteria, the following materials were determined to be non-ACM:

TABLE 1

LOCATION	MATERIAL TYPE	SAMPLE ID
Front Porch Second Floor Roof	Basesheet and Three Tab Shingles	1115KM01A-C, 02A-C
Front Porch First Floor Roof	Black Tar on Tin Roof System	1115KM03A-C[1]
Throughout Front Porch	White Caulking Compounds associated with Aluminum Wrap on Columns	1115KM04A-C
	Brown Paper associated with Styrofoam Insulation below Vinyl Siding	1115KM05

Note: 1 See *Section 2.2 Discussion* for point count analysis

2.2 Discussion

The USEPA defines any material that contains greater than one percent (>1%) asbestos, utilizing PLM, as being an ACM. Materials that are identified as "none detected" are specified as not containing asbestos. At EnviroScience, materials that are identified as containing less than four percent (<4%) asbestos are analyzed further utilizing the "point-counting" technique to verify asbestos content. This policy is supported by USEPA requirements for "point-counting" confirmation of low level PLM results. The following samples were analyzed by point-counting based on initial PLM results of <4% asbestos.

TABLE 2

SAMPLE ID	LOCATION	MATERIAL	% ASBESTOS	VERIFIED ACM
1115KM03A	Front Porch First Floor Roof	Black Tar on Tin Roof System	0.50% Chrysotile	NO
1115KM03B			0.75% Chrysotile	NO
1115KM03C			0.25% Chrysotile	NO

2.3 Conclusion

During this limited inspection, none of the sampled materials were determined to be ACM (containing >1% asbestos). The black tar roofing material identified on the first floor tin roof system was determined to contain <1% asbestos, and thus is considered non-ACM. This material should be demolished utilizing wet methods to limit the amount of dust created during demolition.

DISCLAIMER: Several locations/components were not surveyed during this inspection. This was due to either inaccessibility or the destructive nature of testing required to access potential ACM materials

Additional Areas- This limited hazardous materials survey was limited to front porch area of the Brownell House. No other areas of the building were included in this inspection.

Exterior Siding, Windows, Doors - This limited inspection did not include the exterior siding, window, and/or door systems because the intended renovation project is not going to impact the above mentioned systems. The exterior siding was noted to be vinyl siding over original wood clapboard siding.

Any suspect material encountered during renovation activities that is not identified in this report as being non-ACM, should be assumed to be ACM unless sample results prove otherwise.

Please see *Appendix A* for the chain-of-custody and sample results.

3 Limited Lead-Based Paint Inspection

A limited lead paint screen was performed in relation to the Front Porch Replacement Project at the Brownell House in New Haven, Connecticut. This limited lead paint inspection was performed on November 15, 2010, and included a limited lead paint screening and TCLP analysis.

A direct reading X-ray fluorescence (XRF) analyzer was used to perform the limited screening. The screening was conducted in accordance with the protocol outlined in the attached document: Testing Procedures and Equipment (*Appendix B)*.

For the purpose of this limited inspection, various exterior components representing the initial painting history of the front porch and any area-wide repainting by the owners/managers of these building components were tested. The purpose of this limited inspection was to identify trends in the painting history of the front porch in order to determine if Toxicity Characteristic Leachate Procedure (TCLP) analysis was required.

When building components of buildings which may be are slated for demolition have toxic levels of lead-based paint, a TCLP analysis is conducted to determine whether debris generated from demolition needs to be disposed of as lead waste. The United States Environmental Protection Agency (USEPA) has determined that TCLP analysis greater than 5.0 mg/L (milligram per liter) requires that demolition waste be disposed of as hazardous lead waste.

The front porch was constructed of wood and aluminum.

3.1 Lead-Based Paint Screening Results

The limited screening indicated consistent painting trends throughout the front porch. The following painted components were determined to contain toxic levels of lead (greater than 1.0 milligrams of lead per square centimeter of paint):

TABLE 3

ITEM	LOCATION	READING (mg/cm^2)
Exterior Wood Siding under Vinyl Siding	Throughout Front Porch Structure	>9.9
Exterior Kick Board/Door Frame		>9.9
Exterior Porch Ceiling, Balusters, Ceiling Joists, Support Columns, Railings, and Floor		1.0->9.9

3.2 TCLP Analysis Results

TCLP analysis of the waste stream determined concentrations of lead as follows:

TABLE 4

LOCATION	LEAD CONCENTRATION (mg/L)	SAMPLE ID
Demolition Debris	27	201011151007-01

3.3 Conclusion

TCLP analysis of the potential demolition waste stream from the front porch was determined to be higher than the USEPA disposal limit of 5.0 mg/L. The painted wood components of the front porch should be segregated from the non-painted wood and metal components during demolition.

The painted non metal components must be disposed of as hazardous lead containing waste; while the non-painted components can be disposed of as general construction and demolition debris.

EnviroScience recommends using a $10,000.00 budget for disposal of hazardous lead waste (assuming approximately $10,000.00 per 30 yard dumpster).

Contractors shall be aware that OSHA has not established a level of lead in a material below which 29 CFR 1926.62 does not apply. Contractors shall comply with exposure assessment criteria, interim worker protection and other requirements of the regulation as necessary to protect workers and building occupants.

The information contained in this report concerning the presence or absence of lead paint does not constitute a comprehensive lead inspection under Connecticut regulations, Section 19a-111-1 to 11 nor does it satisfy the USEPA Renovation, Repair, and Painting Rule (RRP) (40 CFR 745.80 through 92) requirements. The surfaces tested represent only a portion of those surfaces that would be tested to determine whether the premises are in compliance with Connecticut regulations and/or RRP requirements. Reliance on this report for as a comprehensive report or for determining RRP applicability for any other surfaces than those tested is not authorized by EnviroScience.

The testing results are provided as *Appendix C* and *Appendix D* in this report.

Report prepared by Environmental Analyst II Kevin McCarthy.

Reviewed by:

Kevin McCarthy (ag)

Kevin McCarthy
Environmental Analyst III

Matthew Myers
Associate

Appendix A

Asbestos Sample Results and Chain of Custody

0410267 43

FUSS & O'NEILL
EnviroScience, LLC
www.fando.com
146 Hartford Road, Manchester, CT 06040
(860) 646-2469 Fax (860) 643-6313

SAMPLE LOG FOR ASBESTOS BULKS

Sheet 1 of 2

Project Name: WHVA – Brownell Street Front Porch Replacement Project Project No. 20081185.Q1E Task 00100

Building: 121/122 Brownell Street, New Haven, Connecticut Project Manager: Kevin McCarthy

Sample ID	Sample Location	Material	Result (%)
1115KM01A	Second Floor Slanted Roof	Basesheet on Plywood Decking	None Detected
1115KM01B	Second Floor Slanted Roof	Basesheet on Plywood Decking	
1115KM01C	Second Floor Slanted Roof	Basesheet on Plywood Decking	
1115KM02A	Second Floor Slanted Roof	Three Tab Shingles	
1115KM02B	Second Floor Slanted Roof	Three Tab Shingles	
1115KM02C	Second Floor Slanted Roof	Three Tab Shingles	
1115KM03A	First Floor Tin Roof	Black Tar on Tin Roof System	0.50% Chrysotile
1115KM03B	First Floor Tin Roof	Black Tar on Tin Roof System	0.75% Chrysotile
1115KM03C	First Floor Tin Roof	Black Tar on Tin Roof System	0.25% Chrysotile
1115KM04A	Second Floor	White Caulking Compounds associated with Aluminum Wrap on Columns	None Detected
1115KM04B	First Floor	White Caulking Compounds associated with Aluminum Wrap on Columns	
1115KM04C	First Floor	White Caulking Compounds associated with Aluminum Wrap on Columns	

EMSL ANALYTICAL INC 10/11/10

Analysis Method: ☒ PLM ☐ Other Turnaround Time 72 hours

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: 11/24/10. Please call the EnviroScience Laboratory if analyses will be late at (860) 953-2700.

Fax Results to the EnviroScience Laboratory at: 413-647-0018.

Special Instruction: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. EPA 400 point count all samples of asbestos content <4%, positive stop on all point counts. If PLM analysis is <1% asbestos for samples groups 1, 2, 3, and 4, perform confirmatory TEM Chatfield analysis on sample 01A, 02A, 03A, and 04A, if A sample has insufficient materials, perform TEM analysis on B sample, etc.

Samples collected by: Kevin McCarthy **Date:** 11/15/10 **Time:** 1400

Samples [Rec'd] [Sent by] [Same] [Same] **Date:** [Same] [11/17/10] **Time:** 1630

Samples Received by: DMB-A-915A **Date:** 11.18.10 **Time:**

Shipped To: ☒ EMSL State NJ ☐ Other

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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0410267-93

FUSS & O'NEILL
EnviroScience, LLC

www.fando.com

146 Hartford Road, Manchester, CT 06040

(860) 646-2469 Fax (860) 643-6313

SAMPLE LOG FOR ASBESTOS BULKS

Sheet 2 of 2

Project Name: WHVA – Brownell Street Front Porch Replacement Project Project No. 20081185.Q1E Task 00100

Building: 121/122 Brownell Street, New Haven, Connecticut Project Manager: Kevin McCarthy

Sample ID	Sample Location	Material	Result (%)
1115KM05	Second Floor	Brown Paper associated with Styrofoam Insulation below Vinyl Siding	None Detected

SAMPLES ACCEPTED FOR ANALYSIS BY EMSL ANALYTICAL INC.

10 NOV 18 AM 6:49

Analysis Method: ☒ PLM ☐ Other Turnaround Time 72 hours

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: 11/24/10. Please call the EnviroScience Laboratory if analyses will be late at (860) 953-2700.

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Samples Received by: _____ **Date:** _____ **Time:** _____

Shipped To: ☒ EMSL State NJ ☐ Other _____

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Kevin McCarthy**
Fuss & O' Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Fax: (413) 647-0018 Phone: (860) 646-2469

Project: **20081185.Q1E TASK 00100 WHVA BROWNELL ST FRONT PORCH REPLACEMENT PROJECT**

Customer ID: ENVI54
Customer PO:
Received: 11/18/10 9:15 AM
EMSL Order: 041026743

EMSL Proj:
Analysis Date: 11/21/2010

Test Report: Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using 400 Point Count Procedure.

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1115KM03A *041026743-0007*	FIRST FLOOR TIN ROOF - BLACK TAR ON TIN ROOF	Various Fibrous Heterogeneous		99.50% Non-fibrous (other)	**0.50% Chrysotile**
1115KM03B *041026743-0008*	FIRST FLOOR TIN ROOF - BLACK TAR ON TIN ROOF	Various Fibrous Heterogeneous		99.25% Non-fibrous (other)	**0.75% Chrysotile**
1115KM03C *041026743-0009*	FIRST FLOOR TIN ROOF - BLACK TAR ON TIN ROOF	Various Fibrous Heterogeneous		99.75% Non-fibrous (other)	**0.25% Chrysotile**

Initial report from 11/22/2010 06:48:33

Analyst(s)
Chris Little (3)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

Attn: **Kevin McCarthy**
Fuss & O' Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Fax: (413) 647-0018 Phone: (860) 646-2469

Project: **20081185.Q1E TASK 00100 WHVA BROWNELL ST FRONT PORCH REPLACEMENT PROJECT**

Customer ID: ENVI54
Customer PO:
Received: 11/18/10 9:15 AM
EMSL Order: 041026743

EMSL Proj:
Analysis Date: 11/21/2010

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

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1115KM01A *041026743-0001*	SECOND FLOOR , SLANTED ROOF - BASESHEET ON PLYWOOD DECKING	Gray/Black Fibrous Heterogeneous	20%	Glass	80%	Non-fibrous (other)	**None Detected**
1115KM01B *041026743-0002*	SECOND FLOOR , SLANTED ROOF - BASESHEET ON PLYWOOD DECKING	Black Fibrous Heterogeneous	10%	Glass	90%	Non-fibrous (other)	**None Detected**
1115KM01C *041026743-0003*	SECOND FLOOR , SLANTED ROOF - BASESHEET ON PLYWOOD DECKING	Black Fibrous Heterogeneous	10%	Glass	90%	Non-fibrous (other)	**None Detected**
1115KM02A *041026743-0004*	SECOND FLOOR , SLANTED ROOF - THREE TAB SHINGLES	Gray/Black Fibrous Heterogeneous	25%	Glass	75%	Non-fibrous (other)	**None Detected**
1115KM02B *041026743-0005*	SECOND FLOOR , SLANTED ROOF - THREE TAB SHINGLES	Gray/Black Fibrous Heterogeneous	20%	Glass	80%	Non-fibrous (other)	**None Detected**

Initial report from 11/22/2010 06:48:33

Analyst(s)

Chris Little (7)
Jerry Cherian (3)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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200 Route 130 North, Cinnaminson, NJ 08077
Phone: (800) 220-3675 Fax: (856) 786-5974 Email: westmontasblab@EMSL.com

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Fuss & O' Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

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Customer ID: ENVI54
Customer PO:
Received: 11/18/10 9:15 AM
EMSL Order: 041026743
EMSL Proj:
Analysis Date: 11/21/2010

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

Sample	Description	Appearance	Non-Asbestos %	Fibrous	Non-Fibrous	%	Non-Fibrous	Asbestos % Type
1115KM02C *041026743-0006*	SECOND FLOOR , SLANTED ROOF - THREE TAB SHINGLES	Gray/Black Fibrous Heterogeneous	20%	Glass		80%	Non-fibrous (other)	**None Detected**
1115KM04A *041026743-0010*	SECOND FLOOR - WHITE CAULKING COMPOUNDS ASSOC W/ALUMINUM WRAP COLUMNS	White Non-Fibrous Homogeneous				100%	Non-fibrous (other)	**None Detected**
1115KM04B *041026743-0011*	FIRST FLOOR - WHITE CAULKING COMPOUNDS ASSOC W/ALUMINUM WRAP COLUMNS	White Non-Fibrous Homogeneous				100%	Non-fibrous (other)	**None Detected**
1115KM04C *041026743-0012*	FIRST FLOOR - WHITE CAULKING COMPOUNDS ASSOC W/ALUMINUM WRAP COLUMNS	White Non-Fibrous Homogeneous				100%	Non-fibrous (other)	**None Detected**

Initial report from 11/22/2010 06:48:33

Analyst(s)

Chris Little (7)
Jerry Cherian (3)

Stephen Siegel, CIH, Laboratory Manager
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200 Route 130 North, Cinnaminson, NJ 08077
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Fuss & O' Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

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Customer ID: ENVI54
Customer PO:
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EMSL Order: 041026743
EMSL Proj:
Analysis Date: 11/21/2010

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

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1115KM05 *041026743-0013*	SECOND FLOOR - BROWN PAPER ASSOC W/STYROFOAM INSULATION BELOW VINYL SIDING	Brown Fibrous Heterogeneous	95%	Cellulose	5%	Non-fibrous (other)	**None Detected**

Initial report from 11/22/2010 06:48:33

Analyst(s)

Chris Little (7)
Jerry Cherian (3)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Appendix B

Lead Paint Testing Procedures and Equipment

STANDARD OPERATING PROCEDURES
LEAD-BASED PAINT LIMITED SCREENINGS

TESTING PROCEDURES AND EQUIPMENT

The U. S. Department of Housing and Urban Development (HUD) "Guidelines for the Evaluation and Control of Lead Hazards in Housing, September 1997," were consulted for this lead paint screening. HUD has been the agency at the federal level with responsibility for the establishment of national lead-based paint standards for testing and abatement. The HUD document will be referenced as the Guidelines in this document. The HUD Guidelines are specific to child occupied dwelling units or target housing and are not wholly applicable to limited screenings. Additionally, most New England States have regulations and standards with regard to lead paint testing and abatement in child occupied facilities. EnviroScience shall consult these regulations and standards prior to beginning testing. Some states have reporting requirements if certain threshold values for lead paint are found and certain conditions exist. EnviroScience reports any specific testing results required by State laws as licensed inspectors and consultants in these circumstances.

This lead evaluation was a Lead Based Paint Limited Screening. Both the proposed scope of work and the final report will note this type of evaluation was done. A Lead Paint Limited Screening is performed in order to determine through representative testing the lead paint history of a property. However, conclusions about untested areas cannot be reliably determined based on the limited testing that was done. Comprehensive inspections involve testing of representative components in each and every room of a building. A Lead Based Paint Limited Screening is conducted in representative locations and not necessarily every room. The intent is to collect a sufficient number of readings using field instrumentation to characterize a given component or surface. Representative components are classified as testing combinations. The age and use of the functional space, component type, and substrate type are used to characterize a testing combination for purposes of a Lead Based Paint Limited Screening. Considering age of the structure inspectors determine original dates of construction and any major renovations to the original building. Interior spaces where major renovation has occurred are also treated as separate spaces. A functional space is a room or group of rooms used for similar purposes where painting is presumed to be uniform.

Inspectors perform Lead Based Paint Limited Screening on representative components ensuring randomization in the selection of components. EnviroScience utilizes a protocol of a minimum of three (3) rooms with similar building components and surfaces are comprehensively tested similar to inspections for HUD compliance or state regulated inspections. (For example, living room, kitchen and a bedroom may be comprehensively tested in a 6-room apartment). In this protocol specific unique components are tested in any other locations in the dwelling. Inspectors shall record readings utilizing portable field instrumentation.

Conclusions in a Lead Based Paint Limited Screening are made based on consistent findings in the limited number of readings collected for a given testing combination. Inspectors conduct more readings if trends or similar findings are not found during such a limited screening process. In reporting findings and use in cost estimating, EnviroScience shall use limited screening information to extrapolate (or presume) that the untested areas have similar paint history as to those areas where limited screenings were conducted. (For example if in the three locations tested, all window sashes contained threshold values of lead paint above HUD or other State regulatory levels, then EnviroScience would detail in the report that all such components in the dwelling should be presumed to contain lead paint or recommend them to be tested further).

Lead-based paint surfaces and components were identified by utilizing on-site x-ray fluorescence (XRF) instruments. Fuss & O'Neill EnviroScience, LLC owns and maintains two different types of XRFs for testing for lead-based paint. These instruments are four (4) Radiation Monitoring Device LPA-1s (RMD) and a Scitec MAP 4 analyzer. Each of these instruments is operated in accordance with state and federal and manufacturer standards on the use of the instruments. State and federal protocols provide, with the exception of wall surfaces, one reading with the instrument on a representative component in each room, i.e., baseboard, chair rail, etc., as sufficient to establish the lead paint classification of all the representatives of that component type in a room. In the case of walls, because of the large spacial areas involved and the variability in lead content in paint over such large areas, the federal and state governments want a reading on each wall surface in a room. Therefore, representative testing is not permitted for walls.

The federal government has developed Performance Characteristic Sheets (PCS) for each of the types of instruments cited above. Each instrument must be calibrated in accordance with these PCSs on a 1.0-milligram lead standard. Each of EnviroScience's instruments has one of these standards assigned to it. Some of the standards were purchased directly from the government and the others from the manufacturers of the instruments.

For the Scitec MAP 4 instrument, on one or more substrates, substrate interference can affect the validity of the result. For this instrument, if the reading is below 4.0 mg/cm², a Substrate Equivalent Lead (SEL) was determined on certain substrates in the Screen and Test Modes of the instrument. For the RMD in the standard reading mode on metal, an SEL also has to be determined. To determine the SEL, the paint is removed from the surface of the component to obtain a bare substrate reading. After removing the paint, the surface is wiped with a 5% trisodium phosphate solution (a heavy duty cleaner). All paint residue is collected and properly disposed of. Once the paint and surrounding area are cleaned, the XRF is utilized to determine the SEL for each surface. The SEL values are subtracted from the XRF values to determine the Corrected Lead Concentration (CLC). The CLC is the lead content of the paint on the component tested.

Each of the types of instruments has federal government-determined positive and negative ranges for the definition of lead-based paint. In addition, the Scitec MAP 4 also has inconclusive ranges in many of its reading modes. XRF results are classified using either the threshold or the inconclusive range. For the threshold, results are classified as positive if they are greater than or equal to the threshold and negative if they are less than the threshold. There is no inconclusive classification when using the threshold. For the inconclusive range, results are classified as positive if they are greater than the upper limit of the inconclusive range and negative if they are less than the lower limit of the inconclusive range. The ranges for each of the types of instruments and their various operating modes are as follows:

Radiation Monitoring Device LPA Analyzer 1

30-Second Standard Mode Reading Description	Substrate	Threshold (mg/cm²)
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/cm²)	Inconclusive Range (mg/cm²)
Readings not corrected for substrate bias on any substrate.	Brick	1.0	None
	Concrete	1.0	None
	Drywall	1.0	None
	Metal	1.0	None
	Plaster	1.0	None
	Wood	1.0	None

Scitec MAP 4 Spectrum Analyzer

Unlimited Mode Reading Description	Substrate	Inconclusive Range (mg/cm²)
Results not corrected for substrate bias for unlimited mode readings.	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

Screen Mode Reading Description	Substrate	Inconclusive Range (mg/cm²)
Results corrected for substrate bias on drywall, metal, and wood substrates.	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

Test Mode Reading Description	Substrate	Threshold (mg/cm²)	Inconclusive Range (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only.	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

If a reading falls in the inconclusive range, either the lead inspector should be authorized by the client to take a paint chip sample to determine whether the final result is either positive or negative after laboratory analysis, or the result can be categorized as suspect positive and treated accordingly. If it is not confirmed with laboratory analysis, it cannot be assumed to be negative for toxic levels of lead. If it is assumed to be positive, it can either be abated as a positive if the condition of the surface and/or location of the component require this treatment under Connecticut and/or HUD regulations, or it can be managed in place as a positive component in accordance with the requirements of Connecticut and HUD regulations.

Prior to the start of any testing, a sketch of the building is drawn, and side designations are given to help identify exactly where readings were taken. Drawings depicting the room-numbering scheme

are located on the cover page(s) for the building(s) inspected. Each side of the building was labeled A, B, C, or D. The wall "A" side of the unit is generally the side of primary entrance into a dwelling, and this room is always Room 1. Areas in the units include rooms, hallways and closets. Areas are numbered in a clockwise fashion as building construction allows. This allows the inspector to indicate which substrate surface was tested. The condition of the surface is described by a check mark in the appropriate column, under the heading "condition of surface" on the testing form.

When more than one surface type was present on a side, the component tested was indicated with a number. If two windows were present on a building side, they were numbered left to right. Closet shelves and shelf supports were numbered top to bottom.

It is understood that the room layouts presented in the report are in conformance with the conditions that exist at the time the testing is performed. EnviroScience avoids labeling a room solely by its current functional use (i.e., living room, bedroom, etc.) since this use can change over time. Similarly, room layouts can change dramatically as dwellings are renovated and additions are built, incorporating existing rooms, or existing interior walls are moved or eliminated altogether.

Appendix C

Lead Testing Field Data Sheets

FUSS & O'NEILL
EnviroScience, LLC

www.fando.com

146 Hartford Road, Manchester, CT 06040

(860) 646-2469 Fax (860) 649-6883

LEAD INSPECTION COVER SHEET

Inspector's Information

Inspector's Name: Hobbins

License Number: 002156

XRF Model: RMD 1395

Serial Number: 100842

Date of Inspection: 11/15/10

Project Number: 20081185.Q1E

Property Information

Building Address: 121-122 Brownell St
(Street)

New Haven (City) CT (State)

Age of Property: _____

Describe Structure: 2-Family structure. Wooden clapboard siding. Wood porch w/ aluminum siding cover.

Are there lead hazards present? ☐ Yes ☑ No

Were lead dust wipes taken? ☐ Yes ☑ No

Were soil samples collected? ☐ Yes ☑ No

Were drinking water samples collected? ☐ Yes ☑ No

Single Family Dwelling ☐

Is there an EBL child present?
☐ Yes ☑ No ☐ Unknown

Is there a child under six years of age in the dwelling?
☐ Yes ☑ No ☐ Unknown

Multiple Family Dwelling ☑

Number of units in building: _____

Number of units tested: _____

Is there an EBL child present in the building?
☐ Yes ☐ No ☐ Unknown

If EBL child, which unit(s)? _____

Is there a child under six years of age in the building?
☐ Yes ☐ No ☐ Unknown

If child under six, which unit(s)? _____

XRF Calibration Check

Calibration Paint Film Used: ☐ NIST 1.02 mg/cm² ☑ Manufacturer's Standard 1.0 mg/cm²

Calibration Check Limits Used: ☑ RMD (0.7 to 1.3 mg/cm² inclusive)
☐ Scitec MAP4 (0.6 to 1.2 mg/cm² inclusive)

	Hour	First Reading	Second Reading	Third Reading	Average
First Check	1315	1.0	1.1	1.0	1.05
Second Check					
Third Check					
Fourth Check					

FUSS & O'NEILL
EnviroScience, LLC
www.fando.com
146 Hartford Road, Manchester, CT 06040
(860) 646-2469 Fax (860) 649-6883

LEAD INSPECTION – EXTERIOR OF SIDE _____

Address: 121-122 Brownell ST, New Haven, CT
Project Name: Brownell House Porch

Page 2 **of** 2
Project Number: 20081185.QIE
Project Manager: M. Mevs

Side	Surface	XRF Readings	Defective	Substrate Type *	Result		Paint Chip	
					Positive	Negative	Sample #	Result
	Foundation							
	Skirt Board							
	Corner Boards							
	Siding							
	Upper Trim							
	Door							
	Casing							
	Jamb							
	Threshold							
	Kick Board							
	Storm Door							
	Window Sill							
	Trim							
	Sash							
	Blind Stops							
	Storm Window							
	Basement Sash							
	Frame							
	Bulkhead							
	Downspouts							
A	Porch Floor	3.0	Y	W	✓			
Lower Porch	Ceiling Joist							
	Lower Trim							
	Lower Railing							
on Porch	Balusters	79.9	Y	W	✓			
	Railing Cap	0.4	Y	W		✓		
	Upper Trim							
	Ceiling							
	Lattice							
	Lattice Frame							
	Support Columns	79.9	Y	W	✓			
	Column Bases							
	Brackets							
	Hand Rails							
	Treads							
	Risers							
	Stringers							
on steps	Ballusters	0.4	Y	W		✓		
	Railing	0.2	Y	W		✓		

* Substrate Type: Metal = M, Wood = W, Plaster = P, Sheetrock = S, Concrete = C, Brick = B

Notes: _____

FUSS & O'NEILL
EnviroScience, LLC
146 Hartford Road, Manchester, CT 06040
www.fando.com
(860) 646-2469 Fax (860) 649-6883

LEAD INSPECTION – EXTERIOR OF SIDE _____

Address: 121-122 Brownell St, New Haven, CT
Page 1 **of** 2
Project Name: Brownell Horse Porch
Project Number: 20081185.Q1E
Project Manager: M. Myers

Side	Surface	XRF Readings	Defective	Substrate Type *	Result		Paint Chip	
					Positive	Negative	Sample #	Result
	Foundation							
	Skirt Board							
	Corner Boards							
	Siding	>9.9	Y/N	W	✓			
	Upper Trim							
	Door							
	Casing							
	Jamb							
	Threshold							
	Kick Board	>9.9	N	W	✓			
	Storm Door							
	Window Sill							
	Trim							
	Sash							
	Blind Stops							
	Storm Window							
	Basement Sash							
	Frame							
	Bulkhead							
	Downspouts							
A	Porch Floor	0.0	N	W				
	Ceiling Joist	>9.9	Y	W	✓			
	Lower Trim							
	Lower Railing							
	Balusters	>9.9	Y	W	✓			
	Railing Cap	1.0	Y	W	✓			
	Upper Trim							
	Ceiling	>9.9	Y	W	✓			
	Lattice							
	Lattice Frame							
A	Support Columns	8.2	Y	W	✓			
	Column Bases							
	Brackets							
	Hand Rails							
	Treads							
	Risers							
	Stringers							
	~~Soffit~~							
A	outer drain lip	>9.9	Y	M	✓			

Upper Porch

* Substrate Type: Metal = M, Wood = W, Plaster = P, Sheetrock = S, Concrete = C, Brick = B

Notes: → older metal roof

Appendix D

Lead TCLP Analysis

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac
NY # 11301

Draft Progress Report

November 22, 2010

FOR: Attn: Mr. Kevin McCarthy
Fuss & O'Neill, Incorporated
56 Quarry Road
Trumbull, CT 06611

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:	BH	11/15/10	13:00
Location Code:	F&O-TRUM	Received by:	LB	11/17/10	16:49
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:	20081185.Q1E				

Laboratory Data

SDG ID: GAZ78578
Phoenix ID: AZ78578

Project ID: WEST HAVEN VA HOSPITAL

Client ID: 201011151007-01

Parameter	Result	RL	Units	Date	Time	By	Reference
TCLP Lead	27.4	1.5	mg/L	11/19/10		LK	E1311/SW6010
TCLP Extraction for Metals	Completed			11/17/10		X	EPA 1311
TCLP Metals Digestion	Completed			11/18/10		X	SW846 - 3005

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

This report must not be reproduced except in full as defined by the attached chain of custody.

PLEASE NOTE: THIS PROGRESS REPORT IS CONSIDERED PRELIMINARY DATA. THE RESULTS ENTERED HAVE NOT BEEN EXAMINED BY OUR QA/QC DEPARTMENT.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
November 22, 2010

COC

FUSS & O'NEILL
Disciplines to Deliver
(860) 646-2469 • www.FandO.com

- ☐ 146 Hartford Road, Manchester, CT 06040
- ☑ 56 Quarry Road, Trumbull, CT 06611
- ☐ 1419 Richland Street, Columbia, SC 29201
- ☐ 78 Interstate Drive, West Springfield, MA 01089
- ☐ 610 Lynndale Court, Suite E, Greenville, NC 27858
- ☐ 24 Madison Avenue Extension, Albany, NY 12203
- ☐ 275 Promenade Street, Suite 350, Providence, RI 02908
- ☐ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601
- ☐ Other _____

CHAIN-OF-CUSTODY RECORD 21010

Turnaround
☐ 1 Day* ☑ 3 Days* ☐ Other _____ (days)
☐ 2 Days* ☐ Standard (____ days) *Surcharge Applies

Project Name	Project Location	Project Number	Task	Laboratory
Porch Replacement - West Haven VA Hospital	New Haven, CT	2008 1185.Q1E	100	Phoenix

Report To: Kevin McCarthy (Fuss + O'Neill)

Invoice To: 2008 1185.Q1E Task 100

P.O. No.:

Sampler's Signature: B. Hobbins Date: 11/17/10

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other Demo material

Analysis Request / Containers

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	Pb, Lead TCLP	Soil VOA Vial, [ ] methanol	Soil VOA Vial, [ ] water	Glass Soil Container ( ) oz	Glass Soil Container ( ) oz	Other: Poly Sample Bag	Water VOA Vial, [ ] As is [ ] HCl	Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4	Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml	Plastic - H_2SO_4, [ ] 250 ml [ ] 500 ml	Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered	Plastic - NaOH, 250 ml	Comments
1	✓	✓	✓		20101115 1007 - 01	X	11/15/10	1300	✓					✓							78578

Transfer Number	Relinquished By	Accepted By	Date	Time
1	B. Hobbins	Fto Fudge	11/17	9:30
2	Fto Fudge	B. Hobbins	11/17	10:50
3	B. Hobbins	[illegible]	11/17/10	10:50
4	[illegible]	[illegible]	11-17-10	16:49

Reporting and Detection Limit Requirements:

Additional Comments:

Appendix E

Fuss & O'Neill, EnviroScience Accreditations

0001158 FP **PRSRT T4 0 0564 06040
JOHN R. HOBBINS
C/O FUSS & O'NEILL ENVIROSCIENCE, LLC
146 HARTFORD ROAD
MANCHESTER CT 06040

Dear Licensed/Certified Professional,
Attached you will find your validated license/certification for the coming year. Should you have any questions about your license/certificate renewal, please do not hesitate to write or call:

Department of Public Health **(860) 509-7603**
P.O. Box 340308
M.S.#12MQA **http://www.dph.state.ct.us**
Hartford, CT 06134-0308

Sincerely,

J Robert Galvin, MD, MPH, MBA

J. ROBERT GALVIN, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

INSTRUCTIONS:

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STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
JOHN R. HOBBINS

VALIDATION NO.	LICENSE NO.	CURRENT THROUGH
03-984735	000700	01/31/11

PROFESSION
ASBESTOS CONSULTANT-INSPECTOR

John R Hobbins — J Robert Galvin, MD, MPH, MBA
SIGNATURE — COMMISSIONER

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

ASBESTOS CONSULTANT - INSPECTOR

JOHN R. HOBBINS

LICENSE NO.
000700
CURRENT THROUGH
01/31/11
VALIDATION NO.
03-984735

John R. Hobbins — J Robert Galvin, MD, MPH, MBA
SIGNATURE — COMMISSIONER

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
JOHN R. HOBBINS

VALIDATION NO.	LICENSE NO.	CURRENT THROUGH
03-984735	000700	01/31/11

PROFESSION
ASBESTOS CONSULTANT-INSPECTOR

John R Hobbins — J Robert Galvin, MD, MPH, MBA
SIGNATURE — COMMISSIONER

Fuss & O'Neill EnviroScience, LLC

146 Hartford Road, Manchester, CT 06040 – (860) 646-2469

This is to certify that

John Robert Hobbins

xxx-xx-6853

has successfully completed the

4 Hr. Asbestos Inspector Refresher

Asbestos Accreditation under TSCA Title II

40 CFR Part 763

James L. Scott, Principal Instructor

Kevin W. Miller, Training Manager

January 5, 2010

Date of Course

AI-R-01/10-5

Certificate Number

January 5, 2010; B

January 5, 2011

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P.O. Box 340308
M.S.#12MQA **http://www.dph.state.ct.us**
Hartford, CT 06134-0308

Sincerely,

J Robert Galvin, MD, MPH, MBA

J. ROBERT GALVIN, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

0001167 FP **PRSRT T4 0 0564 06040
JOHN R. HOBBINS
C/O FUSS & O'NEILL ENVIROSCIENCE, LLC
146 HARTFORD ROAD
MANCHESTER CT 06040

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LEAD INSPECTOR

CERTIFICATION NO.
002156
CURRENT THROUGH
01/31/11
VALIDATION NO.
03-984744

JOHN R. HOBBINS

John R Hobbins
SIGNATURE

J Robert Galvin, MD, MPH, MBA
COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
JOHN R. HOBBINS

VALIDATION NO.	CERTIFICATION NO.	CURRENT THROUGH
03-984744	002156	01/31/11

PROFESSION
LEAD INSPECTOR

John R Hobbins
SIGNATURE

J Robert Galvin, MD, MPH, MBA
COMMISSIONER

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DEPARTMENT OF PUBLIC HEALTH

NAME
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03-984744	002156	01/31/11

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LEAD INSPECTOR

John R Hobbins
SIGNATURE

J Robert Galvin, MD, MPH, MBA
COMMISSIONER

Fuss & O'Neill EnviroScience, LLC

146 Hartford Road, Manchester, CT 06040 – (860) 646-2469

This is to certify that

John Robert Hobbins

xxx-xx-6853

has successfully completed the

8 Hour Lead Inspector Refresher Course

(Approved per Sec. 20-477, CT General Statutes)

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (U.S.C. 1001 and 15 U.S.C. 2615), I certify that this training complies with all applicable requirements of Title IV of TSCA, 40 CFR part 745 and any other applicable Federal, State, or local requirements.

David Kohl, Principal Instructor

Kevin W. Miller, Ph.D., Training Manager

February 16 & 17, 2010

Date of Course

LI-R-2/10-5

Certificate Number

February 17, 2010; B

Examination Date & Grade

February 17, 2011

Expiration Date

0001907 FP **PRSRT T7 0 0864 06040

KEVIN MC CARTHY
FUSS & O' NEILL ENVIROSCIENCE LLC
146 HARTFORD ROAD
MANCHESTER CT 06040

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Attached you will find your validated license/certification for the coming year. Should you have any questions about your license/certificate renewal, please do not hesitate to write or call:

Department of Public Health **(860) 509-7603**
P.O. Box 340308
M.S.#12MQA **http://www.dph.state.ct.us**
Hartford, CT 06134-0308

Sincerely,

J Robert Galvin, MD, MPH, MBA

J. ROBERT GALVIN, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

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KEVIN MC CARTHY

VALIDATION NO.	LICENSE NO.	CURRENT THROUGH
03-026377	000586	05/31/11

PROFESSION
ASBESTOS CONSULTANT-INSPECTOR

SIGNATURE

J Robert Galvin, MD, MPH, MBA
COMMISSIONER

Fuss & O'Neill EnviroScience, LLC

146 Hartford Road, Manchester, CT 06040 – (860) 646-2469

This is to certify that

Kevin McCarthy

xxx-xx-1999

has successfully completed the

4 Hr. Asbestos Inspector Refresher

Asbestos Accreditation under TSCA Title II

40 CFR Part 763

James L. Scott, Principal Instructor

Kevin W. Miller, Training Manager

September 8, 2010

Date of Course

AI-R-09/10-3

Certificate Number

September 8, 2010; A-

Examination Date & Grade

September 8, 2011

Expiration Date

0001887 FP **PRSRT T7 0 0864 06040

KEVIN MC CARTHY
FUSS & O' NEILL ENVIROSCIENCE LLC
146 HARTFORD ROAD
MANCHESTER CT 06040

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M.S.#12MQA **http://www.dph.state.ct.us**
Hartford, CT 06134-0308

Sincerely,

J Robert Galvin, MD, MPH, MBA

J. ROBERT GALVIN, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

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LEAD INSPECTOR

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STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
KEVIN MC CARTHY

VALIDATION NO.	CERTIFICATION NO.	CURRENT THROUGH
03-026357	002115	05/31/11

PROFESSION
LEAD INSPECTOR

SIGNATURE

J Robert Galvin, MD, MPH, MBA
COMMISSIONER

Fuss & O'Neill EnviroScience, LLC

146 Hartford Road, Manchester, CT 06040 – (860) 646-2469

This is to certify that

Kevin McCarthy

xxx-xx-1999

has successfully completed the

8 Hour Lead Inspector Refresher Course

(Approved per Sec. 20-477, CT General Statutes)

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (U.S.C. 1001 and 15 U.S.C. 2615), I certify that this training complies with all applicable requirements of Title IV of TSCA, 40 CFR part 745 and any other applicable Federal, State, or local requirements.

David Kohl, Principal Instructor

Kevin W. Miller, Ph.D., Training Manager

February 16 & 17, 2010

Date of Course

LI-R-2/10-8

Certificate Number

February 17, 2010; B

Examination Date & Grade

February 17, 2011

Expiration Date