

ENVIRONMENTAL REVIEW REPORT

**Community Development Block Grant – Disaster Recovery
Owner Occupied Rehabilitation and Rebuilding Program**

Applicant # 1437

**24 Elaine Road
Milford, Connecticut**

December 12, 2014

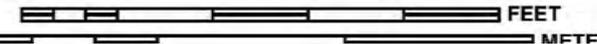
Prepared by:

**Diversified Technology Consultants
2321 Whitney Avenue
Hamden, Connecticut 06518**



MAP SCALE 1" = 500'

250 0 500 1000 FEET



SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

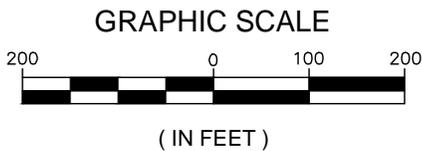
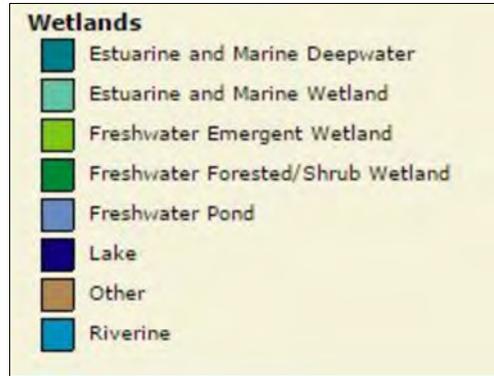
COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

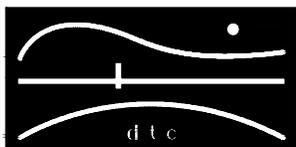
CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SOURCE: U.S. FISH AND WILDLIFE SERVICE



DIVERSIFIED TECHNOLOGY CONSULTANTS
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DEPARTMENT OF HOUSING
COMMUNITY DEVELOPMENT BLOCK GRANT
DISASTER RECOVERY

24 ELAINE ROAD
MILFORD, CT

ATTACHMENT 2
FWS WETLANDS MAP

SCALE: 1"=200'	DRAWN BY: EPZ
DATE: 11/24/2014	CHECKED BY: JAB

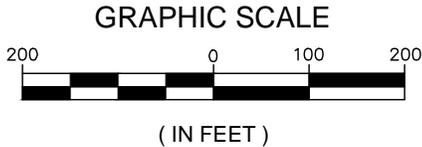
PROJECT NUMBER: 13-449-030 APPLICANT NO: 1437



PROPERTY LOCATION

Legend

-  Streets
-  Wetlands
-  Tax Parcels
-  Color Aerial Photos
-  Town Boundary



MAP SOURCE: TOWN OF MILFORD GIS

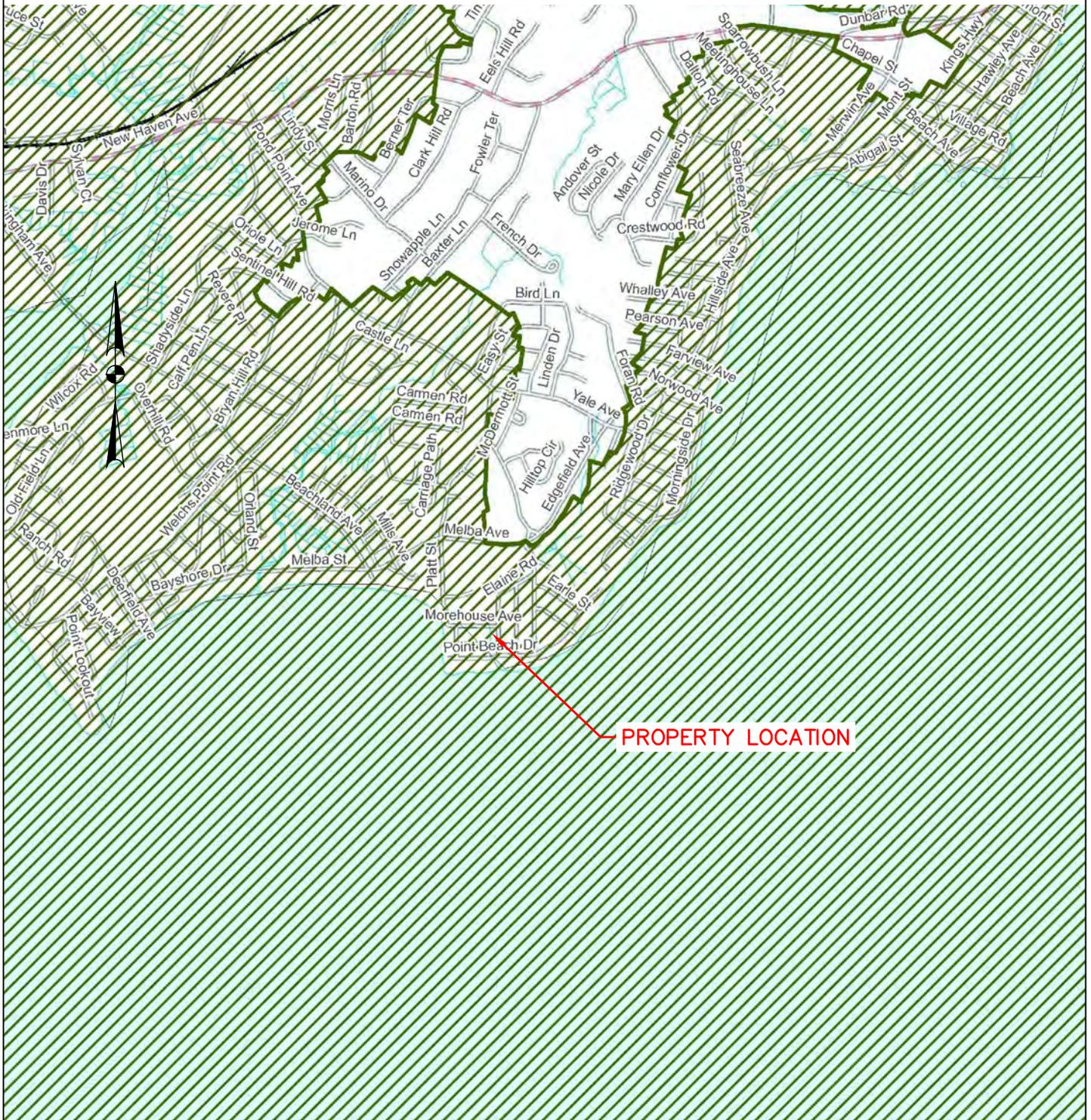


DEPARTMENT OF HOUSING
 COMMUNITY DEVELOPMENT BLOCK GRANT
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 24 ELAINE ROAD
 MILFORD, CT

PROJECT NUMBER: 13-449-030 APPLICANT NO: 1437

ATTACHMENT 3
 WETLANDS MAP

SCALE: 1"=200' DRAWN BY: EPZ
 DATE: 11/24/2014 CHECKED BY: JAB

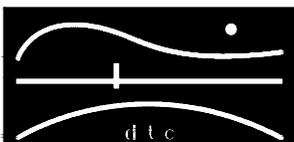


Coastal Boundary

GRAPHIC SCALE



(IN FEET)



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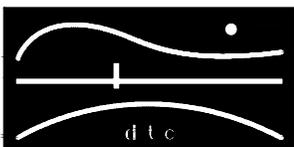
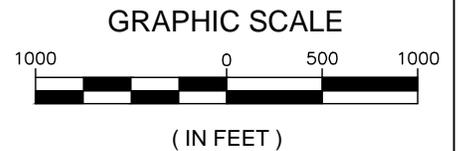
ATTACHMENT 4
CAM AREA MAP

SCALE: 1"=2000'	DRAWN BY: EPZ
DATE: 11/24/2014	CHECKED BY: JAB

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 State and Federal Listed Species and Significant Natural Communities*



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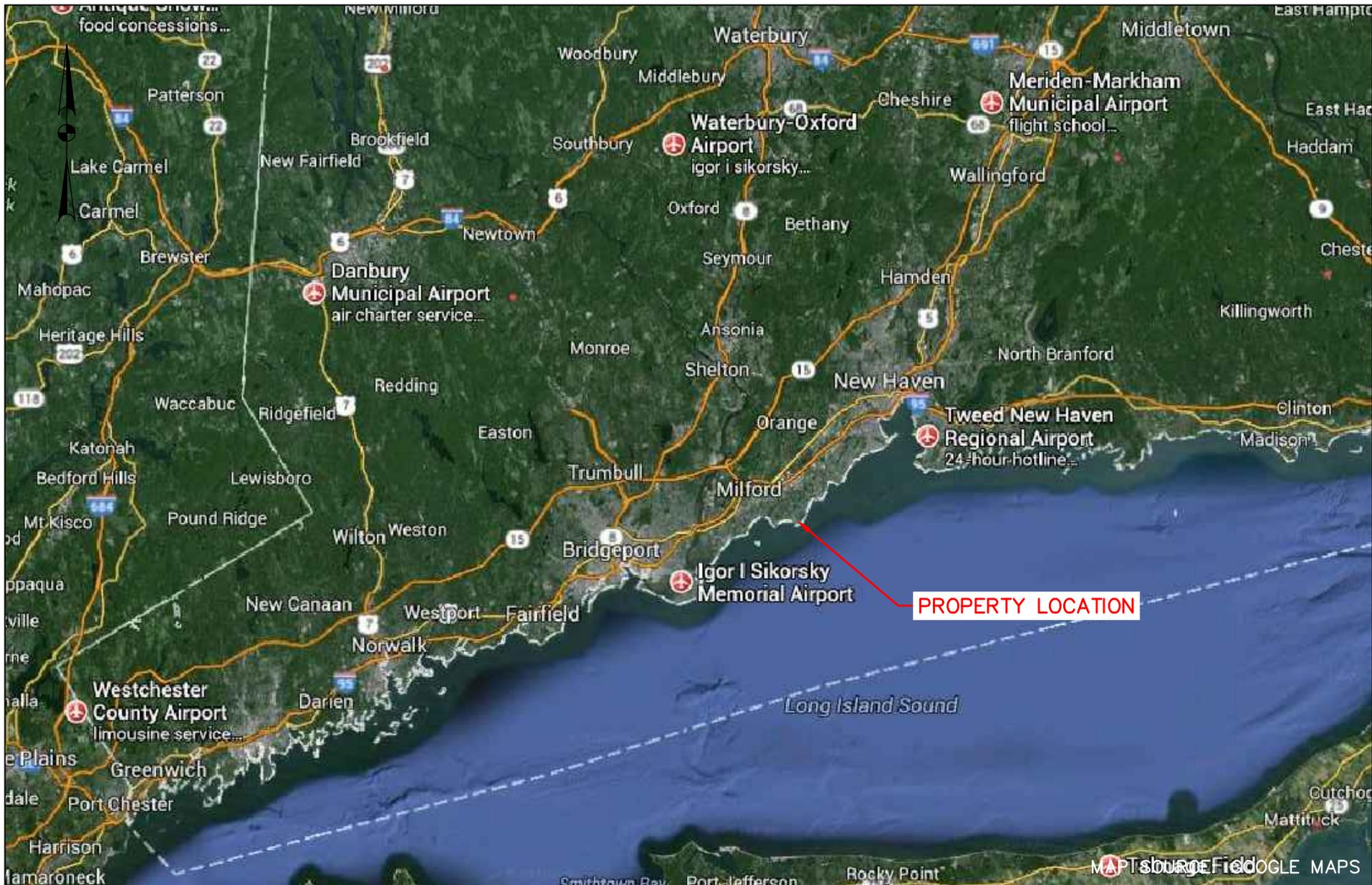
24 ELAINE ROAD
MILFORD, CT

ATTACHMENT 5
NDDB AREAS

PROJECT NUMBER: 13-449-030 APPLICANT NO: 1437

SCALE: 1"=1000' DRAWN BY: EPZ

DATE: 11/24/2014 CHECKED BY: JAB



DEPARTMENT OF HOUSING
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 MILFORD, CT

PROJECT NUMBER: 13-449-030

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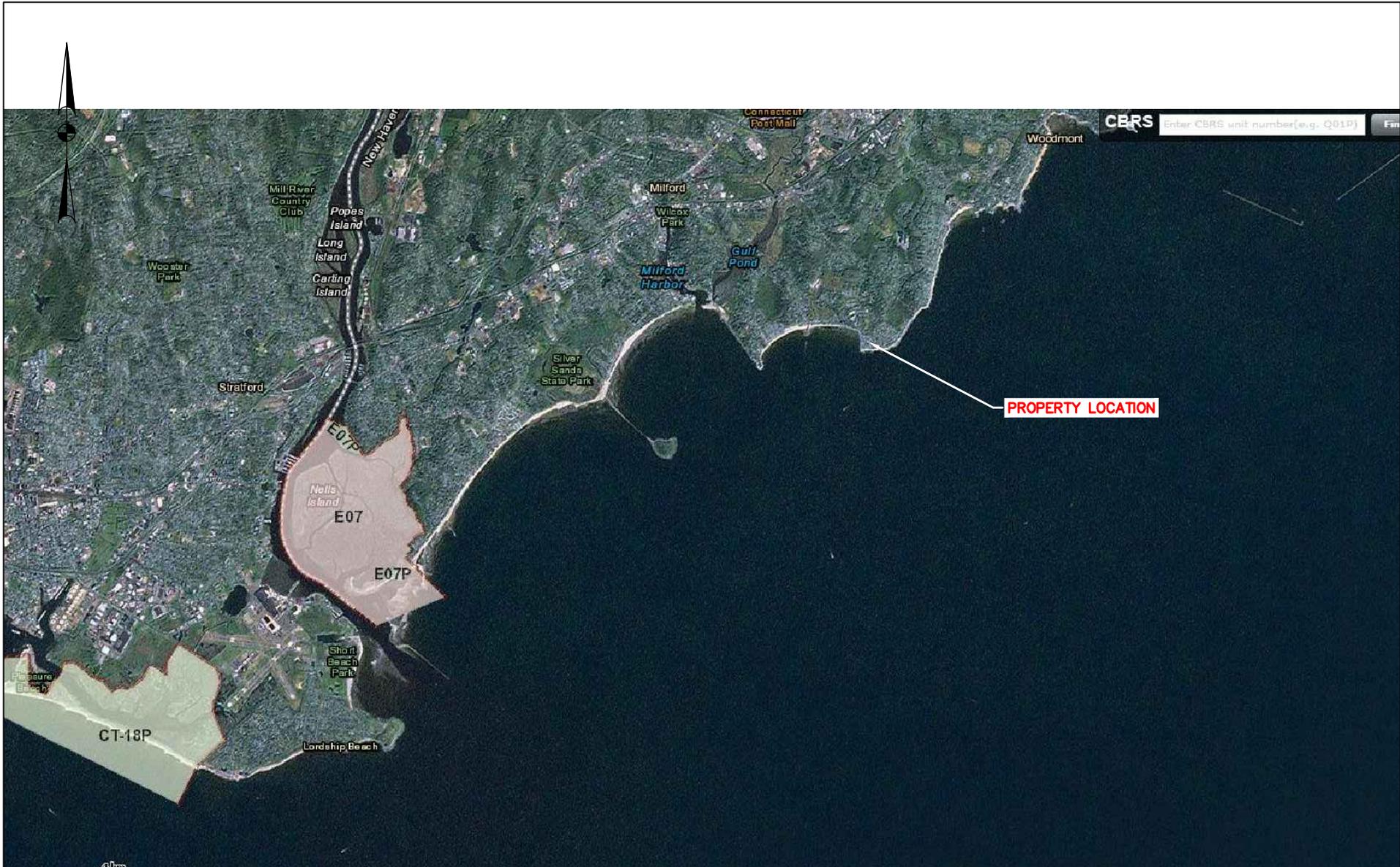
ATTACHMENT 6
 AIRPORT VICINITY MAP

SCALE: NTS

DATE: 11/24/14

DRAWN BY: EPZ

CHECKED BY: JAB



MAP SOURCE: U.S. FISH AND WILDLIFE SERVICE



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DEPARTMENT OF HOUSING
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24 ELAINE ROAD
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ATTACHMENT 7
 COASTAL BARRIER MAP

SCALE: NTS

DRAWN BY: EPZ

DATE: 11/24/14

CHECKED BY: JAB

PROJECT NUMBER: 13-449-030

APPLICANT NO: 1437

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

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12/1/2014

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 1 OF 14**

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- Appendix A: XRF Lead-Based Paint Testing Results with quality evaluation sheet and site drawings, 8 pages
- Appendix B: Dust Wipe and Soil Sample Analytical Data and Chain of Custody Document, 7 pages
- Appendix C: Sample Location Drawings, 3 pages
- Appendix D: Lead Hazardous Waste Evaluation Worksheet, 1 page(s)
- Appendix E: Copy of Risk Assessor's License/Certification, 2 pages
- Appendix F: Copy of Firm's Lead Activity License/Certification, 3 pages
- Appendix G: Copy of XRF Training Certificate and LPA-1 Performance Characteristics Sheet, 5 pages
- Appendix H: "LEAD SPEAK" – A Brief Glossary, 2 pages
- Appendix I: Additional Lead and Lead Safety Resource Data, 1 page

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File Location:

NAS AAUM-Reports\LeadInsp\NY-RiskAssess_Aug2014.doc

This investigation and information provided in this report depends partly on background information provided by the client. This report is intended for the use of the client. The scope of services performed may not be appropriate for other users and any use of this report by third parties is at their sole risk. This report is intended to be used in its entirety. No excerpts may be taken to be representative of this report.

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 2 OF 14**

INTRODUCTION

EXECUTIVE SUMMARY: As a result of the Lead Hazard Risk Assessment and the limited Lead-Based Paint Testing (Assessment) conducted on 11/17/2014, it was found that lead-based surface coatings (paint) and lead hazards (dust and soil) were present on the subject property as of the date of the Assessment. Lead (as defined by OSHA regulations 29 CFR 1926.62) and Lead Based Paint (as defined per EPA and CT DPH regulations) was detected on surfaces and/or components within the scope of the inspection. This will require workers disturbing Lead to be properly protected and trained including personal air sampling on the workers. The concentrations determined by the personal samples will determine the level of protection required by OSHA. (Contact us for assistance with the personal samples and further interpretation. General information is contained in the recommendations to follow.) Because lead based paint was detected, a Hazardous Waste Evaluation was done per CT DEEP regulations to determine if the waste products from the renovation are potentially a hazardous waste. The hazardous waste evaluation was done using a modified “knowledge of process” technique. This modified method resulted in the waste containing 765 mg/kg of lead, which is considered likely to be a lead hazardous waste since it is > 100 mg/kg (the threshold for this modified method).

BUILDING DESCRIPTION: The subject building is a two-story (plus basement), single family, residential structure, totaling approximately 1220 sq ft, which was built in 1928 of wood-frame construction. The subject house was occupied at the time of our inspection. We understand the siding, gutters/downspouts, and some fencing have already been replaced after damage caused by hurricane Sandy in October of 2012. At the time of our screening, there were no children under the age of six residing at this subject house and the house was not being used as a daycare facility. See attached drawings for detail.

BACKGROUND: We understand the subject house suffered damage as a result of hurricane Sandy on October 29-30, 2012. We understand the house suffered mainly from water and wind damage in relation to the storm and that the owner has already completed the following repairs: siding replacement, gutter/downspout replacement, and some fence replacement. We understand the scope of the renovations still to be completed as follows: Scope of work consists of; replacing/repairing front door and front windows, replacing of all flooring on 1st Floor, re-insulation of basement, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in basement.

SCOPE OF OUR WORK: Our work would include the following:

- A Lead Hazard Risk Assessment and a hazardous waste evaluation.
- XRF Screening of Lead Based Paint of painted surfaces to be disturbed by the renovation on the 1st Floor as directed by our client.
- A report of the findings with site drawings.

Please note that during our site visit on 11/17/2014, our scope of work changed to include window replacement throughout the subject house as they were determined to contain defective lead based paint. Also the flooring replacement on the first floor was removed from the scope of renovations with the exception of the carpeting in CS-1 Living Room and CS-2 Living Room Closet. Samples were collected and analyzed from CS-3 Kitchen/Dining Room per the request of our client but are not in the scope of renovations at this time. Lead paint chip and TCLP sampling are not in our scope of work.

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INTRODUCTION (cont)

QUALIFICATIONS: The Inspection was conducted by Nathan Yergeau, CT DPH Certified DPH Lead Inspector/Risk Assessor #002225, Radiation Safety Training, RMD 3/12/09. Nathan was assisted by Kayla Carnes and Leigh Honorof. Chem Scope's DPH lead license # is CC000164.

METHOD OF TESTING: Spectrum Analyzer XRF (x-ray fluorescence). Instrument used: RMD LPA-1, Serial # 1647 in Quick Mode. The unit source (Cobalt 57) for unit 1647 was replaced September 29th, 2014. The XRF detects paint in all layers down to the painted substrate. In other words if lead paint is painted over with new paint, the lead paint is still detected by this procedure. When paint is covered with metal or plastic trim such as siding or by carpet, the lead paint is usually not detectable. This instrument is registered with the State of Connecticut Dept of Energy and Environmental Protection and is Generally Licensed under the NRC. This is one of the two methods, which are approved under the CT Dept of Public Health (DPH) regulations. This is a non-destructive test.

The dust and soil samples were sent for analysis to Eastern Analytical Services (EAS), an AIHA accredited Laboratory and a CT DPH approved Environmental Laboratory in regards to this test, using Atomic Absorption analysis.

TEST PARAMETERS FOR XRF TESTING USING THIS INSTRUMENT: OSHA 1926.62
Definition: Lead means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds. XRF readings of 1.0 mg/cm² or higher are lead based paint as defined per EPA and CT DPH regulations and XRF reading with any detectable amount of lead detected are defined as Lead by OSHA standard 1926.62.

XRF CALIBRATION CHECK: Standard Reference Material (SRM) paint film nearest to 1.0 mg/cm² within the National Institute of Standards and Technology (NIST) SRM is used to calibrate the XRF. Calibration Readings are taken at the beginning and end of a job and every four (4) hours during the job with three (3) readings per set. The expiration date of the standard used is 7/1/20.

QUALITY CONTROL PROCEDURES: The XRF is used in accordance with Manufacturer's Performance Characteristics Sheet and instructions. See test data attached for details. Ten (or if <10, then the total number of tests conducted) testing combinations for re-testing from each unit are selected and checked in either 15 second or 60 second readings.

STATEMENT ON ACCURACY: The XRF Calibration checks were acceptable with each of the three (3) readings before, during (if applicable) and after the testing between 0.7 mg/cm² and 1.3 mg/cm². See attached XRF data sheets for documentation of proper calibration check sequence.

REPORT CONVENTIONS: Rooms are sometimes given arbitrary numbers to avoid ambiguity. Please refer to the enclosed schematic drawings of the site. Samples are referenced by the side of the building they are facing, as indicated on the drawings. Side A is the street side (front), Side B is the left side, Side C is the rear and Side D is the right side.

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INTRODUCTION (cont)

ONGOING MONITORING: Ongoing monitoring is necessary in all dwellings in which LBP is known or presumed to be present. At these dwellings, the very real potential exists for LBP hazards to develop. Hazards can develop by means such as, but not limited to: the failure of lead hazard control measures; previously intact LBP becoming deteriorated; dangerous levels of lead-in-dust (dust lead) re-accumulating through friction, impact, and deterioration of paint; or, through the introduction of contaminated exterior dust and soil into the interior of the structure. Ongoing monitoring typically includes two different activities: re-evaluation and annual visual assessments. A re-evaluation is a risk assessment that includes limited soil and dust sampling and a visual evaluation of paint films and any existing lead hazard controls. Re-evaluations are supplemented with visual assessments by the Client, which should be conducted at least once a year, when the Client or its management agent (if the housing is rented in the future) receives complaints from residents about deteriorated paint or other potential lead hazards, when the residence (or if, in the future, the house will have more than one dwelling unit, any unit that turns over or becomes vacant), or when significant damage occurs that could affect the integrity of hazard control treatments (e.g., flooding, vandalism, fire). The visual assessment should cover the dwelling unit (if, in the future, the housing will have more than one dwelling unit, each unit and each common area used by residents), exterior painted surfaces, and ground cover (if control of soil-lead hazards is required or recommended). Visual assessments should confirm that all Paint with known or suspected LBP is not deteriorating, that lead hazard control methods have not failed, and that structural problems do not threaten the integrity of any remaining known, presumed or suspected LBP.

The visual assessments do not replace the need for professional re-evaluations by a certified risk assessor. The re-evaluation should include:

1. A review of prior reports to determine where lead-based paint and lead-based paint hazards have been found, what controls were done, and when these findings and controls happened;
2. A visual assessment to identify deteriorated paint, failures of previous hazard controls, visible dust and debris, and bare soil;
3. Environmental testing for lead in dust, newly deteriorated paint, and newly bare soil; and
4. A report describing the findings of the reevaluation, including the location of any lead-based paint hazards, the location of any failures of previous hazard controls, and, as needed, acceptable options for the control of hazards, the repair of previous controls, and modification of monitoring and maintenance practices.

The first reevaluation should be conducted no later than two years after completion of hazard controls, or, if specific controls or treatments are not conducted, two years from the beginning of ongoing lead-based paint monitoring and maintenance activities. Subsequent reevaluations should be conducted at intervals of two years, plus or minus 60 days. If two consecutive reevaluations are conducted two years apart without finding a lead-based paint hazard, reevaluation may be discontinued.

Please refer to your community development agency, housing authority, or other applicable agency for additional local/regional regulations and guidelines governing re-evaluation activities.

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INTRODUCTION (cont)

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

FUTURE REMODELING PRECAUTIONS: It should be noted that during this Assessment, a limited number of areas were tested for the presence of LBP. All LBP, dust, and soil hazards that were identified are addressed in this report. However, LBP, dust lead hazards, and/ or soil lead hazards may be present at other locations of the property. Additional paint testing should precede any future remodeling activities that occur at any untested areas. Additional dust and/or soil sample collection and analysis should follow any hazard control activity, repair, remodeling, or renovation effort, and any other work efforts that may in any way disturb LBP and/or any lead containing materials. These Assessment activities will help the Client and owner to ensure the health and safety of the occupants and the neighborhood. Details concerning lead-safe work techniques and approved hazard control methods can be found in the HUD publication entitled: “*Guidelines for the Evaluation and Control of LBP Hazards in Housing*” (www.hud.gov/offices/lead). Remodeling, repair, renovation and painting at the residence beyond the scale of minor repair and maintenance activities must be conducted in accordance with the EPA’s Lead Repair, Renovation, and Painting Rule (within 40 CFR part 745); see the EPA’s website on the RRP Rule at <http://www.epa.gov/lead/pubs/renovation.htm> for the scope and requirements of that Rule. Lead-based paint abatement or lead-based paint hazard abatement at the residence must be conducted in accordance with the EPA’s Lead Abatement Rule (also within 40 CFR 745); see the EPA’s website for Lead Abatement Professionals at <http://www.epa.gov/lead/pubs/traincert.htm>.

CONDITIONS & LIMITATIONS: Staff of ChemScope Inc. has performed the tasks listed above requested by the our client in a thorough and professional manner consistent with commonly accepted standard industry practices, using state of the art practices and best available known technology, as of the date of the assessment. ChemScope cannot guarantee and does not warrant that this Assessment/Limited LBP Testing has identified all adverse environmental factors and/or conditions affecting the subject property on the date of the Assessment. ChemScope cannot and will not warrant that the Assessment/Limited Testing that was requested by the client will satisfy the dictates of, or provide a legal defense in connection with, any environmental laws or regulations. It is the responsibility of the client to know and abide by all applicable laws, regulations, and standards, including EPA’s Renovation, Repair and Painting regulation.

The results reported and conclusions reached by ChemScope are solely for the benefit of the client. The results and opinions in this report, based solely upon the conditions found on the property as of the date of the Assessment, will be valid only as of the date of the Assessment. ChemScope assumes no obligation to advise the client of any changes in any real or potential lead hazards at this residence that may or may not be later brought to our attention. Further conditions and limitations to this contracted report are included in the general terms and conditions supplied to the client with the contract for services.

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INSPECTION REPORT SYNOPSIS

LOCATION NAME AND ADDRESS: Site 030 (Serini) - Application #1437
24 Elaine Road, Milford, CT

INSPECTION DATE(S): 11/17/2014

XRF Testing Results: Limited LBP Testing, conforming with HUD regulation 24 CFR 35.930(c), (d) was accomplished at this residence on surfaces found to have deteriorated paint and/or where it was indicated to the Assessor that planned renovation would occur. No paint chip samples were taken. On 11/17/2014, a total of 79 tests (assays) were taken at a limited number of specified surfaces on the inside and outside of the residence using a x-ray fluorescence analyzer. Deteriorated paint and areas that were specified to be disturbed during the planned renovation project were tested. Lead concentrations that meet or exceed the HUD published levels identified as being potentially dangerous (e. g., greater than or equal to 1.0 milligrams per centimeter square [$> 1.0 \text{ mg/cm}^2$]) were encountered on one interior surface (see list of lead based paint items listed below).

The following surface(s) and/or component(s) contained Lead as defined by OSHA regulations 29 CFR 1926.62, in addition the **items in bold** are **Lead Based Paint** as defined per EPA and CT DPH regulations:

Component/Description	Location	Defective	Friction Surface	Potential Remediation Methods
White/black painted wood window components such as casings, sills, *sashes, aprons, *frames, and wells	Interior – Throughout	Yes	*Yes	REM, REP, or LENCAP
White painted wood door casings,* frames and *stops	Interior – First Floor – CS-3 Kitchen, CS-6 Rear Storage and Second Floor – Throughout	Yes	*Yes	REM, REP, or LENCAP
White painted wood crown moulding	Interior – First Floor – CS-2 LivingRoom Closet and CS-6 Rear Storage	Yes	No	REM, REP, or LENCAP
White painted wood ceiling	Interior – First Floor – CS-6 Rear Storage	Yes	No	REM, REP, or LENCAP
Black painted wood door, *door frame, and door threshold	Exterior – First Floor – Rear Exit Door – Side B	Yes	*Yes	REM, REP, or LENCAP
White painted wood door stop	Interior – First Floor – CS-1 Living Room – Side A	Yes	Yes	REM or REP
White painted wood baseboard	Interior – First Floor – CS-1 Living Room	Yes	No	REM, REP, or LENCAP
White painted wood crown moulding	Interior – Second Floor – CS-12 Bedroom and CS-10 Bedroom	Yes	No	REM, REP, or LENCAP
Green painted wood walls	Interior – Second Floor – CS-11 Bedroom	Yes	No	REM, REP, or LENCAP

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INSPECTION REPORT SYNOPSIS (CONT)

The following surface(s) and/or component(s) contained Lead as defined by OSHA regulations 29 CFR 1926.62, in addition the **items in bold are Lead Based Paint** as defined per EPA and CT DPH regulations (CONT):

Component/Description	Location	Defective	Friction Surface	Potential Remediation Methods
White painted wood ceiling	Interior – Second Floor – CS-11 Bedroom and CS-10 Bedroom	Yes	No	REM, REP, or LENCAP
Pink painted wood walls	Interior – Second Floor – CS-10 Bedroom	Yes	No	REM, REP, or LENCAP

(REM) : Removal Stripping of paint.

(REP) : Replacement Removal of architectural component and replacement with lead free component.

(RENCAP) : Rigid encapsulation (e.g. enclosure using materials such as siding, paneling, sheetrock, plywood, etc.

(LENCAP) : Liquid Encapsulation.

OSHA 1926.62 Definition: Lead means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.

XRF readings of 1.0 mg/cm² or higher are lead based paint as defined per EPA and CT DPH regulations and XRF reading with any detectable amount of lead detected are defined as Lead by OSHA standard 1926.62.

LIMITATIONS OF SCREENING: Not all painted surfaces were tested. Consequently, if a surface was not tested assume it contains Lead until proven otherwise. See attached data sheets for a list of surfaces tested.

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INSPECTION REPORT SYNOPSIS (cont)

RESIDENT QUESTIONNAIRE: A resident questionnaire was completed as part of the Assessment, to help identify particular use patterns, which may be associated with potential LBP hazards, such as opening and closing windows painted with LBP. The answers to the questionnaire were obtained during our on-site interview with the owner/occupant, Patricia Serini on 11/17/2014. The following is a summary of the information obtained during the interview:

Children in the Household:	None
Children's bedroom locations:	N/A
Children's eating locations:	N/A
Primary interior play area(s):	N/A
Primary exterior play area(s):	N/A
Toy Storage:	N/A
Pets:	Yes, 1 dog
Children's blood lead testing history:	N/A
Observed chewed surfaces:	None
Women of child bearing age:	No
Previous lead testing:	None
Most frequently used entrances:	Living Room door , Side A
Most frequently opened windows:	Kitchen, Living Room
Structure cooling method:	Portable air conditioning units.
Gardening – type and location(s):	Was in backyard, damaged by storm and then removed. Gardening now done in pots.
Plans for landscaping:	Excavation in order to remove in-ground oil tank from front yard.
Cleaning regiment:	Entire First Floor and Second Floor Bedrooms, regularly
Cleaning methods:	Mopping, sweeping, dusting, vacuuming
Recently completed renovations:	Siding replacement, gutter/downspout replacement, and some fence replacement.
Demolition debris on site:	N/A
Resident(s) with work lead exposure:	N/A, occupants are retired and unemployed.
Planned renovations:	Replacing/repairing front door and front windows, replacing of all flooring on 1 st Floor, re-insulation of crawlspace, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in crawlspace.

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 9 OF 14**

INSPECTION REPORT SYNOPSIS (cont)

Building Conditions Survey

Date of Construction:	1928
Apparent Building Use:	Residential , Single-Family
Setting:	Residential
Front Entry Faces:	Side A, Faces East
Design:	2-Story, Single-Family
Construction Type:	Wood framed
Lot Type:	Flat
Roof:	Good, no apparent roof leaks
Foundation:	Concrete
Front Lawn Condition:	No bare soil
Back Lawn Condition:	Approx. < 10% bare soil
Drip Line Condition:	Good – no paint chips seen
Site Evaluation:	Good on First Floor (except Storm Damage), Good on Second Floor
Exterior Structural Condition:	Exterior structural is good for the house
Interior Structural Condition:	Good
Overall Building/Site Condition:	Good except for storm damage

PAINT CONDITION SURVEY

Please Note: EPA and HUD have provided a specific definition for the term “deteriorated paint.” Deteriorated paint is defined as “any interior or exterior paint or other coating that is peeling, chipping, chalking or cracking, or any paint or coating located on an interior or exterior surface or fixture that is otherwise damaged or separated from the substrate.” This definition is most typically associated with surface conditions only. Usage of this term in describing conditions other than those associated with surface coatings are not known to be defined by EPA or HUD.

Continued

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 10 OF 14**

INSPECTION REPORT SYNOPSIS (cont)

Identified Deteriorated Paint, Paint Conditions, Lead Content, & Most Apparent Cause of Deterioration:

Component/Description	Location	Most Apparent Cause of Deterioration
White/black painted wood window components such as casings, sills, *sashes, aprons, frames, and wells	Interior – Throughout	Age/Storm Damage/ Friction
White painted wood door casings, frames and stops	Interior – First Floor – CS-3 Kitchen, CS-6 Rear Storage and Second Floor – Throughout	Age/Contact Damage/ Friction Damage
White painted wood crown moulding	Interior – First Floor – CS-2 Living Room Closet and CS-6 Rear Storage	Age/Storm Damage
White painted wood ceiling	Interior – First Floor – CS-6 Rear Storage	Age
Black painted wood door, door frame, and door threshold	Exterior – First Floor – Rear Exit Door – Side B	Age/Friction Damage

The remaining paint exhibited no apparent signs of deterioration, as of the date of the Assessment.

INTERIOR DUST SAMPLING:

A total of 12 single surface dust wipe samples were collected (and 2 blanks) in an effort to help to determine the levels of lead-containing dust on the interior window sills and floors. These samples were collected from areas most likely to be lead-contaminated if lead-in-dust is present. These samples were collected in accordance with the requirements of ASTM Standard E-1728, Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques. EPA, HUD and State of Connecticut regulations define the following as hazardous levels for lead dust in residences: floors – ≥ 40 mg/ft² (micrograms per square foot); interior window sills – ≥ 250 mg/ft². There is no EPA dust-lead hazard standard for window troughs. Please refer to *Appendix B – Dust Wipe Analytical Results* for the laboratory reports and to *Appendix I – Lead and Lead Safety Information and Resources* for a list of publications and resources addressing lead hazards and their health effects; both are located at the end of this report.

Six of the twelve dust samples collected were within acceptable levels. A summary list is given below, see attached analysis reports and drawings for details. **Samples noted in bold on the following page exceeded HUD and CT-DPH standards and represent dust-lead hazards. These samples constitute dust-lead hazards in those rooms.**

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
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INSPECTION REPORT SYNOPSIS (cont)

INTERIOR DUST SAMPLING:

Sample #	Date	Location	Surface	Dust Wipe Result (ug/sq ft)	CT-DPH Standard (ug/sq ft)
187-210-1L	11/17/14	First Floor – CS-6 Rear Storage	Floor	76.2	40
187-210-2L	11/17/14	First Floor – CS-6 Rear Storage	Window Sill	12247.8	250
187-210-3L	11/17/14	First Floor – CS-3 Kitchen	Floor	BDL <11.5	40
187-210-4L	11/17/14	First Floor – CS-3 Kitchen	Window Sill	1518.6	250
187-210-5L	11/17/14	First Floor – CS-1 Living Room	Floor	BDL <11.5	40
187-210-6L	11/17/14	First Floor – CS-1 Living Room	Window Sill	BDL <72.6	250
187-210-7L	11/17/14	2 nd Floor – CS-12 Bedroom	Floor	BDL <11.5	40
187-210-8L	11/17/14	2 nd Floor – CS-12 Bedroom	Window Sill	95404.8	250
187-210-9L	11/17/14	2 nd Floor – CS-11 Bedroom	Floor	BDL <11.5	40
187-210-10L	11/17/14	2 nd Floor – CS-11 Bedroom	Window Sill	2556.9	250
187-210-11L	11/17/14	2 nd Floor – CS-10 Bedroom	Floor	BDL <11.5	40
187-210-12L	11/17/14	2 nd Floor – CS-10 Bedroom	Window Sill	3498.0	250
187-210-13L	11/17/14	-	Blank	BDL <11.5	-
187-210-14L	11/17/14	-	Blank	BDL <11.5	-

SOIL SAMPLING AND LABORATORY INFORMATION: Three (3) composite soil samples were collected at this residence in accordance with the requirements of ASTM Standard E-1727, Standard Practice for Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques. One of the samples identified lead concentrations above the levels that EPA, HUD or CT-DPH identifies as hazardous. See the following table for a summary of the soil sampling results. Please refer to *Appendix C – Soil Sample Analytical Data* for the detailed analytical reports. Testing data in **bold face** indicates soil lead levels at or above the EPA Hazardous Levels of Lead regulations that were published on January 5, 2001.

Sample #	Date	Location	Surface	Soil Concentration (mg/kg)	CT-DPH Standard (mg/kg)
187-210-16L	11/17/14	Exterior – Side D – Bare Soil at Drip Line	Soil, 1” deep	770.6	400
187-210-17L	11/17/14	Exterior – Side D – Bare Soil Along Fence	Soil, 1” deep	195.9	400
187-210-18L	11/17/14	Exterior – Side C – Bare Soil Along Fence	Soil, 1” deep	51.6	400

HAZARDOUS WASTE EVALUATION: Because toxic levels of lead were detected, a Hazardous Waste Evaluation was done to determine if the waste products from the renovation are potentially a hazardous waste. An initial hazardous evaluation was done using a modified (for XRF data as opposed to paint chip data) “knowledge of process” technique intended to approximate the method described by the CT Department of Energy and Environmental Protection (DEEP). That method is one of six methods outlined in the CT DEEP “Guidance for the Management and Disposal of Lead-Contaminated Materials Generated in the Lead Abatement, Renovation and Demolition Industries” (11/4/94) for hazardous waste evaluation. For our modified method, data gathered during the XRF inspection is used to calculate for hazardous waste vs. other methods that require TCLP (Toxicity Characteristic Leaching Procedure) testing.

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 12 OF 14**

INSPECTION REPORT SYNOPSIS (cont)

HAZARDOUS WASTE EVALUATION (cont): This modified method resulted in the waste being **765 mg/kg of lead**, which is considered likely to be a lead hazardous waste since it is > 100 mg/kg (the threshold for this modified method).

This method is the least expensive method of hazardous waste evaluation but has limited applicability. The other methods include the following:

- Demolish and Test (TCLP test and needs to be done during the renovation or demolition)
- Composite-Sample and Demolish (TCLP test done before the renovation and destructive testing required and challenging to do for renovations if we don't know what the waist stream is actually going to be in the dumpster)

RECOMMENDATIONS

Lead Hazard Control Options Lead-safe work practices and worker/occupant protection practices complying with current EPA, HUD and OSHA standards will be necessary to safely complete all work involving the disturbance of LBP coated surfaces and components. In addition, any work considered lead hazard control will enlist the use of interim control (temporary) methods and/or abatement (permanent) methods. It should be noted that all lead hazard control activities have the potential of creating additional hazards or hazards that were not present before.

Details for the listed lead hazard control options and issues surrounding occupant/worker protection practices can be found in the publication entitled: *Guidelines for the Evaluation and Control of LBP Hazards in Housing* published by HUD, the Environmental Protection Agency (EPA) lead-based paint regulations, and the Occupational Safety and Health Administration (OSHA) regulations found in its Lead in Construction Industry Standard. The associated cost estimates, unless otherwise noted, include the labor and materials to accomplish the stated activity and most additional funds typically found to be necessary to complete worker protection, site containment, and cleanup procedures. These are approximate estimates only and due to a variety of potential factors, may not accurately reflect all local cost factors. A precise estimate must be obtained from a certified LBP abatement contractor or a contractor trained in lead-safe work practices. Properly trained and/ or licensed persons, as well as properly licensed firms (as mandated) should accomplish all abatement/interim control activities conducted at this residence.

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

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
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RECOMMENDATIONS (cont)

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

CT DEEP Hazardous Waste evaluation: Contractor generated waste from lead paint chips or component removal must be evaluated to determine if it is hazardous using one of the many techniques as described in the CT Department of Energy and Environmental Protection (DEEP) Guidance for the Management and Disposal of Lead-Contaminated Materials Generated in the Lead Abatement, Renovation and Demolition Industries" (11/4/94). This guidance document allows for homeowners to take up to 10 cubic yards to be disposed of as part of normal house hold waste (even if it contains lead). Under the household waste exclusion, in order for the waste to be exempt, the homeowner must have the means to dispose of it in a manner typical for routine household wastes: that is, either via curbside pickup, or by taking it themselves to their local transfer station.

EPA's RRP rule sets up requirements for firms and individuals performing renovations in pre-1978 housing and child-occupied facilities, such as schools and day cares. The RRP Rule requires that renovators be trained in the use of lead safe work practices, that renovators and firms be certified, that providers of renovation training be accredited, and that renovators follow specific work practice standards.

Because this is a pre-1978 house, contractors (including renovation, repair and painting workers, plumbers, electricians, HVAC professionals, etc.) working on this project must be EPA certified and trained in lead-safe work practices when conducting renovation, repair and painting activities that will disturb more than six (6) square feet of painted surfaces on the interior of a building or more than twenty (20) square feet on the exterior and all window replacements jobs. Additional information on this rule can be found at <http://www.epa.gov/lead/pubs/renovation.htm>.

OSHA 1926.62 (worker protection): Work that disturbs surfaces that contain Lead Based Paint (or any detectable amount of Lead) such as is the case for this work must be done according to OSHA regulation 1926.62 OSHA requires employers to conduct air sampling on workers disturbing lead to establish exposure levels to lead for those workers. The recorded levels are then compared to two different airborne concentrations in the OSHA standard: the action limit (AL) and the permissible exposure limit (PEL). Currently, the AL is set at 30 micrograms of lead per cubic meter of air ($\mu\text{g}/\text{m}^3$) and the PEL is 50 $\mu\text{g}/\text{m}^3$. At a minimum the following is required even for air sample results below the action level (this is known as Category 1):

- 1 Train employees
- 2 Conduct Exposure Monitoring (air sampling, as mentioned above)
- 3 Maintain Records

PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
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RECOMMENDATIONS (cont)

OSHA 1926.62 (worker protection)(cont):

See details below if your sampling exceeds the standards. Chem Scope, Inc could help with compliance assistance as needed.

OSHA 1926.62 – Additional Details:

Category 2: OSHA regulations require; Same as category I, plus: Provide respirator at employee request, Conduct exposure monitoring every 3 months, and Conduct blood lead monitoring when the exposure monitoring results are 30–50 ug/m³ (above the action level, but below the PEL).

Category 3: OSHA Regulations require; Same as category II, plus, enforce respirator use, enforce use of protective clothing, develop monitoring every 6 months, enforce housekeeping, provide hygiene facilities and enforce washing when the exposure monitoring results are 50 ug/m³ and over (above the PEL).

See separate Asbestos Pre-renovation Inspection report, Mold Assessment report, and Radon Air Sampling report for additional details.

If you have any questions or need more information please call me. Thank you for calling on us.

Sincerely,



Nathan Yergeau
Assistant Field Operations Manager

Appendix A XRF Lead-Based Paint Testing Results

Site Name: Site #030 (Serini) - Application #1437 Date of Inspection: 11/17/14

Site Address: 24 Elaine Road, Milford, CT CS# 187-210

Customer Name: - Diversified Technology Consultants (DTC) - Scott Feulner

Customer Address: 2321 Whitney Avenue Suite 301, Hamden CT 06518

Work Area: Throughout Page 1 of 4

Site Description: Two story, single family house of wood frame construction, totaling approximately 1220 SF Year of Construction: 1928

Name of Individual Doing Testing: Nathan Yergeay CT DPH Lic# 2225

CO-57 Date Source Installed: September 29, 2014 Software version # _____ Serial # 1647

Test #	Clock Time	NIST Calibration Standard	Results QM (mg/CM2)
1	8:43 am	NIST SRM 2573 Red	1.0
2	8:44 am	NIST SRM 2573 Red	1.0
3	8:45 am	NIST SRM 2573 Red	1.0
76	10:23 am	NIST SRM 2573 Red	1.0
77	10:24 am	NIST SRM 2573 Red	1.0
78	10:25 am	NIST SRM 2573 Red	1.0
		NIST SRM 2573 Red	
		NIST SRM 2573 Red	
		NIST SRM 2573 Red	
4	8:46 am	NIST SRM 2570 White (Blank)	0.0
79	10:26 am	NIST SRM 2570 White (Blank)	~0.2

Note: each entry represents a single test on the surface indicated.

- Acceptance limits for calibration are 0.7-1.3.
- 1.0 mg/cm² or higher = lead based paint (LBP)
- All values run under Quick Mode (QM), unless noted otherwise under comments above.
- Calibration std SRM 2573 has 1.0 mg/cm² of lead, expiration of std is 7/1/20.
- DEF under comments means the surface has defective lead based paint

INSPECTOR SIGNATURE/Date/REVIEWED BY/Date: [Signature] / 11/17/14 Ra / 12/1/14

Site Name: Site #030 (Serini) - Application #1437

Date of Inspection: 11/17/14

Site Address: 24 Elaine Road, Milford, CT

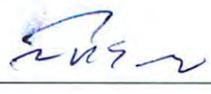
CS# 187-210

Work Area: Throughout

Page 2 of 4

Test # / Side	Int/Ext	Room #	Component	Defective (Y/N)	Color	Substrate	Results QM (mg/CM2)	LBP (Y/N)
5 A	Int	LR ^{CS1} Room	Door	N	White	FG	-0.1	N
6 A	"	"	"	N	"	"	-0.2	N
7 A	"	"	" casing	Y	"	wood	0.0	N
8 A	"	"	" frame * "	Y	"	"	0.1	N
9 A	"	"	frame	Y	"	"	-0.1	N
10 A	"	"	" "	Y	"	"	-0.1	N
11 A	"	"	" stop	Y	"	"	0.2	N
12 A	"	"	" "	Y	"	"	0.1	N
13 A	"	"	Storm Door	*AY	"	metal	-0.4	N
14 A	"	"	"	*AY	"	"	-0.4	N
15 A	"	"	Door threshold	N	Silver	"	-0.5	N
16 A	"	"	"	N	"	"	0.2	N
17 A	"	"	Window casing	Y	White	wood	0.0	N
18 A	"	"	" Sash casing	Y	"	"	-0.1	N
19 A	"	"	" " Sash	Y	"	"	-0.1	N
20 A	"	"	" * Sill Sash	Y	"	"	-0.2	N
21 A	"	"	" * Apron Sill	Y	"	"	-0.1	N
22 A	"	"	" * Apron Sill	Y	"	"	0.0	N
23 A	"	"	" Apron	Y	"	"	0.1	N
24 A	"	"	" "	Y	"	"	-0.1	N
25 A	"	"	Window Frame	Y	Black	Wood	0.3	N
26 A	"	"	" Well	Y	"	"	0.3	N
27 A	"	"	base board	Y	White	"	0.2	N
28 A	"	"	Floor	N	Green	Carpet	-0.2	N
29 B	"	Kitchen ^{CS-3}	"	N	White/gr strk	12x12 FT	-0.4	N
30 B	"	"	threshold	N	Stained	wood	0.0	N
31 B	"	"	base board	N	White	"	0.0	N
32 A	"	Basement ^{CS-1}	Floor	N	12x12 Wh/blue	12x12 ft	-0.6	N
33 B	"	LR closet	Floor	N	Brw/orange	Carpet	-0.3	N

* Kc 11/17/14 CS-2

Signature: 

Date: 11/17/14

Site Name: Site #030 (Serini) - Application #1437Date of Inspection: 11/17/14Site Address: 24 Elaine Road, Milford, CT

CS# 187-210

Work Area: ThroughoutPage 3 of 4

Test #/ Side	Int/Ext	Room #	Component	Defective (Y/N)	Color	Substrate	Results QM (mg/CM2)	LBP (Y/N)
34	A	Int	LRCSA ¹ wall	Y	green	SR	-0.3	N
35	D	"	LR closet ^{CS-2} wall	Y	unpainted	"	-0.5	N
36	A	"	"	Y	white	wood	6.4	Y
37	A	"	"	Y	"	"	1.4	Y
38	A	"	"	Y	"	"	1.6	Y
39	A	"	"	Y	"	"	1.7	Y
40	A	"	"	Y	"	"	1.4	Y
41	A	"	"	Y	black	"	1.7	Y
42	A	"	"	Y	"	"	0.2	N
43	C	"	Kitchen ^{CS-3} Door Casimg	Y	white	"	1.6	Y
44	C	"	"	Y	"	Ceiling tile	0.0	N
45	D	"	"	Y	"	wood	1.2	Y
46	A	"	Bed R ^{CS-4} wall	Y	unpainted	SR	-0.3	N
47	C	"	"	Y	brown	wood panel	-0.4	N
48	C	"	"	Y	white	wood	0.7	N
49	C	"	Bed 1 door frame	Y	"	"	2.2	Y
50	C	"	"	Y	stiches	"	-0.2	N
51	B	"	Halls ^{CS-5} wall	Y	green	"	0.1	N
52	D	"	Bed 2 ^{CS-6} door casins	Y	white	"	1.4	Y
53	D	"	"	Y	"	"	-0.2	N
54	D	"	"	Y	green	"	0.3	N
55	C	"	"	Y	white	"	0.4	N
56	C	"	Bed 3 ^{CS-7} "	Y	"	"	0.8	N
57	D	"	"	Y	pink	"	0.6	N
58	D	"	"	Y	white	"	0.2	N
59	A	"	Kitchen ^{CS-8} door frame	Y	"	"	2.4	Y
60	A	"	Bed 4 ^{CS-9} floor	N	green/white	floor tile	-0.4	N
61	C	"	"	Y	white	wood	2.4	Y
62	A	"	"	Y	"	"	0.0	N

Signature: [Signature]Date: 11/17/14

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior



LEGEND OF SYMBOLS

NOTATIONS

-  Fence
-  Ground Cover Change

DESIGNED BY: KAYLA CARNES LEIGH HONOROF

ChemScope Inc.

BASEMENT & EXTERIOR

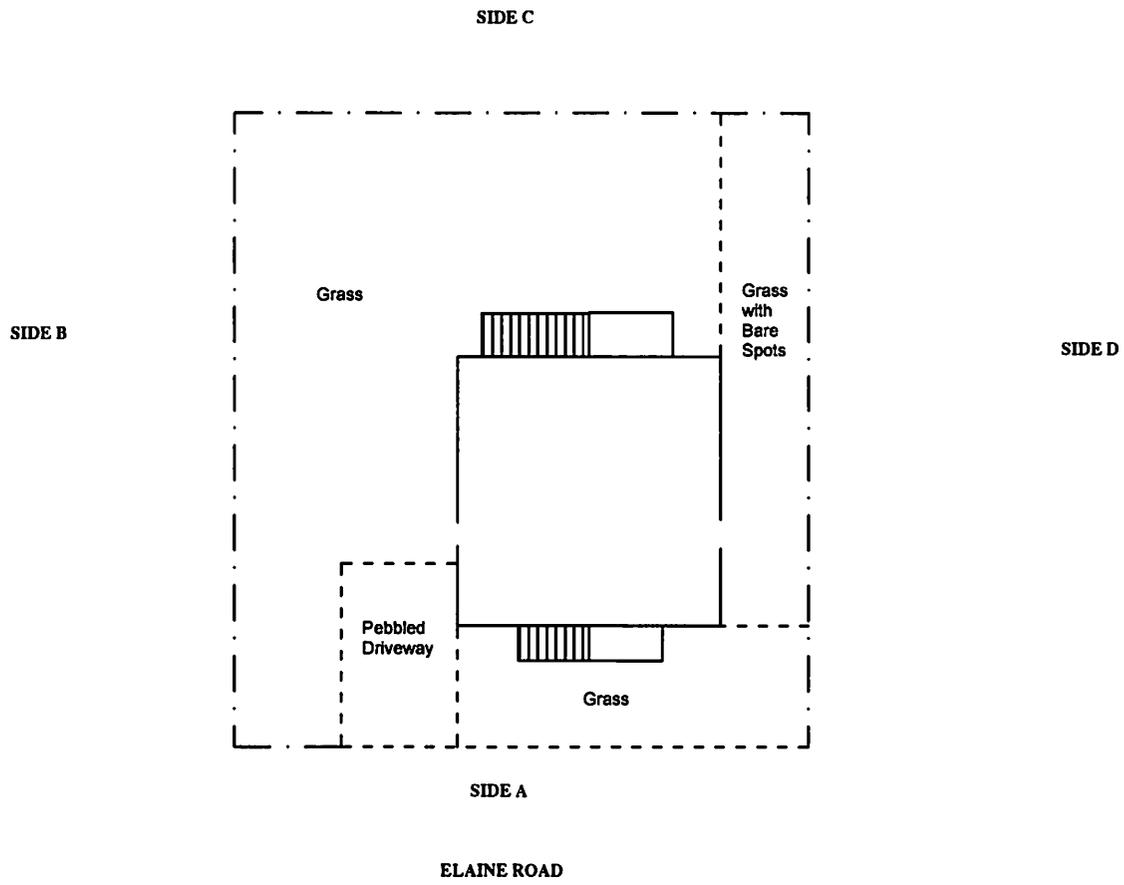
LEAD/MOLD/ASBESTOS
 RADON INSPECTION
 24 ELAINE ROAD
 MILFORD, CT

187-210

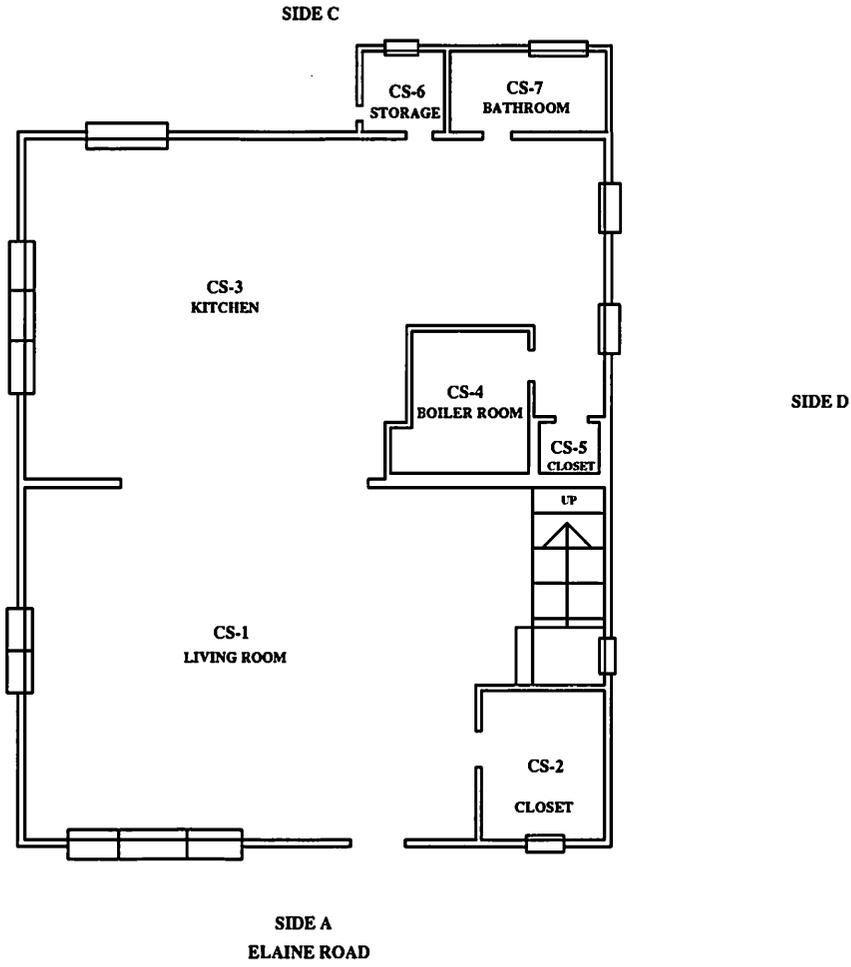
NOT TO SCALE

11/17/14

3



ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/18/14



LEGEND OF SYMBOLS

NOTES

TOTAL SQUARE FEET = 1213
 CONSTRUCTION YEAR = 1928

Drawn by: KAYLA CARNES

ChemScope Inc.

FIRST FLOOR

LEAD/MOLD/ASBESTOS
 RADON INSPECTION

24 ELAINE ROAD
 MILFORD, CT

PROJECT NUMBER
 187-210

SCALE
 NOT TO SCALE

DATE
 11/18/14

ChemScope Inc.

Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14



LEGEND OF SYMBOLS

NOTATIONS

TOTAL SQUARE FEET = 1218
 CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES

ChemScope Inc.

PLAN
 SECOND FLOOR

LEAD/MOLD/ASBESTOS
 RADON INSPECTION

24 ELAINE ROAD
 MILFORD, CT

LABORATORY NUMBER

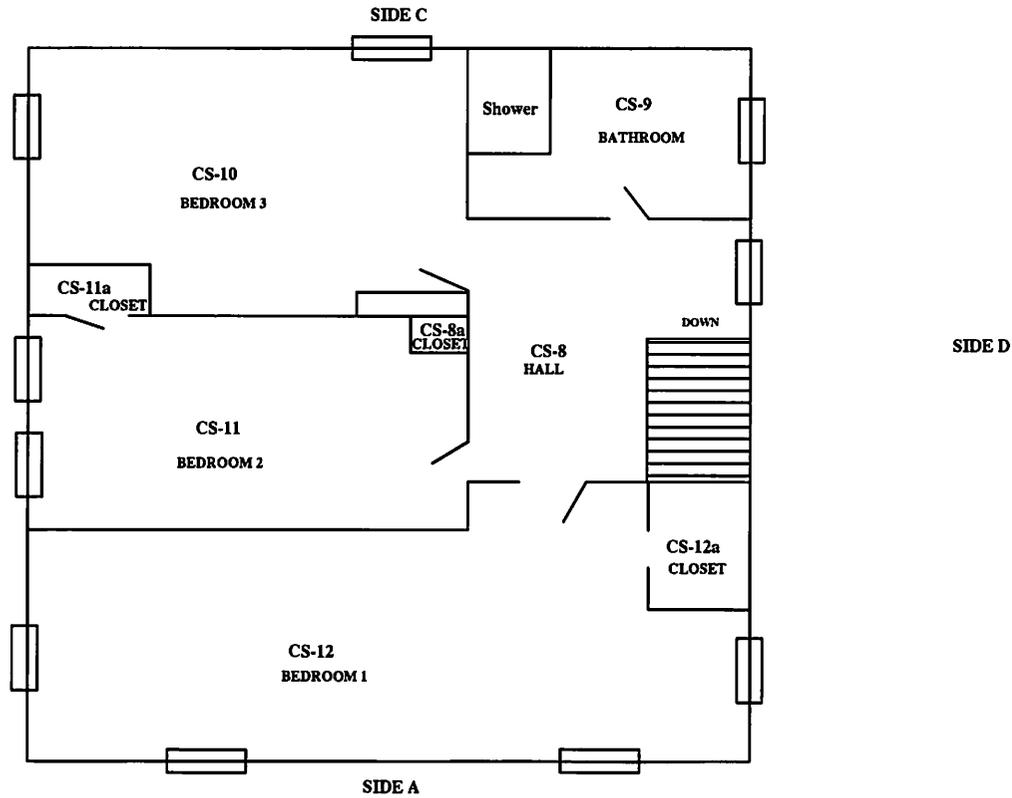
187-210

DATE

NOT TO SCALE

DATE

11/17/14



ELAINE ROAD

EVALUATING THE QUALITY OF XRF:						
Site Name: Site #030 (Serini) - Application # 1437					CS# 187-210	
Site Address: 24 Elaine Road, Milford CT					Date: 11/17/14	
	Location	Original Reading	Retest Reading	Square of Original Reading	Square of Retest Reading	
1.	Interior - First Floor - CS-1 - Livingroom - Door - Side A	-0.1	-0.2	0.01	0.04	
2.	Interior - First Floor - CS-1 - Livingroom - Door Casing - Side A	0.0	0.1	0.00	0.01	
3.	Interior - First Floor - CS-1 - Livingroom - Door Frame - Side A	-0.1	-0.1	0.01	0.01	
4.	Interior - First Floor - CS-1 - Livingroom - Door Stop - Side A	0.2	0.1	0.04	0.01	
5.	Interior - First Floor - CS-1 - Livingroom- Storm Door - Side A	-0.4	-0.4	0.16	0.16	
6.	Interior - First Floor - CS-1 - Livingroom - Door Threshold - Side A	-0.5	0.2	0.25	0.04	
7.	Interior - First Floor - CS-1 - Livingroom - Window Casing - Side A	0.0	-0.1	0.00	0.01	
8.	Interior - First Floor - CS-1 - Livingroom - Window Sash - Side A	-0.1	-0.2	0.01	0.04	
9.	Interior - First Floor - CS-1 - Livingroom - Window Sill - Side A	0.1	0.0	0.01	0.00	
10.	Interior - First Floor - CS-1 - Livingroom - Window Apron - Side A	0.1	-0.1	0.01	0.01	
Sum of ten squared averages ("C"):				0.50	0.33	
				"C" times 0.0072 ("D"):	0.0036	0.00238
				"D" plus 0.032 ("E"):	0.0356	0.034376
				Square root of "E" ("F"):	0.18868	0.185407659
				"F" times 1.645 (Retest Tolerance Limit):	0.3104	0.3050
Average of the ten XRF Readings:					-0.08	-0.07
				Absolute difference of the two averages:	0.0100	
If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest.						

Appendix B Lead in Dust and Soil Sample Analysis Reports

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

15 Moulthrop Street, North Haven, CT 06473-3686 • Phone (203) 865-5605 • Fax (203) 498-1610

Diversified Technology Consultants
2321 Whitney Avenue, Suite 301
Hamden CT 06518

Application #1437
11/26/2014
CS# 187-210

LEAD ANALYSIS BY ATOMIC ABSORPTION

Lead dust wipe and soil samples from Site #030 (Serini), 24 Elaine Road, Milford CT, collected by ChemScope, Inc., on 11/17/2014:

See attached chain of custody and EAS Analytical Services, Inc., reports for sample descriptions and analytical data; and applicable standards on reverse side of this page.

*NOTE: The EAS Analytical Services, Inc. report provides the lead soil concentration in mg/kg which is equivalent to ppm (parts per million).

Suzanne Cristante or
Laboratory Director
SC

Izabela Kremens or
Quality Manager
IK


Ronald D. Arena
President
RDA

LEAD STANDARDS AND GUIDELINES

(Revised 4/2013)

The following are some existing known standards and guidelines as they relate to lab analysis for lead by AAS. ChemScope assumes no liability for the use of these data. All values are expressed as pure lead, Pb.

1. Lead in Dust Standards: Connecticut DPH, EPA & HUD:

Dust-Wipe Re-Occupancy Testing:

Floors: 40 micrograms/sq ft

Sills: 250 micrograms/sq ft

Window Wells: 400 micrograms/sq ft

Toxic Level of lead in dry paint: 0.5%

*NOTE: City of Stamford has a stricter standard of .06%

2. For Air Samples: OSHA PEL (Permissible Exposure Limit) is 50 micrograms/cubic meter and the AL (Action Level) is 30 micrograms/cubic meter.

3. For Soil: 400 PPM is considered contaminated.

State regulations (CT DEEP RCSA 22a-133K) require lead-contaminated soil to be cleaned up to a concentration of 500 ppm in residential areas and 1,000 ppm in industrial and commercial areas. But in practice the Department of [Energy and] Environmental Protection (DEEP) and state and local health departments apply a 400 ppm standard in residential areas. DEEP has begun the process of adopting the 400 ppm standard in regulation.

OLR Research Report, October 11, 2006, 2006-R-0596

4. For any material to be disposed of: the DEP and EPA Standard for TCLP lead is 5 milligrams/liter. In addition, other substances besides lead may need to be tested which are not in the scope of this test report.

5. Consumer Product Safety Commission: Lead in paint for sale 0.06%.

6. For Drinking Water Samples (First Draw and Fully Flushed samples):

State of Connecticut Action Level: 0.015 mg/l

EPA Action Level: 15 ppb

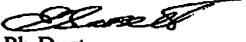
NOTE: .015 mg/l = 15 ppb



Eastern Analytical Services, Inc.

Wipe Sample Report

RE: CPN 187-210 - Diversified Technology Consultants (DTC) - Scott Feulner - Site 030
(Serini) - Application #1437 - 24 Elaine Road - Milford, CT

Date Collected: 11/17/2014
Collected By: Nathan Yergeau
Date Received: 11/19/2014
Date Analyzed: 11/20/2014
Analyzed By: Everton Byron Barrett
Signature: 
Analyte: Pb Dust
Analytical Method: EPA 3050B/7000B
NYS Lab Number: 10851

Client: Chem Scope, Inc.
15 Moulthrop Street
North Haven, CT 06473

Sample ID# / Lab ID#	Sample Location	Sample Notes	Concentration
187-210-1L 2327758	Rear Storage - 1st Floor - Floor Tile Floor	Dust Wipe - 12" x 12" Area	76.2 µg/ft ²
187-210-2L 2327759	Rear Storage - 1st Floor - Wood Window Sill	Dust Wipe - 4" x 2.5" Area	12247.8 µg/ft ²
187-210-3L 2327760	Kitchen - Tile Floor	Dust Wipe - 12" x 12" Area	BDL < 11.5 µg/ft ²
187-210-4L 2327761	Kitchen - Wood Window Sill	Dust Wipe - 3" x 2.5" Area	1518.6 µg/ft ²
187-210-5L 2327762	Living Room - Carpet Floor	Dust Wipe - 12" x 12" Area	BDL < 11.5 µg/ft ²
187-210-6L 2327763	Living Room - Wood Window Sill	Dust Wipe - 3.5" x 6.5" Area	BDL < 72.6 µg/ft ²
187-210-7L 2327764	Bedroom - CS-12 - Carpet Floor	Dust Wipe - 12" x 12" Area	BDL < 11.5 µg/ft ²
187-210-8L 2327765	Bedroom - CS-12 - Wood Window Sill	Dust Wipe - 3" x 2.5" Area	95404.8 µg/ft ²
187-210-9L 2327766	CS-11 - Carpet Floor	Dust Wipe - 12" x 12" Area	BDL < 11.5 µg/ft ²

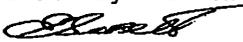
BDL = Below Detectable Limits Reporting Limit = 0.3 ppm
Liability Limited to Cost of Analysis
Results Applicable to Those Items Tested Results are Not Blank Corrected All QC within Control Limits Unless Otherwise Indicated
AIHA Accreditation No. 100263 Rhode Island DOH No. AAL-072T3 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AAS-2095



Eastern Analytical Services, Inc.

Wipe Sample Report

RE: CPN 187-210 - Diversified Technology Consultants (DTC) - Scott Feulner - Site 030
(Serini) - Application #1437 - 24 Elaine Road - Milford, CT

Date Collected: 11/17/2014
Collected By: Nathan Yergeau
Date Received: 11/19/2014
Date Analyzed: 11/20/2014
Analyzed By: Everton Byron Barrett
Signature: 
Analyte: Pb Dust
Analytical Method: EPA 3050B/7000B
NYS Lab Number: 10851

Client: Chem Scope, Inc.
15 Moulthrop Street
North Haven, CT 06473

Sample ID# / Lab ID#	Sample Location	Sample Notes	Concentration
187-210-10L 2327767	CS-11 - Wood Window Sill	Dust Wipe - 3" x 27" Area	2556.9 µg/ft ²
187-210-11L 2327768	CS-10 - Carpet Floor	Dust Wipe - 12" x 12" Area	BDL < 11.5 µg/ft ²
187-210-12L 2327769	CS-10	Dust Wipe - 3" x 27" Area	3498.0 µg/ft ²
187-210-13L 2327770	Not Applicable	Field Blank	BDL < 11.5 µg
187-210-14L 2327771	Not Applicable	Field Blank	BDL < 11.5 µg

BDL = Below Detectable Limits Reporting Limit = 0.3 ppm
Liability Limited to Cost of Analysis
Results Applicable to Those Items Tested Results are Not Blank Corrected All QC within Control Limits Unless Otherwise Indicated
AIHA Accreditation No. 100263 Rhode Island DOH No. AAL-072T3 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AAS-2095



Eastern Analytical Services, Inc.

Bulk Sample Report

RE: CPN 187-210 - Diversified Technology Consultants (DTC) - Scott Feulner - Site 030
(Serini) - Application #1437 - 24 Elaine Road - Milford, CT

Date Collected: 11/17/2014
Collected By: Nathan Yergeau
Date Received: 11/19/2014
Date Analyzed: 11/21/2014
Analyzed By: Everton Byron Barrett
Signature: 
Analyte: Pb Bulk
Analytical Method: EPA 3050B/7000B
NYS Lab Number: 10851

Client: Chem Scope, Inc.
15 Moulthrop Street
North Haven, CT 06473

Sample ID# / Lab ID#	Sample Location	Sample Notes	Concentration
187-210-15L 2328109	Exterior - Side D - Bare Soil at Drip Line	Lead In Soil	770.6 mg/kg 0.08 %
187-210-16L 2328110	Exterior - Side D - Bare Soil Along Fence	Lead in Soil	195.9 mg/kg 0.02 %
187-210-17L 2328111	Exterior - Side C - Bare Soil Along Fence	Lead in Soil	51.6 mg/kg 0.01 %

BDL = Below Detectable Limits Reporting Limit = 0.3 ppm

Liability Limited to Cost of Analysis

Results Applicable to Those Items Tested Results are Not Blank Corrected All QC within Control Limits Unless Otherwise Indicated Soil Samples Reported on Dry Weight Basis - Paint Samples Reported as Received

AIHA Accreditation No. 100263 Rhode Island DOH No. AAL-072T3 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AAS-2095

P.O.# 1365

Form FL-4 Rev 11/12/13
(Issued By SC)

ChemScope

INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

15 Moulthrop Street, North Haven, CT 06473-3686 • Phone (203) 865-5605 • Fax (203) 498-1610

Emailed _____
Faxed _____
Called _____
Logged

Chain of Custody

Site #030 (Serini) - Application #1437

Sample Source: 24 Elaine Road, Milford, CT

CS Job # 187-210

Sampled By: [Signature] Date Sampled: 11/17/14 Customer Name: Diversified Technology Consultants (DTC) - Scott Feulner

CS Sample#	Location Client Sample#	Sample Description	Comments
187-210-1L	Rear Storage	Lead dust sample from floor tile floor	1 SF = 1.00ft ² *Kc 11/17/14
187-210-2L	"	" " wood window sill	4'3" x 2.5' = 0.83ft ²
187-210-3L	Kitchen	" " floor tile	1 SF = 1.00ft ²
187-210-4L	"	" " wood window sill	3" x 2.5' = 0.63ft ²
187-210-5L	Living room	" " Carpet floor	1 SF = 1.00ft ²
187-210-6L	"	" " wood window sill	3.5" x 6.5' = 1.90ft ²
187-210-7L	Bedroom	" " Carpet floor	1 SF = 1.00ft ²
187-210-8L	" CS-12	" " wood window sill	3" x 2.5' = 0.63ft ²
187-210-9L	CS-11	" " carpet floor	1 SF = 1.00ft ²
187-210-10L	"	" " wood window sill	3" x 27" = 0.56ft ²
187-210-11L	CS-10	" " Carpet floor	1 SF = 1.00ft ²
187-210-12L	"	" "	3" x 27" = 0.56ft ²
187-210-13L		Blank	
187-210-14L		Blank	
187-210-15L	Exterior - Sided	Bare Soil at Deline, w	} Lead in Soil
187-210-16L	Exterior - Sided	Bare Soil along fence	
187-210-17L	Exterior - Sided	Bare Soil along fence	

Sample Turnaround: 1 week 5 day

Analysis Requested (if variable, use comment column): Lead in dust (ug/ft³) and Lead in Soil (APM)

Check if you want sample returned _____ (sample will be disposed of after 30 days).

Relinquished by: [Signature] Date 11/17/14 Time 4:50pm Received By: [Signature]
Relinquished by: [Signature] Date 11/17/14 Time 5:00pm Received By: Feulner

Other Special Instructions: please email results to nathan.chemscope@snet.net

Result Transmittal Instructions (for Chem Scope to transmit): Tell My

FOR CHEM SCOPE, INC. TO FILL OUT IF SAMPLES ARE GOING TO OUTSIDE LABORATORY:

Name of Laboratory: EAS

Method of Transportation to Laboratory: Fedex

Result Transmittal Instructions (for outside Laboratory to Chem Scope, Inc): _____

The person submitting samples is responsible for obtaining true and representative samples, for complying with applicable regulations and for the use of the data obtained from the analysis. For example, many states have licensing and laboratory approval requirements. Please contract the individual states if you have any questions regarding specific sampling or approval requirements. For Connecticut, sites we have licensed inspectors available to collect client samples and to perform building inspections.

Dear Laboratory Customer or Potential Customer,

New laboratory accreditation standards require us to provide our clients information about our services to make sure that your requirements for testing are adequately defined, documented and understood. The following is for your information. Please call us if you have any questions or comments.

Type of Samples:

- / / PCM cassettes are routinely run by NIOSH Method 7400.
- / / Bulk materials are run by EPA Method: #600/R-93/116.

Air Samples: NIOSH 7400 Method counts all fibers. This method may be used for personal air samples and for finals. Two field blanks must be submitted for each set of samples. In the unlikely event that there is to be any deviation from the standard test, you will be consulted by phone before the work begins. Those clients who have not had NIOSH 582 or AHERA asbestos training courses (either supervisor or project monitor) should consult with the lab director for more information. The test parameters are further explained in the analytical report.

Bulk materials: sampled are analyzed by the latest EPA Method: (#600/R-93/116) which uses polarized light microscopy (PLM). When asbestos is detected and the amount is estimated to be <10%, we automatically point count the samples. When there are interfering substances present, we may use ashing, acid washing or other procedures described in the method to handle the interference. Those clients who have not had AHERA asbestos training courses (either inspector, supervisor or project designer) should consult with the lab director for more information. The test parameters are further explained in the analytical report.

All Samples must be clearly labeled with source name and identification number or sufficient information from the client to make this sample uniquely identified. (We will then add our notebook #, page # (batch) and unique number within the batch.) Samples must be in a clean, air tight package such as a zip loc bag. Appropriate completed paperwork must accompany the sample. Bulk and air samples may not be submitted in the same package.

As soon as available bench top results will be faxed to you and reports will then be mailed. We will retain air samples for at least three months and bulk samples for 6 months unless you advise us otherwise.

You are welcome to visit the laboratory at any time to discuss the work, monitor the work or verify our testing services. We appreciate your business and encourage any feedback regarding improving our services or our quality system. Please take a minute to complete the following survey and mail/fax it to ChemScope, Inc.

Customer Service Survey

To help us improve our services give your opinions to the following:

- 1- The printed laboratory report was complete and easy to understand. YES NO
If no, please explain _____.
- 2- The turn around time for results met your expectations/needs. YES NO
If no, please explain _____.
- 3- How likely are you to recommend ChemScope Inc. to someone?
 Excellent Very Good Good Fair Poor
- 4- How likely are you to return to ChemScope in the future if the need arises?
 Excellent Very Good Good Fair Poor
5. On a scale of 1 to 5 where 1 represents "Satisfied" and 5 represents "Dissatisfied", how would you rate your level of overall satisfaction.
 1 2 3 4 5
- 6- Please add any additional comments or suggestions that would be helpful when you use our services:

Name _____ Company _____
Address _____ Telephone/e-mail _____

Can we contact you regarding this survey? YES NO

Appendix C Sample Location Drawings

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/18/14

LEAD DUST SAMPLE LOCATION DRAWING



LEGEND OF SYMBOLS

NOTATIONS

TOTAL SQUARE FEET = 1218
 CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES

ChemScope Inc.

FIRST FLOOR

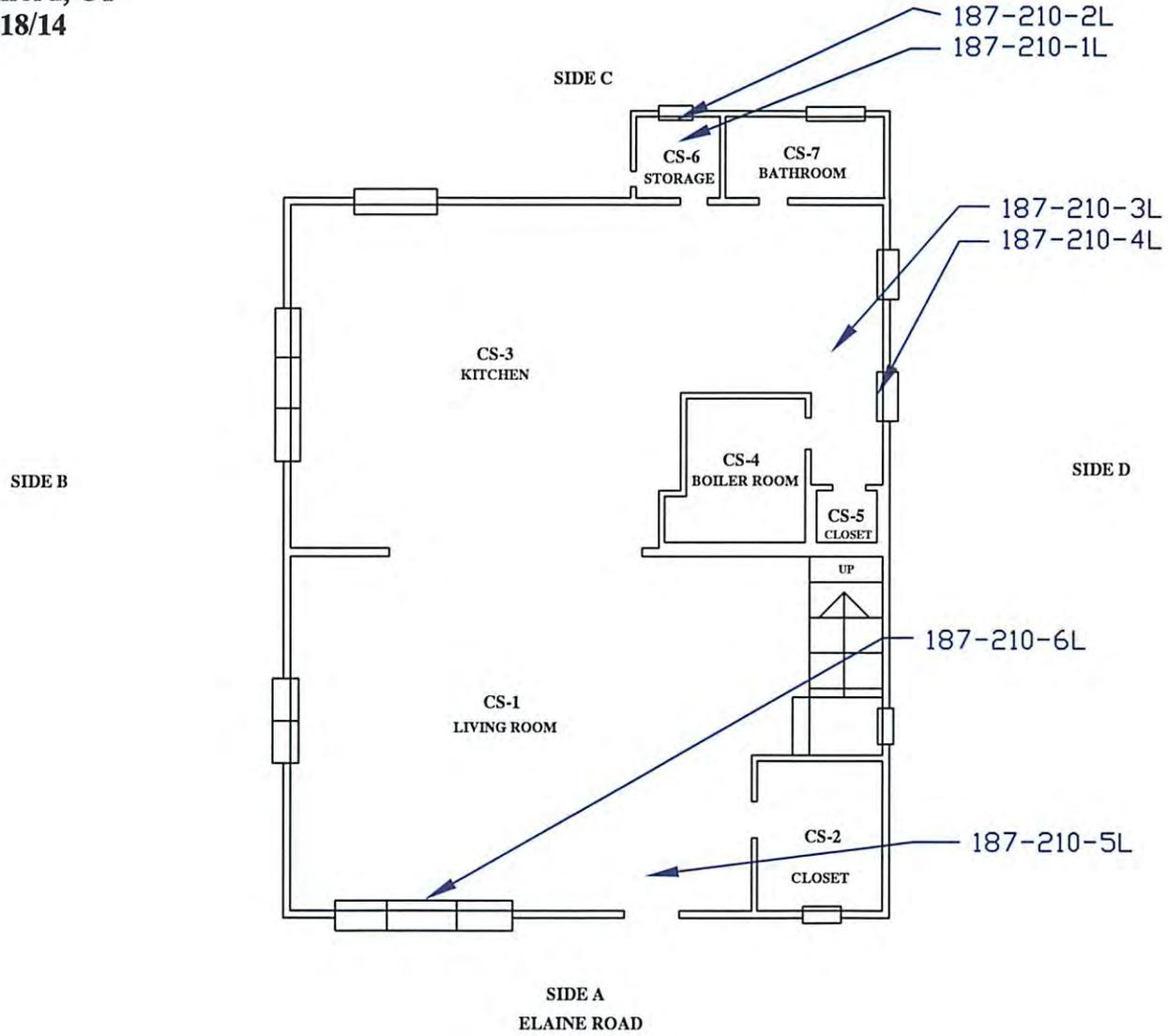
LEAD/MOLD/ASBESTOS
 RADON INSPECTION

24 ELAINE ROAD
 MILFORD, CT

PROJECT NUMBER:
187-210

NOT TO SCALE

DATE:
11/18/14



ChemScope Inc.

Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14

LEAD DUST SAMPLE LOCATION DRAWING



LEGEND OF SYMBOLS

NOTATIONS

TOTAL SQUARE FEET = 1218
 CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES

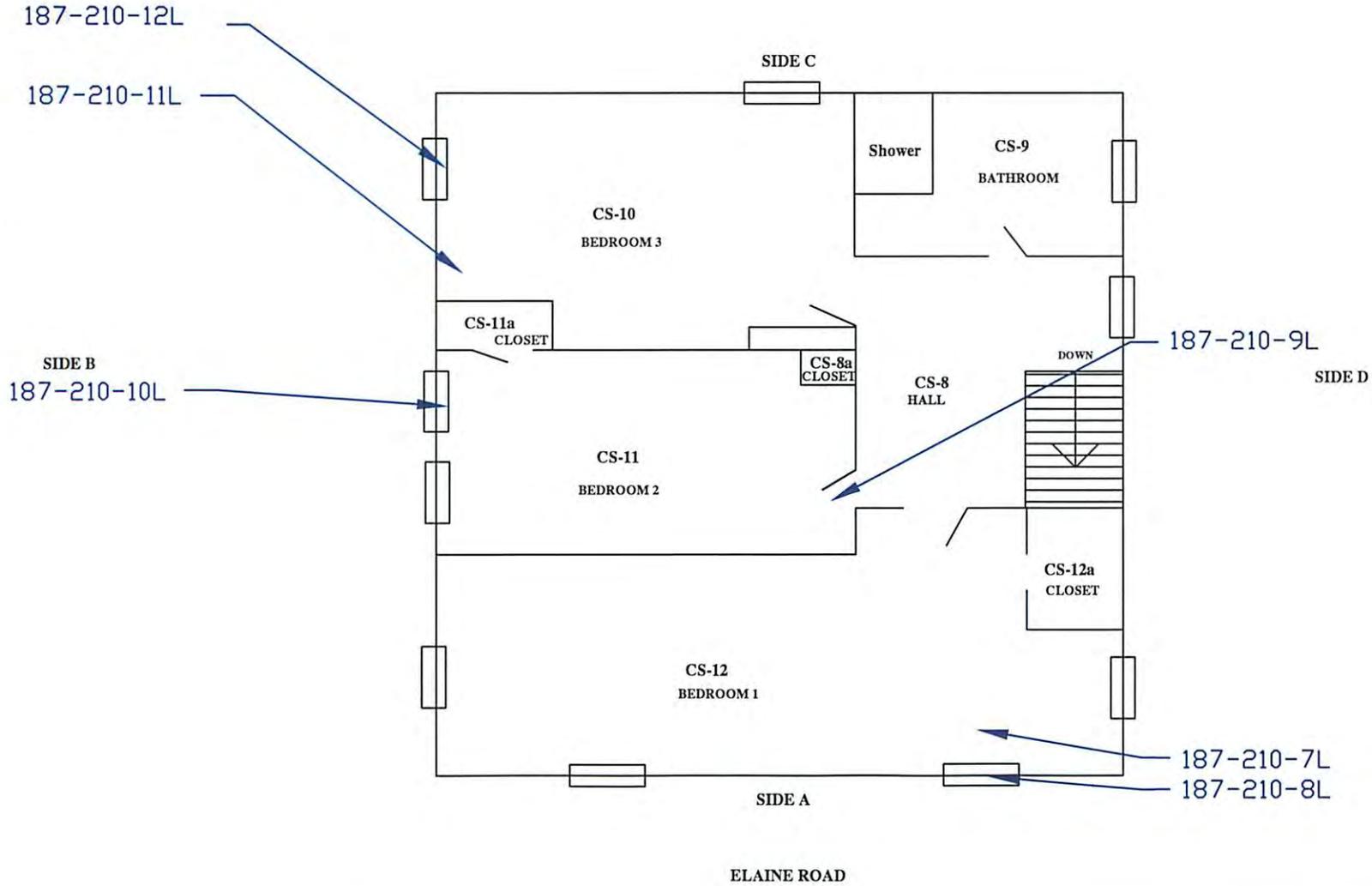
ChemScope Inc.

PLAN
 SECOND FLOOR

LEAD/MOLD/ASBESTOS
 RADON INSPECTION

24 ELAINE ROAD
 MILFORD, CT

PROJECT NUMBER 187-210	DATE 11/17/14
NOT TO SCALE	



ChemScope Inc.

Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

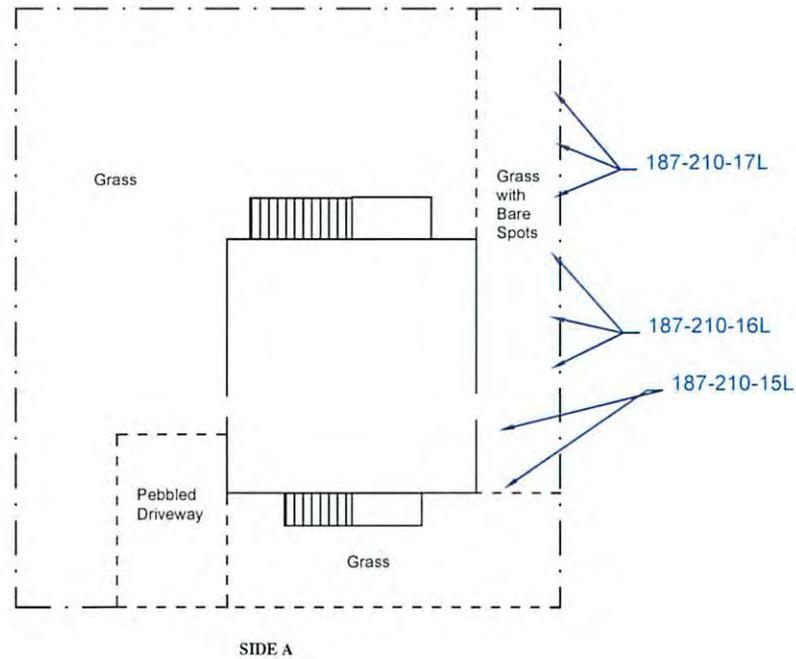
Basement and Exterior

LEAD IN SOIL SAMPLE LOCATION DRAWING

SIDE C

SIDE B

SIDE D



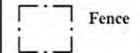
ELAINE ROAD



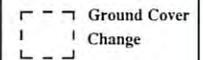
LEGEND OF SYMBOLS

#L Lead in Soil Sample

NOTATIONS



Fence



Ground Cover Change

KAYLA CARNES LEIGH HONOROF

ChemScope Inc.

BASEMENT & EXTERIOR

LEAD/MOLD/ASBESTOS
RADON INSPECTION
24 ELAINE ROAD
MILFORD, CT

187-210

NOT TO SCALE

11/17/14

3

Appendix D Hazardous Waste Evaluation Worksheet

Site Name: Site 030 (Serini) - Application # 1437
 Site Address: 24 Elaine Road, Milford CT

CS# 187-210
 Date: 11/17/2014

Building Component	Average XRF Readings		Material Mass g/cm ²	mg Lead/kg of Mass		Component Est % of Mass	Weighting Factor	Weighting Factor x mg/kg of lead	
	w/ hot spots	w/o hot spots		w/hot spots	w/o hot spots			w/ hot spots	w/o hot spots
Unpainted Wood	0.00	0.00	0.6	0.0	0.0	10	0.10	0.0	0.0
Painted Wood	1.02	0.00	0.6	1700.0	0.0	45	0.45	765.0	0.0
Sheetrock	0.00	0.00	0.45	0.0	0.0	10	0.10	0.0	0.0
Carpet	0.00	0.00	0.2	0.0	0.0	10	0.10	0.0	0.0
Floor Tile	0.00	0.00	0.2	0.0	0.0	10	0.10	0.0	0.0
Vinyl Trim	0.00	0.00	0.6	0.0	0.0	5	0.05	0.0	0.0
Metal	recycle	recycle				10	0.10	0.0	0.0
Total						100	Total*	765.0	0.0

*Compared to criterion of > 100 mg/kg lead - (DEP: "Guidance for the Management and Disposal of Lead-Contaminated Materials Generated in the Lead Abatement, Renovation and Demolition Industries" (11/4/94)

A value by this method of >100 mg/kg lead indicates the material is potentially a hazardous waste.

NOTES:

Wood Trim 3/4" = .60 g/cm²
 SR 5/8" = .45 g/cm²
 Plaster (typical two coat) = 1 g/cm²
 Brick (one course - 2 1/4") = 32 g/cm²
 Brick (two course - 4 1/2") = 64 g/cm²
 Concrete 4" = 60 g/cm²
 Cinder Block 5" = 60 g/cm²

Ceramic Tile (typical floor) = 1.3 g/cm²
 Ceramic Tile (typical wall) = 1.5 g/cm²
 Linoleum = 0.2 g/cm²
 Carpet = 0.2 g/cm²

To get g/cm²:

1. Weight the material and convert to grams (453 g = 1 lb)
2. Measure the material surface in CM to get cm²
3. Grams divided by CM² = g/cm²

Appendix E Copy of Risk Assessor's License/Certification

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

NATHAN R YERGEAU

CERTIFICATE NO.
002225

CURRENT THROUGH
09/30/15

VALIDATION NO.
03-056172

SIGNATURE

Jewel Mullein

COMMISSIONER

CERT# L-600 - 777

**CHEMSCOPE TRAINING DIVISION
LEAD INSPECTOR/RISK ASSESSOR REFRESHER
8HOUR TRAINING CERTIFICATE**

**Nathan Yergeau
15 Moulthrop Street , North Haven CT**

Has attended an 8 hour course on the subject discipline in English on
05/12/2014 and has passed a written and hands on skills examination.

The above individual has successfully completed the above training course approved in accordance with the Department of Public Health Standards established pursuant to Section 20-477 of the Connecticut General Statutes.

Course syllabus includes all required topics of State of Connecticut DPH and EPA.

Examination Date: 05/12/2014

Expiration Date: 05/12/2015

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.



Ronald D. Arena
Training Manager

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

Appendix F Copy of Firm's Lead Activity License/Certification

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

LEAD CONSULTANT CONTRACTOR

CHE DISCOPE INC

000164

07/31/15

03-847539



Signature

SEAL/ST



Connecticut Department of
Energy & Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
www.ct.gov/deep

Certificate of Use

Issued To

CHEM SCOPE, INC.

For

Radioactive Material and Industrial X-Ray Device Registration

**Daniel C. Esty
Commissioner**

Site Located at:
15 Moulthrop St.
North Haven, CT 06473
Reference: 0808-2014

Application No: 201306468
Issue Date: 12/24/2013
Expiration Date: 12/31/2014



**Connecticut Department of
Energy & Environmental Protection**
79 Elm Street
Hartford, CT 06106-5127
www.ct.gov/deep

CHEM SCOPE, INC.
15 MOULTHROP STREET
NORTH HAVEN, CT 06473

12/30/2013

Dear Registrant:

Enclosed is a Certificate of Use for the Radioactive Materials and Industrial X-Ray Device Registration submitted by your facility to the department.

This certificate will serve two purposes. First, this is a way for us to acknowledge to you that your registration has been processed. Second, it is a way for our inspection staff to know that you have the appropriate registration for your radioactive materials and equipment.

The Radioactive Materials and Industrial X-Ray Device Registration must be renewed each year. Notification will be sent to you in the month of November prior to the expiration of this registration to renew your registration.

When corresponding with our office regarding your registration please use the "Application No." indicated on the certificate. This number is unique to your facility and its location.

If you have any questions regarding the Radioactive Materials and Industrial X-Ray Device Registration please feel free to call the Radiation Division at 860-424-3029.

Enclosure

**Appendix G Copy of XRF Training Certificate and XRF Performance
Characteristics Sheet**

Certificate of Achievement

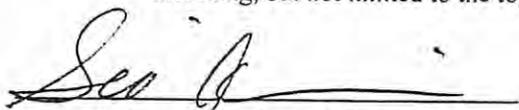
This is to certify that

Nathan Yergeau
ChemScope, Inc.

on the 12th day of March 2009, successfully completed the factory training for

RMD's LPA-1 Lead Paint Inspection System

including, but not limited to the topics of Radiation Safety, DOT Regulations, and the Proper Use of the Instrument.



Sia Afshari, Product Manager RMD
44 Hunt St., Watertown, Massachusetts



Performance Characteristic Sheet

EFFECTIVE DATE: December 1, 2006

EDITION NO.: 5

MANUFACTURER AND MODEL:

Make: *Radiation Monitoring Devices*

Model: *LPA-1*

Source: *⁵⁷Co*

Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above *for instruments sold or serviced after June 26, 1995. For other instruments, see prior editions.*

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

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

XRF CALIBRATION CHECK LIMITS:

0.7 to 1.3 mg/cm² (inclusive)

SUBSTRATE CORRECTION:

For XRF results below 4.0 mg/cm², substrate correction is recommended for:

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

Substrate correction is not needed for:

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

THRESHOLDS:

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

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

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

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

OPERATING PARAMETERS:

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

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² film).

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

SUBSTRATE CORRECTION VALUE COMPUTATION :

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm² for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm² at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm². Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

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

For each substrate type (the 1.02 mg/cm² NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\text{Correction value} = (1^{\text{st}} + 2^{\text{nd}} + 3^{\text{rd}} + 4^{\text{th}} + 5^{\text{th}} + 6^{\text{th}} \text{ Reading}) / 6 - 1.02 \text{ mg/cm}^2$$

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

EVALUATING THE QUALITY OF XRF TESTING:

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

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

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

Compute the Retest Tolerance Limit by the following steps:

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

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

Square the average for each testing combination.

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

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

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

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

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

Compute the average of all ten original XRF results.

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

Find the absolute difference of the two averages.

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

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

BIAS AND PRECISION:

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with reported laboratory results less than 4.0 mg/cm² lead. The data which were used to determine the bias and precision estimates given in the table below have the following properties. During the July 1995 testing, there were 15 test locations with a laboratory-reported result equal to or greater than 4.0 mg/cm² lead. Of these, one 30-second standard mode reading was less than 1.0 mg/cm² and none of the quick mode readings were less than 1.0 mg/cm². The instrument that tested in July is representative of instruments sold or serviced after June 26, 1995. These data are for illustrative purposes only. Actual bias must be determined on the site. Results provided above already account for bias and precision. Bias and precision ranges are provided to show the variability found between machines of the same model.

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

*Precision at 1 standard deviation.

CLASSIFICATION RESULTS:

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

DOCUMENTATION:

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

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

Appendix H "LEAD SPEAK" – A Brief Glossary

Abatement: A measure or set of measures designed to permanently eliminate lead-based paint hazards or lead-based paint. Abatement strategies include the removal of lead-based paint, enclosure, encapsulation, replacement of building components coated with lead-based paint, removal of lead-contaminated dust, and removal of lead-contaminated soil or overlaying of soil with a durable covering such as asphalt (grass and sod are considered interim control measures). All of these strategies require preparation; cleanup; waste disposal; post-abatement clearance testing; recordkeeping; and, if applicable, monitoring. (For full EPA definition, see 40 CFR 745.223).

Bare soil: Soil not covered with grass, sod, some other similar vegetation, or paving, including the sand in sandboxes.

Chewable surface: An interior or exterior surface painted with lead-based paint that a young child can mouth or chew. A chewable surface is the same as an "accessible surface" as defined in 42 U.S.C. 4851b(2). Hard metal substrates and other materials that cannot be dented by the bite of a young child are not considered chewable.

Deteriorated paint: Any paint coating on a damaged or deteriorated surface or fixture, or any interior or exterior lead-based paint that is peeling, chipping, blistering, flaking, worn, chalking, alligating, cracking, or otherwise becoming separated from the substrate.

Dripline/foundation area: The area within 3 feet out from the building wall and surrounding the perimeter of a building.

Dust-lead hazard: Surface dust in residences that contains an area or mass concentration of lead equal to or in excess of the standard established by the EPA under Title IV of the Toxic Substances Control Act. EPA standards for dust-lead hazards, which are based on wipe samples, are published at 40 CFR 745.65(b); as of the publication of this edition of these *Guidelines*, these are 40 µg/ft² on floors and 250 µg/ft² on interior windowsills. Also called lead-contaminated dust.

Friction surface: Any interior or exterior surface, such as a window or stair tread, subject to abrasion or friction.

Garden area: An area where plants are cultivated for human consumption or for decorative purposes.

Impact surface: An interior or exterior surface (such as surfaces on doors) subject to damage by repeated impact or contact.

Interim controls: A set of measures designed to temporarily reduce human exposure or possible exposure to lead-based paint hazards. Such measures include, but are not limited to, specialized cleaning, repairs, maintenance, painting, temporary containment, and the establishment and operation of management and resident education programs. Monitoring, conducted by owners, and reevaluations, conducted by professionals, are integral elements of interim control. Interim controls include dust removal; paint film stabilization; treatment of friction and impact surfaces; installation of soil coverings, such as grass or sod; and land use controls. Interim controls that disturb painted surfaces are renovation activities under EPA's Renovation, Repair and Painting Rule.

Lead-based paint: Any paint, varnish, shellac, or other coating that contains lead equal to or greater than 1.0 mg/cm² as measured by XRF or laboratory analysis, or 0.5 percent by weight (5000 mg/g, 5000 ppm, or 5000 mg/kg) as measured by laboratory analysis. (Local definitions may vary.)

Lead-based paint hazard: A condition in which exposure to lead from lead-contaminated dust, lead-contaminated soil, or deteriorated lead-based paint would have an adverse effect on human health (as established by the EPA at 40 CFR 745.65, under Title IV of the Toxic Substances Control Act). Lead-based paint hazards include, for example, **paint-lead hazards, dust-lead hazards, and soil-lead hazards.**

Paint-lead hazard: Lead-based paint on a friction surface that is subject to abrasion and where a dust-lead hazard is present on the nearest horizontal surface underneath the friction surface (e.g., the window sill, or floor); damaged or otherwise deteriorated lead-based paint on an impact surface that is caused by impact from a related building component; a chewable lead-based painted surface on which there is evidence of teeth marks; or any other deteriorated lead-based paint in any residential building or child-occupied facility or on the exterior of any residential building or child-occupied facility.

Play area: An area of frequent soil contact by children of under age 6 as indicated by, but not limited to, such factors including the following: the presence of outdoor play equipment (e.g., sandboxes, swing sets, and sliding boards), toys, or other children's possessions, observations of play patterns, or information provided by parents, residents, care givers, or property owners.

Soil-lead hazard: Bare soil on residential property that contains lead in excess of the standard established by the EPA under Title IV of the Toxic Substances Control Act. EPA standards for soil-lead hazards, published at 40 CFR 745.65(c), as of the publication of this edition of these *Guidelines*, is 400 µg/g in play areas and 1,200 µg/g in the rest of the yard. Also called lead-contaminated soil.

Appendix I Additional Lead and Lead Safety Resource

Key Units of Measurement

Gram (g or gm): A unit of mass in the metric system. A nickel weighs about 1 gram, as does a 1 cube of water 1 centimeter on each side. A gram is equal to about 35/1000 (thirty-five thousandths of an ounce). Another way to think of this is that about 28.4 grams equal 1 ounce.

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

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

µg/ft² (micrograms per square feet): the unit used to express levels of lead in dust samples. All reports should report levels of lead in dust in µg/ft².

mg/cm² (milligrams per square centimeter): used to report levels of lead in paint thru XRF testing.

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

ppb (parts per billion): Typically used to express the amount of lead found in drinking water. This measurement is also sometimes expressed as: µg/L (micrograms per liter). EPA/HUD Lead-Based Paint and Lead-Based Paint Hazard Standards

Lead-Based Paint (may be determined in either of two ways)

- Surface concentration (mass of lead per area) 1.0 µg/cm²
- Bulk concentration (mass of lead per volume) 0.5%, 5000 µg/g, or 5000 ppm

Dust-thresholds for Lead-Contamination

- Floors 40 µg/ft²
- Interior Window Sills 250 µg/ft²
- Window Troughs (clearance examination only) 400 µg/ft²

Soil-thresholds for Lead Contamination

- Play areas (used by children under age 6) 400 µg/g, or 400 ppm
- Other areas 1200 µg/g, or 1200 ppm

Resources For Additional Information On Lead-Based Paint And Lead-Based Paint Hazards:

National Lead information Center & Clearinghouse: 1-800-424 LEAD

www.epa.gov/lead/pubs/nlic.htm

Centers for Disease Control and Prevention Lead Program: www.cdc.gov/lead Toll-free

CDC Contact Center: 800-CDC-INFO; TTY 888-232-6348

Consumer Product Safety Commission www.cpsc.gov Toll-free consumer hotline: 1-800-638-2772; TTY 301-595-7054

Environmental Protection Agency Lead Program: www.epa.gov/lead 202-566-0500

HUD Office of Healthy Homes and Lead Hazard Control: www.hud.gov/offices/lead 202-402-7698

Connecticut Department of Public Health, Lead Poisoning Prevention Program

<http://www.ct.gov/dph/>

Hearing- or speech-challenged individuals may access the federal agency numbers above through TTY by calling the toll-free Federal Relay Service at 800-877-8339; see also

<http://www.federalrelay.us/tty>.

LEAD ABATEMENT TECHNICAL SPECIFICATIONS

SERINI RESIDENCE

SITE 030 – 24 ELAINE ROAD, MILFORD, CT

APPLICATION #1437

DECEMBER 2014

Prepared by



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Section 020900

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PART 1 BACKGROUND INFORMATION

1.1 REASON FOR THE WORK:

- A. The lead abatement at this residence is being done to accommodate the planned renovation to repair storm damage. The scope of the renovations involves:
 - 1. Based on the storm damage the following items are scheduled for removal and replacement: replacing/repairing front door and front windows, replacing of living room carpet on 1st Floor, re-insulation of basement, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in basement.
 - 2. Based on Chem Scope's Pre-Rehabilitation Lead Hazard Risk Assessment & Lead Based Paint Pre-Renovation XRF Screening Report (CS#187-210, dated 12/3/2014), it was found that lead-based surface coatings (paint) and Lead Based Paint Hazards (dust and soil) were present at the subject property as of the date of the Assessment.

1.2 BUILDING DESCRIPTION:

- A. The subject building is a two-story, single family, residential structure totaling approximately 1200 sq ft, which was built in 1928 of wood-frame construction. The subject house was occupied at the time of our inspection. We understand the siding, gutters/downspouts, and some fencing have already been replaced after damage caused by hurricane Sandy in October of 2012. At the time of the Lead Risk Assessment (6/20/2014), there were no children under the age of six residing at this subject house and the house was not being used as a daycare facility. See attached drawings for detail
- B. Rooms are sometimes given arbitrary numbers to avoid ambiguity. Please refer to the enclosed schematic drawings of the site. Samples are referenced by the side of the building they are facing, as indicated on the drawings. Side A is the street side (front), Side B is the left side, Side C is the rear and Side D is the right side.

1.3 RELATED DOCUMENTS

- A. See Separate Asbestos and Mold Design Specifications for further details.
- B. Architect's Plans and Specifications

PART 2 - LEAD SCOPE OF WORK

2.1 BASIC SERVICES:

- A. Lead work areas are listed in Schedule A.
- B. Examine all conditions, as they exist at the work site prior to submitting a bid for the work of this Section. Where amounts or quantities are given these amounts or quantities have been estimated. Contractor shall have no claim as to added work as the result of accepting said estimates. Contractor is required to verify quantities on site and report any discrepancies no later than seven (7) calendar days before the bid due date or to accept the amounts or quantities to be correct as herein stated.
- C. Furnish all labor, materials, and services for the removal and disposal of all specified lead based paint and materials containing lead located at the subject site. The lead abatement to be performed will be as needed to support the renovation activities. All work shall be coordinated by the Contractor. If the drawings or specifications should provide a contradiction, the most stringent information or requirement shall apply, as determined by the Engineer. All lead in the path of the renovation shall be removed prior to the renovation of the subject building. Except where noted, perform incidental demolition to access materials to be removed where removal is indicated.
- D. Contractor shall retain a State of Connecticut licensed Lead Abatement Contractor (LAC) to perform the lead abatement work of this Section.
- E. Lead Abatement must have been conducted under the supervision of a certified lead-based paint abatement supervisor, as per §35.165(d)(2).
- F. As required by §35.1330(4), except for amounts of work at or below de minimis levels* Lead Interim Controls must be conducted by a person trained in accordance with 29 CFR 1926.59 AND either be supervised by an individual certified as a lead-based paint abatement supervisor or have successfully completed one of the following courses:
 1. A lead-based paint abatement supervisor course accredited in accordance with 40 CFR 745.225;
 2. A lead-based paint abatement worker course accredited in accordance with 40 CFR 745.225;
 3. The Lead-Based Paint Maintenance Training Program, "Work Smart, Work Wet, and Work Clean to Work Lead Safe," prepared by the National Environmental Training Association for EPA and HUD;
 4. "The Remodeler's and Renovator's Lead-Based Paint Training Program," prepared by HUD and the National Association of the Remodeling Industry; or
 5. Another course approved by HUD for this purpose after consultation with EPA.
 6. EPA RRP training, except that every individual working on this HUD job site must receive the EPA RRP training and be currently EPA RRP certified, with RRP refresher courses completed every 5 years.

*De minimis levels

- (1) 20 square feet (2 square meters) on exterior surfaces;
- (2) 2 square feet (0.2 square meters) in any one interior room or space; or
- (3) 10 percent of the total surface area on an interior or exterior type of component with a small surface area. Examples include window sills, baseboards, and trim

2.1 BASIC SERVICES (cont):

- G. Contractor must be EPA certified and trained in lead-safe work practices when conducting renovation, repair and painting activities that will disturb more than six (6) square feet of painted surfaces on the interior of a building or more than twenty (20) square feet on the exterior and all window replacements jobs.
- H. Contractor must be EPA RRP trained by training providers accredited by the EPA in the use of lead safe work practices, the firm must be certified with the EPA and the contractor must follow the specific work practice standards outlined under the EPA's RRP rule.
- I. Engineer shall retain an Industrial Hygiene firm, with a State of Connecticut Licensed Lead inspector or lead inspector risk assessor (IH) that shall be designated as the authorized representative of the Owner for purposes of monitoring the lead abatement work. The level of monitoring shall be at the discretion of the Engineer. The Contractor will regard the IH's direction as authoritative and binding as provided herein, in matters particularly but not limited to approval of work areas, pre-abatement inspections and final completion of the abatement. Final visual inspection will be conducted by a CT DPH Licensed Lead inspector or lead inspector risk assessor for all lead removal work completed. Cooperate with the client and testing laboratory in scheduling and obtaining any samples.
- J. Any deviation from these specifications requires the written approval and authorization from the Owner.
- K. LAC is responsible for proper disposal of all lead wastes, see separate mold and asbestos specifications for disposal issues regarding these items.
- L. Quantities given either in this specification are estimated; The LAC is responsible for accepting the quantities or measuring them to His satisfaction. The LAC shall have no claim as to added work as the result of accepting said measurements or other stated conditions. The LAC shall report any discrepancies to the Owner, the Engineer and to Chem Scope, Inc. or accept the amounts or quantities to be correct as herein stated.
- M. All replacement materials will be put in by others.
- N. Refer to drawings appended where work locations are shown schematically.
- O. In the event of disagreement between drawings and the specification, the specification shall take precedence.
- P. The Work of this Project Design is to be done in accordance with applicable regulations and these specifications. Where this design and regulations disagree, the strictest requirements shall be observed.

2.2 DETAILED SCOPE OF WORK:

- A. The LAC shall refer to the Pre-Rehabilitation Lead Hazard Risk Assessment & Lead Based Paint Pre-Renovation XRF Screening Report (CS#183-691, dated 9/2/2014) in Appendix A of these Specifications and the instructions to follow.
- B. Items to be removed, replaced, re-finished, etc are covered in the architect's Scope of Work. In any case where removal or demolition is specified, the work also includes proper cleaning of the building areas for reoccupancy or re-use and proper disposal.
- C. Remove all Lead Based Paint Hazards as delineated in Schedule A. The quantities (if given) of Lead in Schedule A are approximate. In all cases before abatement, review the General Contractor's latest plans before doing any demolition to insure that materials to remain are not demolished.
- D. Items, which are coated with lead-based paint, are listed in the appended inspection report.
- E. Complete all work in compliance with Part 3 of this specification.
- F. Instructions in Part 3 cover the highlights of the requirements. The regulations cited provide additional details which the contractor is expected to follow.

2.3 SCHEDULE A:

A. Correct the following items containing Lead:

Component/Description	Location	Defective	Friction Surface	Correction Method
White/black painted wood window components: sashes and frames	Interior – Throughout	Yes	Yes	REM or REP
White/black painted wood window components: casings, sills, aprons and wells	Interior – Throughout	Yes	No	REM, REP, or LENCAP
White painted wood door frames and stops	Interior – First Floor CS-3 Kitchen, CS-6 Rear Storage and Second Floor – Throughout	Yes	Yes	REM or REP
White painted wood door casings	Interior – First Floor CS-3 Kitchen, CS-6 Rear Storage and Second Floor – Throughout	Yes	No	REM, REP, or LENCAP
White painted wood crown moulding	Interior – First Floor CS-2 LivingRoom Closet and CS-6 Rea Storage	Yes	No	REM, REP, or LENCAP
White painted wood ceiling	Interior – First Floor CS-6 Rear Storage	Yes	No	REM, REP, LENCAP or RENCAP
Black painted wood door, door frame, and door threshold	Exterior – First Floor – Rear Exit Door – Side B	Yes	Yes	REM or REP

Key:

- (REM) : Removal Stripping of paint.
- (REP) : Replacement Removal of architectural component and replacement with lead free component.
- (RENCAP) : Rigid encapsulation (e.g. enclosure using materials such as siding, paneling, sheetrock, plywood, etc.
- (LENCAP) : Liquid Encapsulation.

2.3 SCHEDULE A (cont):

- B. The following Soil Lead-Hazards in Table 2.3.1, must be corrected, see section 3.18 for Soil Interim Control Treatments. HUD allows for interim control methods for soils with < 5,000ppm Lead.

Table 2.3.1 Soil Lead Hazards

Location	Soil Concentration (mg/kg)	CT-DPH Standard (mg/kg)
Exterior – Side D – Bare Soil at Drip Line	770.6	400

- C. The following Dust Lead-Hazards in Table 2.3.2 must be corrected, see section 3.19 for cleaning of window sills for lead contamination.

Table 2.3.2 Dust Lead Hazards

Location	Surface	Dust Wipe Result (ug/sq ft)	CT-DPH Standard (ug/sq ft)
First Floor – CS-6 Rear Storage	Floor	76.2	40
First Floor – CS-6 Rear Storage	Window Sill	12247.8	250
First Floor – CS-3 Kitchen	Window Sill	1518.6	250
2 nd Floor – CS-12 Bedroom	Window Sill	95404.8	250
2 nd Floor – CS-11 Bedroom	Window Sill	2556.9	250
2 nd Floor – CS-10 Bedroom	Window Sill	3498.0	250

END 2.3 SCHEDULE A

3.1 REGULATIONS

- A. Conform to all applicable Federal State and Local Regulations. The principal Applicable Regulations are:
1. 24 CFR Part 35 Subpart J, (HUD regulations for rehabilitation)
 2. HUD Lead Safe Housing Rule, 24 CFR 35, subparts B through R
 3. EPA's Lead Repair, Renovation, and Painting Rule 40 CFR part 745
 4. CT DPH regulations 19a-111-1 through 11
 5. Construction Industry Lead Standard CFR 29 1926.62.
 6. Principal related OSHA regulations in 29 CFR:
 - a. 1910.134 (Respirators)
 - b. 1910.38, 1926.24 and 1926.150-155 (Fire safety and emergency response)
 - c. 1926.450 et seq (Ladder and Scaffold safety)
 - d. 1926.402 and .416-.417 (Electrical safety)
 - e. 1926.51 (Personal Hygiene, washing facilities)
 - f. Additional Regulations re: Protective Clothing and Equipment:
 - 1910.132-3 Protective Clothing
 - 1910.136 Foot protection
 - 1910.137 Electrical protective devices
 - 1910.94 ventilation
 - 1910.119 process safety
 - 1910.134 respirators
 - 1910.120 hazardous waste
 - 1910.preface 179.220-227 PPE program
 - 1910.146 permit required spaces
 - 1910.156 fire brigades
 - 1910.160 fire extinguishers
 - 1910.335 energized plugs and receptacles
 - 1910.1000 air contaminants
 - 1926.28 PPE
 - g. 1926.22 (Recording and Reporting of Injuries)
 - h. 1926.23 (First Aid and Medical Attention)
 - i. 1910.141 (Shower and Sanitation requirements)
 - j. 1926.59 (Hazard Communication)
 7. OSHA 29 CFR 1926.16 Arrangements made among contractors on multi-employer sites with respect to informing affected employees of potential exposure to lead and with respect to responsibility for compliance.
 8. Connecticut General Statutes Sec 22a 449 (c) sec 1-42 and 100-110, Hazardous wastes.
 9. Connecticut General Statutes Sec 25-54 cc (c) sec 1-48, Hazardous wastes.
 10. 40 CFR Parts 260-270 inclusive, US EPA Regulations for Hazardous wastes.
 11. All State, County, and City or Municipal codes and ordinances as applicable.
- B. Where applicable State, Federal and Local Regulations differ, the more stringent portion of the regulation applies.

3.2 OCCUPANT PROTECTION

- A. Occupants shall not be permitted to enter the worksite during hazard reduction activities (unless they are employed in the conduct of these activities at the worksite), until after hazard reduction work has been completed and clearance, if required, has been achieved.
- A. Occupants shall be temporarily relocated before and during hazard reduction activities to a suitable, decent, safe, and similarly accessible dwelling unit that does not have lead-based paint hazards.
- B. Written notice will be given to the occupants 5 working days prior to the abatement start date. The notice shall inform occupants which surfaces are to be abated. Additionally, warning signs shall be posted at all entrances and exits to the abatement area prior to abatement.
- C. In accordance with § 35.125, when hazard reduction activities are undertaken, each designated party shall:
 1. Provide a notice to occupants not more than 15 calendar days after the hazard reduction activities (including paint stabilization) have been completed. Notice of hazard reduction shall include, but not be limited to:
 - a. A summary of the nature, dates, scope, and results (including clearance) of the hazard reduction activities;
 - b. A contact name, address, and telephone number for more information;
 - c. Available information on the location of any remaining lead-based paint in the rooms, spaces, or areas where hazard reduction activities were conducted, on a surface-by-surface basis; and
 - d. The date of the notice.
 2. Update the notice, based on reevaluation of the residential property and as any additional hazard reduction work is conducted.
 3. Provision of a notice of hazard reduction is not required if a clearance examination is not required.
- D. In accordance with § 35.125, the notices above shall conform to the following:
 1. The notices of evaluation, presumption, and hazard reduction shall be of a size and type that is easily read by occupants.
 2. To the extent practicable, each notice shall be made available, upon request, in a format accessible to persons with disabilities (e.g., Braille, large type, computer disk, audio tape).
 3. Each notice shall be provided in the occupants' primary language or in the language of the occupants' contract or lease.
 4. The Contractor shall provide each notice to the occupants by:
 - a. Posting and maintaining it in centrally located common areas and distributing it to any dwelling unit if necessary because the head of household is a person with a known disability; or
 - b. Distributing it to each occupied dwelling unit affected by the evaluation, presumption, or hazard reduction activity or serviced by common areas in which an evaluation, presumption or hazard reduction has taken place.

3.2 OCCUPANT PROTECTION (cont)

- E. In accordance with § 35.130, the contractor shall provide to each occupied dwelling unit, the lead hazard information pamphlet developed by EPA, HUD and the Consumer Product Safety Commission pursuant to section 406 of the Toxic Substances Control Act (15 U.S.C. 2686), or an EPA-approved alternative; except that the designated party need not provide a lead hazard information pamphlet if the designated party can demonstrate that the pamphlet has already been provided in accordance with the lead-based paint notification and disclosure requirements at Sec. 35.88(a)(1), or 40 CFR 745.107(a)(1) or in accordance with the requirements for hazard education before renovation at 40 CFR part 745, subpart E.
- F. In accordance with § 745.84, no more than 60 days before beginning renovation activities in the subject residential dwelling, the contractor performing the renovation must:
1. Provide the owner of the unit with the pamphlet entitled Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools, and comply with one of the following:
 - a. Obtain, from the owner, a written acknowledgment that the owner has received the pamphlet.
 - b. Obtain a certificate of mailing at least 7 days prior to the renovation.

3.3 SUBMITTALS CONCERNING LEAD PAINT RELATED RENOVATION:

- A. Before the Work:
1. Lead Contractor's Lead Compliance plan in accordance with 29 CFR 1926.62 and supporting documentation including training, respirator fit testing and medical examination records required.
 2. Copies of training required for compliance with 29 CFR 1926.59, which requires that all employees covered by the "Lead Exposure in Construction" standard receive hazard communication training.
 3. Copy of Lead Contractor License and Copies of DPH certifications for supervisor(s) and workers to be used. A certified supervisor is required for abatement.
 4. Certifications that all contractors (including renovation, repair and painting workers, plumbers, electricians, HVAC professionals, etc.) working on this project meet the requirements of 2.1.6 above.
 5. Certification that persons performing "interim controls" are trained in accordance with §35.1330(4) according to the requirements of 2.1.6 above.
 6. Any available prior assessments or evaluations of the potential lead exposure for specific work operations, including personal air sampling data.
 7. A list of any hazardous chemicals as defined in CFR 29 1926.59, to be brought to the site, including amounts to be brought in and Material Safety Data Sheets (MSDS's) for each chemical.
 8. LAC to supply Laboratory name/address/phone number along with current state of CT DPH Certification to be used for sample collection and analysis.
 9. The name, address and phone number of the licensed TSD to be used for transportation and disposal of hazardous wastes.
 10. The name, address and phone number of firms to be used for transportation and disposal of non-hazardous wastes
 11. Plan for recycling of materials.
 12. Contractor to supply all Names, address, phone number, contact name, etc. for supplier for import materials to satisfy Section 3.17 requirements

3.3 SUBMITTALS CONCERNING LEAD PAINT RELATED RENOVATION (CONT):

B. After the Work:

1. Personal air sampling records and lab results
2. Results of TCLP Testing or other documentation regarding evaluation of wastes.
3. Waste disposal manifests for any Hazardous Wastes.

3.4 EMPLOYEE INFORMATION AND TRAINING:

- A. Employees performing work with Lead containing materials must be knowledgeable, qualified, and trained in demolition and related renovation tasks.
- B. A person who has completed an accredited lead supervisor course is required for the project. This is required for abatement work.
- C. Employees performing demolition or other dusty operations shall be issued respirators in accordance with 1926.62 and 1910.134 and other protective equipment as per the regulations cited above and be properly trained in the use of this equipment.
- D. Information and training shall include the contents of OSHA Construction Lead Standard CFR 29 1926.62.
- E. As required by §35.1330(4), Lead Interim Controls must be conducted a person trained in accordance with 29 CFR 1926.59 AND either be supervised by an individual certified as a lead-based paint abatement supervisor or meet the requirements of 2.1.6 above.

3.5. EXPOSURE ASSESSMENT:

- A. A list of items with lead based paint is in the appended inspection report.
- B. Contractor is responsible for determining if any employee may be exposed to lead above the OSHA Action Level during the work.
- C. This determination of exposure is accomplished by personal monitoring of the present job or from historical data from air monitoring of previous similar jobs.
- D. The contractor must select the appropriate respirators and other protection based on this assessment.

3.6 REQUIRED PERSONAL AIR SAMPLES:

- A. General:
 - 1. Personal air sampling shall be conducted to ensure workers are using proper respiratory protection at the expense of their employer.
- B. Method:
 - 1. Personal air sampling is conducted according to NIOSH Method 7082.

3.7 WORKER PROTECTION

A. Regulated Areas:

- 1. General:
 - a. Establish a regulated area where demolition, cutting or abrasion of lead painted surfaces occurs. The regulated area shall include temporary enclosures and barricades clearly marked with signs and any other methods that will limit access to the site to authorized trained and properly equipped personnel.
- 2. Non-dusty Operations:
 - a. Where work such as removal of intact parts is done without dust to be generated, the work area may be isolated by closing access doors, or where there are no doors, by isolating with barrier tape.
- 3. Dusty Operations:
 - a. Where dust generation is anticipated, such as for demolition of ceilings, sanding and scraping: Critical Barriers, contiguous decontamination units and HEPA filtered negative air ventilation units must be used in addition to the above specified protection.
 - b. Protective Clothing, Personal Equipment, Decontamination and Personal Hygiene:
 - 1) Work Area Entry:
 - a) All persons entering the Work Area shall wear prescribed protective clothing, equipment and respirators, which shall be provided by the Contractor at no cost to his employees. This includes disposable coveralls or similar full body covering, shoe covers, gloves, and hats and appropriate respirators. The respirator shall be inspected, put on, and then fit checked (for respirator types required) before entering the Work Area.

3.7 WORKER PROTECTION (CONT)

- 2) Work Area Exit:
 - a) Before leaving the Work Area, each person shall HEPA vacuum any dust contamination from protective clothing.
 - b) Provide a washing and clean change area.
 - c) For work involving demolition or other dusty operations, provide a 3 stage connected shower decontamination unit identical to that specified for asbestos removal in CFR 29 1926.1101.
 - d) In all cases, before taking a break or leaving the site, proceed to the clean change area and remove all protective garments and equipment. Dress in street clothes or otherwise distinctively different clothing for use outside the Work Area than suits used inside the Work Area. Dirty disposable suits shall be placed in a waste bag provided for and labeled "contaminated suits". Clean the reusable protective equipment such as the respirator, boots/shoes, safety glasses, hard hats, etc. Thoroughly wash hands with soap and water.
 - 3) Persons will not smoke, drink, eat, apply cosmetics or chew gum or tobacco in the Work Area. Food or beverages are not to be present or consumed. Tobacco products are not to be present or used and cosmetics are not to be applied in the Work Area. Employees must wash their hands prior to leaving the job site to eat, drink, smoke or apply cosmetics.
 - 4) Employees are not to leave the job site wearing any clothing or equipment worn during the work shift that may be contaminated with lead.
- c. Respiratory protection
- 1) Use at least 1/2 or full face negative pressure respirators in the regulated areas when demolition is occurring or dust from demolition is present.
 - 2) Provide additional respiratory protection for other chemical substances, which are to be used according to the MSDS for each chemical substance.
- d. Health Monitoring:
- 1) Health monitoring shall be conducted as required by 1926.62.
- e. Engineering Controls During Lead Paint Demolition or Removal
- 1) General:
 - a) Any feasible combination of engineering controls, work practices, and personal protective equipment may be used to reduce personnel exposure to Lead and other hazards.

3.7 WORKER PROTECTION (CONT)

2) HEPA Filtered Ventilation Equipment (Negative Air Units):

- a) For operations where dust may be generated including cutting of lead painted walls, portable local exhaust blowers equipped with HEPA filtration shall be used to create exhaust ventilation in the regulated area and capable of maintaining a constant discharge of filtered air outside the Work Area perimeter and creating suction so that air flow direction moves from uncontaminated areas into the Work Area and exhausts in a direction away from workers. Place the intake of the suction line to draw dust away from the worker.
- 3) Containment: When work may generate dust, the work area shall be properly contained using materials such as 6 mil polyethylene sheeting sealed with duct tape to prevent lead dust from contaminating the building or environment. The containment shall include Critical Barriers, covering floors (except where these surfaces are in the scope of the remediation work) and objects with 6-mil polyethylene, covering any air vents in the work area and covering any other surfaces that may become contaminated with lead dust.

3.8 SAFETY AND SECURITY OF THE WORK AREA

- A. The Contractor has responsibility to establish workplace safety and security. The Contractor shall maintain a Competent person on site at all times. Duties of the Competent person shall include:
 1. Posting warning signs at entries to the Work Area.
 2. Guarding the Work Area against unauthorized intrusion.
 3. Ensuring proper decontamination procedures and that the safety equipment is properly functioning.
 4. Maintaining at the work site daily logs of activities and the names of all persons entering the site.
 5. Ensuring the general condition of the Work Area during and at the completion of the work including cleanliness.
 6. Ensuring compliance with the specifications and the regulations.

3.9 SPECIAL MATERIALS, TOOLS AND EQUIPMENT

- A. Impermeable containers are to be used to receive and retain any Hazardous Wastes. Containers shall be labeled in accordance with DEEP regulations and shall be both water and air tight.
- B. Sufficient hazardous waste labels shall be provided in conformity to DEEP Regulations.
- C. High-Phosphate Wash or non-phosphate equivalent
 - 1. Sufficient quantity of detergent with a high phosphate content (containing at least 5% trisodium phosphate (TSP) or non-phosphate equivalent.
- D. Signs to be posted at the Work Areas shall be in sufficient quantity to post at all entries to Work Areas. Signs will be of sufficient size and contrast to be easily read. Minimum letter height will be 2 inches. The signs shall convey the following or equivalent information:

WARNING LEAD WORK AREA

POISON

NO SMOKING OR EATING

- E. The Contractor shall have sufficient personal Air Monitoring equipment to monitor each type of activity in each Work Area, filter cartridges, spare fitted masks for each worker and air sample cassettes.
- F. Contractor shall have sufficient quantity of protective clothing and safety and control equipment including grounded power cables, GFCI units, HEPA vacuums, HEPA filtered negative air units and all other equipment required by Regulations.

3.10 HEPA VACUUM PROCEDURES:

- A. Never use an ordinary vacuum cleaner where lead dust may be present since it will blow fine lead dust all over the area.
- B. Applications required for Use of the HEPA Vacuum
 - 1. Cleaning surfaces before, during and after work
 - 2. Cleaning self before leaving work area
 - 3. As a dust control attachment for sanders and other abrasive equipment

3.10 HEPA VACUUM PROCEDURES (CONT):

C. HEPA Vacuum Procedures

1. Follow the operating instructions provided by the manufacturer of the machine.
2. Use attachments appropriate for use on each type of surfaces including brushes of various sizes, crevice tools, and angular tools.
3. HEPA vacuum all surfaces from the top down.
4. Pay particular attention to horizontal surfaces including ridges.
5. Move the vacuum slowly since lead dust is heavy, sticks to surfaces and is hard to pick up.
6. When feasible, first TSP (or non-phosphate equivalent) wash the surfaces before HEPA vacuuming because the TSP (OR NON-PHOSPHATE EQUIVALENT) curdles up the lead dust and makes it easier to pick up.
7. Start at the furthest point from the exit and finish at the exit.
8. Repetitive cleaning is required. Lead dust adheres very tenaciously, especially on rough or porous materials and weathered or worn wood surfaces, masonry surfaces and cracks

D. Maintenance of the HEPA Vacuum:

1. Change the filters when machine flow begins to get restricted:
 - a. In a contained area.
 - b. Wear a full set of protective clothing and equipment, including appropriate respirators
 - c. Change bag and prefilter first and if the flow is normal, the HEPA filter need not be changed.
 - d. Check the hose for blockage and clean by reversing suction. Do not blow out the hose since this will contaminate the area.
 - e. Check gaskets, filters and vacuum bag for tears and replace as needed.
 - f. A second HEPA unit shall be used to clean out the unit being serviced.
 - g. Use extreme caution to avoid release of lead dust into the environment.
 - h. Used HEPA filters and vacuumed debris are to be included with the hazardous waste.
 - i. Turn on the machine briefly and check the operation.
 - j. Clean up the area
2. Check daily for damage, especially power cords and switches.
3. At the end of the job if the dirty cleaner is to be taken out of the work area:
 - a. Clean each attachment by sucking through the vacuum while tapping and wet wipe each attachment. Place the cleaned parts in a sealable plastic bag.
 - b. Suck out and seal the end of the hose with duct tape to prevent dust from leaking over clean areas.
 - c. Unplug and damp wipe the unit clean.

3.11 WET CLEANING PROCEDURES USING TSP (OR NON-PHOSPHATE EQUIVALENT) DETERGENT

A. Precautions

1. Rubber gloves
2. Eye Protection: TSP (OR NON-PHOSPHATE EQUIVALENT) can cause eye damage
3. Wash gloves with water and wipe dry with a clean towel before taking off to prevent contamination inside gloves and on hands and body.
4. Then wash hands
5. Never rub eyes when working with chemicals

B. Techniques:

1. Pour the TSP (OR NON-PHOSPHATE EQUIVALENT) solution from a jug onto the rag or mophead or spray on the surface (garden sprayer or plastic spray jug). (Never put rag into the cleaner since this will contaminate the cleaner).
2. Wash the surface with the TSP (OR NON-PHOSPHATE EQUIVALENT)
3. Squeeze out the rag or mophead into the dirty container
4. Replace the wash rag or mop frequently.
5. Rinse with fresh water.
6. Work from cleaner areas to dirtier areas: for example
 - a. From the top down on any surface
 - b. Do window frames generally before window sills and window wells last.
 - c. Do center of floor and work toward one wall.
 - d. Always change the mop or rag when finishing a dirty area

3.12 GENERAL INSTRUCTIONS FOR SET-UP OF THE WORK AREA:

- A. Post warning signs as described above at all entrances to the work area.
- B. Remove movable objects in the way of the work including:
 - 1. Furniture, equipment, appliances and carpets.
- C. Clean, cover and seal the things in the area of work which cannot be moved.
 - 1. HEPA vacuum and wipe off with a damp rag anything that can't be moved.
 - 2. Cover all these objects including permanent fixtures with 6 mil polyethylene sheeting and seal with duct tape.
- D. Shut off and seal off existing HVAC system in the area of work
 - 1. Shut off at electrical box. Lock the box with a padlock and place a sign on it that says danger do not operate.
 - 2. Cover and seal the vents with polyethylene and duct tape.
 - 3. During cold weather, provide temporary heat in a safe location sufficient to permit work and protect pipes from freezing or other damage to the building.
- E. Shut off, lock out and tag out electrical components which may create a hazard if energized during work.
- F. For dusty work, use containment, negative air units and a shower decontamination unit.

3.13 INTACT REMOVAL OF LEAD-PAINTED PARTS:

- A. Shoe molding and any other Wood Trim:
 - 1. Work shall be done very neatly by disassembly and prying with minimal dust.
 - 2. Mist the part to be removed with water.
 - 3. Use a sharp stiff putty knife or similar bladed tool.
 - 4. A screwdriver or prybar may next be used
 - 5. Do not pry too far at one location to avoid splitting the piece.
 - 6. Work the piece gradually keeping it near parallel to the surface.
 - 7. Use a small piece of plywood as a guard to protect wall or other surface resting the fulcrum of the prybar on the plywood.
 - 8. Remove nails promptly and collect in a container to prevent injury.
 - 9. HEPA vacuum or wet wipe the surfaces of the piece removed and clean any dust.

3.14 LIQUID ENCAPSULANT FOR LEAD BASED PAINT COMPONENTS (NON-FRICTION AND NON-IMPACT SURFACE ONLY):

- A. A permanent cover shall be installed over the lead-based surface. Encapsulant materials shall bind to the substrate and not just the surface paint. The encapsulant used must be on the list of CT-DPH approved encapsulants (Appendix B, 3 pages). See also the attached Liquid Encapsulant Guide from CT-DPH for use of liquid encapsulants (Appendix B, 3 pages). Any chemicals proposed for use are subject to rejection by the Engineer and/or owner. By allowing the use of any particular chemical(s), the Engineer and owner assume no responsibility for the results of their use or failure thereof.
- B. Encapsulation shall be done subject to passing X-cut tape tests after preparation and priming per manufacturer's specifications and directions using the following or equivalent materials:
 - 1. Test patches, at least 36 square inches:
 - a. Prepare surface and apply Primer: Lead Barrier Compound Type III and allow to cure (Must be >38 deg F during the application and cure.) Apply test patch on each representative exterior and interior surface.
 - b. Conduct X-cut tape tests. Contact the IH when ready to do the test and a certified lead inspector or lead inspector risk assessor will be provided for the test.
- C. Application:
 - 1. Prepare surface and apply Primer: Lead Barrier Compound Type III and allow to cure (Must be >38 deg F during the application and cure.) (The same primed surfaces prepared above in step 1 may be used.)
 - 2. Apply encapsulant: Lead Barrier Compound Type III (eggshell/architectural Matte finish).
 - 3. Coordinate colors and finishes with owner.
- D. The following cannot be used as encapsulants:
 - 1. A new coat of paint or primer.
 - 2. Wall paper coverings.
 - 3. Contact paper.

3.15 RIGID ENCAPSULANT FOR LEAD BASED PAINT COMPONENTS:

- A. If the surfaces are peeling or deteriorating then wet scraping is necessary prior to encapsulation. Wet scraping involves misting the peeling paint before scraping and thus reducing the amount of lead dust generated during this process. Surfactants may be added to the water to facilitate clean up.
- B. The following are some types of rigid encapsulating materials: gypsum dry wall, fiberglass, wood and vinyl siding.
- C. All seams must be sealed to prevent the escape of lead dust.

3.16 CLEANUP PROCEDURES DURING AND AFTER WORK:

- A. Use a high efficiency particulate air (HEPA) vacuum to clean the surfaces.
- B. After dusty operations, wash surfaces with TSP or non-phosphate equivalent: Use a high-phosphate (or non-phosphate equivalent) detergent to wash all the surfaces of the Work Area or contaminated surfaces in adjacent areas using detergent with a high phosphate content (containing at least 5% trisodium phosphate (TSP) or non-phosphate equivalent. Follow the specific manufacturer's instructions for the proper use of the detergent. Use eye protection and waterproof gloves. The cleaning mixture should be changed at least daily.
- C. HEPA-vacuum again.
- D. Clean Tools and Equipment. This cleaning shall consist of a thorough HEPA vacuuming and washing with a high-phosphate solution. If equipment is removed from the Work Area prior to cleaning it must be wrapped and sealed in 6 mil polyethylene sheeting or bags.

3.17 FINAL CLEAN-UP

- A. Remove plastic sheeting used for Containment.
 - 1. This contaminated plastic sheeting must be removed and disposed of very carefully. Removal must start with upper-level plastic, such as that on cabinets and counters. The plastic must first be sprayed or misted with water to hold down dust, and then folded in upon itself to trap any dust residues inside. Before removal of floor plastic, it must be HEPA vacuumed and must be folded carefully from the corners/ends to the middle to trap any remaining Lead-dust and placed into double 4-mil or single 6-mil plastic bags that are then sealed and removed.
- B. HEPA-vacuum surfaces once again.
- C. Wash with TSP (OR NON-PHOSPHATE EQUIVALENT):
- D. HEPA-vacuum again.
- E. Clean Supplies, Tools and Equipment
 - 1. Supplies
 - a. Consumable/disposal supplies such as mop heads, sponges, and rags shall be replaced regularly, at least at the end of each day.
 - 2. Equipment
 - a. Durable equipment such as power and hand tools, generators, scaffolds, ladders, and vehicles must be cleaned at least at the end of activities in each work area. This cleaning shall consist of a thorough HEPA vacuuming and washing with a high-phosphate solution. If equipment is removed from the Work Area prior to cleaning it must be wrapped and sealed in 6 mil polyethylene sheeting or bags.

3.18 INTERIM CONTROLS OF SOIL LEAD HAZARDS:

- A. HUD Lead Safe Housing Rule, 24 CFR Sec. 35.1325, allows for interim controls of soil where the levels of lead contamination are less than 5,000 ppm. The following acceptable interim control methods for soil lead are impermanent surface coverings and land use controls.
1. Impermanent surface coverings may be used to treat lead- contaminated soil if applied in accordance with the following requirements. Examples of acceptable impermanent coverings include gravel, bark, sod, and artificial turf.
 - a. Impermanent surface coverings selected shall be designed to withstand the reasonably-expected traffic. For example, if the area to be treated is heavily traveled, neither grass or sod shall be used.
 - b. When loose impermanent surface coverings such as bark or gravel are used, they shall be applied in a thickness not less than six (6) inches deep.
 - c. The impermanent surface covering material shall not contain more than 400 µg/g (which is equal to 400 mg/kg and 400 ppm) of lead.
 - d. Adequate controls to prevent erosion shall be used in conjunction with impermanent surface coverings. Erosion control work is to be done by others.
 - e. Please note that the Engineer, at their discretion, will review and sample any and all import materials at their source location to determine acceptability as specified above. The contractor is hereby notified that laboratory turnaround time for these samples is expected to be fifteen (15) working days (Turnaround time is the period of time beginning when the Contractor notifies the Engineer which source location(s) it intends to use and ending with the Contractor's receipt of the laboratory analytical results). Any change of intended source location or materials to be utilized will prompt the Engineer's need to resample and will therefore restart the time required for laboratory turnaround and analysis. Results from such sampling will be furnished to the Engineer. Upon receipt, the Engineer will make available to the Contractor the results of the sample(s) collected, and final determination on its acceptability. **No delay claim will be considered based upon the Contractor's failure to accommodate the laboratory turnaround time, or if results indicate non-conformance, thus requiring submission/approval for additional source materials and collection of representative samples to satisfy these requirements.**

3.19 INTERIM CONTROLS OF DUST LEAD HAZARDS:

- A. HUD Lead Safe Housing Rule, 24 CFR Sec. 35.1325, calls for cleaning of lead dust hazards where the levels of lead in dust are greater than 40 micrograms/sq. ft on floor surfaces or greater than 250 micrograms/sq. ft. on window sills. The following are acceptable control methods for lead dust contamination.
1. Dust control shall involve a thorough cleaning of all window sills and floor surfaces in CS-6 Rear Storage. Cleaning must involve the following:
 - a. Use a high efficiency particulate air (HEPA) vacuum to clean the surfaces.
 - b. Wash surfaces with TSP or non-phosphate equivalent: Use a high-phosphate (or non-phosphate equivalent) detergent to wash all the surfaces of the Work Area or contaminated surfaces in adjacent areas using detergent with a high phosphate content (containing at least 5% trisodium phosphate (TSP) or non-phosphate equivalent. Follow the specific manufacturer's instructions for the proper use of the detergent. Use eye protection and waterproof gloves. The cleaning mixture should be changed at least daily.
 - c. HEPA-vacuum again.

3.19 INDUSTRIAL HYGIENIST INSPECTION AND TESTING

- A. Before areas are released, visual inspection of each work area shall be done by the IH. The area must be free of visible dust. Areas, which have dust as determined by the IH, shall be re-cleaned by the Contractor at contractor's expense until the inspection shows no visible dust.
- B. The IH will collect surface dust samples within and adjacent to the work area. Dust samples shall be analyzed by laboratory determination of lead via AAS
- C. Passing Criteria for Final Test:

- 1. Results must be below the following values:

Floors:	40 micrograms/sq. ft.
Window sills:	250 micrograms/sq. ft.
Window wells:	400 micrograms/sq. ft.

- C. Lead in dust sampling method:

- 1. Wipe sampling procedure: The inspector shall use wipes provided or recommended by the laboratory to be used. The standard sample size in this technique is one square foot, which is obtained with a plastic template or measuring device according to the formula: length times width divided by 144 equals the fraction or multiple of one square foot. Disposable gloves are worn throughout the sampling procedure. A pre-moistened wipe or towelette is placed flat on the surface to be sampled. The wipe is rubbed in an "S" pattern over the entire measured area. The wipes then folded in half and rubbed once over the surface again at a 90 degree angle to the first series of wipes. Finally, the wipe is folded and placed in a marked tube or plastic bag for laboratory determination of lead via AAS, GFAAS or ICP-AES. A minimum of 2 unused wipes or 1 wipe for every 20 used, whichever number is greater, is submitted to the laboratory as a blank.
- 2. Alternative Vacuum dust procedure: Modification of NIOSH Method 7082: This technique is used for surfaces where it is not feasible to use the wet method for sampling including rough or porous surfaces, carpeting, and fabric. The technique gives the same result as the wet method when used on smooth surfaces and more reliable results on other surfaces. Contamination of templates and other sources of contamination associated with handling the wet wipes are avoided. The filter media are submitted for lab analysis.

- a. Equipment and materials:

- 1) Suction pump with a capability to deliver a flow of 20 liters/minute through the filter cassette. (a high volume air sampling pump, Allegro, Gast or equivalent may be used)
- 2) Filter cassettes, each 37 mm diameter, mixed cellulose ester, 0.8 micron porosity filter, and 3 piece housing, with cotton back-up pads to support the filter. (The same cassettes are used for NIOSH Method 7082, lead dust in air.)
- 3) Tubing, ¼ inch ID, heavy wall plastic or elastomer, suitable for use with vacuum, fitted to the pump and cassettes.
- 4) Template, Stainless steel, or Plastic, 0.004 - 0.006 inches thickness, 2 x 9 inches measured aperture to measure and normalize test results to sq ft of surface sampled.

3.19 INDUSTRIAL HYGIENIST INSPECTION AND TESTING (CONT)

b. Calibration:

- 1) Pumps shall be calibrated using a ball rotometer upstream of the sampling filter to check actual flow. The ball rotometer must be initially factory calibrated and checked when new using a primary standard such as a soap bubble meter.

c. Procedure:

- 1) Remove plastic inlet and outlet plugs, and inlet cover from a clean cassette. Install the cassette on the suction tubing connected to the pump. Keep the plugs and cover in a clean sealed reclosable polyethylene bag. Label the sample at this time.
- 2) Do not perform this test on wet surfaces; allow to air dry.
- 3) Turn on the pump and check the flow rate. Vacuum the measured surface area thoroughly making 3 passes over the area with one edge of the cassette inlet touching the surface and the opposite edge just above but not touching the surface. Use the inner edge of the template as a guide. Caution: do not press firmly against a smooth surface while the filter is under suction as the filter may be damaged by the change in pressure.
- 4) Inspect the filter for rupture or deformity and reject and repeat the test if the filter is damaged. If excessive dust is observed on the filter, it may be prudent to reject the area and request the area to be recleaned before further testing.
- 5) Replace the plugs and cover and secure the cassette in the sample bag.
- 6) At the completion of sampling, reserve an two unused cassette as blanks from the same filter lot as used for sampling. Label and place the blanks in the bag with the samples.
- 7) Finally, the sample is submitted for laboratory determination of lead via AAS. The lab preparation and analysis is the same as for NIOSH 7082.

B. Testing Soil for Lead (Not Applicable)

1. Before the work, the owner's IH will collect surface soil samples from the top 1-3 inches. Soil samples shall be analyzed by laboratory determination of lead via AAS.
2. After the work, the IH will collect surface soil samples at the same locations. Soil samples shall be analyzed by the same laboratory and method.
3. Passing Criteria for Final Soil Samples:
 - a. Below 400 PPM lead or
 - b. Not statistically higher than values before the work begun:

3.20 WASTE DISPOSAL OPERATIONS:

- A. Contractor shall evaluate the wastes to determine which types are hazardous under the RCRA and DEEP regulations. This evaluation may be done by sampling and TCLP testing of materials as set forth in 40 CFR Part 261 as amended, or by "knowledge of process". Consult the DEEP Guidelines of 11/4/94, "Guidance for Management and Disposal of Lead Containing Materials Generated in Lead Abatement, Renovation and Demolition Industries" for further information. EPA RCRA hazardous wastes which fail due to lead content have extractable lead of 5 mg/l according to the test specified in CFR 40 part 261. Other components besides lead may need to be included in the TCLP testing.
- B. Whether or not wastes are classified as hazardous, the contractor is responsible for proper disposal:
- C. If the wastes are determined to be hazardous, packaging storage and transportation of the wastes will be according to DEEP regulations. Consult the TSD used for details of these requirements.

3.21 RESTORATION OF THE AREA:

- A. After Final Inspection is complete, relocate objects moved to temporary locations in the course of the work to their proper positions.
- B. Reestablish mechanical and electrical systems in proper working order and in conformance with all applicable building, mechanical and electrical codes.

PART 4 DEFINITIONS

- A. Action Level: OSHA exposure level of 30 ug/m³ over an 8 hour period.
- B. Air Monitoring: The process of measuring the contaminant content of a specific volume of air in a stated period of time.
- C. Atomic absorption spectrophotometer (AA) means an instrument which measures the lead content in parts per million (PPM) using a lead source lamp, a flame capable of measuring the absorbed energy and converting it to concentration.
- D. CFR: Code of Federal Regulations.
- E. Clean Change Area: An uncontaminated area or room adjacent to the work area with provisions for storage of worker's street clothes and protective equipment, a HEPA vacuum for removing contamination from protective clothing.
- F. Competent Person: As regards lead hazards. A person experienced in demolition of lead painted surfaces who meets the following requirements in 1926.32: "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them."
- G. Containment is a process for protecting workers, other individuals and the environment by controlling exposures to lead dust and debris created during abatement.
- H. Critical Barrier: Six mil polyethylene sheeting separating Work Areas from non Work Areas and used to cover fixed objects to prevent contamination.
- I. Curtained Doorway: A device to allow passage from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway, and securing the vertical edge of the other sheet along the opposite vertical side of the doorway. Two curtained doorways spaced a minimum of six (6) feet apart form an Airlock.
- J. DEEP: Connecticut Dept. of Energy and Environmental Protection
- K. De minimis levels: HUD (24 CFR 35.1350) states that safe work practices are not required when maintenance or hazard reduction activities do not disturb painted surfaces that total more than:
 - 1. 20 square feet (2 square meters) on exterior surfaces;
 - 2. 2 square feet (0.2 square meters) in any one interior room or space; or
 - 3. 10 percent of the total surface area on an interior or exterior type of component with a small surface area. Examples include window sills, baseboards, and trim.
- L. EPA: US Environmental Protection Agency
- M. Fit Test: Check of the respirator fit every six months.
- N. GFCI: Ground Fault Circuit Interrupter, a safety device to prevent death from electrical shock.

- O. Graphite furnace atomic absorption spectrophotometer (GFAA) is an instrument that functions the same as an AA with one exception. The flame is replaced by an electrically heated chamber, a graphite tube, into which the sample is deposited.
- P. Half-Mask, Half Face: type of respirator.
- Q. HEPA Filter: A high efficiency particulate air (HEPA) filter that traps extremely small, micron-sized particles. These filters can filter out particles of 0.3 microns or greater (from a body of air) at 99.97% efficiency or greater.
- R. HEPA Vacuum Equipment: Vacuum Equipment with a HEPA filter system for filtering the air effluent from the unit.
- S. High Efficiency Particulate Air or HEPA means a filtering system capable of filtering out particles of 0.3 microns or greater diameter from a body of air at 99.97% efficiency or greater.
- T. High Phosphate Detergent is detergent, which contains at least five (5%) percent tri-sodium phosphate (TSP).
- U. HVAC: Heating, ventilation and air conditioning system.
- V. Inductively coupled plasma atomic emission spectrophotometer (ICP) means an instrument which measures lead in PPM using a heat source (plasma torch) to dissociate and ionize lead atoms thereby emitting energy. This emission energy is measured and converted to concentration by the detector.
- W. Interim controls means a set of measures designed to reduce temporarily human exposure or likely exposure to lead-based paint hazards. Interim controls include, but are not limited to, repairs, painting, temporary containment, specialized cleaning, clearance, ongoing lead-based paint maintenance activities, and the establishment and operation of management and resident education programs.
- X. Lead: CAS # 7439-92-1. A naturally occurring metallic element, atomic number 82 atomic weight 207.2, chemical formula Pb and compounds thereof. It is a heavy ductile, soft gray solid in elemental form and forming compounds of white or colored solid material.
- Y. Lead Material/ Lead Containing Material: A material which contains more than hazardous or toxic levels of lead: 1) EPA RCRA hazardous lead containing material is a material with extractable lead of 5 mg/l according to the test specified in regulations CFR 40-261. 2) A paint containing more than .5 % of lead in the dry film. 3) A floor surface with more than 200 micrograms/sqft, or a window sill with more than 500 micrograms/sqft or a window well with more than 800 micrograms/sqft. 4) For purposes of the OSHA lead construction standard; a material containing any detectable amount of lead.
- Z. m³: Cubic meter
- AA. Movable Object: A unit of Equipment or furniture in the Work Area, which can be removed from the Work Area.
- BB. MSDS: Material safety data sheet.
- CC. mg: Milligram

- DD. Negative Air Units or Negative Air Pressure Equipment: A portable local exhaust system equipped with HEPA filtration used to create negative pressure in a contaminated area (negative with respect to adjacent uncontaminated areas) and capable of maintaining a constant discharge of filtered air outside and creating suction so that air flow direction moves from uncontaminated areas into the Work Areas.
- EE. NIOSH: National Institute for Occupational Safety and Health.
- FF. Owner: Shlank
- GG. Permissible Exposure Limit (PEL): OSHA Standard. The employer shall ensure that no employee is exposed to an airborne concentration of Lead, or its compounds in excess of the PEL of 0.200 mg/m³ for the construction industry and 0.050 mg/m³ for general industry (milligrams per cubic meter) as an eight (8) hour time weighted average (TWA).
- HH. Poly: Short for polyethylene, a plastic sheet.
- II. PPM: Parts per million.
- JJ. RCRA: Resource Conservation and Recovery Act
- KK. Regulated Area: The work area.
- LL. TCLP: Toxicity characteristic leaching procedure as specified by EPA- RCRA regulations (CFR 40 part 261).
- MM. TSD: Treatment, Storage and Disposal Facility. A list of authorized firms may be obtained from DEEP.
- NN. TSP means tri-sodium phosphate.
- OO. TWA means time- weighted average
- PP. ug: microgram.
- QQ. Wet Cleaning: The process of eliminating Lead contamination from building surfaces and objects by using cloths or other cleaning tools which have been dampened with TSP or non-phosphate equivalent and water, and by afterwards disposing of these cleaning items as Lead contaminated waste.
- RR. Work Area: An area where Lead Paint Demolition or other work involving disturbance of lead paint are performed which is isolated by physical boundaries and other controls to prevent the spread of lead dust or debris.

PART 5 - LIST OF DRAWINGS

5.1	DRAWING NUMBER	DESCRIPTION
A.	1WD	LOCATION OF FIRST FLOOR LEAD WINDOW & DOOR COMPONENTS, TO BE ABATED IN SCOPE OF WORK
B.	2WD	LOCATION OF SECOND FLOOR LEAD WINDOW & DOOR COMPONENTS, TO BE ABATED IN SCOPE OF WORK
C.	1LC	LOCATION OF FIRST FLOOR LEAD CEILINGS AND CROWN MOULDINGS TO BE ABATED IN SCOPE OF WORK
D.	3S	LOCATION OF LEAD SOIL HAZARDS IN SCOPE OF WORK
E.	1DF	LOCATION OF LEAD DUST HAZARDS ON FLOOR IN SCOPE OF WORK –FIRST FLOOR
F.	1DWS	LOCATION OF LEAD DUST HAZARDS ON SILLS IN SCOPE OF WORK – FIRST FLOOR
G.	2DWS	LOCATION OF LEAD DUST HAZARDS ON SILLS IN SCOPE OF WORK – SECOND FLOOR

ChemScope Inc.

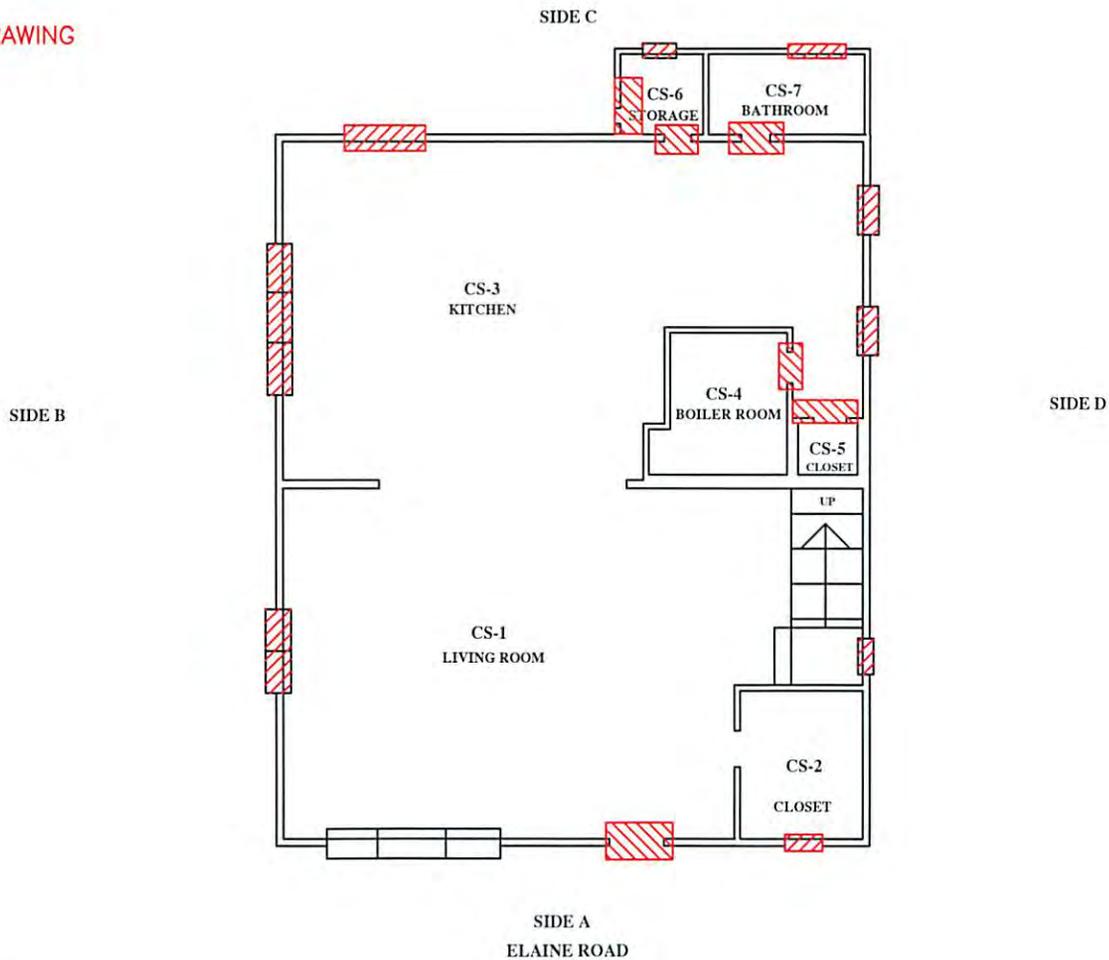
Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

First Floor

LEAD LOCATION DRAWING



LEGEND OF SYMBOLS

-  Lead Window Components In Scope of Work
-  Lead Door Components In Scope of Work

NOTATIONS

TOTAL SQUARE FEET = 1218
CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES LEIGH HONOROF

ChemScope Inc.

FIRST FLOOR

LEAD/MOLD/ASBESTOS
RADON INSPECTION

24 ELAINE ROAD
MILFORD, CT

PROJECT NUMBER

187-210

SCALE

NOT TO SCALE

DATE

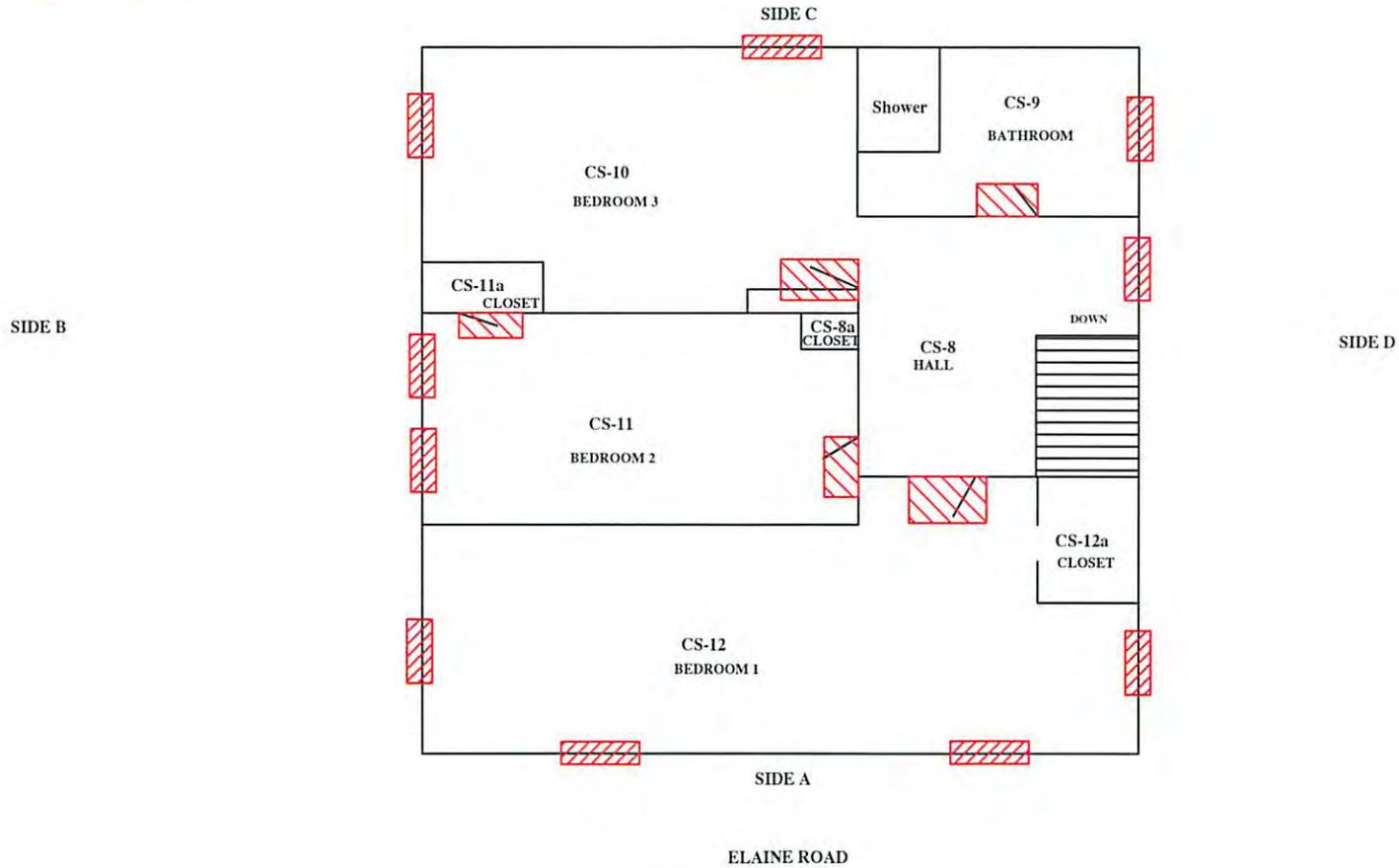
11/17/14

1 WD

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Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Second Floor

LEAD LOCATION DRAWING



LEGEND OF SYMBOLS

- Lead Window Components In Scope of Work
- Lead Door Components In Scope of Work

NOTATIONS

TOTAL SQUARE FEET = 1218
 CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES LEIGH HONOROF

ChemScope Inc.

PLAN
 SECOND FLOOR

LEAD/MOLD/ASBESTOS
 RADON INSPECTION

24 ELAINE ROAD
 MILFORD, CT

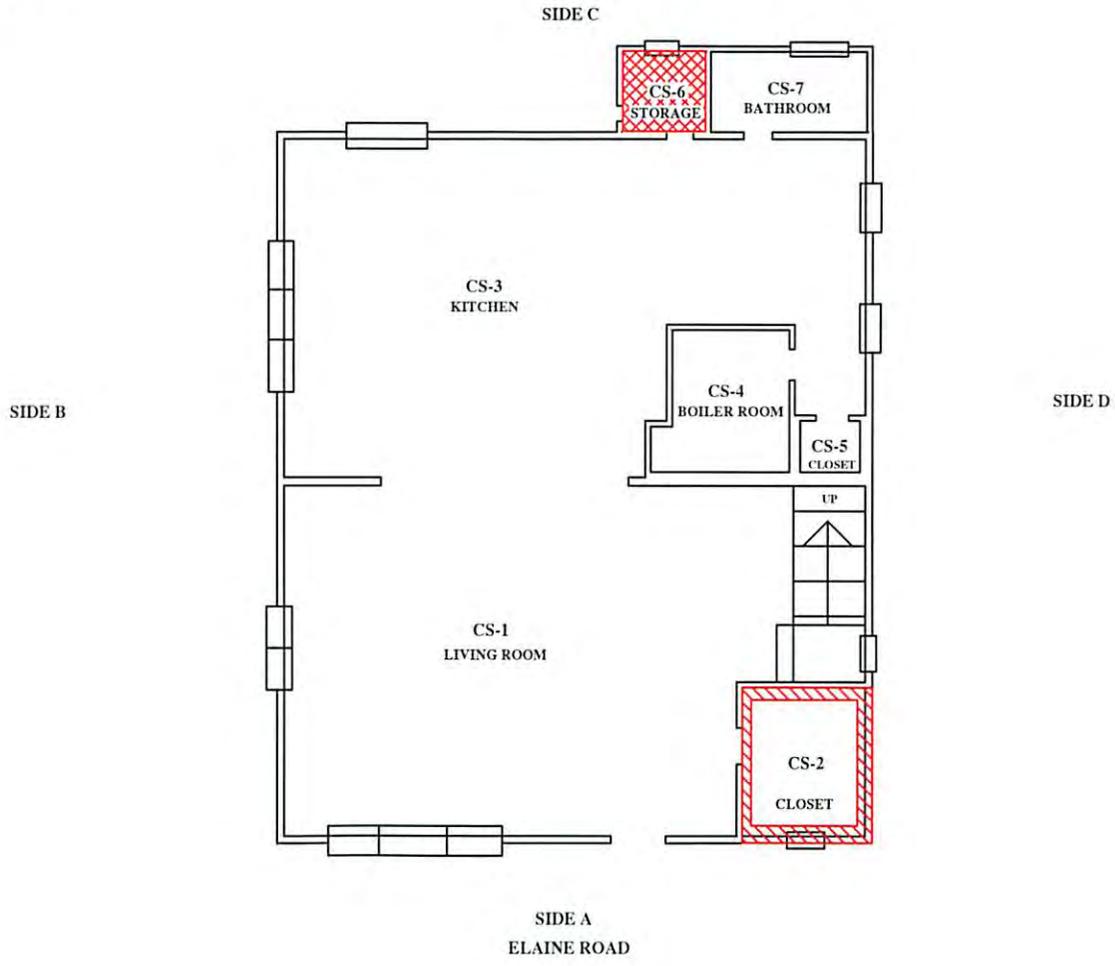
PROJECT NUMBER
 187-210

SCALE
 NOT TO SCALE

DATE
 11/17/14

2 WD

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 First Floor



	
LEGEND OF SYMBOLS	
	Lead Ceiling and Crown Moulding
	Lead Crown Moulding in Scope of Work
NOTATIONS	
TOTAL SQUARE FEET = 1216	
CONSTRUCTION YEAR = 1928	
DRAWN BY: KAYLA CARNES-LEIGH HONOROF	
ChemScope Inc.	
FIRST FLOOR	
LEAD/MOLD/ASBESTOS RADON INSPECTION	
24 ELAINE ROAD MILFORD, CT	
<small>PROJECT / FILE NUMBER</small> 187-210	<small>DATE</small>
<small>SCALE</small> NOT TO SCALE	1 LC
<small>DATE</small> 11/17/14	

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior



LEGEND OF SYMBOLS

 Location of Lead Soil Hazards in Scope of Work

NOTATIONS

 Fence

 Ground Cover Change

DRAWN BY: KAYLA CARNES/LEIGH HONOROF

ChemScope Inc.

BASEMENT & EXTERIOR

LEAD ABATEMENT
 SPECIFICATIONS

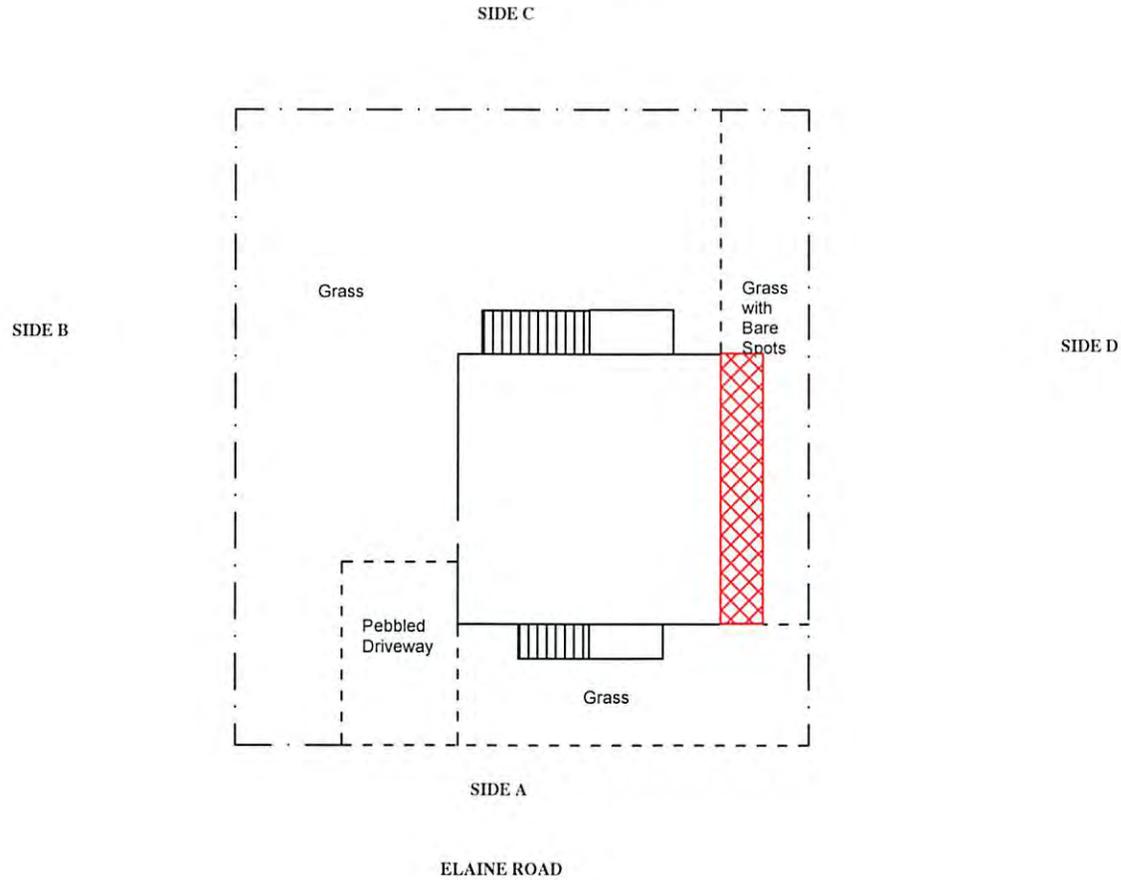
24 ELAINE ROAD
 MILFORD, CT

PROJECT NUMBER
 187-210

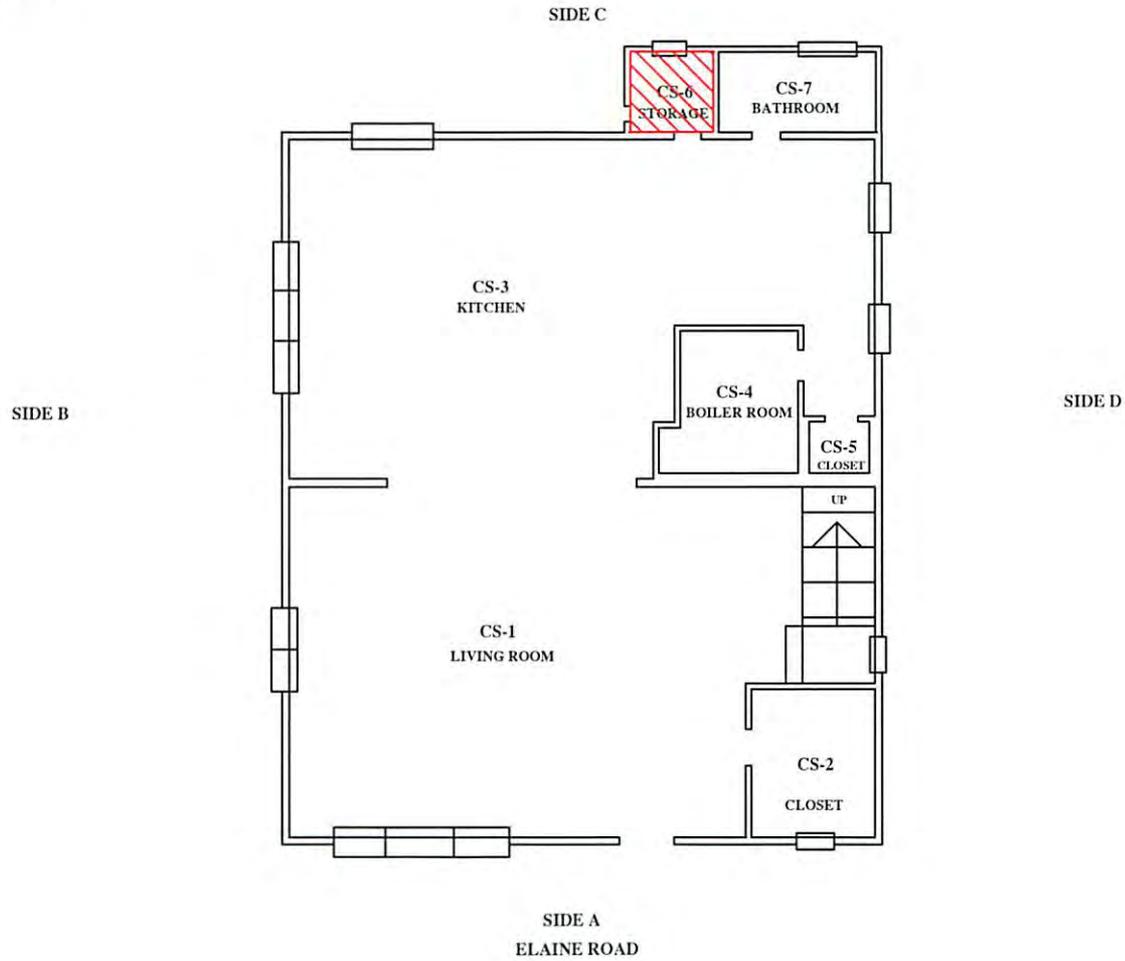
NOT TO SCALE

DATE
 11/17/14

3 S



ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 First Floor



LEGEND OF SYMBOLS

Location of Lead Dust
 See Report for Details

NOTATIONS

TOTAL SQUARE FEET = 1218
 CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES LEIGH HONOROF

ChemScope Inc.

FIRST FLOOR

LEAD ABATEMENT
 SPECIFICATIONS

24 ELAINE ROAD
 MILFORD, CT

PROJECT NUMBER

187-210

SCALE

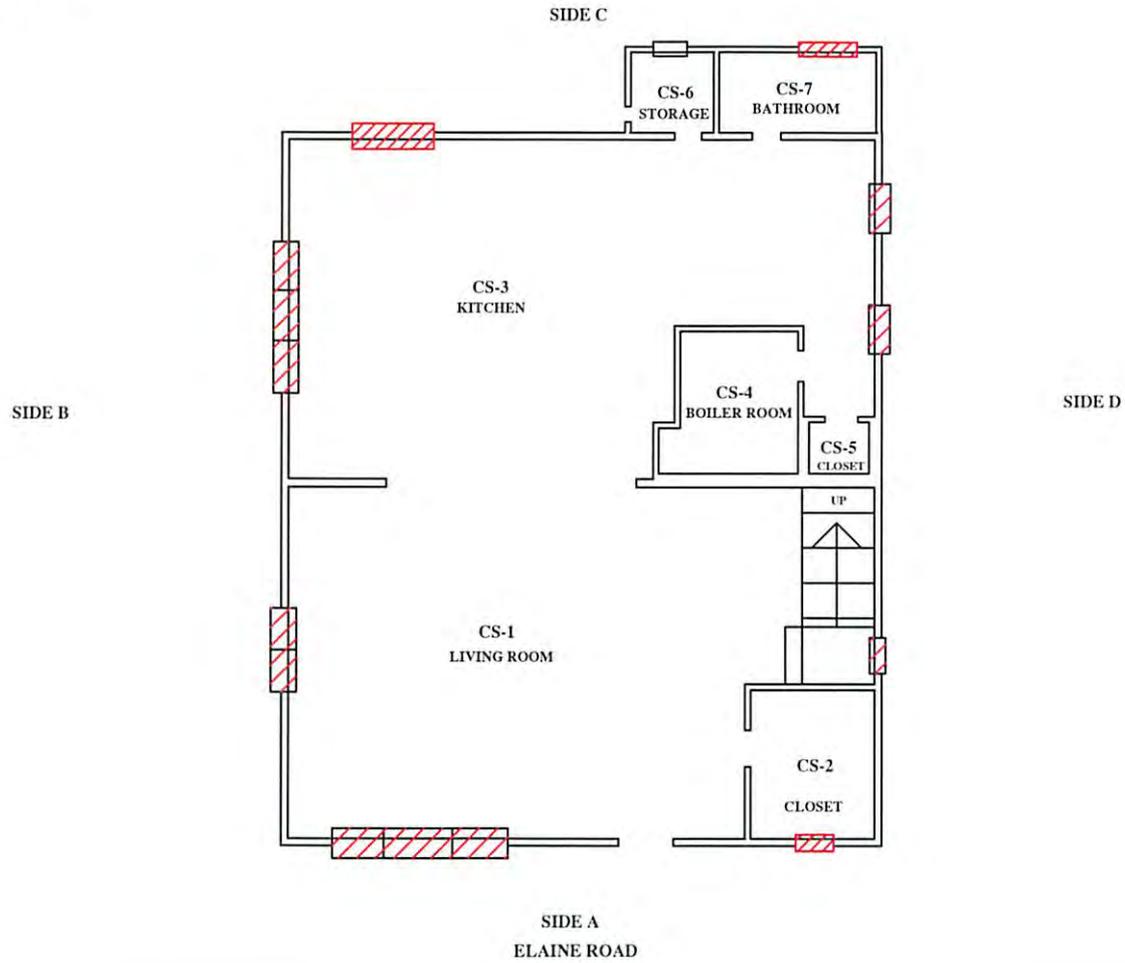
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DATE

11/17/14

1 DF

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 First Floor



LEGEND OF SYMBOLS

 Location of Lead Dust
 See Report for Details

NOTATIONS

TOTAL SQUARE FEET = 1218
 CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES LEIGH HONOROF

ChemScope Inc.

FIRST FLOOR

LEAD ABATEMENT
 SPECIFICATIONS

24 ELAINE ROAD
 MILFORD, CT

PROJECT NUMBER:

187-210

SCALE:

NOT TO SCALE

DATE:

11/17/14

1 DWS

ChemScope Inc.

Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

Second Floor

LEAD DUST AT SILLS LOCATION DRAWING



LEGEND OF SYMBOLS

 Location of Lead Dust
See Report for Details

NOTATIONS

TOTAL SQUARE FEET = 1218
CONSTRUCTION YEAR = 1928

DESIGNED BY: KAYLA CARNES LEIGH HONOROF

ChemScope Inc.

PLAN
SECOND FLOOR

LEAD ABATEMENT
SPECIFICATIONS

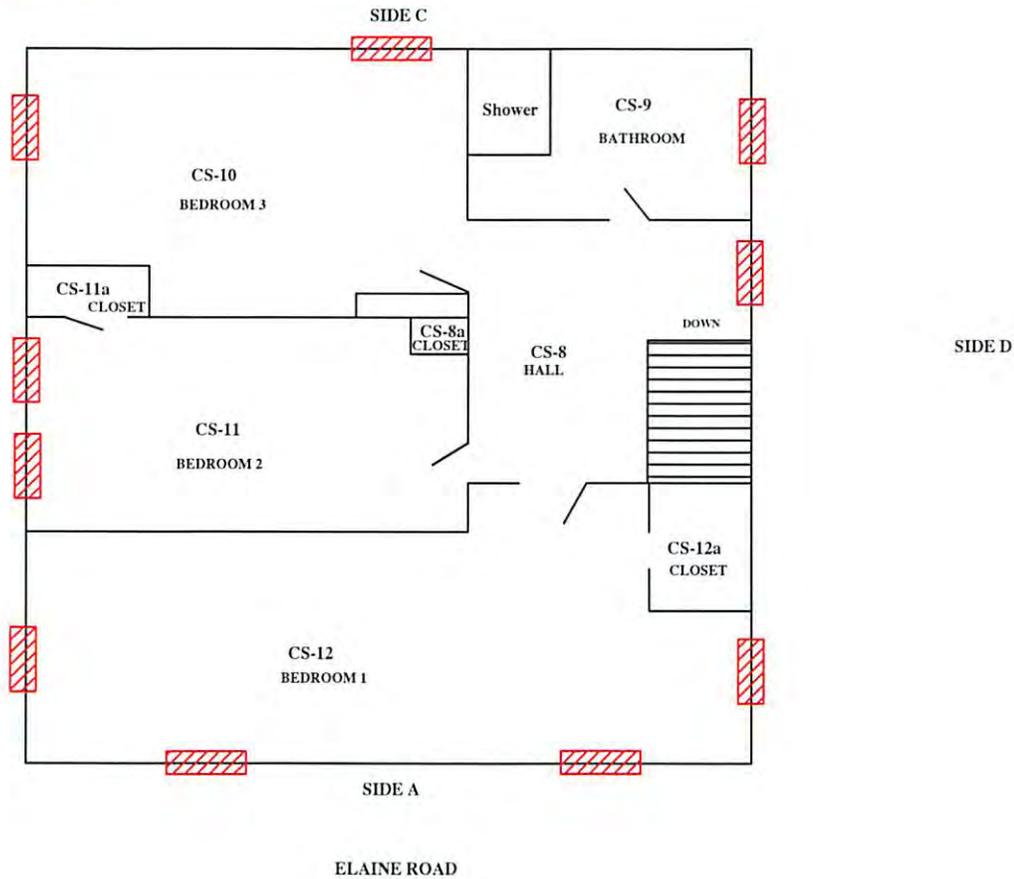
24 ELAINE ROAD
MILFORD, CT

PROJECT NUMBER
187-210

SCALE
NOT TO SCALE

DATE
11/17/14

2 DWS



APPLICANT NO. 1437
OORR PROGRAM
CDBG-DR STORM SANDY

SERINI RESIDENCE
24 ELAINE ROAD
MILFORD, CT

APPENDIX A

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

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Scott Feulner
Diversified Technology Consultants (DTC)
2321 Whitney Avenue, Suite 301
Hamden, CT 06518

Revised 12/3/2014
~~12/1/2014~~

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 1 OF 14**

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Recommendations	12-14

Attachments:

- Appendix A: XRF Lead-Based Paint Testing Results with quality evaluation sheet and site drawings, 8 pages
- Appendix B: Dust Wipe and Soil Sample Analytical Data and Chain of Custody Document, 7 pages
- Appendix C: Sample Location Drawings, 3 pages
- Appendix D: Lead Hazardous Waste Evaluation Worksheet, 1 page(s)
- Appendix E: Copy of Risk Assessor's License/Certification, 2 pages
- Appendix F: Copy of Firm's Lead Activity License/Certification, 3 pages
- Appendix G: Copy of XRF Training Certificate and LPA-1 Performance Characteristics Sheet, 5 pages
- Appendix H: "LEAD SPEAK" – A Brief Glossary, 2 pages
- Appendix I: Additional Lead and Lead Safety Resource Data, 1 page

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File Location:

NAS AAUM-Reports\LeadInsp\NY-RiskAssess_Aug2014.doc

This investigation and information provided in this report depends partly on background information provided by the client. This report is intended for the use of the client. The scope of services performed may not be appropriate for other users and any use of this report by third parties is at their sole risk. This report is intended to be used in its entirety. No excerpts may be taken to be representative of this report.

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 2 OF 14**

INTRODUCTION

EXECUTIVE SUMMARY: As a result of the Lead Hazard Risk Assessment and the limited Lead-Based Paint Testing (Assessment) conducted on 11/17/2014, it was found that lead-based surface coatings (paint) and lead hazards (dust and soil) were present on the subject property as of the date of the Assessment. Lead (as defined by OSHA regulations 29 CFR 1926.62) and Lead Based Paint (as defined per EPA and CT DPH regulations) was detected on surfaces and/or components within the scope of the inspection. This will require workers disturbing Lead to be properly protected and trained including personal air sampling on the workers. The concentrations determined by the personal samples will determine the level of protection required by OSHA. (Contact us for assistance with the personal samples and further interpretation. General information is contained in the recommendations to follow.) Because lead based paint was detected, a Hazardous Waste Evaluation was done per CT DEEP regulations to determine if the waste products from the renovation are potentially a hazardous waste. The hazardous waste evaluation was done using a modified "knowledge of process" technique. This modified method resulted in the waste containing 765 mg/kg of lead, which is considered likely to be a lead hazardous waste since it is > 100 mg/kg (the threshold for this modified method).

BUILDING DESCRIPTION: The subject building is a two-story (plus basement), single family, residential structure, totaling approximately 1220 sq ft, which was built in 1928 of wood-frame construction. The subject house was occupied at the time of our inspection. We understand the siding, gutters/downspouts, and some fencing have already been replaced after damage caused by hurricane Sandy in October of 2012. At the time of our screening, there were no children under the age of six residing at this subject house and the house was not being used as a daycare facility. See attached drawings for detail.

BACKGROUND: We understand the subject house suffered damage as a result of hurricane Sandy on October 29-30, 2012. We understand the house suffered mainly from water and wind damage in relation to the storm and that the owner has already completed the following repairs: siding replacement, gutter/downspout replacement, and some fence replacement. We understand the scope of the renovations still to be completed as follows: Scope of work consists of; replacing/repairing front door and front windows, replacing of all flooring on 1st Floor, re-insulation of basement, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in basement.

SCOPE OF OUR WORK: Our work would include the following:

- A Lead Hazard Risk Assessment and a hazardous waste evaluation.
- XRF Screening of Lead Based Paint of painted surfaces to be disturbed by the renovation on the 1st Floor as directed by our client.
- A report of the findings with site drawings.

Please note that during our site visit on 11/17/2014, our scope of work changed to include window replacement throughout the subject house as they were determined to contain defective lead based paint. Also the flooring replacement on the first floor was removed from the scope of renovations with the exception of the carpeting in CS-1 Living Room and CS-2 Living Room Closet. Samples were collected and analyzed from CS-3 Kitchen/Dining Room per the request of our client but are not in the scope of renovations at this time. Lead paint chip and TCLP sampling are not in our scope of work.

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 3 OF 14**

INTRODUCTION (cont)

QUALIFICATIONS: The Inspection was conducted by Nathan Yergeau, CT DPH Certified DPH Lead Inspector/Risk Assessor #002225, Radiation Safety Training, RMD 3/12/09. Nathan was assisted by Kayla Carnes and Leigh Honorof. Chem Scope's DPH lead license # is CC000164.

METHOD OF TESTING: Spectrum Analyzer XRF (x-ray fluorescence). Instrument used: RMD LPA-1, Serial # 1647 in Quick Mode. The unit source (Cobalt 57) for unit 1647 was replaced September 29th, 2014. The XRF detects paint in all layers down to the painted substrate. In other words if lead paint is painted over with new paint, the lead paint is still detected by this procedure. When paint is covered with metal or plastic trim such as siding or by carpet, the lead paint is usually not detectable. This instrument is registered with the State of Connecticut Dept of Energy and Environmental Protection and is Generally Licensed under the NRC. This is one of the two methods, which are approved under the CT Dept of Public Health (DPH) regulations. This is a non-destructive test.

The dust and soil samples were sent for analysis to Eastern Analytical Services (EAS), an AIHA accredited Laboratory and a CT DPH approved Environmental Laboratory in regards to this test, using Atomic Absorption analysis.

TEST PARAMETERS FOR XRF TESTING USING THIS INSTRUMENT: OSHA 1926.62
Definition: Lead means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds. XRF readings of 1.0 mg/cm² or higher are lead based paint as defined per EPA and CT DPH regulations and XRF reading with any detectable amount of lead detected are defined as Lead by OSHA standard 1926.62.

XRF CALIBRATION CHECK: Standard Reference Material (SRM) paint film nearest to 1.0 mg/cm² within the National Institute of Standards and Technology (NIST) SRM is used to calibrate the XRF. Calibration Readings are taken at the beginning and end of a job and every four (4) hours during the job with three (3) readings per set. The expiration date of the standard used is 7/1/20.

QUALITY CONTROL PROCEDURES: The XRF is used in accordance with Manufacturer's Performance Characteristics Sheet and instructions. See test data attached for details. Ten (or if <10, then the total number of tests conducted) testing combinations for re-testing from each unit are selected and checked in either 15 second or 60 second readings.

STATEMENT ON ACCURACY: The XRF Calibration checks were acceptable with each of the three (3) readings before, during (if applicable) and after the testing between 0.7 mg/cm² and 1.3 mg/cm². See attached XRF data sheets for documentation of proper calibration check sequence.

REPORT CONVENTIONS: Rooms are sometimes given arbitrary numbers to avoid ambiguity. Please refer to the enclosed schematic drawings of the site. Samples are referenced by the side of the building they are facing, as indicated on the drawings. Side A is the street side (front), Side B is the left side, Side C is the rear and Side D is the right side.

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 4 OF 14**

INTRODUCTION (cont)

ONGOING MONITORING: Ongoing monitoring is necessary in all dwellings in which LBP is known or presumed to be present. At these dwellings, the very real potential exists for LBP hazards to develop. Hazards can develop by means such as, but not limited to: the failure of lead hazard control measures; previously intact LBP becoming deteriorated; dangerous levels of lead-in-dust (dust lead) re-accumulating through friction, impact, and deterioration of paint; or, through the introduction of contaminated exterior dust and soil into the interior of the structure. Ongoing monitoring typically includes two different activities: re-evaluation and annual visual assessments. A re-evaluation is a risk assessment that includes limited soil and dust sampling and a visual evaluation of paint films and any existing lead hazard controls. Re-evaluations are supplemented with visual assessments by the Client, which should be conducted at least once a year, when the Client or its management agent (if the housing is rented in the future) receives complaints from residents about deteriorated paint or other potential lead hazards, when the residence (or if, in the future, the house will have more than one dwelling unit, any unit that turns over or becomes vacant), or when significant damage occurs that could affect the integrity of hazard control treatments (e.g., flooding, vandalism, fire). The visual assessment should cover the dwelling unit (if, in the future, the housing will have more than one dwelling unit, each unit and each common area used by residents), exterior painted surfaces, and ground cover (if control of soil-lead hazards is required or recommended). Visual assessments should confirm that all Paint with known or suspected LBP is not deteriorating, that lead hazard control methods have not failed, and that structural problems do not threaten the integrity of any remaining known, presumed or suspected LBP.

The visual assessments do not replace the need for professional re-evaluations by a certified risk assessor. The re-evaluation should include:

1. A review of prior reports to determine where lead-based paint and lead-based paint hazards have been found, what controls were done, and when these findings and controls happened;
2. A visual assessment to identify deteriorated paint, failures of previous hazard controls, visible dust and debris, and bare soil;
3. Environmental testing for lead in dust, newly deteriorated paint, and newly bare soil; and
4. A report describing the findings of the reevaluation, including the location of any lead-based paint hazards, the location of any failures of previous hazard controls, and, as needed, acceptable options for the control of hazards, the repair of previous controls, and modification of monitoring and maintenance practices.

The first reevaluation should be conducted no later than two years after completion of hazard controls, or, if specific controls or treatments are not conducted, two years from the beginning of ongoing lead-based paint monitoring and maintenance activities. Subsequent reevaluations should be conducted at intervals of two years, plus or minus 60 days. If two consecutive reevaluations are conducted two years apart without finding a lead-based paint hazard, reevaluation may be discontinued.

Please refer to your community development agency, housing authority, or other applicable agency for additional local/regional regulations and guidelines governing re-evaluation activities.

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 5 OF 14**

INTRODUCTION (cont)

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

FUTURE REMODELING PRECAUTIONS: It should be noted that during this Assessment, a limited number of areas were tested for the presence of LBP. All LBP, dust, and soil hazards that were identified are addressed in this report. However, LBP, dust lead hazards, and/ or soil lead hazards may be present at other locations of the property. Additional paint testing should precede any future remodeling activities that occur at any untested areas. Additional dust and/or soil sample collection and analysis should follow any hazard control activity, repair, remodeling, or renovation effort, and any other work efforts that may in any way disturb LBP and/or any lead containing materials. These Assessment activities will help the Client and owner to ensure the health and safety of the occupants and the neighborhood. Details concerning lead-safe work techniques and approved hazard control methods can be found in the HUD publication entitled: “*Guidelines for the Evaluation and Control of LBP Hazards in Housing*” (www.hud.gov/offices/lead). Remodeling, repair, renovation and painting at the residence beyond the scale of minor repair and maintenance activities must be conducted in accordance with the EPA’s Lead Repair, Renovation, and Painting Rule (within 40 CFR part 745); see the EPA’s website on the RRP Rule at <http://www.epa.gov/lead/pubs/renovation.htm> for the scope and requirements of that Rule. Lead-based paint abatement or lead-based paint hazard abatement at the residence must be conducted in accordance with the EPA’s Lead Abatement Rule (also within 40 CFR 745); see the EPA’s website for Lead Abatement Professionals at <http://www.epa.gov/lead/pubs/traincert.htm>.

CONDITIONS & LIMITATIONS: Staff of ChemScope Inc. has performed the tasks listed above requested by the our client in a thorough and professional manner consistent with commonly accepted standard industry practices, using state of the art practices and best available known technology, as of the date of the assessment. ChemScope cannot guarantee and does not warrant that this Assessment/Limited LBP Testing has identified all adverse environmental factors and/or conditions affecting the subject property on the date of the Assessment. ChemScope cannot and will not warrant that the Assessment/Limited Testing that was requested by the client will satisfy the dictates of, or provide a legal defense in connection with, any environmental laws or regulations. It is the responsibility of the client to know and abide by all applicable laws, regulations, and standards, including EPA’s Renovation, Repair and Painting regulation.

The results reported and conclusions reached by ChemScope are solely for the benefit of the client. The results and opinions in this report, based solely upon the conditions found on the property as of the date of the Assessment, will be valid only as of the date of the Assessment. ChemScope assumes no obligation to advise the client of any changes in any real or potential lead hazards at this residence that may or may not be later brought to our attention. Further conditions and limitations to this contracted report are included in the general terms and conditions supplied to the client with the contract for services.

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 6 OF 14**

INSPECTION REPORT SYNOPSIS

LOCATION NAME AND ADDRESS: Site 030 (Serini) - Application #1437
24 Elaine Road, Milford, CT

INSPECTION DATE(S): 11/17/2014

XRF Testing Results: Limited LBP Testing, conforming with HUD regulation 24 CFR 35.930(c), (d) was accomplished at this residence on surfaces found to have deteriorated paint and/or where it was indicated to the Assessor that planned renovation would occur. No paint chip samples were taken. On 11/17/2014, a total of 79 tests (assays) were taken at a limited number of specified surfaces on the inside and outside of the residence using a x-ray fluorescence analyzer. Deteriorated paint and areas that were specified to be disturbed during the planned renovation project were tested. Lead concentrations that meet or exceed the HUD published levels identified as being potentially dangerous (e. g., greater than or equal to 1.0 milligrams per centimeter square [$> 1.0 \text{ mg/cm}^2$]) were encountered on one interior surface (see list of lead based paint items listed below).

The following surface(s) and/or component(s) contained Lead as defined by OSHA regulations 29 CFR 1926.62, in addition the items in **bold** are Lead Based Paint as defined per EPA and CT DPH regulations:

Component/Description	Location	Defective	Friction Surface	Potential Remediation Methods
White/black painted wood window components such as casings, sills, *sashes, aprons, *frames, and wells	Interior – Throughout	Yes	*Yes	REM, REP, or LENCAP
White painted wood door casings,* frames and *stops	Interior – First Floor – CS-3 Kitchen, CS-6 Rear Storage and Second Floor – Throughout	Yes	*Yes	REM, REP, or LENCAP
White painted wood crown moulding	Interior – First Floor – CS-2 LivingRoom Closet and CS-6 Rear Storage	Yes	No	REM, REP, or LENCAP
White painted wood ceiling	Interior – First Floor – CS-6 Rear Storage	Yes	No	REM, REP, or LENCAP
Black painted wood door, *door frame, and door threshold	Exterior – First Floor – Rear Exit Door – Side B	Yes	*Yes	REM, REP, or LENCAP
White painted wood door stop	Interior – First Floor – CS-1 Living Room – Side A	Yes	Yes	REM or REP
White painted wood baseboard	Interior – First Floor – CS-1 Living Room	Yes	No	REM, REP, or LENCAP
White painted wood crown moulding	Interior – Second Floor – CS-12 Bedroom and CS-10 Bedroom	Yes	No	REM, REP, or LENCAP
Green painted wood walls	Interior – Second Floor – CS-11 Bedroom	Yes	No	REM, REP, or LENCAP

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
LEAD BASED PAINT PRE-RENOVATION XRF SCREENING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 7 OF 14**

INSPECTION REPORT SYNOPSIS (CONT)

The following surface(s) and/or component(s) contained Lead as defined by OSHA regulations 29 CFR 1926.62, in addition the items in bold are Lead Based Paint as defined per EPA and CT DPH regulations (CONT):

Component/Description	Location	Defective	Friction Surface	Potential Remediation Methods
White painted wood ceiling	Interior – Second Floor – CS-11 Bedroom and CS-10 Bedroom	Yes	No	REM, REP, or LENCAP
Pink painted wood walls	Interior – Second Floor – CS-10 Bedroom	Yes	No	REM, REP, or LENCAP

- (REM) : Removal Stripping of paint.
- (REP) : Replacement Removal of architectural component and replacement with lead free component.
- (RENCAP) : Rigid encapsulation (e.g. enclosure using materials such as siding, paneling, sheetrock, plywood, etc.
- (LENCAP) : Liquid Encapsulation.

OSHA 1926.62 Definition: Lead means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.

XRF readings of 1.0 mg/cm² or higher are lead based paint as defined per EPA and CT DPH regulations and XRF reading with any detectable amount of lead detected are defined as Lead by OSHA standard 1926.62.

LIMITATIONS OF SCREENING: Not all painted surfaces were tested. Consequently, if a surface was not tested assume it contains Lead until proven otherwise. See attached data sheets for a list of surfaces tested.

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INSPECTION REPORT SYNOPSIS (cont)

RESIDENT QUESTIONNAIRE: A resident questionnaire was completed as part of the Assessment, to help identify particular use patterns, which may be associated with potential LBP hazards, such as opening and closing windows painted with LBP. The answers to the questionnaire were obtained during our on-site interview with the owner/occupant, Patricia Serini on 11/17/2014. The following is a summary of the information obtained during the interview:

Children in the Household:	None
Children's bedroom locations:	N/A
Children's eating locations:	N/A
Primary interior play area(s):	N/A
Primary exterior play area(s):	N/A
Toy Storage:	N/A
Pets:	Yes, 1 dog
Children's blood lead testing history:	N/A
Observed chewed surfaces:	None
Women of child bearing age:	No
Previous lead testing:	None
Most frequently used entrances:	Living Room door , Side A
Most frequently opened windows:	Kitchen, Living Room
Structure cooling method:	Portable air conditioning units.
Gardening – type and location(s):	Was in backyard, damaged by storm and then removed. Gardening now done in pots.
Plans for landscaping:	Excavation in order to remove in-ground oil tank from front yard.
Cleaning regiment:	Entire First Floor and Second Floor Bedrooms, regularly
Cleaning methods:	Mopping, sweeping, dusting, vacuuming
Recently completed renovations:	Siding replacement, gutter/downspout replacement, and some fence replacement.
Demolition debris on site:	N/A
Resident(s) with work lead exposure:	N/A, occupants are retired and unemployed.
Planned renovations:	Replacing/repairing front door and front windows, replacing of all flooring on 1 st Floor, re-insulation of crawlspace, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in crawlspace.

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INSPECTION REPORT SYNOPSIS (cont)

Building Conditions Survey

Date of Construction:	1928
Apparent Building Use:	Residential , Single-Family
Setting:	Residential
Front Entry Faces:	Side A, Faces East
Design:	2-Story, Single-Family
Construction Type:	Wood framed
Lot Type:	Flat
Roof:	Good, no apparent roof leaks
Foundation:	Concrete
Front Lawn Condition:	No bare soil
Back Lawn Condition:	Approx. < 10% bare soil
Drip Line Condition:	Good – no paint chips seen
Site Evaluation:	Good on First Floor (except Storm Damage), Good on Second Floor
Exterior Structural Condition:	Exterior structural is good for the house
Interior Structural Condition:	Good
Overall Building/Site Condition:	Good except for storm damage

PAINT CONDITION SURVEY

Please Note: EPA and HUD have provided a specific definition for the term “deteriorated paint.” Deteriorated paint is defined as “any interior or exterior paint or other coating that is peeling, chipping, chalking or cracking, or any paint or coating located on an interior or exterior surface or fixture that is otherwise damaged or separated from the substrate.” This definition is most typically associated with surface conditions only. Usage of this term in describing conditions other than those associated with surface coatings are not known to be defined by EPA or HUD.

Continued

**PRE-REHABILITATION LEAD HAZARD RISK ASSESSMENT &
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INSPECTION REPORT SYNOPSIS (cont)

Identified Deteriorated Paint, Paint Conditions, Lead Content, & Most Apparent Cause of Deterioration:

Component/Description	Location	Most Apparent Cause of Deterioration
White/black painted wood window components such as casings, sills, *sashes, aprons, frames, and wells	Interior – Throughout	Age/Storm Damage/ Friction
White painted wood door casings, frames and stops	Interior – First Floor – CS-3 Kitchen, CS-6 Rear Storage and Second Floor – Throughout	Age/Contact Damage/ Friction Damage
White painted wood crown moulding	Interior – First Floor – CS-2 Living Room Closet and CS-6 Rear Storage	Age/Storm Damage
White painted wood ceiling	Interior – First Floor – CS-6 Rear Storage	Age
Black painted wood door, door frame, and door threshold	Exterior – First Floor – Rear Exit Door – Side B	Age/Friction Damage

The remaining paint exhibited no apparent signs of deterioration, as of the date of the Assessment.

INTERIOR DUST SAMPLING:

A total of 12 single surface dust wipe samples were collected (and 2 blanks) in an effort to help to determine the levels of lead-containing dust on the interior window sills and floors. These samples were collected from areas most likely to be lead-contaminated if lead-in-dust is present. These samples were collected in accordance with the requirements of ASTM Standard E-1728, Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques. EPA, HUD and State of Connecticut regulations define the following as hazardous levels for lead dust in residences: floors – ≥ 40 mg/ft² (micrograms per square foot); interior window sills – ≥ 250 mg/ft². There is no EPA dust-lead hazard standard for window troughs. Please refer to *Appendix B – Dust Wipe Analytical Results* for the laboratory reports and to *Appendix I – Lead and Lead Safety Information and Resources* for a list of publications and resources addressing lead hazards and their health effects; both are located at the end of this report.

Six of the twelve dust samples collected were within acceptable levels. A summary list is given below, see attached analysis reports and drawings for details. **Samples noted in bold on the following page exceeded HUD and CT-DPH standards and represent dust-lead hazards. These samples constitute dust-lead hazards in those rooms.**

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INSPECTION REPORT SYNOPSIS (cont)

INTERIOR DUST SAMPLING:

Sample #	Date	Location	Surface	Dust Wipe Result (ug/sq ft)	CT-DPH Standard (ug/sq ft)
187-210-1L	11/17/14	First Floor – CS-6 Rear Storage	Floor	76.2	40
187-210-2L	11/17/14	First Floor – CS-6 Rear Storage	Window Sill	12247.8	250
187-210-3L	11/17/14	First Floor – CS-3 Kitchen	Floor	BDL <11.5	40
187-210-4L	11/17/14	First Floor – CS-3 Kitchen	Window Sill	1518.6	250
187-210-5L	11/17/14	First Floor – CS-1 Living Room	Floor	BDL <11.5	40
187-210-6L	11/17/14	First Floor – CS-1 Living Room	Window Sill	BDL <72.6	250
187-210-7L	11/17/14	2 nd Floor – CS-12 Bedroom	Floor	BDL <11.5	40
187-210-8L	11/17/14	2 nd Floor – CS-12 Bedroom	Window Sill	95404.8	250
187-210-9L	11/17/14	2 nd Floor – CS-11 Bedroom	Floor	BDL <11.5	40
187-210-10L	11/17/14	2 nd Floor – CS-11 Bedroom	Window Sill	2556.9	250
187-210-11L	11/17/14	2 nd Floor – CS-10 Bedroom	Floor	BDL <11.5	40
187-210-12L	11/17/14	2 nd Floor – CS-10 Bedroom	Window Sill	3498.0	250
187-210-13L	11/17/14	-	Blank	BDL <11.5	-
187-210-14L	11/17/14	-	Blank	BDL <11.5	-

SOIL SAMPLING AND LABORATORY INFORMATION: Three (3) composite soil samples were collected at this residence in accordance with the requirements of ASTM Standard E-1727, Standard Practice for Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques. One of the samples identified lead concentrations above the levels that EPA, HUD or CT-DPH identifies as hazardous. See the following table for a summary of the soil sampling results. Please refer to *Appendix C – Soil Sample Analytical Data* for the detailed analytical reports. Testing data in **bold face** indicates soil lead levels at or above the EPA Hazardous Levels of Lead regulations that were published on January 5, 2001.

Sample #	Date	Location	Surface	Soil Concentration (mg/kg)	CT-DPH Standard (mg/kg)
187-210-16L	11/17/14	Exterior – Side D – Bare Soil at Drip Line	Soil, 1" deep	770.6	400
187-210-17L	11/17/14	Exterior – Side D – Bare Soil Along Fence	Soil, 1" deep	195.9	400
187-210-18L	11/17/14	Exterior – Side C – Bare Soil Along Fence	Soil, 1" deep	51.6	400

HAZARDOUS WASTE EVALUATION: Because toxic levels of lead were detected, a Hazardous Waste Evaluation was done to determine if the waste products from the renovation are potentially a hazardous waste. An initial hazardous evaluation was done using a modified (for XRF data as opposed to paint chip data) "knowledge of process" technique intended to approximate the method described by the CT Department of Energy and Environmental Protection (DEEP). That method is one of six methods outlined in the CT DEEP "Guidance for the Management and Disposal of Lead-Contaminated Materials Generated in the Lead Abatement, Renovation and Demolition Industries" (11/4/94) for hazardous waste evaluation. For our modified method, data gathered during the XRF inspection is used to calculate for hazardous waste vs. other methods that require TCLP (Toxicity Characteristic Leaching Procedure) testing.

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INSPECTION REPORT SYNOPSIS (cont)

HAZARDOUS WASTE EVALUATION (cont): This modified method resulted in the waste being **765 mg/kg of lead**, which is considered likely to be a lead hazardous waste since it is **> 100 mg/kg** (the threshold for this modified method).

This method is the least expensive method of hazardous waste evaluation but has limited applicability. The other methods include the following:

- Demolish and Test (TCLP test and needs to be done during the renovation or demolition)
- Composite-Sample and Demolish (TCLP test done before the renovation and destructive testing required and challenging to do for renovations if we don't know what the waist stream is actually going to be in the dumpster)

RECOMMENDATIONS

Lead Hazard Control Options Lead-safe work practices and worker/occupant protection practices complying with current EPA, HUD and OSHA standards will be necessary to safely complete all work involving the disturbance of LBP coated surfaces and components. In addition, any work considered lead hazard control will enlist the use of interim control (temporary) methods and/or abatement (permanent) methods. It should be noted that all lead hazard control activities have the potential of creating additional hazards or hazards that were not present before.

Details for the listed lead hazard control options and issues surrounding occupant/worker protection practices can be found in the publication entitled: *Guidelines for the Evaluation and Control of LBP Hazards in Housing* published by HUD, the Environmental Protection Agency (EPA) lead-based paint regulations, and the Occupational Safety and Health Administration (OSHA) regulations found in its Lead in Construction Industry Standard. The associated cost estimates, unless otherwise noted, include the labor and materials to accomplish the stated activity and most additional funds typically found to be necessary to complete worker protection, site containment, and cleanup procedures. These are approximate estimates only and due to a variety of potential factors, may not accurately reflect all local cost factors. A precise estimate must be obtained from a certified LBP abatement contractor or a contractor trained in lead-safe work practices. Properly trained and/ or licensed persons, as well as properly licensed firms (as mandated) should accomplish all abatement/interim control activities conducted at this residence.

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

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RECOMMENDATIONS (cont)

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

CT DEEP Hazardous Waste evaluation: Contractor generated waste from lead paint chips or component removal must be evaluated to determine if it is hazardous using one of the many techniques as described in the CT Department of Energy and Environmental Protection (DEEP) Guidance for the Management and Disposal of Lead-Contaminated Materials Generated in the Lead Abatement, Renovation and Demolition Industries" (11/4/94). This guidance document allows for homeowners to take up to 10 cubic yards to be disposed of as part of normal house hold waste (even if it contains lead). Under the household waste exclusion, in order for the waste to be exempt, the homeowner must have the means to dispose of it in a manner typical for routine household wastes: that is, either via curbside pickup, or by taking it themselves to their local transfer station.

EPA's RRP rule sets up requirements for firms and individuals performing renovations in pre-1978 housing and child-occupied facilities, such as schools and day cares. The RRP Rule requires that renovators be trained in the use of lead safe work practices, that renovators and firms be certified, that providers of renovation training be accredited, and that renovators follow specific work practice standards.

Because this is a pre-1978 house, contractors (including renovation, repair and painting workers, plumbers, electricians, HVAC professionals, etc.) working on this project must be EPA certified and trained in lead-safe work practices when conducting renovation, repair and painting activities that will disturb more than six (6) square feet of painted surfaces on the interior of a building or more than twenty (20) square feet on the exterior and all window replacements jobs. Additional information on this rule can be found at <http://www.epa.gov/lead/pubs/renovation.htm>.

OSHA 1926.62 (worker protection): Work that disturbs surfaces that contain Lead Based Paint (or any detectable amount of Lead) such as is the case for this work must be done according to OSHA regulation 1926.62 OSHA requires employers to conduct air sampling on workers disturbing lead to establish exposure levels to lead for those workers. The recorded levels are then compared to two different airborne concentrations in the OSHA standard: the action limit (AL) and the permissible exposure limit (PEL). Currently, the AL is set at 30 micrograms of lead per cubic meter of air ($\mu\text{g}/\text{m}^3$) and the PEL is 50 $\mu\text{g}/\text{m}^3$. At a minimum the following is required even for air sample results below the action level (this is known as Category 1):

- 1 Train employees
- 2 Conduct Exposure Monitoring (air sampling, as mentioned above)
- 3 Maintain Records

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RECOMMENDATIONS (cont)

OSHA 1926.62 (worker protection)(cont):

See details below if your sampling exceeds the standards. Chem Scope, Inc could help with compliance assistance as needed.

OSHA 1926.62 – Additional Details:

Category 2: OSHA regulations require; Same as category I, plus: Provide respirator at employee request, Conduct exposure monitoring every 3 months, and Conduct blood lead monitoring when the exposure monitoring results are 30–50 ug/m³ (above the action level, but below the PEL).

Category 3: OSHA Regulations require; Same as category II, plus, enforce respirator use, enforce use of protective clothing, develop monitoring every 6 months, enforce housekeeping, provide hygiene facilities and enforce washing when the exposure monitoring results are 50 ug/m³ and over (above the PEL).

See separate Asbestos Pre-renovation Inspection report, Mold Assessment report, and Radon Air Sampling report for additional details.

If you have any questions or need more information please call me. Thank you for calling on us.

Sincerely,



Nathan Yergeau
Assistant Field Operations Manager

Appendix A XRF Lead-Based Paint Testing Results

Site Name: Site #030 (Serini) - Application #1437 Date of Inspection: 11/17/14Site Address: 24 Elaine Road, Milford, CT CS# 187-210Customer Name: - Diversified Technology Consultants (DTC) - Scott FeulnerCustomer Address: 2321 Whitney Avenue Suite 301, Hamden CT 06518Work Area: Throughout Page 1 of 4Site Description: Two story, single family house of wood frame construction, totaling approximately 1220 SF Year of Construction: 1928Name of Individual Doing Testing: Nathan Yergeau CT DPH Lic# 2225CO-57 Date Source Installed: September 29, 2014 Software version # _____ Serial # 1647

Test #	Clock Time	NIST Calibration Standard	Results QM (mg/CM2)
1	8 ⁴³ am	NIST SRM 2573 Red	1.0
2	8 ⁴⁴ am	NIST SRM 2573 Red	1.0
3	8 ⁴⁵ am	NIST SRM 2573 Red	1.0
76	10 ²³ am	NIST SRM 2573 Red	1.0
77	10 ²⁴ am	NIST SRM 2573 Red	1.0
78	10 ²⁵ am	NIST SRM 2573 Red	1.0
		NIST SRM 2573 Red	
		NIST SRM 2573 Red	
		NIST SRM 2573 Red	
4	8 ⁴⁶ am	NIST SRM 2570 White (Blank)	0.0
79	10 ²⁶ am	NIST SRM 2570 White (Blank)	~ 0.2

Note: each entry represents a single test on the surface indicated.

- Acceptance limits for calibration are 0.7-1.3.
- 1.0 mg/cm² or higher = lead based paint (LBP)
- All values run under Quick Mode (QM), unless noted otherwise under comments above.
- Calibration std SRM 2573 has 1.0 mg/cm² of lead, expiration of std is 7/1/20.
- DEF under comments means the surface has defective lead based paint

INSPECTOR SIGNATURE/Date/REVIEWED BY/Date: [Signature], 11/17/14 Ra, 12/1/14

Site Name: Site #030 (Serini) - Application #1437Date of Inspection: 11/17/14Site Address: 24 Elaine Road, Milford, CTCS# 187-210Work Area: ThroughoutPage 2 of 4

Test #/ Side	Int/Ext	Room #	Component	Defective (Y/N)	Color	Substrate	Results QM (mg/CM2)	LBP (Y/N)
5	A	Int	LR ^{CS1} Door	N	White	FG	-0.1	N
6	A	"	"	N	"	"	-0.2	N
7	A	"	" Casing	Y	"	Wood	+0.0	N
8	A	"	" frame * "	Y	"	"	0.1	N
9	A	"	Frame	Y	"	"	-0.1	N
10	A	"	" "	Y	"	"	-0.1	N
11	A	"	" Stop	Y	"	"	0.2	N
12	A	"	" "	Y	"	"	0.1	N
13	A	"	Storm Door	*N/Y	"	metal	-0.4	N
14	A	"	"	*N/Y	"	"	-0.4	N
15	A	"	Door threshold	N	Silver	"	-0.5	N
16	A	"	"	N	"	"	0.2	N
17	A	"	Window casing	Y	White	Wood	0.0	N
18	A	"	" Sash casing	Y	"	"	-0.1	N
19	A	"	" Sash	Y	"	"	-0.1	N
20	A	"	" Sill Sash	Y	"	"	-0.2	N
21	A	"	" * Apron Sill	Y	"	"	-0.1	N
22	A	"	" * Apron Sill	Y	"	"	0.0	N
23	A	"	" Apron	Y	"	"	0.1	N
24	A	"	" "	Y	"	"	-0.1	N
25	A	"	Window Frame	Y	Black	Wood	0.3	N
26	A	"	" Well	Y	"	"	0.3	N
27	A	"	base board	Y	White	"	0.2	N
28	A	"	Floor	N	Green	Carpet	-0.2	N
29	B	"	Kitchen ^{CS3} "	N	White/gr strk	12x2 FT	-0.4	N
30	B	"	threshold	N	Stained	Wood	0.0	N
31	B	"	base board	N	White	"	0.0	N
32	A	"	Brook ^{CS1} Floor	N	12x12 wh/blue	12x12 ft	-0.6	N
33	B	"	LR closet	N	Brw/orange	Carpet	-0.3	N

* KC 11/17/14

CS-2

Signature: Date: 11/17/14

Site Name: Site #030 (Serini) - Application #1437

Date of Inspection: 11/17/14

Site Address: 24 Elaine Road, Milford, CT

CS# 187-210

Work Area: Throughout

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Test #/ Side	Int/Ext	Room #	Component	Defective (Y/N)	Color	Substrate	Results QM (mg/CM2)	LBP (Y/N)
34	A	Int	LRCS#1 Wall	Y	green	SR	-0.3	N
35	D	"	LR ^{CS2} closet Wall	Y	unpainted	"	-0.5	N
36	A	"	"	Y	white	wood	6.4	Y
37	A	"	"	Y	"	"	1.4	Y
38	A	"	"	Y	"	"	1.6	Y
39	A	"	"	Y	"	"	1.7	Y
40	A	"	"	Y	"	"	1.4	Y
41	A	"	"	Y	black	"	1.7	Y
42	A	"	"	Y	"	"	0.2	N
43	C	"	^{CS-3} Kitchen Door casing	Y	white	"	1.6	Y
44	C	"	"	Y	"	ceiling tile	0.0	N
45	D	"	"	Y	"	wood	1.2	Y
46	A	"	^{CS-4} Bed R1 Wall	Y	unpainted	SR	-0.3	N
47	C	"	"	Y	brown	wood panel	-0.4	N
48	C	"	"	Y	white	wood	0.7	N
49	C	"	Bed 1 door frame	Y	"	"	2.2	Y
50	C	"	"	Y	stippled	"	-0.2	N
51	B	"	^{CS-8} Hall 1 wall	Y	green	"	0.1	N
52	D	"	^{CS-11} Bed 2 door casing	Y	white	"	1.4	Y
53	B	"	^{CS-8} Hall 1 handrail	Y	"	"	-0.2	N
54	P	"	^{CS-11} Bed 2 wall	Y	green	"	0.3	N
55	C	"	"	Y	white	"	0.4	N
56	C	"	Bed 3 ^{CS-10} "	Y	"	"	0.8	N
57	D	"	"	Y	pink	"	0.6	N
58	D	"	"	Y	white	"	0.2	N
59	A	"	^{CS-3} Kitchen door frame	Y	"	"	2.4	Y
60	A	"	^{CS-6} Bed 1 Flar	N	green/white	Flar tile	-0.4	N
61	C	"	"	Y	white	wood	2.4	Y
62	A	"	"	Y	"	"	0.0	N

Signature: [Handwritten Signature]

Date: 11/17/14

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior



LEGEND OF SYMBOLS	

Fence
Ground Cover Change

DATE & CARRIER LEAD INFORMATION

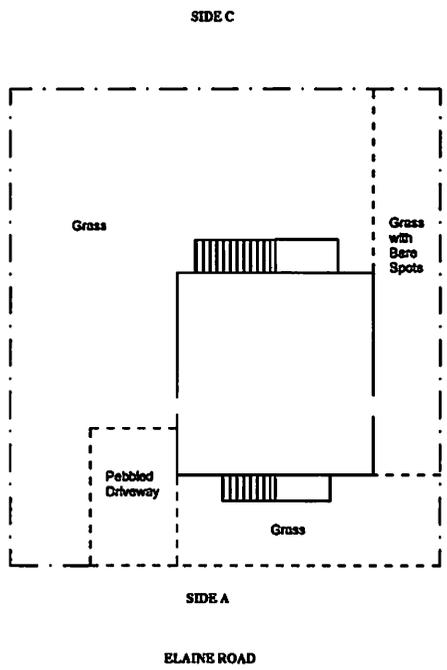
ChemScope Inc.

BASEMENT & EXTERIOR

LEAD/MOLD/ASBESTOS
 RADON INSPECTION
 24 ELAINE ROAD
 MILFORD, CT

187-210
 NOT TO SCALE
 11/17/14

3



ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/18/14

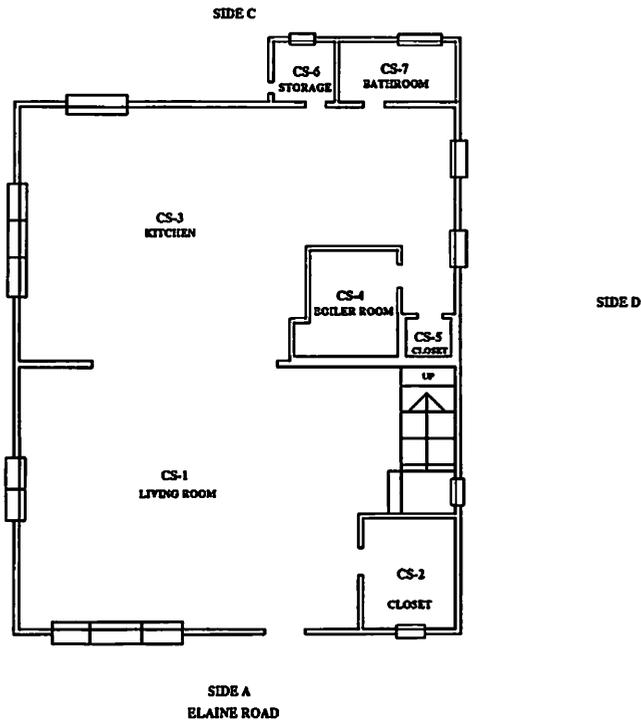


TABLE OF ROOMS

Room	Area

NOTES

TOTAL SQUARE FEET = 1290
 CONSTRUCTION YEAR = 1928

BASELIS CARDS

ChemScope Inc.

FIRST FLOOR

**LEAD/MOLD/ASBESTOS
 RADON INSPECTION**
 24 ELAINE ROAD
 MILFORD, CT

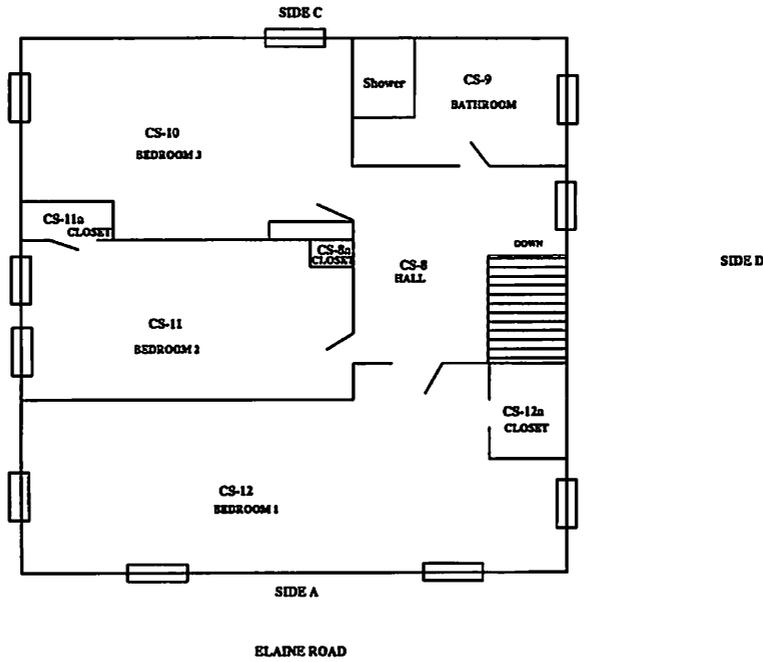
11/18/14

NOT TO SCALE

11/18/14

ChemScope Inc.

Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14



SECTION OF RECORD

REVISIONS

SCALE

ChemScope Inc.

PLAN
 SECOND FLOOR

LEAD/MOLD/ASBESTOS
 RADON INSPECTION

24 ELAINE ROAD
 MILFORD, CT

DATE	
BY	

EVALUATING THE QUALITY OF XRF:					
Site Name: Site #030 (Serini) - Application # 1437					CS# 187-210
Site Address: 24 Elaine Road, Milford CT					Date: 11/17/14
	Location	Original Reading	Retest Reading	Square of Original Reading	Square of Retest Reading
1.	Interior - First Floor - CS-1 - Livingroom - Door - Side A	-0.1	-0.2	0.01	0.04
2.	Interior - First Floor - CS-1 - Livingroom - Door Casing - Side A	0.0	0.1	0.00	0.01
3.	Interior - First Floor - CS-1 - Livingroom - Door Frame - Side A	-0.1	-0.1	0.01	0.01
4.	Interior - First Floor - CS-1 - Livingroom - Door Step - Side A	0.2	0.1	0.04	0.01
5.	Interior - First Floor - CS-1 - Livingroom - Storm Door - Side A	-0.4	-0.4	0.16	0.16
6.	Interior - First Floor - CS-1 - Livingroom - Door Threshold - Side A	-0.5	0.2	0.25	0.04
7.	Interior - First Floor - CS-1 - Livingroom - Window Casing - Side A	0.0	-0.1	0.00	0.01
8.	Interior - First Floor - CS-1 - Livingroom - Window Sash - Side A	-0.1	-0.2	0.01	0.04
9.	Interior - First Floor - CS-1 - Livingroom - Window Sill - Side A	0.1	0.0	0.01	0.00
10.	Interior - First Floor - CS-1 - Livingroom - Window Apron - Side A	0.1	-0.1	0.01	0.01
Sum of ten squared averages ("C"):				0.50	0.33
				"C" times 0.0072 ("D"):	0.0036
				"D" plus 0.032 ("E"):	0.0356
				Square root of "E" ("F"):	0.18868
				"F" times 1.645 (Retest Tolerance Limit):	0.3104
					0.3050
Average of the ten XRF Readings:				-0.08	-0.07
				Absolute difference of the two averages:	0.0100
If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest.					

Appendix B Lead in Dust and Soil Sample Analysis Reports

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

15 Moulthrop Street, North Haven, CT 06473-3686 • Phone (203) 865-5605 • Fax (203) 498-1610

Diversified Technology Consultants
2321 Whitney Avenue, Suite 301
Hamden CT 06518

Application #1437
11/26/2014
CS# 187-210

LEAD ANALYSIS BY ATOMIC ABSORPTION

Lead dust wipe and soil samples from Site #030 (Serini), 24 Elaine Road, Milford CT, collected by ChemScope, Inc., on 11/17/2014:

See attached chain of custody and EAS Analytical Services, Inc., reports for sample descriptions and analytical data; and applicable standards on reverse side of this page.

*NOTE: The EAS Analytical Services, Inc. report provides the lead soil concentration in mg/kg which is equivalent to ppm (parts per million).

Suzanne Cristante or
Laboratory Director
SC

Izabela Kremens or
Quality Manager
IK


Ronald D. Arena
President
RDA

LEAD STANDARDS AND GUIDELINES

(Revised 4/2013)

The following are some existing known standards and guidelines as they relate to lab analysis for lead by AAS. ChemScope assumes no liability for the use of these data. All values are expressed as pure lead, Pb.

1. Lead in Dust Standards: Connecticut DPH, EPA & HUD:

Dust-Wipe Re-Occupancy Testing:

Floors: 40 micrograms/sq ft

Sills: 250 micrograms/sq ft

Window Wells: 400 micrograms/sq ft

Toxic Level of lead in dry paint: 0.5%

*NOTE: City of Stamford has a stricter standard of .06%

2. For Air Samples: OSHA PEL (Permissible Exposure Limit) is 50 micrograms/cubic meter and the AL (Action Level) is 30 micrograms/cubic meter.

3. For Soil: 400 PPM is considered contaminated.

State regulations (CT DEEP RCSA 22a-133K) require lead-contaminated soil to be cleaned up to a concentration of 500 ppm in residential areas and 1,000 ppm in industrial and commercial areas. But in practice the Department of [Energy and] Environmental Protection (DEEP) and state and local health departments apply a 400 ppm standard in residential areas. DEEP has begun the process of adopting the 400 ppm standard in regulation.

OLR Research Report, October 11, 2006, 2006-R-0596

4. For any material to be disposed of: the DEP and EPA Standard for TCLP lead is 5 milligrams/liter. In addition, other substances besides lead may need to be tested which are not in the scope of this test report.

5. Consumer Product Safety Commission: Lead in paint for sale 0.06%.

6. For Drinking Water Samples (First Draw and Fully Flushed samples):

State of Connecticut Action Level: 0.015 mg/l

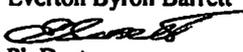
EPA Action Level: 15 ppb

NOTE: .015 mg/l = 15 ppb



Eastern Analytical Services, Inc.
Wipe Sample Report

RE: CPN 187-210 - Diversified Technology Consultants (DTC) - Scott Feulner - Site 030
(Serini) - Application #1437 - 24 Elaine Road - Milford, CT

Date Collected: 11/17/2014
 Collected By: Nathan Yergeau
 Date Received: 11/19/2014
 Date Analyzed: 11/20/2014
 Analyzed By: Everton Byron Barrett
 Signature: 
 Analyte: Pb Dust
 Analytical Method: EPA 3050B/7000B
 NYS Lab Number: 10851

Client: Chem Scope, Inc.
 15 Moulthrop Street
 North Haven, CT 06473

Sample ID# / Lab ID#	Sample Location	Sample Notes	Concentration
187-210-1L 2327758	Rear Storage - 1st Floor - Floor Tile Floor	Dust Wipe - 12" x 12" Area	76.2 µg/ft ²
187-210-2L 2327759	Rear Storage - 1st Floor - Wood Window Sill	Dust Wipe - 4" x 2.5" Area	12247.8 µg/ft ²
187-210-3L 2327760	Kitchen - Tile Floor	Dust Wipe - 12" x 12" Area	BDL < 11.5 µg/ft ²
187-210-4L 2327761	Kitchen - Wood Window Sill	Dust Wipe - 3" x 2.5" Area	1518.6 µg/ft ²
187-210-5L 2327762	Living Room - Carpet Floor	Dust Wipe - 12" x 12" Area	BDL < 11.5 µg/ft ²
187-210-6L 2327763	Living Room - Wood Window Sill	Dust Wipe - 3.5" x 6.5" Area	BDL < 72.6 µg/ft ²
187-210-7L 2327764	Bedroom - CS-12 - Carpet Floor	Dust Wipe - 12" x 12" Area	BDL < 11.5 µg/ft ²
187-210-8L 2327765	Bedroom - CS-12 - Wood Window Sill	Dust Wipe - 3" x 2.5" Area	95404.8 µg/ft ²
187-210-9L 2327766	CS-11 - Carpet Floor	Dust Wipe - 12" x 12" Area	BDL < 11.5 µg/ft ²

BDL = Below Detectable Limits
 Liability Limited to Cost of Analysis

Reporting Limit = 0.3 ppm

Results Applicable to Those Items Tested Results are Not Blank Corrected All QC within Control Limits Unless Otherwise Indicated

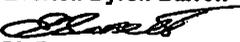
AIHA Accreditation No. 100263 Rhode Island DOH No. AAL-072T3 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AAS-2095



Eastern Analytical Services, Inc.

Wipe Sample Report

RE: CPN 187-210 - Diversified Technology Consultants (DTC) - Scott Feulner - Site 030
(Serini) - Application #1437 - 24 Elaine Road - Milford, CT

Date Collected: 11/17/2014
Collected By: Nathan Yergeau
Date Received: 11/19/2014
Date Analyzed: 11/20/2014
Analyzed By: Everton Byron Barrett
Signature: 
Analyte: Pb Dust
Analytical Method: EPA 3050B/7000B
NYS Lab Number: 10851

Client: Chem Scope, Inc.
15 Moulthrop Street
North Haven, CT 06473

Sample ID# / Lab ID#	Sample Location	Sample Notes	Concentration
187-210-10L 2327767	CS-11 - Wood Window Sill	Dust Wipe - 3" x 27" Area	2556.9 µg/ft ²
187-210-11L 2327768	CS-10 - Carpet Floor	Dust Wipe - 12" x 12" Area	BDL < 11.5 µg/ft ²
187-210-12L 2327769	CS-10	Dust Wipe - 3" x 27" Area	3498.0 µg/ft ²
187-210-13L 2327770	Not Applicable	Field Blank	BDL < 11.5 µg
187-210-14L 2327771	Not Applicable	Field Blank	BDL < 11.5 µg

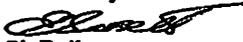
BDL = Below Detectable Limits Reporting Limit = 0.3 ppm
Liability Limited to Cost of Analysis
Results Applicable to Those Items Tested Results are Not Blank Corrected All QC within Control Limits Unless Otherwise Indicated
AIHA Accreditation No. 100263 Rhode Island DOH No. AAL-072T3 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AAS-2095



Eastern Analytical Services, Inc.

Bulk Sample Report

RE: CPN 187-210 - Diversified Technology Consultants (DTC) - Scott Feulner - Site 030
(Serini) - Application #1437 - 24 Elaine Road - Milford, CT

Date Collected: 11/17/2014
Collected By: Nathan Yergeau
Date Received: 11/19/2014
Date Analyzed: 11/21/2014
Analyzed By: Everton Byron Barrett
Signature: 
Analyte: Pb Bulk
Analytical Method: EPA 3050B/7000B
NYS Lab Number: 10851

Client: Chem Scope, Inc.
15 Moulthrop Street
North Haven, CT 06473

Sample ID# / Lab ID#	Sample Location	Sample Notes	Concentration
187-210-15L 2328109	Exterior - Side D - Bare Soil at Drip Line	Lead In Soil	770.6 mg/kg 0.08 %
187-210-16L 2328110	Exterior - Side D - Bare Soil Along Fence	Lead in Soil	195.9 mg/kg 0.02 %
187-210-17L 2328111	Exterior - Side C - Bare Soil Along Fence	Lead in Soil	51.6 mg/kg 0.01 %

BDL = Below Detectable Limits Reporting Limit = 0.3 ppm
Liability Limited to Cost of Analysis
Results Applicable to Those Items Tested Results are Not Blank Corrected All QC within Control Limits Unless Otherwise Indicated Soil Samples Reported on Dry Weight Basis - Paint Samples Reported as Received
AIIHA Accreditation No. 100263 Rhode Island DOH No. AAL-072T3 Massachusetts DOL No. A A 000072 Connecticut DOH No. PH-0622 Maine DEP No. LA-024 Vermont DOH No. AAS-2095

P.O.#1365

Form FL-4 Rev 11/12/13
(Issued By SC)

ChemScope

INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

15 Moulthrop Street, North Haven, CT 06473-3686 • Phone (203) 865-5605 • Fax (203) 498-1610

Chain of Custody

Emailed _____
Faxed _____
Called _____
Logged

Site #030 (Serini) - Application #1437
Sample Source: 24 Elaine Road, Milford, CT CS Job # 187-210

Sampled By: [Signature] Date Sampled: 11/17/14 Customer Name: Diversified Technology Consultants (DTC) - Scott Feulner

CS Sample#	Location Client Sample#	Sample Description	Comments
187-210-1L	Rest Storage	Lead dust sample from floor tile	1 SF = 1.00 ft ²
187-210-2L	"	" wood windowsill	4 1/2" x 2.5' = 0.83 ft ²
187-210-3L	Kitchen	" floor tile	1 SF = 1.00 ft ²
187-210-4L	"	" wood windowsill	3" x 2.5' = 0.63 ft ²
187-210-5L	Living room	" Carpet floor	1 SF = 1.00 ft ²
187-210-6L	"	" wood windowsill	3.5" x 6.5' = 1.90 ft ²
187-210-7L	Bedroom	" Carpet floor	1 SF = 1.00 ft ²
187-210-8L	CS-12	" wood window sill	3" x 2.5' = 0.63 ft ²
187-210-9L	CS-11	" carpet floor	1 SF = 1.00 ft ²
187-210-10L	"	" wood window sill	3" x 2.7" = 0.56 ft ²
187-210-11L	CS-10	" Carpet floor	1 SF = 1.00 ft ²
187-210-12L	"	" "	3" x 2.7" = 0.56 ft ²
187-210-13L		Blank	
187-210-14L		Blank	
187-210-15L	Exterior - Sided	Bare Soil at Deline, w	
187-210-16L	Exterior - Sided	Bare Soil along fence	
187-210-17L	Exterior - Sided	Bare Soil along fence	

*Kc
11/17/14
Lead in dust
Lead in Soil

Sample Turnaround 1 week 5 day
Analysis Requested (if variable, use comment column): Lead in dust (ug/ft³) and Lead in Soil (PPM)

Check if you want sample returned _____ (sample will be disposed of after 30 days).
Relinquished by: [Signature] Date 11/17/14 Time 4:50 pm Received By: [Signature]
Relinquished by: [Signature] Date 11/17/14 Time 5:00 pm Received By: [Signature]

Other Special Instructions: Please email results to nathan.chemscope@snet.net

Result Transmittal Instructions (for Chem Scope to transmit): Tell My

FOR CHEM SCOPE, INC. TO FILL OUT IF SAMPLES ARE GOING TO OUTSIDE LABORATORY:

Name of Laboratory: EAS

Method of Transportation to Laboratory: Fedex

Result Transmittal Instructions (for outside Laboratory to Chem Scope, Inc.): _____

The person submitting samples is responsible for obtaining true and representative samples, for complying with applicable regulations and for the use of the data obtained from the analysis. For example, many states have licensing and laboratory approval requirements. Please contract the individual states if you have any questions regarding specific sampling or approval requirements. For Connecticut, sites we have licensed inspectors available to collect client samples and to perform building inspections.

Dear Laboratory Customer or Potential Customer,

New laboratory accreditation standards require us to provide our clients information about our services to make sure that your requirements for testing are adequately defined, documented and understood. The following is for your information. Please call us if you have any questions or comments.

Type of Samples:

// PCM cassettes are routinely run by NIOSH Method 7400.

// Bulk materials are run by EPA Method: #800/R-93/116.

Air Samples: NIOSH 7400 Method counts all fibers. This method may be used for personal air samples and for finals. Two field blanks must be submitted for each set of samples. In the unlikely event that there is to be any deviation from the standard test, you will be consulted by phone before the work begins. Those clients who have not had NIOSH 582 or AHERA asbestos training courses (either supervisor or project monitor) should consult with the lab director for more information. The test parameters are further explained in the analytical report.

Bulk materials: sampled are analyzed by the latest EPA Method: (#800/R-93/116) which uses polarized light microscopy (PLM). When asbestos is detected and the amount is estimated to be <10%, we automatically point count the samples. When there are interfering substances present, we may use ashing, acid washing or other procedures described in the method to handle the interference. Those clients who have not had AHERA asbestos training courses (either inspector, supervisor or project designer) should consult with the lab director for more information. The test parameters are further explained in the analytical report.

All Samples must be clearly labeled with source name and identification number or sufficient information from the client to make this sample uniquely identified. (We will then add our notebook #, page # (batch) and unique number within the batch.) Samples must be in a clean, air tight package such as a zip loc bag. Appropriate completed paperwork must accompany the sample. Bulk and air samples may not be submitted in the same package.

As soon as available bench top results will be faxed to you and reports will then be mailed. We will retain air samples for at least three months and bulk samples for 6 months unless you advise us otherwise.

You are welcome to visit the laboratory at any time to discuss the work, monitor the work or verify our testing services. We appreciate your business and encourage any feedback regarding improving our services or our quality system. Please take a minute to complete the following survey and mail/fax it to ChemScope, Inc.

Customer Service Survey

To help us improve our services give your opinions to the following:

- 1- The printed laboratory report was complete and easy to understand. YES NO
If no, please explain _____.
- 2- The turn around time for results met your expectations/needs. YES NO
If no, please explain _____.
- 3- How likely are you to recommend ChemScope Inc. to someone?
 Excellent Very Good Good Fair Poor
- 4- How likely are you to return to ChemScope in the future if the need arises?
 Excellent Very Good Good Fair Poor
- 5. On a scale of 1 to 5 where 1 represents "Satisfied" and 5 represents "Dissatisfied", how would you rate your level of overall satisfaction.
 1 2 3 4 5
- 6- Please add any additional comments or suggestions that would be helpful when you use our services:

Name _____ Company _____
Address _____ Telephone/e-mail _____

Can we contact you regarding this survey? YES NO

Appendix C Sample Location Drawings

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/18/14

LEAD DUST SAMPLE LOCATION DRAWING



LEGEND OF SYMBOLS

ROTATIONS

TOTAL SQUARE FEET = 1219
 CONSTRUCTION YEAR = 1929

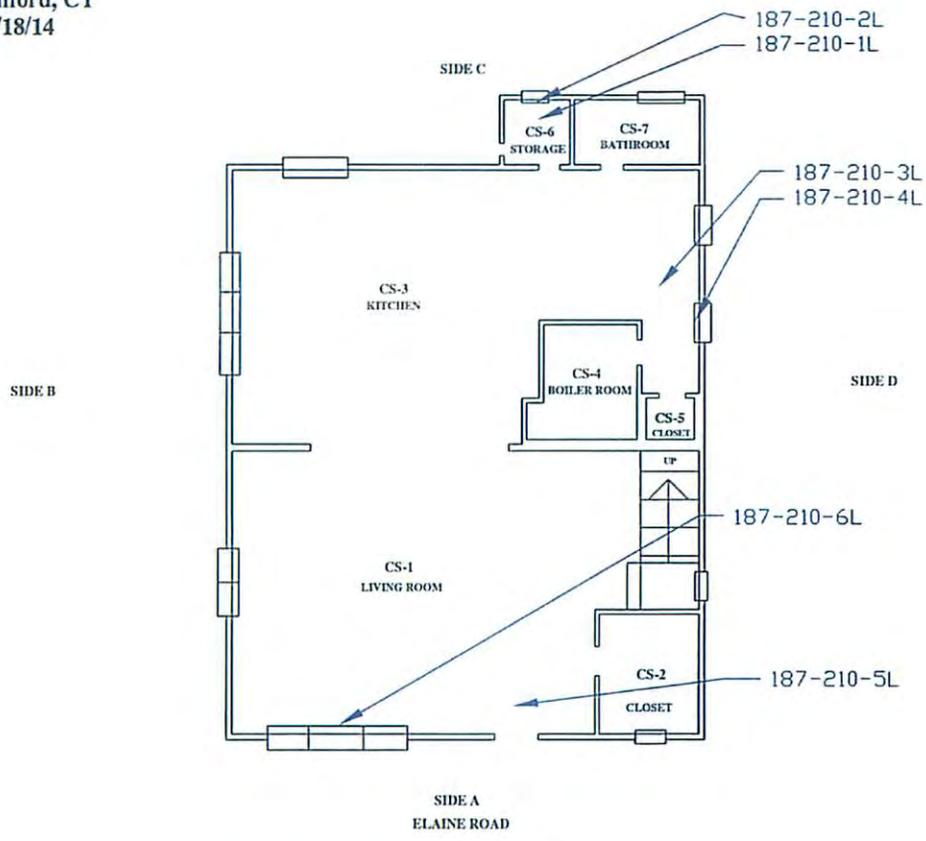
BY: KAYLA CARNES

ChemScope Inc.

FIRST FLOOR

LEAD/MOLD/ASBESTOS
 RADON INSPECTION
 24 ELAINE ROAD
 MILFORD, CT

187-210
 NOT TO SCALE
 11/18/14



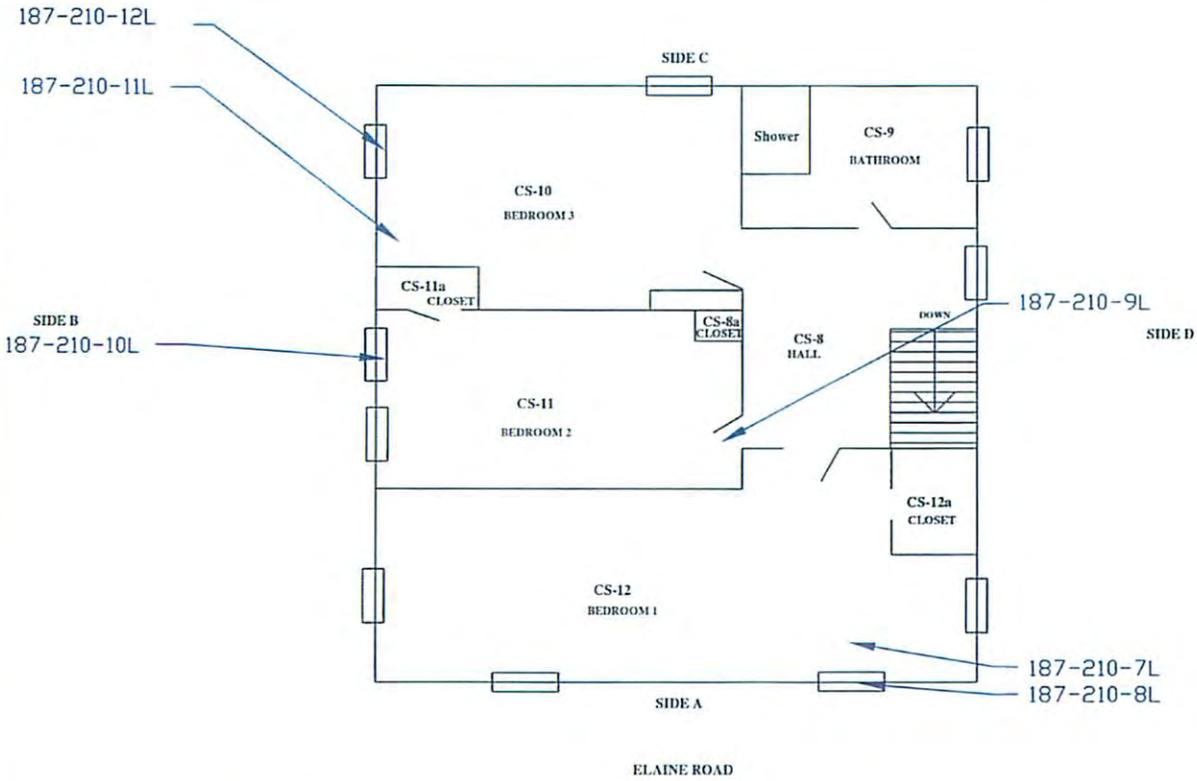
ChemScope Inc.

Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

LEAD DUST SAMPLE LOCATION DRAWING



LEGEND OF SYMBOLS

NOTATIONS

TOTAL SQUARE FEET = 1218
CONSTRUCTION YEAR = 1928

ChemScope Inc.

PLAN
SECOND FLOOR

LEAD/MOLD/ASBESTOS
RADON INSPECTION

24 ELAINE ROAD
MILFORD, CT

187-210
NOT TO SCALE
11/17/14

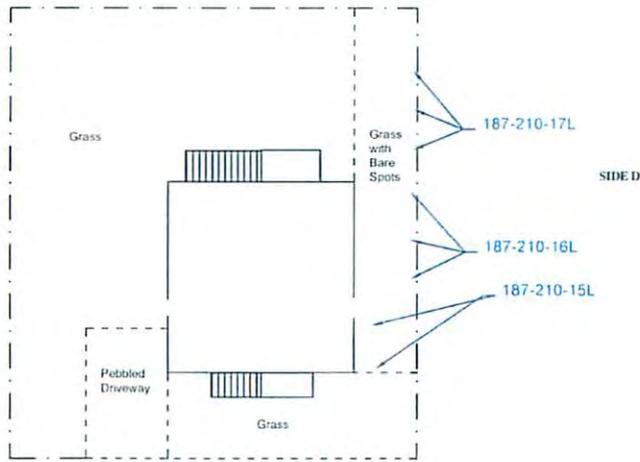
ChemScope Inc.

Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior

LEAD IN SOIL SAMPLE LOCATION DRAWING

SIDE C

SIDE B



SIDE A

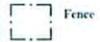
ELAINE ROAD



LEGEND OF SYMBOLS

#L Lead in Soil Sample

NOTATION



Fence



Ground Cover Change

SCALE & APPROPRIATE DIMENSIONS

ChemScope Inc.

BASEMENT & EXTERIOR

LEAD MOLD ASBESTOS
 RADON INSPECTION
 24 ELAINE ROAD
 MILFORD, CT

187-210
 UNIT TO SCALE
 11/17/14

3

Appendix D Hazardous Waste Evaluation Worksheet

Site Name: Site 030 (Serini) - Application # 1437
 Site Address: 24 Elaine Road, Milford CT

CS# 187-210
 Date: 11/17/2014

Building Component	Average XRF Readings		Material Mass g/cm ²	mg Lead/kg of Mass		Component Est % of Mass	Weighting Factor	Weighting Factor x mg/kg of lead		
	w/ hot spots	w/o hot spots		w/hot spots	w/o hot spots			w/ hot spots	w/o hot spots	
Unpainted Wood	0.00	0.00	0.6	0.0	0.0	10	0.10	0.0	0.0	
Painted Wood	1.02	0.00	0.6	1700.0	0.0	45	0.45	765.0	0.0	
Sheetrock	0.00	0.00	0.45	0.0	0.0	10	0.10	0.0	0.0	
Carpet	0.00	0.00	0.2	0.0	0.0	10	0.10	0.0	0.0	
Floor Tile	0.00	0.00	0.2	0.0	0.0	10	0.10	0.0	0.0	
Vinyl Trim	0.00	0.00	0.6	0.0	0.0	5	0.05	0.0	0.0	
Metal	recycle	recycle				10	0.10	0.0	0.0	
						Total	100	Total*	765.0	0.0

*Compared to criterion of > 100 mg/kg lead - (DEP: "Guidance for the Management and Disposal of Lead-Contaminated Materials Generated in the Lead Abatement, Renovation and Demolition Industries" (11/4/94)

A value by this method of >100 mg/kg lead indicates the material is potentially a hazardous waste.

NOTES:

Wood Trim 3/4" = .60 g/cm²
 SR 5/8" = .45 g/cm²
 Plaster (typical two coat) = 1 g/cm²
 Brick (one course - 2 1/4") = 32 g/cm²
 Brick (two course - 4 1/2") = 64 g/cm²
 Concrete 4" = 60 g/cm²
 Cinder Block 5" = 60 g/cm²

Ceramic Tile (typical floor) = 1.3 g/cm²
 Ceramic Tile (typical wall) = 1.5 g/cm²
 Linoleum = 0.2 g/cm²
 Carpet = 0.2 g/cm²

To get g/cm²:

1. Weight the material and convert to grams (453 g = 1 lb)
2. Measure the material surface in CM to get cm²
3. Grams divided by CM² = g/cm²

Appendix E Copy of Risk Assessor's License/Certification

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

NATHAN R YERGEAU

CERTIFICATE No.
002225

CURRENT THROUGH
09/30/15

VALIDATION No.
03-056172

SIGNATURE

Janet M. Sullivan, MD
COMMISSIONER

CERT# L-600 - 777

**CHEMSCOPE TRAINING DIVISION
LEAD INSPECTOR/RISK ASSESSOR REFRESHER
8 HOUR TRAINING CERTIFICATE**

**Nathan Yergeau
15 Moulthrop Street , North Haven CT**

Has attended an 8 hour course on the subject discipline in English on
05/12/2014 and has passed a written and hands on skills examination.

The above individual has successfully completed the above training course approved in accordance with the Department of Public Health Standards established pursuant to Section 20-477 of the Connecticut General Statutes.

Course syllabus includes all required topics of State of Connecticut DPH and EPA.

Examination Date: 05/12/2014

Expiration Date: 05/12/2015

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.



Ronald D. Arena
Training Manager

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

Appendix F Copy of Firm's Lead Activity License/Certification

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

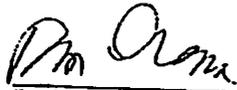
LEAD CONSULTANT CONTRACTOR

CHE DISCOPE INC.

000164

07/31/15

03-847539



SEAL/ST



Connecticut Department of
Energy & Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
www.ct.gov/deep

Certificate of Use

Issued To

CHEM SCOPE, INC.

For

Radioactive Material and Industrial X-Ray Device Registration

Daniel C. Esty
Commissioner

Site Located at:
15 Moulthrop St,
North Haven, CT 06473
Reference: 0808-2014

Application No: 201306468
Issue Date: 12/24/2013
Expiration Date: 12/31/2014



Connecticut Department of
Energy & Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
www.ct.gov/deep

CHEM SCOPE, INC.
15 MOULTHROP STREET
NORTH HAVEN, CT 06473

12/30/2013

Dear Registrant:

Enclosed is a Certificate of Use for the Radioactive Materials and Industrial X-Ray Device Registration submitted by your facility to the department.

This certificate will serve two purposes. First, this is a way for us to acknowledge to you that your registration has been processed. Second, it is a way for our inspection staff to know that you have the appropriate registration for your radioactive materials and equipment.

The Radioactive Materials and Industrial X-Ray Device Registration must be renewed each year. Notification will be sent to you in the month of November prior to the expiration of this registration to renew your registration.

When corresponding with our office regarding your registration please use the "Application No." Indicated on the certificate. This number is unique to your facility and its location.

If you have any questions regarding the Radioactive Materials and Industrial X-Ray Device Registration please feel free to call the Radiation Division at 860-424-3029.

Enclosure

**Appendix G Copy of XRF Training Certificate and XRF Performance
Characteristics Sheet**

Certificate of Achievement

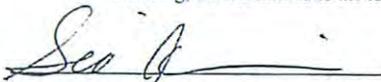
This is to certify that

Nathan Yergeau
ChemScope, Inc.

on the 12th day of March 2009, successfully completed the factory training for

RMD's LPA-1 Lead Paint Inspection System

including, but not limited to the topics of Radiation Safety, DOT Regulations, and the Proper Use of the Instrument.



Sia Afshari, Product Manager RMD
44 Hunt St., Watertown, Massachusetts



Performance Characteristic Sheet

EFFECTIVE DATE: December 1, 2006

EDITION NO.: 5

MANUFACTURER AND MODEL:

Make: *Radiation Monitoring Devices*

Model: *LPA-1*

Source: *⁵⁷Co*

Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above for instruments sold or serviced after June 26, 1995. For other instruments, see prior editions.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

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

XRF CALIBRATION CHECK LIMITS:

0.7 to 1.3 mg/cm² (inclusive)

SUBSTRATE CORRECTION:

For XRF results below 4.0 mg/cm², substrate correction is recommended for:

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

Substrate correction is not needed for:

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

THRESHOLDS:

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

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

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

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

OPERATING PARAMETERS:

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

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² film).

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

SUBSTRATE CORRECTION VALUE COMPUTATION :

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm² for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm² at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm². Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

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

For each substrate type (the 1.02 mg/cm² NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\text{Correction value} = (1^{\text{st}} + 2^{\text{nd}} + 3^{\text{rd}} + 4^{\text{th}} + 5^{\text{th}} + 6^{\text{th}} \text{ Reading}) / 6 - 1.02 \text{ mg/cm}^2$$

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

EVALUATING THE QUALITY OF XRF TESTING:

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

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

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

Compute the Retest Tolerance Limit by the following steps:

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

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

Square the average for each testing combination.

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

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

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

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

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

Compute the average of all ten original XRF results.

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

Find the absolute difference of the two averages.

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

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

BIAS AND PRECISION:

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with reported laboratory results less than 4.0 mg/cm² lead. The data which were used to determine the bias and precision estimates given in the table below have the following properties. During the July 1995 testing, there were 15 test locations with a laboratory-reported result equal to or greater than 4.0 mg/cm² lead. Of these, one 30-second standard mode reading was less than 1.0 mg/cm² and none of the quick mode readings were less than 1.0 mg/cm². The instrument that tested in July is representative of instruments sold or serviced after June 26, 1995. These data are for illustrative purposes only. Actual bias must be determined on the site. Results provided above already account for bias and precision. Bias and precision ranges are provided to show the variability found between machines of the same model.

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

*Precision at 1 standard deviation.

CLASSIFICATION RESULTS:

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

DOCUMENTATION:

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

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

Appendix H "LEAD SPEAK" – A Brief Glossary

Abatement: A measure or set of measures designed to permanently eliminate lead-based paint hazards or lead-based paint. Abatement strategies include the removal of lead-based paint, enclosure, encapsulation, replacement of building components coated with lead-based paint, removal of lead-contaminated dust, and removal of lead-contaminated soil or overlaying of soil with a durable covering such as asphalt (grass and sod are considered interim control measures). All of these strategies require preparation; cleanup; waste disposal; post-abatement clearance testing; recordkeeping; and, if applicable, monitoring. (For full EPA definition, see 40 CFR 745.223).

Bare soil: Soil not covered with grass, sod, some other similar vegetation, or paving, including the sand in sandboxes.

Chewable surface: An interior or exterior surface painted with lead-based paint that a young child can mouth or chew. A chewable surface is the same as an "accessible surface" as defined in 42 U.S.C. 4851b(2). Hard metal substrates and other materials that cannot be dented by the bite of a young child are not considered chewable.

Deteriorated paint: Any paint coating on a damaged or deteriorated surface or fixture, or any interior or exterior lead-based paint that is peeling, chipping, blistering, flaking, worn, chalking, alligatoring, cracking, or otherwise becoming separated from the substrate.

Dripline/foundation area: The area within 3 feet out from the building wall and surrounding the perimeter of a building.

Dust-lead hazard: Surface dust in residences that contains an area or mass concentration of lead equal to or in excess of the standard established by the EPA under Title IV of the Toxic Substances Control Act. EPA standards for dust-lead hazards, which are based on wipe samples, are published at 40 CFR 745.65(b); as of the publication of this edition of these *Guidelines*, these are 40 µg/ft² on floors and 250 µg/ft² on interior windowsills. Also called lead-contaminated dust.

Friction surface: Any interior or exterior surface, such as a window or stair tread, subject to abrasion or friction.

Garden area: An area where plants are cultivated for human consumption or for decorative purposes.

Impact surface: An interior or exterior surface (such as surfaces on doors) subject to damage by repeated impact or contact.

Interim controls: A set of measures designed to temporarily reduce human exposure or possible exposure to lead-based paint hazards. Such measures include, but are not limited to, specialized cleaning, repairs, maintenance, painting, temporary containment, and the establishment and operation of management and resident education programs. Monitoring, conducted by owners, and reevaluations, conducted by professionals, are integral elements of interim control. Interim controls include dust removal; paint film stabilization; treatment of friction and impact surfaces; installation of soil coverings, such as grass or sod; and land use controls. Interim controls that disturb painted surfaces are renovation activities under EPA's Renovation, Repair and Painting Rule.

Lead-based paint: Any paint, varnish, shellac, or other coating that contains lead equal to or greater than 1.0 mg/cm² as measured by XRF or laboratory analysis, or 0.5 percent by weight (5000 mg/g, 5000 ppm, or 5000 mg/kg) as measured by laboratory analysis. (Local definitions may vary.)

Lead-based paint hazard: A condition in which exposure to lead from lead-contaminated dust, lead-contaminated soil, or deteriorated lead-based paint would have an adverse effect on human health (as established by the EPA at 40 CFR 745.65, under Title IV of the Toxic Substances Control Act). Lead-based paint hazards include, for example, **paint-lead hazards, dust-lead hazards, and soil-lead hazards.**

Paint-lead hazard: Lead-based paint on a friction surface that is subject to abrasion and where a dust-lead hazard is present on the nearest horizontal surface underneath the friction surface (e.g., the window sill, or floor); damaged or otherwise deteriorated lead-based paint on an impact surface that is caused by impact from a related building component; a chewable lead-based painted surface on which there is evidence of teeth marks; or any other deteriorated lead-based paint in any residential building or child-occupied facility or on the exterior of any residential building or child-occupied facility.

Play area: An area of frequent soil contact by children of under age 6 as indicated by, but not limited to, such factors including the following: the presence of outdoor play equipment (e.g., sandboxes, swing sets, and sliding boards), toys, or other children's possessions, observations of play patterns, or information provided by parents, residents, care givers, or property owners.

Soil-lead hazard: Bare soil on residential property that contains lead in excess of the standard established by the EPA under Title IV of the Toxic Substances Control Act. EPA standards for soil-lead hazards, published at 40 CFR 745.65(c), as of the publication of this edition of these *Guidelines*, is 400 µg/g in play areas and 1,200 µg/g in the rest of the yard. Also called lead-contaminated soil.

Appendix I Additional Lead and Lead Safety Resource

Key Units of Measurement

Gram (g or gm): A unit of mass in the metric system. A nickel weighs about 1 gram, as does a 1 cube of water 1 centimeter on each side. A gram is equal to about 35/1000 (thirty-five thousandths of an ounce). Another way to think of this is that about 28.4 grams equal 1 ounce.

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

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

µg/ft² (micrograms per square feet): the unit used to express levels of lead in dust samples. All reports should report levels of lead in dust in µg/ft².

mg/cm² (milligrams per square centimeter): used to report levels of lead in paint thru XRF testing.

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

ppb (parts per billion): Typically used to express the amount of lead found in drinking water. This measurement is also sometimes expressed as: µg/L (micrograms per liter). EPA/HUD Lead-Based Paint and Lead-Based Paint Hazard Standards

Lead-Based Paint (may be determined in either of two ways)

- Surface concentration (mass of lead per area) 1.0 µg/cm²
- Bulk concentration (mass of lead per volume) 0.5%, 5000 µg/g, or 5000 ppm

Dust-thresholds for Lead-Contamination

- Floors 40 µg/ft²
- Interior Window Sills 250 µg/ft²
- Window Troughs (clearance examination only) 400 µg/ft²

Soil-thresholds for Lead Contamination

- Play areas (used by children under age 6) 400 µg/g, or 400 ppm
- Other areas 1200 µg/g, or 1200 ppm

Resources For Additional Information On Lead-Based Paint And Lead-Based Paint Hazards:

National Lead information Center & Clearinghouse: 1-800-424 LEAD

www.epa.gov/lead/pubs/nlic.htm

Centers for Disease Control and Prevention Lead Program: www.cdc.gov/lead Toll-free

CDC Contact Center: 800-CDC-INFO; TTY 888-232-6348

Consumer Product Safety Commission www.cpsc.gov Toll-free consumer hotline: 1-800-638-2772; TTY 301-595-7054

Environmental Protection Agency Lead Program: www.epa.gov/lead 202-566-0500

HUD Office of Healthy Homes and Lead Hazard Control: www.hud.gov/offices/lead 202-402-7698

Connecticut Department of Public Health, Lead Poisoning Prevention Program

<http://www.ct.gov/dph/>

Hearing- or speech-challenged individuals may access the federal agency numbers above through TTY by calling the toll-free Federal Relay Service at 800-877-8339; see also

<http://www.federalrelay.us/tty>.

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

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12/1/2014

**ASBESTOS PRE-RENOVATION INSPECTION
SITE #030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 1 OF 5**

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Attachments:

- Scope of Inspection Drawing(s) – 3 page(s)
- Asbestos Containing Material Location Drawing – 2 page(s)
- PLM Certificate of Analysis report with chain of custody - 8 page(s)
- Sample location drawing(s) - 3 page(s)

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File Location:

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**ASBESTOS PRE-RENOVATION INSPECTION
SITE #030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 2 OF 5**

INTRODUCTION

EXECUTIVE SUMMARY: Asbestos containing materials (ACM) were detected within the scope of this inspection and will need to be properly removed and disposed of prior to renovation that would disturb these materials. Abatement work must be done by a licensed asbestos abatement contractor using proper procedures and practices.

BUILDING DESCRIPTION: The subject building is a two-story, single family, residential structure totaling approximately 1200 sq ft, which was built in 1928 of wood-frame construction. The subject house was occupied at the time of our inspection. We understand the siding, gutters/downspouts, and some fencing have already been replaced after damage caused by hurricane Sandy in October of 2012. See attached drawings for detail.

BACKGROUND: We understand the subject house suffered damage as a result of hurricane Sandy on October 29-30, 2012. We understand the house suffered mainly from water and wind damage in relation to the storm and that the owner has already completed the following repairs: siding replacement, gutter/downspout replacement, and some fence replacement. We understand the scope of the renovations still to be completed as follows: Scope of work consists of; replacing/repairing front door and front windows, replacing of all flooring on 1st Floor, re-insulation of basement, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in basement.

SCOPE OF INSPECTION: Asbestos Pre-Renovation Inspection:

Our work included the following:

- Collection and analysis of building materials within the scope of renovation for asbestos, as directed by our client.
- A list with quantity, type and location of asbestos containing materials (ACM) in the scope.
- Report of the findings including ACM location drawings.

This investigation and information provided in this report depends partly on background information provided by the client. This report is intended for the use of the client. The scope of services performed may not be appropriate for other users and any use of this report by third parties is at their sole risk. This report is intended to be used in its entirety. No excerpts may be taken to be representative of this report.

Please note that during our site visit on 11/17/2014, our scope of work changed to include window replacement throughout the subject house as they were determined to contain defective lead based paint. Also the flooring replacement on the first floor was removed from the scope of renovations with the exception of the carpeting in CS-1 Living Room and CS-2 Living Room Closet. Samples were collected and analyzed from CS-3 Kitchen/Dining Room per the request of our client but are not in the scope of renovations at this time.

TEST PARAMETERS: This is an Asbestos Pre-Renovation Inspection intended to identify the presence, location, and quantity of any asbestos containing building materials which are part of the Renovation for compliance with OSHA 1926.1101 (k)(2)(i) and CT DPH 19a-332a-1 through 16.

For sampling, EPA Wet Methods are used to prevent fiber release. Building materials sampled are analyzed at our laboratory by EPA method 600/R-93/116. This is currently the approved EPA Test method, which uses Polarized Light Microscopy with Dispersion Staining. The laboratory is accredited by NIST/NVLAP and AIHA, Lab Accreditation, LLC, and is a Connecticut Approved Environmental Laboratory for Asbestos Analysis.

**ASBESTOS PRE-RENOVATION INSPECTION
SITE #030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 3 OF 5**

INSPECTION REPORT SYNOPSIS

LOCATION NAME AND ADDRESS: Site #030 (Serini) Application #1437
24 Elaine Road, Milford, CT

INSPECTION DATE(S): 11/17/2014.

QUALIFICATIONS: The Inspection was conducted by H. Leigh Honorof.

H. Leigh Honorof is certified as follows:

- State of Connecticut Licensed Asbestos Inspector (#000874)
- State of Connecticut Licensed Project Monitor (#000756)

For information about Chem Scope, Inc., log onto <http://www.chem-scope.com>.

SITE OBSERVATIONS: We met our client at the site. He showed us the area and provided some background information. The following observations were made:

- Windows had the following materials; window identifiers include the letter of the wall side, as shown in the attached drawings, and a number determined by numbering the windows on a wall counterclockwise.
 - On the first floor: A1 had white hard exterior glazing between glass and wood with dimensions of 2'x40". A2, A3, A4, B1 and B2 had white hard interior caulk between wood frame and window sash. B3, B4 and B5 had white pliable interior window caulk between wood frame and window sash. C2 had grey pliable foam interior insulation with clear glue between wood sill and wood sash. C3 had dimensions of 2'x40" and white hard caulking between the wood window frame and metal storm window sash, at interior. D1 and D2 had no glaze or caulk. D3 had clear pliable interior caulking between the wood sill and wood sash.
 - On the second floor: All windows accessible had measurements of 2' x 40" with white hard exterior window glazing between glass and wood. B4, C1, and D2 had grey fibrous interior insulation between wood frame and wood sash. B2 and B3 had grey pliable foam interior insulation with clear glue between wood frame and wood sash. B4 had white pliable caulking between wood sill and metal storm window sash. A1 and B1 had white hard caulking between wood sill and metal storm window sash.
- Windows had the following materials on the second floor:
- The dwelling was occupied. Three windows were inaccessible due to heavy obstructions: first floor window C1, second floor window D3, and second floor window B1.
- The flooring in CS-1 Living room was green carpet on white/blue/green floor tile on yellow hard mastic on wood. The walls were sheetrock and the ceilings were 12" ridged ceiling tile.
- The flooring in CS-2 Closet was red carpet on on white/blue/green floor tile on yellow hard mastic on wood. The walls were sheetrock and wood shingles, and the ceilings were wood.
- The flooring in CS-3 Kitchen/Dining Room was white hard 12" floor tile with green streaks on yellow glue on white hard floor tile on yellow glue on striped beige floor tile on yellow glue on wood. Walls were sheetrock and wood paneling, and ceilings were 12" white smooth ceiling tile. A wood baseboard was present.
- CS-4 Boiler room had wood floors, sheetrock and wood walls, and a fiberboard and wood ceiling.
- CS-5 Closet was wood on all surfaces. Bare metal ducts were present.
- CS-6 Storage had green marbled 12" floor tile, wood walls and ceilings, and a bare metal hot water tank.
- CS-7 Bath had blue/white geometric patterned 12" floor tile, sheetrock and wood panel walls, and a sheetrock ceiling.
- CS-8 Hall had green carpet flooring, wood panel walls, and a wood panel ceiling.
- CS-9 Bath had 12" white with beige streak floor tile, sheetrock and ceramic walls, and 12" smooth white ceiling tile.
- CS-10 Bedroom 3 and CS-11 Bedroom 2 had brown carpet on wood flooring, wood walls, and wood ceilings.
- CS-12 Bedroom 1 had wood floors and ceilings and sheetrock and fiberglass walls.
- The full unfinished basement had access from outside the house. It had a dirt floor and wood beams, walls and ceiling. Some paper remains on the ceiling from absent fiberglass insulation.

ASBESTOS PRE-RENOVATION INSPECTION
SITE #030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 4 OF 5

INSPECTION REPORT SYNOPSIS (CONT)

FINDINGS: The following asbestos containing materials (ACM) were detected in the Scope of the Inspection:

MATERIAL	LOCATION	~FOOTAGE
White/blue/green streaked floor	1 st Floor CS-1 Living Room	245 sq ft
Tile* (under carpet, on yellow hard Mastic on wood)	1 st Floor CS-2 Closet	50 sq ft
White hard exterior window glazing (between glass and wood)	2 nd Floor Windows	70 lin ft
	1 st Floor CS-2 Closet Window A1	7 lin ft
	CS-3 Kitchen Window C-1 **	7 lin ft
White hard caulking (between wood sill And metal storm window sash/between Wood window frame and metal storm Window sash, At interior)	2 nd Floor Windows in CS-12**	30 lin ft
	1 st Floor CS-7 Bathroom Window	7 lin ft
	CS-3 Kitchen Window C-1 **	7 lin ft

Total: 295 sq ft + 128 lin ft

*The flooring inspection was only conducted in CS-1, CS-2, and CS-3; therefore square footage estimates of ACM floor tile in the entire building may be low.

**Includes assumed ACM due to inaccessibility during inspection.

The following is a summary table of the materials that tested as non-Asbestos Containing Material (ACM) (<1%) within the Scope of Work:

Material	Location	Sample #'s	Findings
Brown fibrous paper (remnant from fiberglass insulation)	Basement	187-210-1, 2	No Asbestos Detected
Yellow hard mastic (from under white/blue/green streaked floor tile, on wood)	CS-1 Living Room CS-2 Closet	187-210-5, 6	No Asbestos Detected
White hard 12" floor tile with green streaks on yellow glue (on white hard floor tile on yellow glue on striped beige floor tile on yellow glue on wood)	CS-3 Kitchen	187-210-7, 8	No Asbestos Detected
White hard floor tile on yellow glue (from under #7/8)	CS-3 Kitchen	187-210-9, 10	No Asbestos Detected
Striped beige floor tile on yellow glue (from under #9/10)	CS-3 Kitchen	187-210-11, 12	No Asbestos Detected
White pliable interior window caulk (between wood frame and wood sash)	CS-3 Kitchen, Window B3/B5	187-210-16, 17	No Asbestos Detected
White hard interior window caulk (between wood frame and wood sash)	CS-1 Living Room, Window A2	187-210-18, 19	No Asbestos Detected
Grey fibrous interior insulation (between wood frame and wood sash)	CS-10 Bedroom 3 Window B4, CS-8 Hall Window D	187-210-20, 21	No Asbestos Detected
Grey pliable foam interior insulation with clear glue (between wood sill and wood sash)	CS-11 Bedroom 2 Window B2, CS-6 Storage	187-210-22, 23	No Asbestos Detected
Clear pliable interior caulking (between wood sill and wood sash)	First Floor Stairs	187-210-24, 25	No Asbestos Detected
White pliable caulking (between wood sill and metal storm window sash)	CS-10 Bedroom 3 Window B4	187-210-26, 27	No Asbestos Detected

**ASBESTOS PRE-RENOVATION INSPECTION
SITE #030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 5 OF 5**

LIMITATIONS OF INSPECTION

It is important to note that every effort is made to detect asbestos (ACM) in the path of the renovation by our inspectors. It is not practical or prudent to demolish the entire work area during an inspection. The owner should be aware of this in case suspect materials or concealed suspect materials are uncovered during the actual renovation. If suspect materials that were previously not accessible or not sampled during this inspection are discovered during the renovation, or if the scope of the renovation changes to include disturbance of new materials not inspected, then renovation must stop and the materials must be sampled by a CT DPH licensed asbestos inspector prior to disturbance of these materials.

RECOMMENDATIONS

All Asbestos Containing Materials (ACM) detected in the path of the inspection must be removed prior to the disturbance of these materials.

OSHA regulations (1926.1101) require that proper procedures are used to prevent exposure to workers performing the renovations. This includes training and protection for employees who may be exposed above the OSHA PEL. "(c)....The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA)...." It may also be prudent to provide additional critical barriers and HEPA filtered negative air machines in the area during the disturbance of the materials containing <1% asbestos.

OSHA regulations also require that before asbestos removal or repair work (class I, II or III work) is initiated, building owners/facility owners must notify their own employees and employers who are bidding on such work, of the quantity and location of ACM or PACM (presumed asbestos containing material) present in such areas. Also for inadvertently discovered ACM or PACM there is a 24-hour notification requirement to the owner and all employers at the site.

Disposal of all ACM is regulated by EPA and the Connecticut DEEP; an EPA approved landfill must be used.

See separate Asbestos Pre-renovation Inspection report, Mold Assessment report, and Radon Air Sampling report for additional details.

If you have any questions or need more information please call me. Thank you for calling on us.

Sincerely,

Leigh Honorof

Asbestos Inspector

Certificate Of Analysis

*Diversified Technology Consultants (DTC) - Scott Feulner
2321 Whitney Avenue
Suite 301
Hamden CT 06518*

*11/24/2014
CS#: 187-210
Page 1 of 6*

Bulk sample(s) from Site #030 (Serini) - Application #1437, 24 Elaine Road, Milford, CT collected by Leigh Honorof on 11/17/2014

Asbestos Identification in the samples. Examination made by Polarized Light Microscopy (PLM) per EPA Test Method 600/R-93/116

Sample Identification

187-210-1 Brown fibrous paper (remnant from fiberglass insulation)/Basement

Findings (Analyzed 11/24/2014)

*No Asbestos Detected
6% Non Fibrous Particles
8% Mineral Wool
86% Volatile on Ignition*

187-210-2 Brown fibrous paper (remnant from fiberglass insulation)/Basement

*No Asbestos Detected
3% Non Fibrous Particles
4% Mineral Wool
93% Volatile on Ignition*

187-210-3 White/blue/green streaked floor tile (under carpet, on yellow hard mastic on wood)/First Floor - CS-1 Living Room

*7% Chrysotile Asbestos
61% Non Fibrous Particles
32% Volatile on Ignition*

187-210-4 White/blue/green streaked floor tile (under carpet, on yellow hard mastic on wood)/First Floor - CS-2 Closet

Not Analyzed

187-210-5 Yellow hard mastic (from sample #3)/First Floor - CS-1 Living Room

*No Asbestos Detected
40% Non Fibrous Particles
60% Volatile on Ignition*

Bulk sample(s) from Site #030 (Serini) - Application #1437, 24 Elaine Road, Milford, CT collected by Leigh Honorof on 11/17/2014

Asbestos Identification in the samples. Examination made by Polarized Light Microscopy (PLM) per EPA Test Method 600/R-93/116

Sample Identification

Findings (Analyzed 11/24/2014)

187-210-6 Yellow hard mastic (from sample #4)/First Floor - CS-2 Closet

No Asbestos Detected
47% Non Fibrous Particles
53% Volatile on Ignition

187-210-7 White hard 12" floor tile with green streaks on yellow glue (on white hard floor tile on yellow glue on striped beige floor tile on yellow glue on wood)/First Floor - Kitchen

No Asbestos Detected
79% Non Fibrous Particles
21% Volatile on Ignition

187-210-8 White hard 12" floor tile with green streaks on yellow glue (on white hard floor tile on yellow glue on striped beige floor tile on yellow glue on wood)/First Floor - Kitchen

No Asbestos Detected
78% Non Fibrous Particles
22% Volatile on Ignition

187-210-9 White hard floor tile on yellow glue (from under #7)/First Floor - Kitchen

No Asbestos Detected
72% Non Fibrous Particles
28% Volatile on Ignition

187-210-10 White hard floor tile on yellow glue (from under #8)/First Floor - Kitchen

No Asbestos Detected
72% Non Fibrous Particles
28% Volatile on Ignition

187-210-11 Striped beige floor tile on yellow glue (from under #9)/First Floor - Kitchen

No Asbestos Detected
72% Non Fibrous Particles
28% Volatile on Ignition

187-210-12 Striped beige floor tile on yellow glue (from under #10)/First Floor - Kitchen

No Asbestos Detected
67% Non Fibrous Particles
33% Volatile on Ignition

Bulk sample(s) from Site #030 (Serini) - Application #1437, 24 Elaine Road, Milford, CT collected by Leigh Honorof on 11/17/2014

Asbestos Identification in the samples. Examination made by Polarized Light Microscopy (PLM) per EPA Test Method 600/R-93/116

Sample Identification

Findings (Analyzed 11/24/2014)

187-210-13 White hard exterior window glazing (between glass and wood)/Second Floor, CS-10, Window B4

17% Chrysotile Asbestos
66% Non Fibrous Particles
17% Volatile on Ignition

187-210-14 White hard exterior window glazing (between glass and wood)/Second Floor, CS-12, Window A1

No Asbestos Detected
89% Non Fibrous Particles
11% Volatile on Ignition

187-210-15 White hard exterior window glazing (between glass and wood)/First Floor, CS-2 Closet, Window A1

No Asbestos Detected
82% Non Fibrous Particles
18% Volatile on Ignition

187-210-16 White pliable interior window caulk (between wood frame and wood sash)/First Floor, Kitchen, Window B3

No Asbestos Detected
45% Non Fibrous Particles
55% Volatile on Ignition

187-210-17 White pliable interior window caulk (between wood frame and wood sash)/First Floor, Kitchen, Window B5

No Asbestos Detected
75% Non Fibrous Particles
25% Volatile on Ignition

187-210-18 White hard interior window caulk (between wood frame and wood sash)/First Floor, CS-1 Living Room, Window A2

No Asbestos Detected
78% Non Fibrous Particles
22% Volatile on Ignition

187-210-19 White hard interior window caulk (between wood frame and wood sash)/First Floor, CS-1 Living Room, Window A2

No Asbestos Detected
78% Non Fibrous Particles
22% Volatile on Ignition

Bulk sample(s) from Site #030 (Serini) - Application #1437, 24 Elaine Road, Milford, CT collected by Leigh Honorof on 11/17/2014

Asbestos Identification in the samples. Examination made by Polarized Light Microscopy (PLM) per EPA Test Method 600/R-93/116

Sample Identification

Findings (Analyzed 11/24/2014)

187-210-20 Grey fibrous interior insulation (between wood frame and wood sash)/Second Floor, CS-10, Window B4

No Asbestos Detected
11% Non Fibrous Particles
89% Volatile on Ignition

187-210-21 Grey fibrous interior insulation (between wood frame and wood sash)/Second Floor, CS-8 Hall, Window D

No Asbestos Detected
12% Non Fibrous Particles
88% Volatile on Ignition

187-210-22 Grey pliable foam interior insulation with clear glue (between wood frame and wood sash)/Second Floor, CS-11, Window B2

No Asbestos Detected
27% Non Fibrous Particles
73% Volatile on Ignition

187-210-23 Grey pliable foam interior insulation with clear glue (between wood sill and wood sash)/First Floor, CS-6

No Asbestos Detected
41% Non Fibrous Particles
59% Volatile on Ignition

187-210-24 Clear pliable interior caulking (between wood sill and wood sash)/First Floor, Stairs

No Asbestos Detected
9% Non Fibrous Particles
91% Volatile on Ignition

187-210-25 Clear pliable interior caulking (between wood sill and wood sash)/First Floor, Stairs

No Asbestos Detected
7% Non Fibrous Particles
93% Volatile on Ignition

187-210-26 White pliable caulking (between wood sill and metal storm window sash)/Second Floor, CS-10, Window B4

No Asbestos Detected
46% Non Fibrous Particles
54% Volatile on Ignition

Bulk sample(s) from Site #030 (Serini) - Application #1437, 24 Elaine Road, Milford, CT collected by Leigh Honorof on 11/17/2014

Asbestos Identification in the samples. Examination made by Polarized Light Microscopy (PLM) per EPA Test Method 600/R-93/116

Sample Identification

Findings (Analyzed 11/24/2014)

187-210-27 White pliable caulking (between wood sill and metal storm window sash)/Second Floor, CS-10, Window B4

*No Asbestos Detected
46% Non Fibrous Particles
54% Volatile on Ignition*

187-210-28 White hard caulking (between wood sill and metal storm window sash)/Second Floor, CS-12, Window A1

*17% Chrysotile Asbestos
67% Non Fibrous Particles
16% Volatile on Ignition*

187-210-29 White hard caulking (between wood window frame and metal storm window sash, at interior)/First Floor, CS-7

*16% Chrysotile Asbestos
62% Non Fibrous Particles
22% Volatile on Ignition*

**PARAMETERS
ASBESTOS PLM ANALYSIS
(Revised 3/22/13)**

1. *Materials which contain >1% asbestos (greater than 1%) by PLM (polarizing light microscopy) analysis are considered to be asbestos containing materials under EPA and the State of Connecticut Regulations. OSHA still regulates material with <1%. (Contact laboratory for information.) {Note: A more sensitive method is available called TEM (transmission electron microscopy). TEM may detect asbestos fibers that PLM cannot see, but the above agencies' enforcement is based on PLM analysis. Rules may differ for states other than Connecticut. It is best to check with the individual state. For example, New York State requires TEM confirmation of negative PLM results on floor tile}.*
2. *If no asbestos is detected in a sample, or if the asbestos content is less than 1% by PLM, additional samples of the same material should be submitted for confirmation. Please check with the laboratory for guidance on the number of samples needed. Sample collection in Connecticut must be by a DPH Licensed Asbestos Inspector. Many other states also require licensing.*
3. *Floor Tile Mastic: Mastic under floor tile should be separately sampled by scraping some of the mastic from the floor to avoid contamination from the floor tile.*
4. *Although Chem Scope, Inc. takes great effort to insure accuracy in the estimation of asbestos in the materials analyzed, no quantitation method is without some uncertainty. Based on independent calibration studies and comparison of Chem Scope's quantitative results with NVLAP and AIHA round robin programs we estimate our uncertainty in quantitation to be relatively small. The average relative uncertainty of the estimate is calculated to be 35% for samples that contain less than 10% asbestos. This means a estimate of 10% asbestos in a sample has a probable range of 6.5% to 13.5% while an estimate of 1% has a range of 0.65% to 1.35%.*
5. *The presence of non-asbestos components, which are recognized by the PLM analyst, is reported with the estimated amounts. This is not an exhaustive analysis for the non-asbestos materials since the primary purpose is to determine if asbestos is present and, if so, how much is present of each type of asbestos.*
6. *Results reported apply only to the sample(s) analyzed.*
7. *Special treatment of samples: Chem Scope, Inc. routinely uses gravimetric sample reduction techniques such as low temperature ashing or acid dissolution on samples like floor tile, roofing materials, glue dots, or high cellulose content samples prior to PLM analysis. These methods are used to aid in the PLM analysis and to provide better quantitative data. Layered samples, if possible, are analyzed separately as individual layers. However, in accordance with the method, if any layer contains >1% asbestos (greater than 1%) it is to be considered an asbestos containing material. All results are reported to the original sample basis.*
8. *Sample results are not corrected for blanks. Analytical blanks are run daily and if contamination is suspected the samples are rerun.*
9. *Chem Scope, Inc. performs "400 point" point counting when the asbestos content is visually estimated to be less than 10%. There is no additional charge for this analysis.*

The Scope of Accreditation referenced in this report applies to bulk asbestos fiber analysis by PLM (Polarized Light Microscopy).

Accreditation does not imply endorsement by NVLAP, NIST or any Federal or State Agency.

This report pertains only to the samples tested and may not be reproduced in part.

Condition of the samples at the time of receipt was acceptable unless otherwise noted on the Certificate of Analysis.

See test parameters above and attached chain of custody form.

We would love to hear from you. Comments? Questions? Please call or email us at chem.scope@snet.net

ChemScope, Inc. is accredited by AIHA LAP, LLC LAB #100134

NVLAB Lab Code 101061-0.

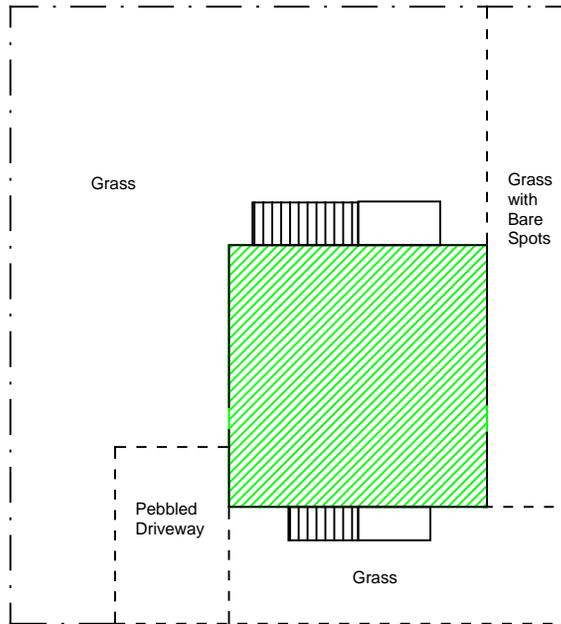
Connecticut Department of Public Health (DPH) Approval Environmental Lab PH 0581

Signature	Signature (if applicable)	Authorized Signature or Authorized Signature or Authorized Signature		
Analyst	Inspector	Suzanne Cristante Laboratory Director	Izabela Kremens Quality Manager	Ronald D. Arena President

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
Basement and Exterior
 SCOPE OF INSPECTION DRAWING

SIDE C

SIDE B



SIDE A

ELAINE ROAD



LEGEND OF SYMBOLS

 Scope of Inspection

NOTATIONS

 Fence

 Ground Cover Change

DRAWN BY: KAYLA CARNES/LEIGH HONOROF

ChemScope Inc.

BASEMENT & EXTERIOR

SHEET TITLE:

**LEAD/MOLD/ASBESTOS
 RADON INSPECTION**
 24 ELAINE ROAD
 MILFORD, CT

EXAMINER NUMBER:
187-210

DRAWING NUMBER:

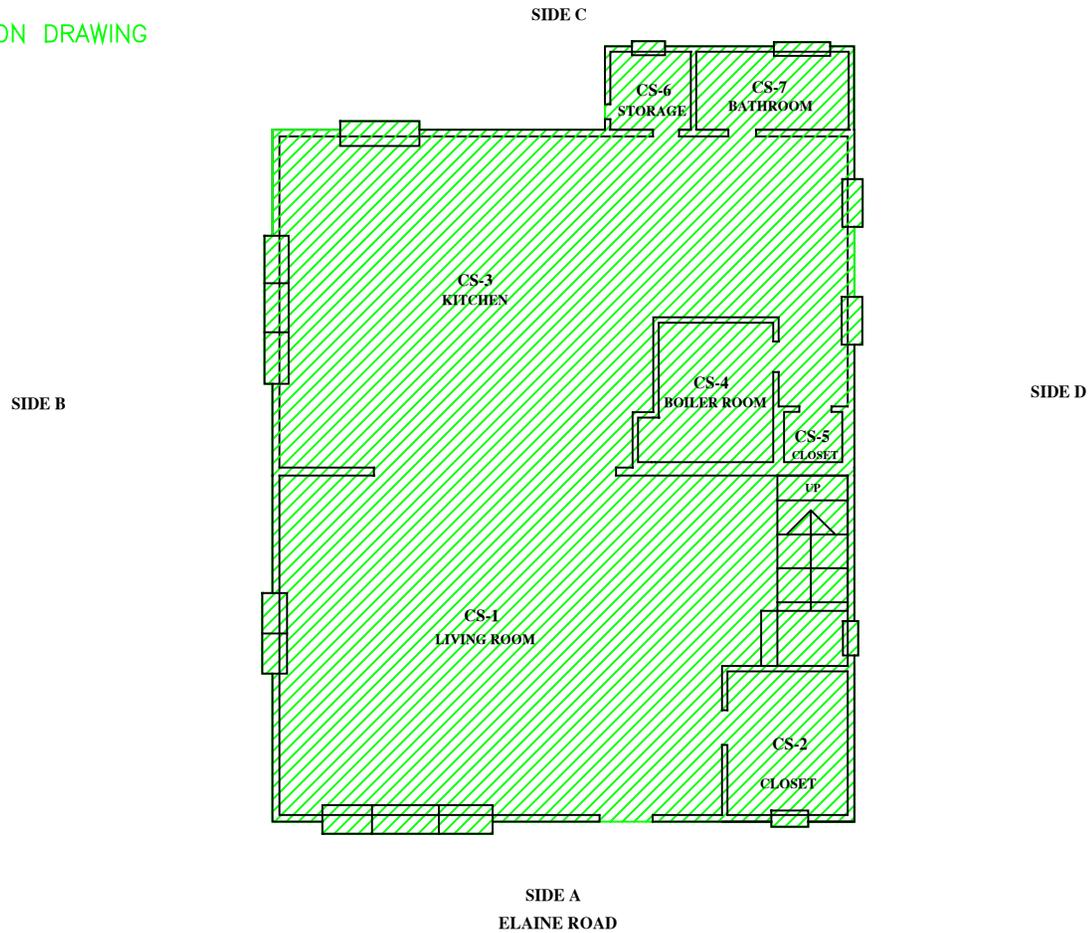
NOT TO SCALE

DATE:
11/17/14

3

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 First Floor

SCOPE OF INSPECTION DRAWING



LEGEND OF SYMBOLS

 Scope of Inspection

NOTATIONS

TOTAL SQUARE FEET = 1218
 CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES/LEIGH HONOROF

ChemScope Inc.

FIRST FLOOR

DATE: 11/17/14

LEAD/MOLD/ASBESTOS
 RADON INSPECTION

24 ELAINE ROAD
 MILFORD, CT

CHARACTER NUMBER
 187-210

NOT TO SCALE

DATE
 11/17/14

1

ChemScope Inc.

Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

Second Floor

SCOPE OF INSPECTION DRAWING



LEGEND OF SYMBOLS

Scope of Inspection

NOTATIONS

TOTAL SQUARE FEET = 1218
CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES/LEIGH HONOROF

ChemScope Inc.

PLAN
SECOND FLOOR

LEAD/MOLD/ASBESTOS
RADON INSPECTION

24 ELAINE ROAD
MILFORD, CT

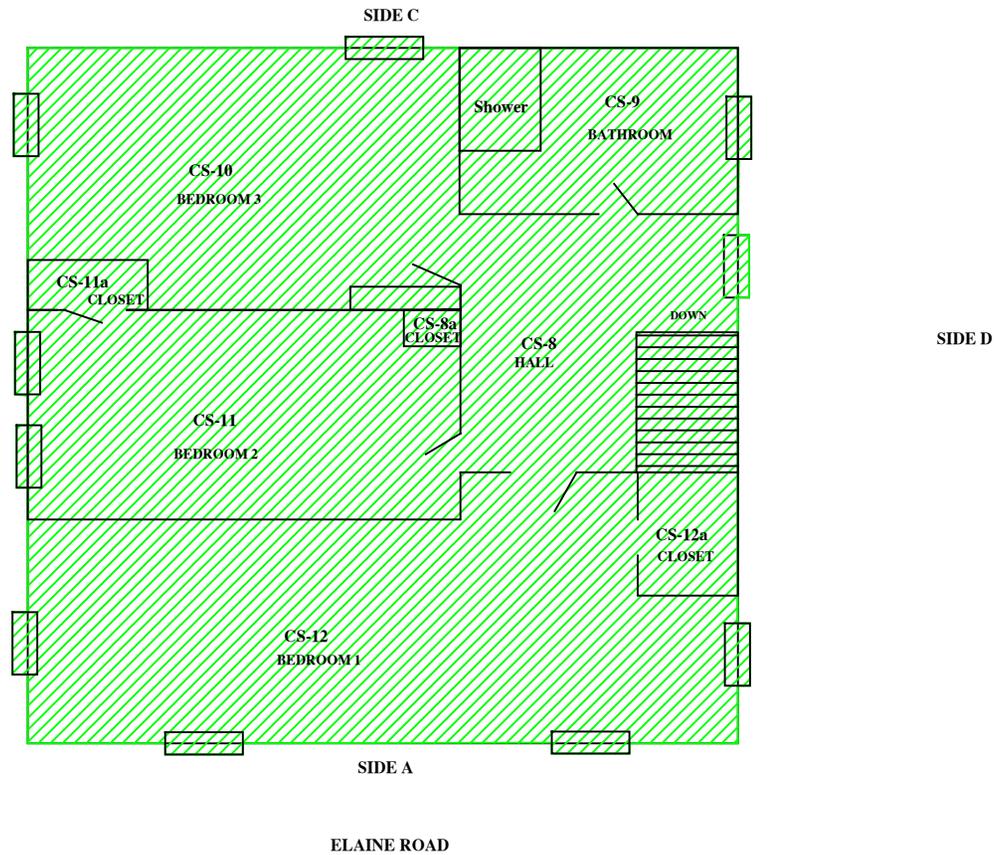
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187-210

NOT TO SCALE

DATE
11/17/14

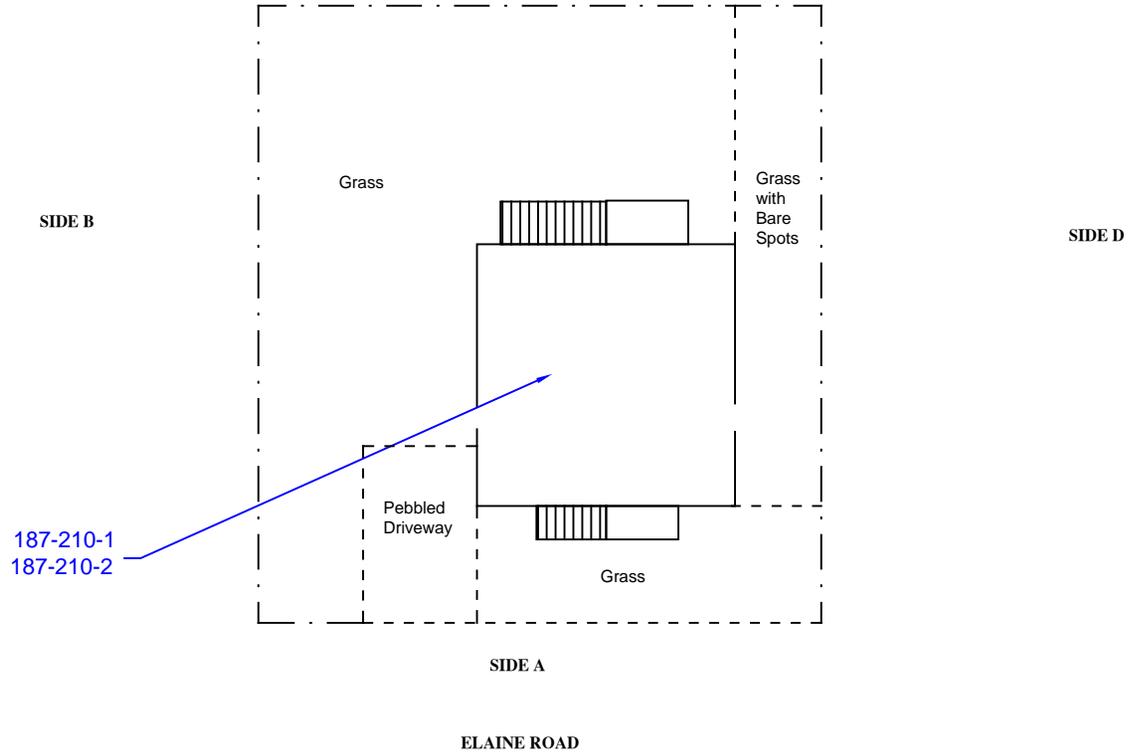
DRAWING NUMBER

2



ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior
 BULK SAMPLE LOCATION DRAWING

SIDE C



LEGEND OF SYMBOLS	
#	Bulk Sample No.

NOTATIONS	
	Fence
	Ground Cover Change

DRAWN BY: KAYLA CARNES/LEIGH HONOROF

ChemScope Inc.

BASEMENT & EXTERIOR

LEAD/MOLD/ASBESTOS
 RADON INSPECTION
 24 ELAINE ROAD
 MILFORD, CT

CHEMSCOPE NUMBER: 187-210	DRAWING NUMBER: 3
NOT TO SCALE	
DATE: 11/17/14	

ChemScope Inc.

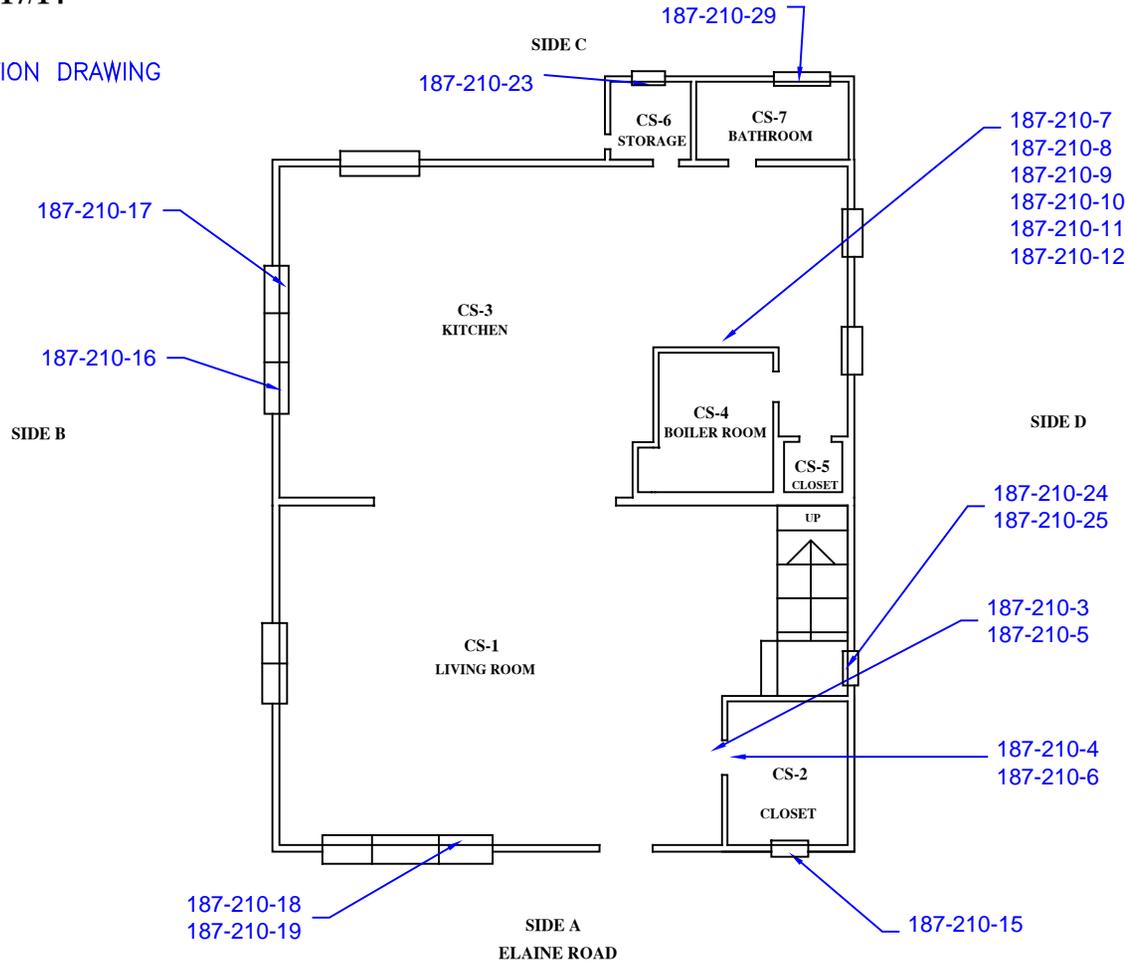
Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

First Floor

BULK SAMPLE LOCATION DRAWING



LEGEND OF SYMBOLS

#	Bulk Sample No.

NOTATIONS

TOTAL SQUARE FEET = 1218
 CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES/LEIGH HONOROF

ChemScope Inc.

FIRST FLOOR

DATE TITLE

LEAD/MOLD/ASBESTOS
 RADON INSPECTION

24 ELAINE ROAD
 MILFORD, CT

CLIENT NUMBER
 187-210

NOT TO SCALE

DATE
 11/17/14

DRAWING NUMBER

1

ChemScope Inc.

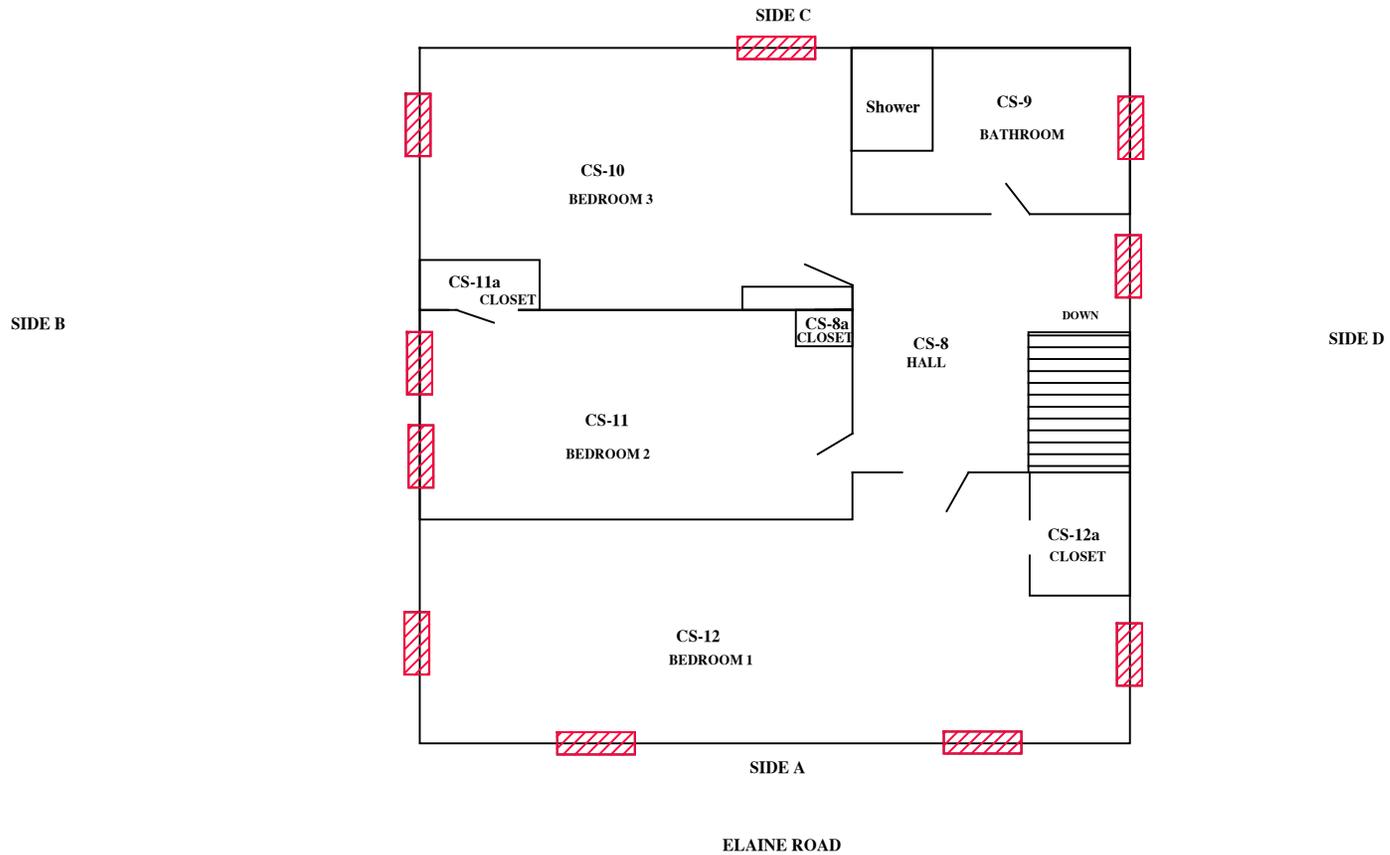
Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

Second Floor

ACM LOCATION DRAWING



LEGEND OF SYMBOLS

ACM Location
See Report for Details

NOTATIONS

TOTAL SQUARE FEET = 1218
CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES/LEIGH HONOROF

ChemScope Inc.

PLAN
SECOND FLOOR

LEAD/MOLD/ASBESTOS
RADON INSPECTION

24 ELAINE ROAD
MILFORD, CT

CHARACTER NUMBER
187-210

NOT TO SCALE

DATE
11/17/14

DRAWING NUMBER

2

ChemScope Inc.

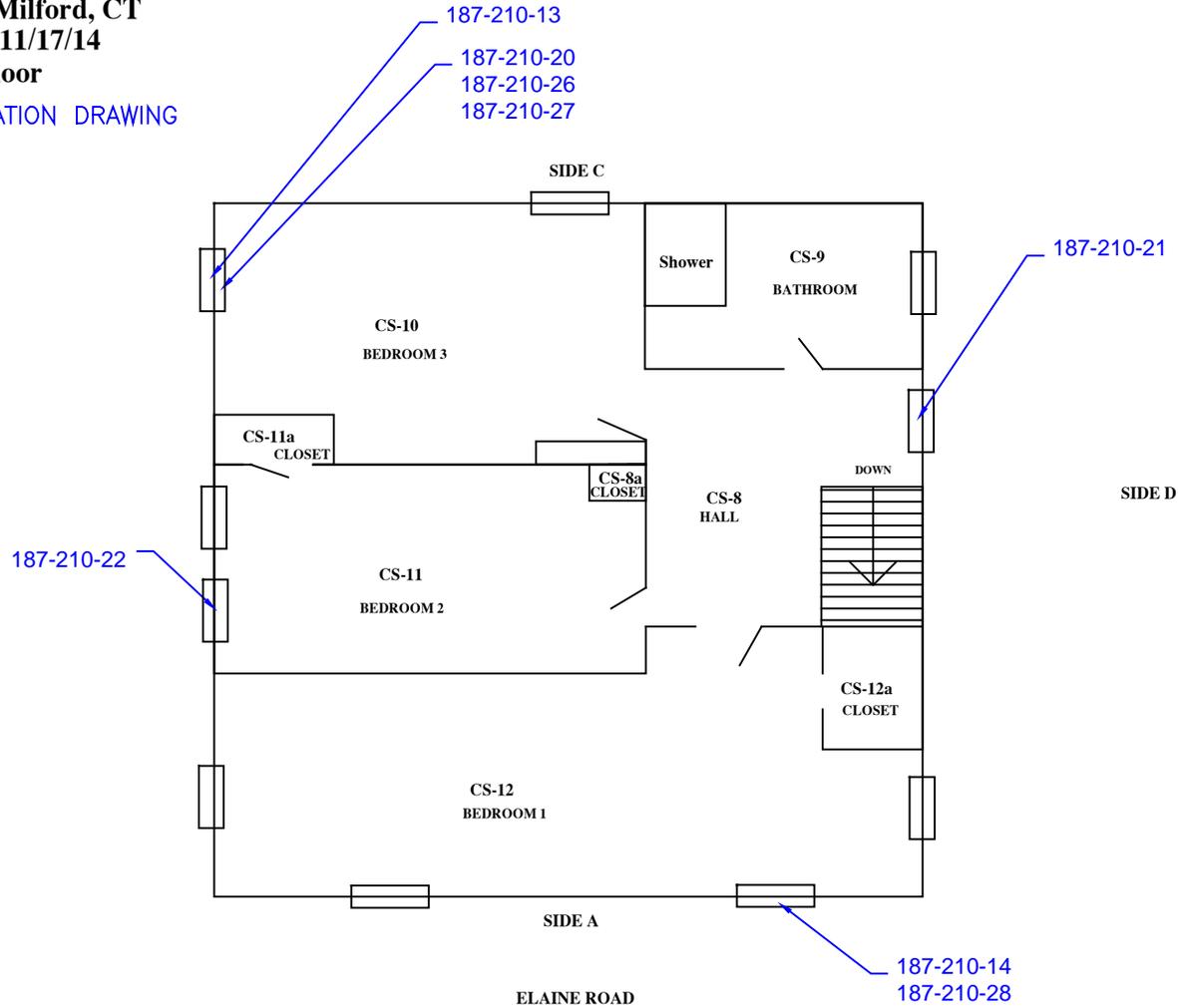
Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

Second Floor

BULK SAMPLE LOCATION DRAWING



LEGEND OF SYMBOLS

Bulk Sample No.

NOTATIONS

TOTAL SQUARE FEET = 1218
CONSTRUCTION YEAR = 1928

DRAWN BY: KAYLA CARNES/LEIGH HONOROF

ChemScope Inc.

PLAN
SECOND FLOOR

LEAD/MOLD/ASBESTOS
RADON INSPECTION

24 ELAINE ROAD
MILFORD, CT

CHARACTER NUMBER
187-210

NOT TO SCALE

DATE
11/17/14

DRAWING NUMBER

2

ASBESTOS REMOVAL TECHNICAL SPECIFICATIONS

SERINI RESIDENCE

SITE 030 – 24 ELAINE ROAD, MILFORD, CT

APPLICATION #1437

DECEMBER 2014

Prepared by



Daniel P. Sullivan

Accredited Asbestos Abatement Project Designer,
State of Connecticut, USEPA

Certificate # PD-001-382 Chem Scope Training Division

Licensed Asbestos Consultant, State of Connecticut DPH,
Project Designer License # 000096, Validation # 03-790804

Chem Scope, Inc.
15 Moulthrop St
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

CERTIFICATION NO.
000096
CURRENT THROUGH
04/30/15
VALIDATION NO.
03-790804

DANIEL P. SULLIVAN


SIGNATURE


COMMISSIONER

CERT# PD-001 - 382

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

**Daniel P. Sullivan
15 Moulthrop Street , North Haven CT**

Has attended an 8 hour course on the subject discipline on
02/27/2014 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: 02/27/2014

Expiration Date: 02/27/2015

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



Ronald D. Arena or Brian Santos
Training Director Training Manager

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

Section 020800

TABLE OF CONTENTS

TABLE OF CONTENTS

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PART 1	2	BACKGROUND INFORMATION
PART 2	3-5	SCOPE OF WORK
PART 3	6-7	SCOPE OF WORK ADDITIONAL DETAILS
PART 4	8-18	DIVISION 1: ASBESTOS REMOVAL
PART 5	19-22	DEFINITIONS
PART 6	23	LIST OF DRAWINGS
ATTACHED	24	APPENDIX A ASBESTOS PRE-RENOVATION INSPECTIONS (21 PAGES)

PART 1 - BACKGROUND INFORMATION

1.1 REASON FOR THE WORK:

- A. The asbestos removal at this facility is being done to accommodate the planned renovation to repair storm damage. The scope of the renovations involves:
 - 1. Based on the storm damage the following items are scheduled for removal and replacement: replacing/repairing front door and front windows, replacing of living room carpet on 1st Floor, re-insulation of basement, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in basement. Based on Chem Scope's Asbestos Pre-Renovation Inspection report (attached, CS#187-210, dated 12/1/2014), Asbestos Containing Materials (ACM) will need to be abated.

1.2 BUILDING DESCRIPTION:

- A. The subject building is a two-story, single family, residential structure totaling approximately 1200 sq ft, which was built in 1928 of wood-frame construction. The subject house was occupied at the time of our inspection. We understand the siding, gutters/downspouts, and some fencing have already been replaced after damage caused by hurricane Sandy in October of 2012. The house has ACM floor tile on the first floor which is scheduled to remain and must not be disturbed by any of the renovation work. See attached Asbestos Pre-Renovation Inspection report for details. See attached drawings for detail.

PART 2 - ASBESTOS SCOPE OF WORK

2.1 BASIC SERVICES:

- A. Asbestos work areas are listed in Schedule A.
- B. Examine all conditions, as they exist at the work site prior to submitting a bid for the work of this Section. Where amounts or quantities are given these amounts or quantities have been estimated. Contractor shall have no claim as to added work as the result of accepting said estimates. Contractor is required to verify quantities on site and report any discrepancies no later than seven (7) calendar days before the bid due date or to accept the amounts or quantities to be correct as herein stated.
- C. Furnish all labor, materials, and services for the removal and disposal of all specified asbestos-containing material (ACM) located at the subject site. The asbestos removal to be performed will be as needed to support the renovation activities. All work shall be coordinated by the Contractor. If the drawings or specifications should provide a contradiction, the most stringent information or requirement shall apply, as determined by the Engineer. All ACM detected in the path of the renovation must be removed prior to the renovation of the subject building. Except where noted, perform incidental demolition to access materials to be removed where removal is indicated.
- D. Engineer shall retain an Industrial Hygiene firm, with a State of Connecticut Licensed Project Monitor (PM) that shall be designated as the authorized representative of the Owner for purposes of monitoring the asbestos removal work. The level of monitoring shall be at the discretion of the Engineer. The Contractor will regard the PM's direction as authoritative and binding as provided herein, in matters particularly but not limited to approval of work areas and final completion of the removal. Final visual inspection will be conducted by a CT DPH Licensed Project Monitor for all removal work completed.
- E. Any deviation from these specifications requires the written approval and authorization from the Owner and the Engineer.
- F. Contractor is responsible for proper disposal of all ACM wastes.
- G. Quantities given either in this specification are estimated; The Contractor is responsible for accepting the quantities or measuring them to his satisfaction. The Contractor shall have no claim as to added work as the result of accepting said measurements or other stated conditions. The Contractor shall report any discrepancies to the Owner and to the Engineer or accept the amounts or quantities to be correct as herein stated.

- H. All replacement materials will be put in by others. Only non-asbestos replacement materials can be used.
- I. Refer to drawings appended where work locations are shown schematically.
- J. In the event of disagreement between drawings and the specification, the specification shall take precedence.
- K. The Work of this Project Design is to be done in accordance with applicable regulations and these specifications. Where this design and regulations disagree, the strictest requirements shall be observed.

2.2 DETAILED SCOPE OF WORK:

- A. The Contractor shall refer to the Asbestos Pre-Renovation Inspection Report in Appendix A of these Specifications and the instructions to follow.
- B. This Section specifies the requirements for the removal of ACM at the Work Site.
- C. Remove all ACM window components as delineated in Schedule A. The quantities (if given) of these materials in Schedule A are approximate. In all cases before removal, review the General Contractor's latest plans before doing any demolition to insure that materials to remain are not demolished.
- D. For the ACM window glazing: If the abatement contractor is able to remove the windows with the ACM window glazing by removing window stops and removing the entire window sash intact, then the removal does not constitute asbestos abatement as defined by Section 19a-332 of the Connecticut General Statutes. In this case, the window glazing must be undamaged and non-friable and remain undamaged and non-friable during the removal. (See enclosed DPH Circular Letter #2003-10). If it is determined that the window sashes/frames with ACM glazing will not be removed intact, then the abatement work must be done by a licensed asbestos abatement contractor using proper procedures and practices. In either case, the ACM must be disposed of in an EPA Approved Landfill for asbestos.
- E. At the time of the pre-renovation inspection all of the first floor flooring was scheduled to be removed. Since the living room carpet is on furring strips, the carpet can be removed without disturbing the floor tile beneath it. There is approximately 300 sq ft of ACM flooring on the first floor, which is scheduled to remain and is no longer in the scope of work.
- F. All work must be done in accordance with the work outlined in the Lead Abatement Specifications as the window sashes and other interior and exterior components have been found to contain lead based paint. See Separate Lead Abatement Specifications for details.

2.3 SCHEDULE A:

MATERIAL	LOCATION	AMOUNT
INTERIOR:		
White hard caulking (between wood sill And metal storm window sash/between Wood window frame and metal storm Window sash, At interior)	2nd Floor Windows in CS-12	30 lin ft (1.2 sq ft)
	1st Floor CS-7 Bathroom Window	7 lin ft (0.3 sq ft)
	CS-3 Kitchen Window C-1	7 lin ft (0.3 sq ft)
	Total	44 lin ft (2 sq ft)
EXTERIOR:		
White hard exterior window glazing (between glass and wood)	2 nd Floor Windows	70 lin ft (2.9 sq ft)
	1 st Floor CS-2 Closet Window A1	7 lin ft (0.3 sq ft)
	CS-3 Kitchen Window C-1	7 lin ft (0.3 sq ft)
	Total	84 lin ft (3.5 sq ft)

IMPORTANT NOTE: The house has **ACM floor tile** (under carpet and possibly other surfaces) on the first floor, which is scheduled to remain and must not be disturbed by any of the renovation work. See attached Asbestos Pre-Renovation Inspection report for details.

END 2.3 SCHEDULE A

PART 3 - ADDITIONAL DETAILS OF EXECUTION OF WORK

3.1 GENERAL INSTRUCTIONS:

Work will be executed according to the preceding instructions in the general section of this Specification except as modified by instructions under this section as follows:

- A. Pre-existing damage to any equipment, fixture or surface in the area must be documented with narrative and photographs before the work by the Contractor and verified by the owner before project start.
- B. The use of combustion engine driven equipment inside the building is prohibited, unless used with additional engineering controls such as a catalytic converter and carbon monoxide monitoring. Any needed carbon monoxide monitoring shall be provided by the Contractor.
- C. The subject house's supply water at taps may be turned off prior to the work, if so the General Contractor will provide an adequate water supply for the work.
- D. The General Contractor will be responsible for providing temporary power as needed at reasonable locations.
- E. Protect all surfaces and equipment against damage. The Contractor shall be responsible for repairing any damage or marring caused to surfaces or equipment except surfaces to be abated. Clean all marks from surfaces left by glue, duct tape or otherwise restore and refinish, if necessary to restore surfaces.
- F. See schematic drawings appended. In the event of disagreement between drawings and the specification, the specification shall take precedence.
- G. Perform related work to access the window glazing materials to be removed including any necessary demolition.
- H. The Contractor is responsible for proper disposal of all wastes.
- I. The replacement windows will be done by others. **Use only Asbestos-free replacement materials.**

3.2 REMOVAL USING NEGATIVE PRESSURE MINI-ENCLOSURE PROCEDURES (IF THE SASHES CANNOT BE REMOVED WITH THE GLAZING INTACT)

- A. This method pertains to the removal of < 3 sq ft of window glazing from exterior windows using the ventilated mini-enclosure technique.
- B. Removal Procedure:
1. Prepare the Work Area as an OSHA regulated area, excluding unauthorized personnel from the immediate area and installing warning signs.
 2. Asbestos laborers involved in the negative pressure enclosure procedure shall wear two disposable suits, including gloves, hood and footwear, and respiratory protection in accordance with regulatory guidance. All street clothes shall be removed and stored in a Clean Room within the work site. The double layer disposable suit shall be worn during the installation of the negative pressure enclosure and throughout the procedure if a decontamination unit with a shower is not contiguous to the Work Area. If a decontamination unit (with Shower and Clean Room) is contiguous to the Work Area, only one layer of disposable personal protective equipment shall be required.
 3. No disturbance of ACM shall occur during installation of the mini-enclosure. This is a single use device that shall not be reused once dismantled or collapsed. The negative pressure enclosure shall be constructed of 6-mil plastic sheeting supported as necessary or secured to existing finishes, with seams double-folded, stapled and taped airtight and then taped flush with the adjacent negative pressure enclosure wall.
 4. A centrally located remote Decontamination Facility shall be installed.
 5. Demonstrate the tightness of the mini-enclosure to the exterior wall surface. A critical barrier should be placed over the inside of the window frame.
 6. During removal, periodically wet the inside surfaces of bag and any waste for better visibility and fiber control. Use cold water to prevent fogging.
 7. During removal, periodically use HEPA-vacuum to compensate for any leaks and to reduce airborne fiber levels.
 8. Remove the entire window sash within the mini-enclosure.
 9. Remove all ACM window caulk within the mini-enclosure.
 10. After removal of the sash, wash down all surfaces to below the levels where the bag will be sealed, and saturate the waste. Ensure the absence of residue.
 11. Mini-Enclosures shall be used for only one operation and then be disposed of. Glove bag shall not be reused.

PART 4- DIVISION 1 – ASBESTOS REMOVAL

4.1 REGULATIONS:

A. Regulations: The Asbestos Abatement Contractor, the Contractor, will conform to all applicable Federal State and Local Regulations. The principal Applicable Regulations are:

1. OSHA 29 CFR 1926.1101 (Asbestos); 1926.59 (Hazard Communication); 1926.416-417 (Work Practices); 1926.24,38, 150-155 (Fire Safety); 1926.450 (Ladder Safety); 1926.451 (Scaffolds); 1926.401, 416-417 (Electrical Safety), 1910.134 (Respirator Use.)
2. NESHAP (National Emissions Standards for Hazardous Air Pollutants) 40 CFR 61 Subpart M. (Amended 11/20/90)
3. Connecticut General Statutes Sections 19a-332-1 through 19a-332-16 inclusive. (Standards for Asbestos Abatement, Amended 1/91)
4. CT General Statutes Sec 22a-209-8 (i) (DEP Applies to Waste Disposal in Connecticut)
5. Connecticut General Statutes Sections 19a-332-17 through 19a-332-23 inclusive. (Licensing and Training Requirements for Asbestos Abatement)
6. CFR 49 parts 171-173 US Dept of Transportation.
7. All State, County, and Department or Municipal codes and ordinances as applicable.
10. Where applicable State, Federal and Local Regulations differ, the more stringent regulation applies.

4.2 PERSONAL AIR MONITORING:

Personal air sampling shall be conducted by the Contractor according to 1926.1101. Provide a State of Connecticut DPH (Department of Public Health) licensed Project Monitor for this purpose. Samples will include daily 30-minute excursion limit samples and 8-hour time-weighted average concentration samples. Personal air sampling results must be recorded at the work site within 24 hours and be available for review until the job is complete. Air Monitoring must be supervised by a Licensed Project Monitor.

4.3 NOTIFICATIONS

- A. Send written notification as required by state and local regulations prior to beginning any Work on asbestos-containing materials.

1. Connecticut DPH: Not required for <25 sq ft of non-friable exterior ACM to be removed
2. Connecticut DEEP: Any disposal of Asbestos in the State of Connecticut must be authorized by the office of Solid Waste Management. To request a disposal permit, contact the Solid Waste Management Unit at (860) 424-3366. Twenty-five day notification must be sent to:

State of Connecticut
Dept. of Energy and Environmental Protection (DEEP)
Solid Waste Management Unit
79 Elm Street,
Hartford CT 06106

3. Local Fire Department. Send written notification 10 days prior to the start of Work.

4.4 PRE-WORK MEETING

1. Technical Submittals to the Engineer Required Before Work Begins:
 - a. Copies of all required permits and notifications.
 - b. Copy of Contractor's Asbestos Abatement license.
 - c. Copies of supervisor and worker training certificates for each employee to be used for the project training including EPA - OSHA and Connecticut DPH required training in a State of Connecticut Approved training center: 5 days for supervisors and 8-hr training for workers (see page 7). This documentation shall include copies of initial and refresher training to date. For each worker proof of up to date fit testing and medical surveillance required by CFR 29 1926.1101 and 1910.134.
 - d. Documentation, when rental equipment is to be used, that the renter is aware of the intended use of the rented equipment.
 - e. Copies of personal air monitoring results from similar jobs within 12 months.
 - f. Emergency plans: Contractor is responsible for applicable notifications and coordination regarding fire safety and emergency response.

- g. Required OSHA Hazard Communication information and training for any hazardous chemicals at this site according to CFR 29.1926.59. A list of all the hazardous chemicals to be brought to the site including amounts to be brought in, the intended use, and Material Safety Data Sheets (MSDS's) for each chemical.

2. Other Topics:

- a. Deployment and setup including locations for materials, dumpsters, egresses and equipment.
- b. Work schedule

4.5 ASBESTOS QUALIFICATIONS OF CONTRACTOR AND SUBCONTRACTORS

1. Contractor must have sufficient ability and experience in Asbestos Abatement and must be capable of meeting all the requirements of the regulations and the specification to enable him to prosecute and complete the work successfully.
2. All employees performing work involving only intact incidentals shall be trained (minimum OSHA 8-hour roof training). In the case of asbestos roofing abatement there is a Memorandum of Understanding (MOU) between OSHA and the National Roofing Contractors Association (NRCA), dated 3/15/95, on how to remove asbestos roofing. Regardless of whether the material is friable or non-friable, DEEP disposal regulations still apply. Since Intact Incidental ACM roofing which includes cements, coatings, mastics, and flashings, was detected within the scope of this inspection, the removal is to be by individuals with a minimum of OSHA 8-hour roof training.
3. Any personnel who are not on the contractor's direct payroll are considered subcontractors and full submittals shall be required for any such subcontractors.

4.6 SITE CONDITION

- A. Prior to the bidding on the Work, bidders shall visit the site and be fully acquainted with present and expected conditions affecting the Work, including but not limited to:
 1. Physical condition of the site.
 2. Handling and storage of tools, equipment and materials.
 3. Access to water, electric power, and other variables, which may affect the Work.
 4. The character and quantity of all surface and subsurface obstacles to be encountered.
 5. Any existing damage: The Contractor shall submit to Owner in writing a list of any pre-existing damaged items on building and fixture condition prior to commencement of Work. The submittal shall include a photographic record of prior damage and/or deficiencies.

4.7 SAFETY AND SECURITY

1. Contractor has responsibility to establish and maintain workplace safety and security in the areas of His Work.
2. Contractor will maintain at the work site daily logs of activities and the names of all persons entering the site and include these logs with required submittals at the end of the project.

4.8 PERSONNEL PROTECTION

1. Contractor's workers shall be instructed on fire, electrical, and other hazards peculiar to this job site. Instructions will include spill response, power failure and emergency evacuation procedures. The workers will receive the required OSHA Hazard Communication information and training for any hazardous chemicals brought to this site.
2. All persons entering the Work Area shall wear prescribed protective clothing and respirators. Respiratory protection shall meet the requirements of OSHA as described in 29CFR 1910.134 and 1926.1101 for Asbestos.
3. The Contractor will provide appropriate respirators, disposable suits, and other safety equipment at no cost to his employees, for Asbestos and as needed for other physical and health hazards at the work site.
4. Any feasible combination of engineering controls, work practices, and personal protective equipment may be used to reduce personnel exposure to Asbestos and other hazards.
5. The Contractor has responsibility to maintain a Competent Person on site at all times. Duties of the Competent Person shall include:
 - a. Assessments required by OSHA 1926.1101.
 - b. Maintaining copies of Regulations including 1926.1101 and 40CFR 61 Subpart M, all records specified in the regulations and a copy of these Specifications on site.
 - c. Posting signs and guarding the Work Area against unauthorized intrusion and ensuring all persons entering the Work Area are properly certified, trained, and equipped and that each entry is recorded in the site log.
 - d. Providing workers with safety equipment.
 - e. Ensuring proper decontamination procedures.

- f. Ensuring in general a safe working area in all locations where employees must pass. This will include protection against eye injuries, falling on slippery surfaces, fall protection, proper construction of scaffolds or staging, proper use of ladders, power tool use, fire protection and emergency treatment or evacuation. If a recognized hazard is discovered:
 - 1) If the area is under the contractors control, isolate the area from entry until the hazard is remedied. Take all reasonable steps to remedy the hazard.
 - 2) If the area is not under the contractor's control, report any unsafe conditions immediately verbally and in writing to the owner and to all persons who may pass through an area where such conditions may exist. Deny access to contractor's employees until the condition is corrected and post warning signs to warn others of the hazard.
- g. Ensuring that persons will not smoke, drink, eat, or chew gum or tobacco in the Work Area.
- h. Ensuring that the prescribed protective clothing, respirator use and decontamination measures in the Work Area, including all those described in this Specification and prescribed in the Regulations will remain in effect during asbestos roofing removal.
- i. Employers shall make available to employees information on programs to aid workers in cessation of smoking.
- j. Employees working in contiguous areas to the Work Area must understand warning signs. Bilingual signs, pictographs or graphics may be required.

4.9 NEIGHBORHOOD CONSIDERATIONS:

- 1. Work will be conducted to avoid disturbing the neighborhood. Contractor will coordinate with PM suitable locations for egresses, equipment and waste facilities.
- 2. After an Asbestos waste container is deployed, it will remain locked unless in immediate use. The Supervisor will maintain control of the key.
- 3. Littering of the area is prohibited. Contractor will provide suitable receptacles for beverage and food containers and all other such litter and ensure that no litter is generated on the premises.

4.10 MATERIALS

- 1. Deliver all materials in the original container, packages with original manufacturers labels.
- 2. Damaged or deteriorated materials shall not be used and shall be removed from the premises. Material that becomes contaminated with Asbestos shall be decontaminated or disposed of as Asbestos waste.
- 3. Use only Asbestos-free replacement materials and according to applicable fire or building codes.
- 4. Signs to be posted at the Work Area shall be in sufficient quantity to post at all entries to Work Areas. Signs will comply with OSHA 1926.1101. Supplementary bilingual, pictograph, and/or graphics signs must be available.

4.11 TOOLS AND EQUIPMENT

1. The Contractor will have available spray equipment capable of mixing wetting agent with water and generating sufficient pressure and volume and having sufficient hose length to reach all areas with Asbestos.
2. Impermeable containers are to be used to receive and retain any Asbestos-containing or contaminated materials until disposal at an acceptable disposal site. Containers shall be labeled in accordance with OSHA 1926.1101 and shall be both water and air tight.
3. The Contractor shall have sufficient personal Air Monitoring equipment to monitor each type of activity in each Work Area.
4. Contractor shall provide suitable tools for Asbestos Removal.
5. Contractor shall have sufficient quantity of safety equipment and materials necessary for the job including safety lines and harnesses, protective clothing, filter cartridges, spare fitted masks for each worker, air sample personal pumps and cassettes, signs, grounded power cables, GFCI units, HEPA vacuums,
6. Power tools for roof cutting must be equipped with emission control devices including HEPA filtered blowers to catch dust or water misting sprays as appropriate for the equipment.

4.12 FINAL CHECK LIST BEFORE COMMENCEMENT OF ASBESTOS ABATEMENT WORK

1. Arrangements made for disposal of waste at an acceptable site.
2. Materials, tools and equipment specified including waste receptors are on hand.
3. All worker training has been completed.
4. All submittals have been received and are in proper order.

4.13 MULTI-EMPLOYER WORKSITES: OSHA REQUIREMENTS: 1926.1101

1. The asbestos contractor shall inform other employers at the site of:
 - a. the nature of the work with asbestos
 - b. the existence of and the requirements of regulated areas,
 - c. the measures to be taken to protect employees of the other employers from exposure.

4.13 MULTI-EMPLOYER WORKSITES: OSHA REQUIREMENTS: 1926.1101 (CONT)

- d. that these employers must ascertain on a daily basis that the work area perimeter is secure, or otherwise:
- 1) move their employees away from the regulated area until any breeches are corrected or
 - 2) Provide the same protective equipment as specified herein for the asbestos contractor.
2. Comply with the stricter of supervision of the general contractor or PM with respect to their determination of whether the asbestos contractor is in compliance with the OSHA asbestos standard 1926.1101.
 3. Regardless of who creates any asbestos hazard, the employer of exposed employees is required to comply with applicable protective provisions of 1926.1101 to protect his employees.
 4. Employers who discover the presence (of ACM or PACM) on the worksite must notify the project or building owner. On worksites having multi employers, the person who discovers the material is also to notify the other employers. An employer on a multi job worksite who is planning class I or class II asbestos work is to inform all the other employers on the site. They are to be informed of the location and quantity of these materials and the measures to be taken to protect them from exposure.
 5. Transmit data to the Owner any knowledge of the location and amount of ACM or PACM who must in turn pass this information to employers of employees who may be exposed.
 6. Before class I, II or III work, is initiated, building and or project owners must notify their own employees and employers who are bidding on such work, of the quantity and location of ACM or PACM present in such areas. Owners must also notify their own employees who work in or adjacent to such jobs. Employers who are not owners planning any such covered activity must notify the owner of the location and quantity of ACM and PACM known or later discovered. The building owner must keep records of all information received through this notification scheme, or through other means, which relates to the presence, location and quantity of ACM and PACM in the owner's building, project or vessel and transfer all such information to successive owners. OSHA has defined 'building owner' to include those lessees who control the management and record keeping functions of a building/facility.
 7. Within 10 days of completion of Class I or II asbestos work, the asbestos contractor shall inform the owner and employers who will be working in the area of the quantity and PACM or ACM remaining in the former regulated area and the final monitoring results.
 8. For inadvertently discovered ACM/PACM there is a 24 hour notification requirement to the owner and all employers at the site.

4.14 EXPOSURE ASSESSMENT

1. Each employer who has a workplace where asbestos abatement is conducted, must ensure that a competent person conducts an exposure assessment in accordance with 1926.1101 immediately before or at the initiation of the abatement to ascertain expected exposures.
2. Each Initial Exposure assessment by the Competent Person shall include:
 - a. Air monitoring historical data
 - b. Degree and quality of supervision
 - c. Employee training and experience
 - d. Techniques used for wetting the ACM or PACM in the various circumstances encountered
 - e. Placing and repositioning the ventilation equipment, and
 - f. Impacts due to weather conditions

4.15 PROHIBITIONS

1. High speed abrasive disc saws to cut ACM or PACM shall not be used unless inside the containment with HEPA filtered negative exhausts as herein specified or unless equipped with local HEPA filtered ventilation to collect contamination from cutting.
2. Compressed air use for cleaning ACM or PACM contaminated surfaces unless conducted inside the containment with HEPA filtered negative exhausts as herein specified.
3. Dry shoveling or sweeping or other dry clean-up of dust and debris containing ACM or PACM is prohibited.
4. Employee rotation as a means of reducing employee exposure is prohibited.
5. Sanding ACM or PACM flooring, backing or mastic is prohibited.
6. Material that has been removed shall not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand it shall be lowered to the ground via covered, dust-tight chute, crane, or hoist. All such material shall be removed from the roof as soon as practicable, but no later than the end of the workshift. Then properly packaged for disposal.

4.16 PERSONNEL PROTECTION

1. Contractor's workers shall be instructed and equipped to for protection from fire, electrical, and other hazards peculiar to roofing abatement. The Contractor will take appropriate precautions for other non-Asbestos hazards at the site including:
 - a. Fall hazards including the roof structural conditions
 - b. Electrical and fire safety
 - c. Fire prevention and escape
 - d. Excessive cold or heat stress for workers
 - e. Wind hazards
 - f. Proper traction on icy or other slippery surfaces.
 - g. Eye and head protection

2. Any feasible combination of engineering controls, work practices, and personal protective equipment may be used to reduce personnel exposure to Asbestos and other hazards.
3. All persons entering the Work Area shall wear prescribed protective clothing and respirators until the Asbestos related work is successfully completed in the Area.

4.17 PREPARATION OF THE WORK AREAS

1. Isolate heating, cooling and ventilating air system intakes on the roof to prevent contamination and fiber dispersal to other areas of the facility. Isolation will be accomplished by sealing air tight using plastic and tape if appropriate or other means dictated by safety and mechanical considerations.
2. Establish the area of roof abatement as a regulated Work Area by means of signs posted at the Work Area perimeter. Saw horses or stands to hold the signs should may be used to identify the asbestos work area.
3. Provide a clean change area at the work area perimeter equipped so that workers can decontaminate their suits and person with HEPA vacuums and change into street clothes without passing back through the Work area. This area should include shrouds for privacy. The location will be coordinated by the PM on site. The privacy barriers must be sufficiently sturdy to resist dislodging, breaching or collapsing under wind and active work conditions. For roof work the decon unit should be located at ground level, where workers can change into street clothes without passing back through the regulated area.

4.18 WORK PRACTICES: CONTRACTOR SHALL OBSERVE THE FOLLOWING WORK PRACTICES

1. Continually mist any cutting blades used.
2. Keep roofing intact during removal. The recommended manual methods outlined by OSHA include but not be limited to the use of spud, spade, flat-blade or slicing tools, such as axes, mattocks, pry bars, spud bars, crow bars, shovels, flat-blade knives, and utility knives, to slice, cut, strip-off, shear-under, or pry-up the material.
3. Use wet methods. Except if the competent person determines that the specific conditions of a roofing job (eg a steeply sloping roof, or below freezing temperatures combined with the water resulting from any misting, would create a slipping hazard, misting may be omitted, if other precautions are followed, such as equipping the power tool with a HEPA vacuum system, or using hand methods.
4. Immediately lower unbagged material to a covered receptacle using a dust tight chute, crane or hoist; or immediately wrap material in plastic sheeting and lower it to ground by end of shift.
5. Loose dust left by sawing is to be HEPA vacuumed immediately.
6. Power cutting with misting is allowed if cuts are made to obtain largest feasible pieces.

4.18 WORK PRACTICES: CONTRACTOR SHALL OBSERVE THE FOLLOWING WORK PRACTICES (CONT)

7. Only necessary work shall be done on the roof while asbestos materials are being removed and the locations of the work shall be selected to minimize exposure, such as upwind of the asbestos work and at least 20 ft from the work area perimeter.
8. Contractor must maintain full personal protection including maintaining the roof as a regulated area, clean change areas and appropriate respirators as delineated in this specification.
9. Establish a material egress location nearest the Asbestos waste receptacle, which shall be at a location agreed at the pre construction meeting. If Asbestos waste is not packaged on the roof, an air tight chute or crane or hoist must be used to transfer the wet material immediately to the lined dumpster or other properly prepared container. The base of any chute used must be enclosed air tight to prevent spillage. If asbestos waste is packaged on the roof, it must be in sealed packages conforming to these specifications and lowered ground and placed in a secure location no later than the end of the work shift.
10. No Asbestos or other litter will be permitted on the ground.
11. If power cutting tools are used, wet misting, HEPA filtered devices or equivalent controls must be used in conjunction with the power cutting tools to prevent any visible emissions. Cutting machines, when used, shall be misted continuously during use unless a competent person determines that misting substantially decreases worker safety. Otherwise a knife cut and lift may be used.
12. Roofing material shall be removed in an intact state to the extent feasible.
13. Use Amended Water to wet Asbestos material freshly before Abatement Work and to maintain wet for disposal.
14. Impact and vibration must be avoided so as not to cause emissions of dust or debris in the interior of the building.
15. After completion of Stripping Work, all surfaces from which Asbestos has been removed shall be HEPA vacuumed or cleaned by an equivalent method to remove all visible dust and debris particles.
16. The combination of control measures used must produce no visible dust nor leave visible residue.
17. Report any existing voids or new damage, especially holes, in the substrate at once to the owner and to the PM so that proper precautions may be taken for interior protection. When voids are discovered stop any work which may dislodge roofing material into the building.

4.19 FINAL INSPECTION

1. After cleaning each Work Area, and before installation of roofing, Contractor will make an initial visual inspection and notify the PM that Work is complete. An inspection by the PM shall then be conducted. If the PM finds that the Work is incomplete or that there are visible accumulations of residue, the Contractor shall repeat the cleaning at His expense until the Work Area is in compliance.

4.20 DISPOSAL

1. Impermeable double containers are to be used to receive and retain any Asbestos-containing or contaminated materials until disposal at an acceptable disposal site. Containers shall be labeled in accordance with OSHA 1926.1101 and shall be both water and air tight. All containers must be labeled in large legible letters:

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

2. After the Asbestos waste container is deployed, it will remain locked unless in immediate use. The job Foreman or designated person will maintain control of the key.
3. The waste container shall be tagged or labeled clearly with the name of the asbestos contractor and the name of the work site.
4. Each Asbestos waste pickup will be signed for using chain of custody forms provided in the EPA regulations CFR 40 Part 61.
5. The Contractor will turn over to the PM a copy of the custody document for the waste within 24 hours after the material has left the site and forward the complete disposal documentation to the PM and Owner within 45 days.
6. Non-friable materials meeting the EPA NESHAP definition of Category 1 materials which are removed intact may be placed in a bulk Asbestos waste container meeting the following requirements:
 - a. The container is labeled and constructed in compliance with applicable OSHA, EPA and DOT regulations and state and local regulations of the States through which the materials is to be transported and/or disposed of and meets the requirements of the EPA approved landfill which is intended to receive the material.
 - b. The container contents are adequately wet.

PART 5 DEFINITIONS:

- A. *Abatement*: Procedures to control fiber release from Asbestos-containing materials; includes Removal, Encapsulation, and Enclosure.
- B. *Airlock*: A system for permitting ingress and egress while assuring air movement to a contaminated area from an uncontaminated area.
- C. *Air Monitoring*: The process of measuring the fiber content of a specific volume of air in a stated period of time.
- D. *Licensed Project Monitor (PM)*: A DPH Licensed professional capable of conducting air monitoring and analysis schemes. This individual is responsible for recognition of technical deficiencies in worker protection equipment and procedures during both planning and on-site phases of an Abatement project. Monitoring and worker protection. Air sampling shall be in accordance with NIOSH Method 7400 and as described in OSHA standards 29 CFR 1926.1101, or (as applicable for TEM) according to 40 CFR Part 763 Subpart E.
- E. *Amended Water*: Water to which a surfactant has been added.
- F. *Asbestos*: Asbestos is a name given to a number of naturally occurring fibrous silicates. There are two varieties of Asbestos; the serpentine form (Chrysotile) characterized by long, soft, flexible, and wavy fibers, and the amphiboles which occur as straight, needle-like fibers, and consist of crocidolite, amosite, anthophyllite, tremolite and actinolite.
- G. *ACM / Asbestos Containing Material*: A material which contains more than 1% Asbestos per EPA test Method 600/R-93/116.
- H. *Category 1 and 2 Asbestos materials*: Non-friable materials as defined in the amended NESHAP regulation 40 CFR 61, 11/20/90.
- I. *Class I Asbestos Abatement Work*: Removal of Thermal System Insulation and surfacing removal of ACM or PACM (TSI and Surfacing have the same meaning as in EPA AHERA except drywall is not classed as surfacing but plaster is.
- J. *Class II Asbestos Abatement Work*: Removal of ACM or PACM other than TSI and surfacing.
- K. *Class III work*: Repair involving disturbance of ACM or PACM.
- L. *Class IV work*: Maintenance and custodial work in areas with ACM or PACM such as dusting surfaces, vacuuming carpets, sweeping or mopping asbestos containing floors or floors in areas where ACM or PACM is present; cleaning up ACM or PACM, changing a light bulb or battery in a smoke detector on a surfaced ceiling, polishing floor tile.
- M. *Clean Change Area*: An area equipped as specified herein so that workers can decontaminate their suits and change into street clothes without passing back through the regulated area.
- N. *Clean Room*: An uncontaminated area or room, which is a part of the Worker Decontamination Enclosure with provisions for storage of worker's street clothes and protective equipment.

- O. *Competent Person*: A person experienced in Asbestos Abatement with a current Asbestos Abatement Supervisor's Certificate from an EPA Approved Training Center. In addition, a person meeting the following requirements in 1926.32: "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them."
- P. *Critical Barrier*: The last layer of plastic sheeting separating Work Areas from non-Work Areas
- Q. *Curtained Doorway*: A device to allow passage from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway, and securing the vertical edge of the other sheet along the opposite vertical side of the doorway. Two curtained doorways spaced a minimum of six feet apart from an Airlock.
- R. *Decontamination Enclosure System (Decon.)*: A series of connected rooms, with Curtained Doorways between any two (2) adjacent rooms, for the decontamination of workers and of materials and equipment which is connected to and adjacent to the regulated area. A Decontamination Enclosure System always contains at least one (1) Airlock.
- S. *DPH*: Connecticut Department of Public Health
- T. *Encapsulant (sealant)*: a liquid material which can be applied to Asbestos-Containing Material and which controls the possible release of Asbestos fibers from the material either by creating a membrane over the surface (bridging Encapsulant) or by penetrating into the material and binding its components together (penetrating Encapsulant). Any such Encapsulants shall be in conformance with Building and/or Fire Safety Code requirements.
- U. *Encapsulation*: All herein specified procedures necessary to apply an encapsulant to Asbestos-containing building materials to control the possible release of Asbestos fibers into the ambient air. The practice of spraying water damaged, loose, or hanging Asbestos material is not considered a satisfactory control method and is not considered Encapsulation for the purposes of this Specification. Encapsulation requires the same work area prep as removal and includes all the steps specified as follows: a. Remove damaged, loose, or hanging areas of existing Asbestos material and place in sealable plastic bags for transport. b. Repair damaged and missing areas to obtain a suitable base for sealing using Asbestos free replacement material in accordance with manufacturer's instructions. c. Apply a final spray with Encapsulant.
- V. *Engineer*: Diversified Technology Consultants (DTC)
- W. *Equipment Decontamination Enclosure*: That portion of a Decontamination Enclosure System (Decon) designed for controlled transfer of materials and equipment, typically consisting of a Washroom and a Holding area.
- X. *Encase*: To directly cover pipe insulation with an airtight impermeable cover such as re-moistenable cloth or conduit.

- Y. *Equipment Room*: A contaminated area or room, which is part of the Worker Decontamination Enclosure with provisions for storage of contaminated clothing and equipment.
- Z. *Fixed Object*: A unit of equipment or furniture in the Work Areas, which cannot be removed from the Work Area.
- AA. *Friable Asbestos Material*: An Asbestos material that can be crumbled, pulverized or reduced to powder when dry by hand pressure and which releases Asbestos fibers into the environment.
- BB. *HEPA Filter*: A high efficiency particulate air (HEPA) filter in compliance with ANSI Z9.2-1979.
- CC. *HEPA Vacuum Equipment*: Vacuum equipment with a HEPA filter system for filtering the air effluent from the unit.
- DD. *Holding Area*: A chamber in the Equipment Decontamination Enclosure located between the Washroom and an uncontaminated area. The Holding area comprises an Airlock.
- EE. *Mini-Containment*: A fully contained small work area with decontamination unit, negative air that differs only in size from the containments herein specified.
- FF. *Movable Object*: A unit of equipment or furniture in the Work Area, which can be removed from the Work Area.
- GG. *Negative Air Units or Negative Air Pressure Equipment*: A portable local exhaust system equipped with HEPA filtration used to create negative pressure in a contaminated area (negative with respect to adjacent uncontaminated areas) and capable of maintaining a constant discharge of filtered air outside and creating suction so that air flow direction moves from uncontaminated areas into the Work Areas.
- HH. *NESHAP*: National Emission Standards for Hazardous Air Pollutants, including Asbestos, administered by the EPA.
- II. *NIOSH*: National Institute for Occupational Safety and Health.
- JJ. *Owner*: Serini
- KK. *PACM: Presumed Asbestos Containing Material. OSHA definition*: TSI or Surfacing. Note: OSHA also assumes roofing and resilient flooring to contain asbestos but the work practices differ. EPA assumed ACM covers a much broader range of building materials.
- LL. *Permissible Exposure Limit (PEL)*: OSHA Standard. Eight (8) hour time weighted average (TWA) of 0.1 fibers per cubic centimeter of airborne Asbestos, tremolite, anthophyllite, actinolite, or a combination of these materials as determined by the method prescribed in appendix A to OSHA Regulations 29 CFR 1926.1101, or by an equivalent method.
- MM. *Plasticize*: To cover floors and walls with plastic sheeting as herein specified.
- NN. *Removal*: All herein specified procedures necessary to remove Asbestos Containing Materials from the designated areas and to transport and dispose of these materials at an acceptable site.

- OO. *Shower Room*: A room between the Clean Room and the Equipment Room in the Worker Decontamination Enclosure with hot and cold or warm running water and suitably arranged for complete showering during decontamination. The Shower Room comprises an Airlock between contaminated and clean areas.
- PP. *Stripping*: Taking of Asbestos materials from any surface.
- QQ. *Surfactant*: A chemical wetting agent added to water to improve penetration.
- RR. *Surfacing Material*: Material that is spray applied or troweled on or otherwise applied to surfaces.
- SS. *Thermal System Insulation (TSI)*: Material applied to pipes, fittings, boilers, breeching, tanks, ducts or other components to prevent heat loss or gain.
- TT. *Washroom*: A room between the Work Area and the Holding Area in the Equipment Decontamination Enclosure with provisions for storage of contaminated clothing and equipment.
- UU. *Wet Cleaning*: The process of eliminating Asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and by afterwards disposing of these cleaning items as Asbestos contaminated waste.
- VV. *Work Area*: An area where Asbestos Abatement operations are performed, which is isolated by physical boundaries to prevent the spread of Asbestos dust, fibers, or debris; Designated rooms, spaces or areas of the project in which Asbestos Abatement actions are to be undertaken or which may become contaminated as a result of such Abatement actions. A contained Work Area is an area, which has been sealed, plasticized and equipped with a Decontamination Enclosure System.
- WW. *Worker Decontamination Enclosure System*: That portion of a Decontamination Enclosure System designated for controlled passage workers and other personnel and authorized persons typically consisting of a Clean Room, a Shower Room and an Equipment Room.

PART 6 - LIST OF DRAWINGS

6.1	DRAWING NUMBER	DESCRIPTION
A.	1A	LOCATION OF WINDOWS, IN SCOPE OF WORK FIRST FLOOR
B.	2A	LOCATION OF WINDOWS, IN SCOPE OF WORK SECOND FLOOR

ChemScope Inc.

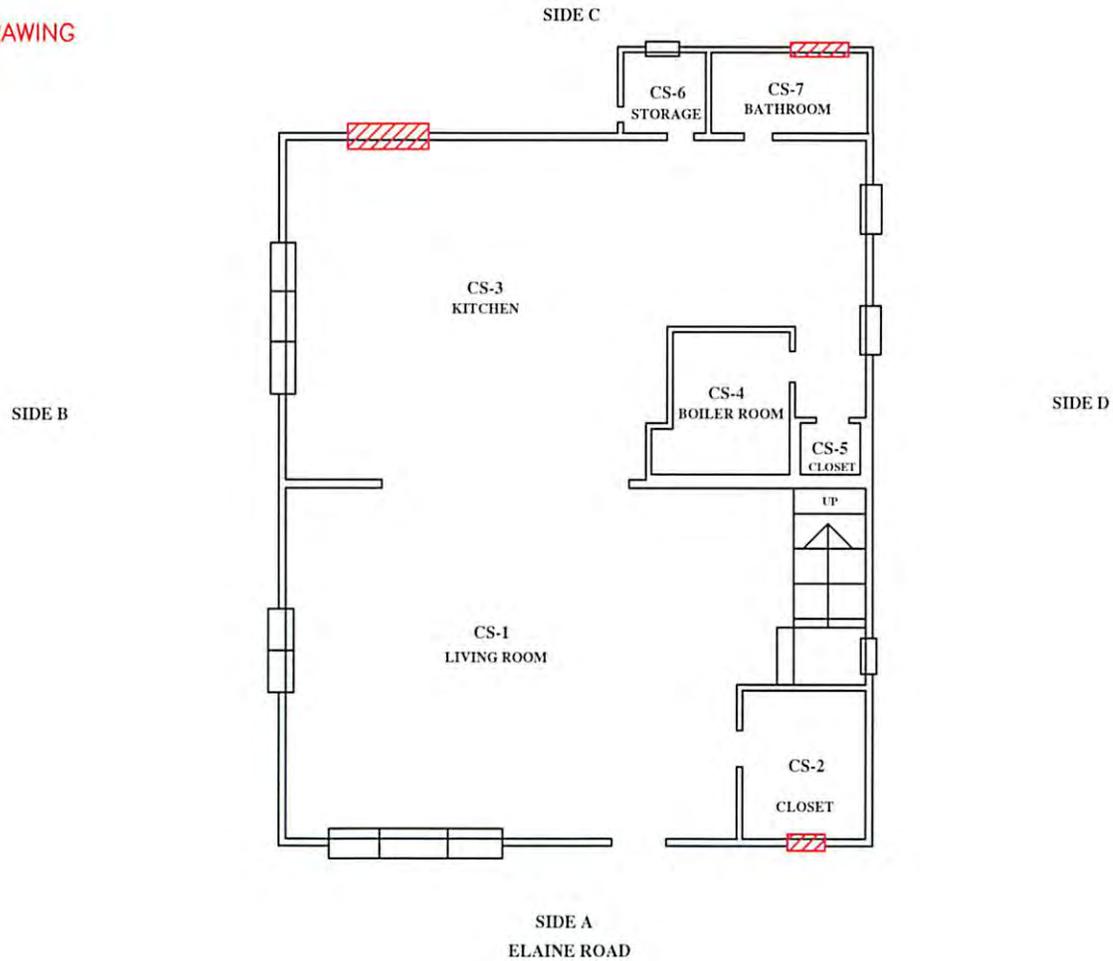
Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

First Floor

ACM LOCATION DRAWING



LEGEND OF SYMBOLS

ACM Location
See Report for Details

NOTATIONS

TOTAL SQUARE FEET = 1218
CONSTRUCTION YEAR = 1928

Drawn by: KAYLA CARNES-LEIGH HONOROP

ChemScope Inc.

FIRST FLOOR

LEAD/MOLD/ASBESTOS
RADON INSPECTION

24 ELAINE ROAD
MILFORD, CT

PROJECT NUMBER

187-210

SCALE

NOT TO SCALE

DATE

11/17/14

1 A

ChemScope Inc.

Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

Second Floor

ACM LOCATION DRAWING



LEGEND OF SYMBOLS

 ACM Location
See Report for Details

NOTATIONS

TOTAL SQUARE FEET = 1218
CONSTRUCTION YEAR = 1928

Drawn by: KAYLA CARNES LEIGH HONOROF

ChemScope Inc.

PLAN
SECOND FLOOR

LEAD/MOLD/ASBESTOS
RADON INSPECTION

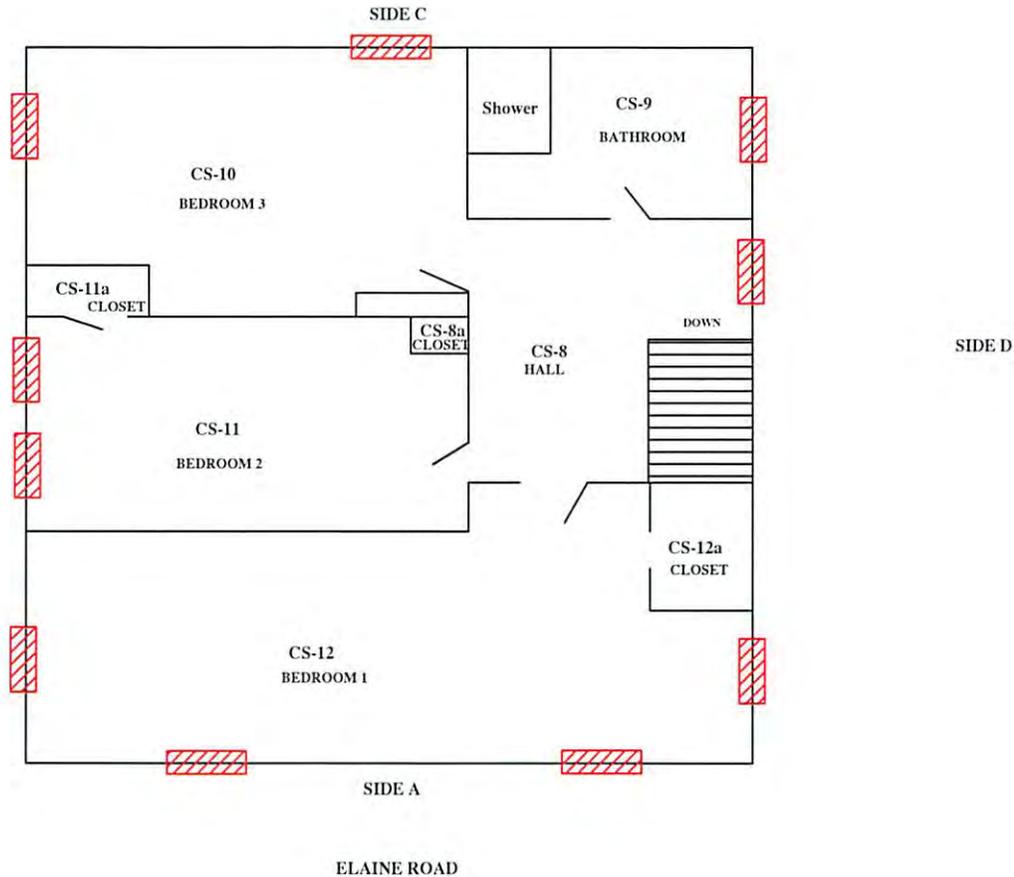
24 ELAINE ROAD
MILFORD, CT

187-210

NOT TO SCALE

11/17/14

2 A



APPLICANT NO. 1437
OORR PROGRAM
CDBG-DR STORM SANDY

SERINI RESIDENCE
24 ELAINE ROAD
MILFORD, CT

APPENDIX A

Scott Feulner
Diversified Technology Consultants (DTC)
2321 Whitney Avenue, Suite 301
Hamden, CT 06518

12/1/2014

**ASBESTOS PRE-RENOVATION INSPECTION
SITE #030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 1 OF 5**

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Inspection Report Synopsis	3-4
Limitations of the Inspection	5
Recommendations	5

Attachments:

- Scope of Inspection Drawing(s) – 3 page(s)
- Asbestos Containing Material Location Drawing – 2 page(s)
- PLM Certificate of Analysis report with chain of custody - 8 page(s)
- Sample location drawing(s) - 3 page(s)

Report Distribution:

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Curtis Graham, DTC graham.curtis@teamdtc.com
Michael Casey, DTC michael.casey@teamdtc.com

File Location:

NAS AAUM-Reports\Asblnsp\LH-Prereno_2014.doc

**ASBESTOS PRE-RENOVATION INSPECTION
SITE #030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 2 OF 5**

INTRODUCTION

EXECUTIVE SUMMARY: Asbestos containing materials (ACM) were detected within the scope of this inspection and will need to be properly removed and disposed of prior to renovation that would disturb these materials. Abatement work must be done by a licensed asbestos abatement contractor using proper procedures and practices.

BUILDING DESCRIPTION: The subject building is a two-story, single family, residential structure totaling approximately 1200 sq ft, which was built in 1928 of wood-frame construction. The subject house was occupied at the time of our inspection. We understand the siding, gutters/downspouts, and some fencing have already been replaced after damage caused by hurricane Sandy in October of 2012. See attached drawings for detail.

BACKGROUND: We understand the subject house suffered damage as a result of hurricane Sandy on October 29-30, 2012. We understand the house suffered mainly from water and wind damage in relation to the storm and that the owner has already completed the following repairs: siding replacement, gutter/downspout replacement, and some fence replacement. We understand the scope of the renovations still to be completed as follows: Scope of work consists of; replacing/repairing front door and front windows, replacing of all flooring on 1st Floor, re-insulation of basement, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in basement.

SCOPE OF INSPECTION: Asbestos Pre-Renovation Inspection:

Our work included the following:

- Collection and analysis of building materials within the scope of renovation for asbestos, as directed by our client.
- A list with quantity, type and location of asbestos containing materials (ACM) in the scope.
- Report of the findings including ACM location drawings.

This investigation and information provided in this report depends partly on background information provided by the client. This report is intended for the use of the client. The scope of services performed may not be appropriate for other users and any use of this report by third parties is at their sole risk. This report is intended to be used in its entirety. No excerpts may be taken to be representative of this report.

Please note that during our site visit on 11/17/2014, our scope of work changed to include window replacement throughout the subject house as they were determined to contain defective lead based paint. Also the flooring replacement on the first floor was removed from the scope of renovations with the exception of the carpeting in CS-1 Living Room and CS-2 Living Room Closet. Samples were collected and analyzed from CS-3 Kitchen/Dining Room per the request of our client but are not in the scope of renovations at this time.

TEST PARAMETERS: This is an Asbestos Pre-Renovation Inspection intended to identify the presence, location, and quantity of any asbestos containing building materials which are part of the Renovation for compliance with OSHA 1926.1101 (k)(2)(i) and CT DPH 19a-332a-1 through 16.

For sampling, EPA Wet Methods are used to prevent fiber release. Building materials sampled are analyzed at our laboratory by EPA method 600/R-93/116. This is currently the approved EPA Test method, which uses Polarized Light Microscopy with Dispersion Staining. The laboratory is accredited by NIST/NVLAP and AIHA, Lab Accreditation, LLC, and is a Connecticut Approved Environmental Laboratory for Asbestos Analysis.

**ASBESTOS PRE-RENOVATION INSPECTION
SITE #030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 3 OF 5**

INSPECTION REPORT SYNOPSIS

LOCATION NAME AND ADDRESS: Site #030 (Serini) Application #1437
24 Elaine Road, Milford, CT

INSPECTION DATE(S): 11/17/2014.

QUALIFICATIONS: The Inspection was conducted by H. Leigh Honorof.

H. Leigh Honorof is certified as follows:

- State of Connecticut Licensed Asbestos Inspector (#000874)
- State of Connecticut Licensed Project Monitor (#000756)

For information about Chem Scope, Inc., log onto <http://www.chem-scope.com>.

SITE OBSERVATIONS: We met our client at the site. He showed us the area and provided some background information. The following observations were made:

- Windows had the following materials; window identifiers include the letter of the wall side, as shown in the attached drawings, and a number determined by numbering the windows on a wall counterclockwise.
 - On the first floor: A1 had white hard exterior glazing between glass and wood with dimensions of 2'x40". A2, A3, A4, B1 and B2 had white hard interior caulk between wood frame and window sash. B3, B4 and B5 had white pliable interior window caulk between wood frame and window sash. C2 had grey pliable foam interior insulation with clear glue between wood sill and wood sash. C3 had dimensions of 2'x40" and white hard caulking between the wood window frame and metal storm window sash, at interior. D1 and D2 had no glaze or caulk. D3 had clear pliable interior caulking between the wood sill and wood sash.
 - On the second floor: All windows accessible had measurements of 2' x 40" with white hard exterior window glazing between glass and wood. B4, C1, and D2 had grey fibrous interior insulation between wood frame and wood sash. B2 and B3 had grey pliable foam interior insulation with clear glue between wood frame and wood sash. B4 had white pliable caulking between wood sill and metal storm window sash. A1 and B1 had white hard caulking between wood sill and metal storm window sash.
- Windows had the following materials on the second floor:
- The dwelling was occupied. Three windows were inaccessible due to heavy obstructions: first floor window C1, second floor window D3, and second floor window B1.
- The flooring in CS-1 Living room was green carpet on white/blue/green floor tile on yellow hard mastic on wood. The walls were sheetrock and the ceilings were 12" ridged ceiling tile.
- The flooring in CS-2 Closet was red carpet on on white/blue/green floor tile on yellow hard mastic on wood. The walls were sheetrock and wood shingles, and the ceilings were wood.
- The flooring in CS-3 Kitchen/Dining Room was white hard 12" floor tile with green streaks on yellow glue on white hard floor tile on yellow glue on striped beige floor tile on yellow glue on wood. Walls were sheetrock and wood paneling, and ceilings were 12" white smooth ceiling tile. A wood baseboard was present.
- CS-4 Boiler room had wood floors, sheetrock and wood walls, and a fiberboard and wood ceiling.
- CS-5 Closet was wood on al surfaces. Bare metal ducts were present.
- CS-6 Storage had green marbled 12" floor tile, wood walls and ceilings, and a bare metal hot water tank.
- CS-7 Bath had blue/white geometric patterned 12" floor tile, sheetrock and wood panel walls, and a sheetrock ceiling.
- CS-8 Hall had green carpet flooring, wood panel walls, and a wood panel ceiling.
- CS-9 Bath had 12" white with beige streak floor tile, sheetrock and ceramic walls, and 12" smooth white ceiling tile.
- CS-10 Bedroom 3 and CS-11 Bedroom 2 had brown carpet on wood flooring, wood walls, and wood ceilings.
- CS-12 Bedroom 1 had wood floors and ceilings and sheetrock and fiberglass walls.
- The full unfinished basement had access from outside the house. It had a dirt floor and wood beams, walls and ceiling. Some paper remains on the ceiling from absent fiberglass insulation.

**ASBESTOS PRE-RENOVATION INSPECTION
SITE #030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 4 OF 5**

INSPECTION REPORT SYNOPSIS (CONT)

FINDINGS: The following asbestos containing materials (ACM) were detected in the Scope of the Inspection:

MATERIAL	LOCATION	~FOOTAGE
White/blue/green streaked floor	1 st Floor CS-1 Living Room	245 sq ft
Tile* (under carpet, on yellow hard Mastic on wood)	1 st Floor CS-2 Closet	50 sq ft
White hard exterior window glazing (between glass and wood)	2 nd Floor Windows	70 lin ft
	1 st Floor CS-2 Closet Window A1	7 lin ft
	CS-3 Kitchen Window C-1 **	7 lin ft
White hard caulking (between wood sill And metal storm window sash/between Wood window frame and metal storm Window sash, At interior)	2nd Floor Windows in CS-12**	30 lin ft
	1st Floor CS-7 Bathroom Window	7 lin ft
	CS-3 Kitchen Window C-1 **	7 lin ft

Total: 295 sq ft + 128 lin ft

*The flooring inspection was only conducted in CS-1, CS-2, and CS-3; therefore square footage estimates of ACM floor tile in the entire building may be low.

**Includes assumed ACM due to inaccessibility during inspection.

The following is a summary table of the materials that tested as non-Asbestos Containing Material (ACM) (<1%) within the Scope of Work:

Material	Location	Sample #'s	Findings
Brown fibrous paper (remnant from fiberglass insulation)	Basement	187-210-1, 2	No Asbestos Detected
Yellow hard mastic (from under white/blue/green streaked floor tile, on wood)	CS-1 Living Room CS-2 Closet	187-210-5, 6	No Asbestos Detected
White hard 12" floor tile with green streaks on yellow glue (on white hard floor tile on yellow glue on striped beige floor tile on yellow glue on wood)	CS-3 Kitchen	187-210-7, 8	No Asbestos Detected
White hard floor tile on yellow glue (from under #7/8)	CS-3 Kitchen	187-210-9, 10	No Asbestos Detected
Striped beige floor tile on yellow glue (from under #9/10)	CS-3 Kitchen	187-210-11, 12	No Asbestos Detected
White pliable interior window caulk (between wood frame and wood sash)	CS-3 Kitchen, Window B3/B5	187-210-16, 17	No Asbestos Detected
White hard interior window caulk (between wood frame and wood sash)	CS-1 Living Room, Window A2	187-210-18, 19	No Asbestos Detected
Grey fibrous interior insulation (between wood frame and wood sash)	CS-10 Bedroom 3 Window B4, CS-8 Hall Window D	187-210-20, 21	No Asbestos Detected
Grey pliable foam interior insulation with clear glue (between wood sill and wood sash)	CS-11 Bedroom 2 Window B2, CS-6 Storage	187-210-22, 23	No Asbestos Detected
Clear pliable interior caulking (between wood sill and wood sash)	First Floor Stairs	187-210-24, 25	No Asbestos Detected
White pliable caulking (between wood sill and metal storm window sash)	CS-10 Bedroom 3 Window B4	187-210-26, 27	No Asbestos Detected

**ASBESTOS PRE-RENOVATION INSPECTION
SITE #030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 5 OF 5**

LIMITATIONS OF INSPECTION

It is important to note that every effort is made to detect asbestos (ACM) in the path of the renovation by our inspectors. It is not practical or prudent to demolish the entire work area during an inspection. The owner should be aware of this in case suspect materials or concealed suspect materials are uncovered during the actual renovation. If suspect materials that were previously not accessible or not sampled during this inspection are discovered during the renovation, or if the scope of the renovation changes to include disturbance of new materials not inspected, then renovation must stop and the materials must be sampled by a CT DPH licensed asbestos inspector prior to disturbance of these materials.

RECOMMENDATIONS

All Asbestos Containing Materials (ACM) detected in the path of the inspection must be removed prior to the disturbance of these materials.

OSHA regulations (1926.1101) require that proper procedures are used to prevent exposure to workers performing the renovations. This includes training and protection for employees who may be exposed above the OSHA PEL. "(c)...The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA)..." It may also be prudent to provide additional critical barriers and HEPA filtered negative air machines in the area during the disturbance of the materials containing <1% asbestos.

OSHA regulations also require that before asbestos removal or repair work (class I, II or III work) is initiated, building owners/facility owners must notify their own employees and employers who are bidding on such work, of the quantity and location of ACM or PACM (presumed asbestos containing material) present in such areas. Also for inadvertently discovered ACM or PACM there is a 24-hour notification requirement to the owner and all employers at the site.

Disposal of all ACM is regulated by EPA and the Connecticut DEEP; an EPA approved landfill must be used.

See separate Asbestos Pre-renovation Inspection report, Mold Assessment report, and Radon Air Sampling report for additional details.

If you have any questions or need more information please call me. Thank you for calling on us.

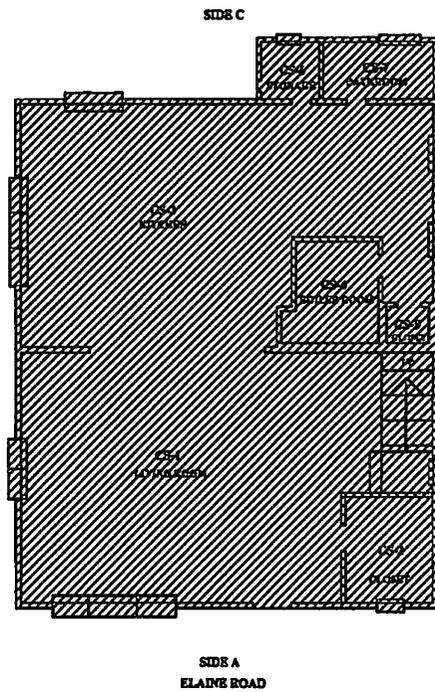
Sincerely,

Leigh Honorof



Asbestos Inspector

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 First Floor
 SCOPE OF INSPECTION DRAWING



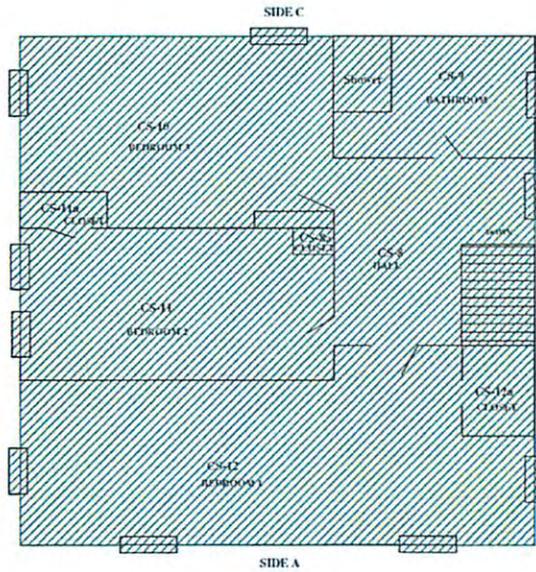
 DIRECTION OF FLOORING	
SCOPE OF INSPECTION	
INSIDING	
TOTAL SQUARE FEET = 1076 CONSTRUCTION YEAR = 1978	
CLIENTS CONTACT/OWNER NUMBER	
ChemScope Inc.	
FIRST FLOOR	
LEAD/MOLD/ASBESTOS RADON INSPECTION 24 ELAINE ROAD MILFORD, CT	
10/2/14 DATE OF SCALE 1/8"=1'-0"	1

ChemScope Inc.

Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Second Floor

SCOPE OF INSPECTION DRAWING

SIDE B



ELAINE ROAD



LEGEND OF SYMBOLS

	Scope of Inspection

NOTATION

TOTAL SQUARE FEET = 7,219
 CONSTRUCTION YEAR = 1988

DATE OF INSPECTION

ChemScope Inc.

PLAN
 SECOND FLOOR

LEAD/MOLD/ASBESTOS
 RADON INSPECTION

24 ELAINE ROAD
 MILFORD, CT

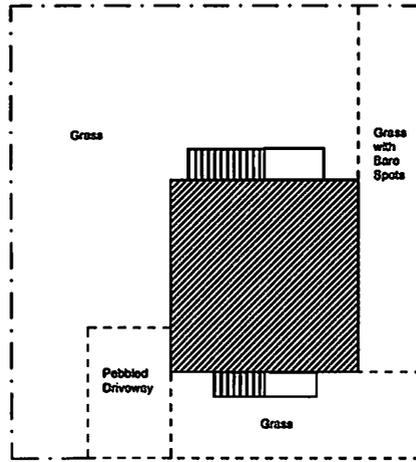
	DATE
	NOT TO SCALE
	SCALE

2

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior
 SCOPE OF INSPECTION DRAWING

SIDE C

SIDE B

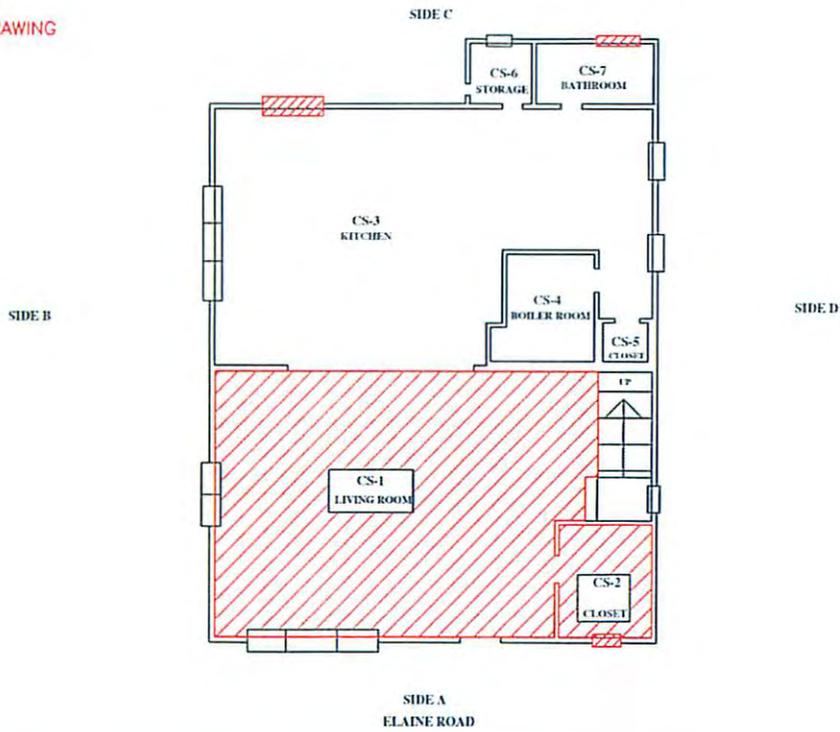


SIDE A

ELAINE ROAD

 north or false	
Scope of Inspection	
FENCE	
Ground Cover Change	
ChemScope Inc. BASEMENT & EXTERIOR LEAD/MOLD/ASBESTOS RADON INSPECTION 24 ELAINE ROAD MILFORD, CT	
UP TO HOW TO SCALE VALUE	3

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 First Floor
 ACM LOCATION DRAWING



	
LEGEND OF SYMBOLS	
	ACM Location <small>See Report for Details</small>
NOTATIONS	
TOTAL SQUARE FEET = 1214	
CONSTRUCTION YEAR = 1924	
KAYL A. GINSBURG ENGINEER	
ChemScope Inc.	
FIRST FLOOR	
LEAD/MOLD/ASBESTOS RADON INSPECTION 24 ELAINE ROAD MILFORD, CT	
187-210	1
NOT TO SCALE	
11/17/14	

ChemScope Inc.

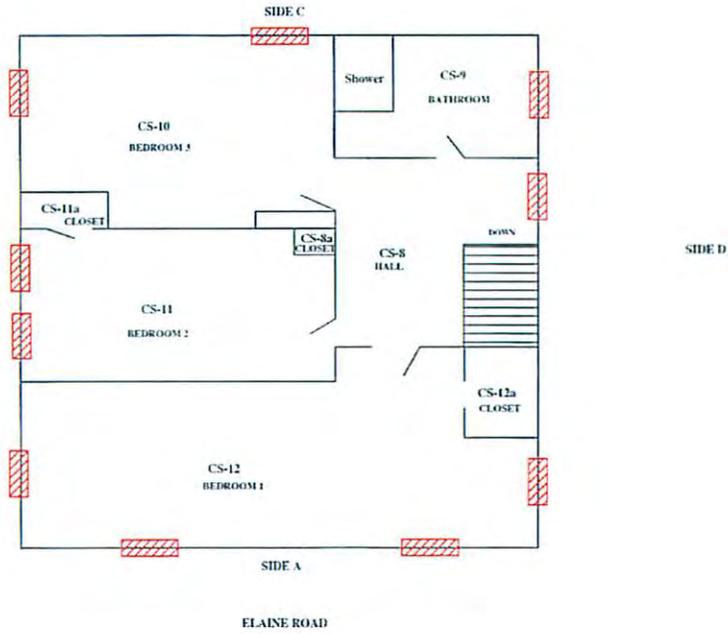
Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

Second Floor

ACM LOCATION DRAWING



Location of principal

ACM Location

See Appendix for Details

NOTATION

TOTAL SQUARE FEET = 124

CONSTRUCTION YEAR = 1980

DATE: 11/17/14

ChemScope Inc.

PLAN

SECOND FLOOR

LEAD/MOLD/ASBESTOS

RADON INSPECTION

24 ELAINE ROAD

MILFORD, CT

10/1/14

NOT TO SCALE

FIGURE

2

Certificate Of Analysis

*Diversified Technology Consultants (DTC) - Scott Feulner
2321 Whitney Avenue
Suite 301
Hamden CT 06518*

*11/24/2014
CS#: 187-210
Page 1 of 6*

Bulk sample(s) from Site #030 (Serini) - Application #1437, 24 Elaine Road, Milford, CT collected by Leigh Honorof on 11/17/2014

Asbestos Identification in the samples. Examination made by Polarized Light Microscopy (PLM) per EPA Test Method 600/R-93/116

Sample Identification

187-210-1 Brown fibrous paper (remnant from fiberglass insulation)/Basement

Findings (Analyzed 11/24/2014)

*No Asbestos Detected
6% Non Fibrous Particles
8% Mineral Wool
86% Volatile on Ignition*

187-210-2 Brown fibrous paper (remnant from fiberglass insulation)/Basement

*No Asbestos Detected
3% Non Fibrous Particles
4% Mineral Wool
93% Volatile on Ignition*

187-210-3 White/blue/green streaked floor tile (under carpet, on yellow hard mastic on wood)/First Floor - CS-1 Living Room

*7% Chrysotile Asbestos
61% Non Fibrous Particles
32% Volatile on Ignition*

187-210-4 White/blue/green streaked floor tile (under carpet, on yellow hard mastic on wood)/First Floor - CS-2 Closet

Not Analyzed

187-210-5 Yellow hard mastic (from sample #3)/First Floor - CS-1 Living Room

*No Asbestos Detected
40% Non Fibrous Particles
60% Volatile on Ignition*

Bulk sample(s) from Site #030 (Serini) - Application #1437, 24 Elaine Road, Milford, CT collected by Leigh Honorof on 11/17/2014

Asbestos Identification in the samples. Examination made by Polarized Light Microscopy (PLM) per EPA Test Method 600/R-93/116

Sample Identification

Findings (Analyzed 11/24/2014)

187-210-6 Yellow hard mastic (from sample #4)/First Floor - CS-2 Closet

*No Asbestos Detected
47% Non Fibrous Particles
53% Volatile on Ignition*

187-210-7 White hard 12" floor tile with green streaks on yellow glue (on white hard floor tile on yellow glue on striped beige floor tile on yellow glue on wood)/First Floor - Kitchen

*No Asbestos Detected
79% Non Fibrous Particles
21% Volatile on Ignition*

187-210-8 White hard 12" floor tile with green streaks on yellow glue (on white hard floor tile on yellow glue on striped beige floor tile on yellow glue on wood)/First Floor - Kitchen

*No Asbestos Detected
78% Non Fibrous Particles
22% Volatile on Ignition*

187-210-9 White hard floor tile on yellow glue (from under #7)/First Floor - Kitchen

*No Asbestos Detected
72% Non Fibrous Particles
28% Volatile on Ignition*

187-210-10 White hard floor tile on yellow glue (from under #8)/First Floor - Kitchen

*No Asbestos Detected
72% Non Fibrous Particles
28% Volatile on Ignition*

187-210-11 Striped beige floor tile on yellow glue (from under #9)/First Floor - Kitchen

*No Asbestos Detected
72% Non Fibrous Particles
28% Volatile on Ignition*

187-210-12 Striped beige floor tile on yellow glue (from under #10)/First Floor - Kitchen

*No Asbestos Detected
67% Non Fibrous Particles
33% Volatile on Ignition*

Bulk sample(s) from Site #030 (Serini) - Application #1437, 24 Elaine Road, Milford, CT collected by Leigh Honorof on 11/17/2014

Asbestos Identification in the samples. Examination made by Polarized Light Microscopy (PLM) per EPA Test Method 600/R-93/116

Sample Identification

Findings (Analyzed 11/24/2014)

187-210-13 White hard exterior window glazing (between glass and wood)/Second Floor, CS-10, Window B4

*17% Chrysotile Asbestos
66% Non Fibrous Particles
17% Volatile on Ignition*

187-210-14 White hard exterior window glazing (between glass and wood)/Second Floor, CS-12, Window A1

*No Asbestos Detected
89% Non Fibrous Particles
11% Volatile on Ignition*

187-210-15 White hard exterior window glazing (between glass and wood)/First Floor, CS-2 Closet, Window A1

*No Asbestos Detected
82% Non Fibrous Particles
18% Volatile on Ignition*

187-210-16 White pliable interior window caulk (between wood frame and wood sash)/First Floor, Kitchen, Window B3

*No Asbestos Detected
45% Non Fibrous Particles
55% Volatile on Ignition*

187-210-17 White pliable interior window caulk (between wood frame and wood sash)/First Floor, Kitchen, Window B5

*No Asbestos Detected
75% Non Fibrous Particles
25% Volatile on Ignition*

187-210-18 White hard interior window caulk (between wood frame and wood sash)/First Floor, CS-1 Living Room, Window A2

*No Asbestos Detected
78% Non Fibrous Particles
22% Volatile on Ignition*

187-210-19 White hard interior window caulk (between wood frame and wood sash)/First Floor, CS-1 Living Room, Window A2

*No Asbestos Detected
78% Non Fibrous Particles
22% Volatile on Ignition*

Bulk sample(s) from Site #030 (Serini) - Application #1437, 24 Elaine Road, Milford, CT collected by Leigh Honorof on 11/17/2014

Asbestos Identification in the samples. Examination made by Polarized Light Microscopy (PLM) per EPA Test Method 600/R-93/116

Sample Identification

Findings (Analyzed 11/24/2014)

187-210-20 Grey fibrous interior insulation (between wood frame and wood sash)/Second Floor, CS-10, Window B4

No Asbestos Detected
11% Non Fibrous Particles
89% Volatile on Ignition

187-210-21 Grey fibrous interior insulation (between wood frame and wood sash)/Second Floor, CS-8 Hall, Window D

No Asbestos Detected
12% Non Fibrous Particles
88% Volatile on Ignition

187-210-22 Grey pliable foam interior insulation with clear glue (between wood frame and wood sash)/Second Floor, CS-11, Window B2

No Asbestos Detected
27% Non Fibrous Particles
73% Volatile on Ignition

187-210-23 Grey pliable foam interior insulation with clear glue (between wood sill and wood sash)/First Floor, CS-6

No Asbestos Detected
41% Non Fibrous Particles
59% Volatile on Ignition

187-210-24 Clear pliable interior caulking (between wood sill and wood sash)/First Floor, Stairs

No Asbestos Detected
9% Non Fibrous Particles
91% Volatile on Ignition

187-210-25 Clear pliable interior caulking (between wood sill and wood sash)/First Floor, Stairs

No Asbestos Detected
7% Non Fibrous Particles
93% Volatile on Ignition

187-210-26 White pliable caulking (between wood sill and metal storm window sash)/Second Floor, CS-10, Window B4

No Asbestos Detected
46% Non Fibrous Particles
54% Volatile on Ignition

Bulk sample(s) from Site #030 (Serini) - Application #1437, 24 Elaine Road, Milford, CT collected by Leigh Honorof on 11/17/2014

Asbestos Identification in the samples. Examination made by Polarized Light Microscopy (PLM) per EPA Test Method 600/R-93/116

Sample Identification

187-210-27 White pliable caulking (between wood sill and metal storm window sash)/Second Floor, CS-10, Window B4

Findings (Analyzed 11/24/2014)

*No Asbestos Detected
46% Non Fibrous Particles
54% Volatile on Ignition*

187-210-28 White hard caulking (between wood sill and metal storm window sash)/Second Floor, CS-12, Window A1

*17% Chrysotile Asbestos
67% Non Fibrous Particles
16% Volatile on Ignition*

187-210-29 White hard caulking (between wood window frame and metal storm window sash, at interior)/First Floor, CS-7

*16% Chrysotile Asbestos
62% Non Fibrous Particles
22% Volatile on Ignition*

**PARAMETERS
ASBESTOS PLM ANALYSIS
(Revised 3/22/13)**

1. *Materials which contain >1% asbestos (greater than 1%) by PLM (polarizing light microscopy) analysis are considered to be asbestos containing materials under EPA and the State of Connecticut Regulations. OSHA still regulates material with <1%. (Contact laboratory for information.) (Note: A more sensitive method is available called TEM (transmission electron microscopy). TEM may detect asbestos fibers that PLM cannot see, but the above agencies' enforcement is based on PLM analysis. Rules may differ for states other than Connecticut. It is best to check with the individual state. For example, New York State requires TEM confirmation of negative PLM results on floor tile).*
2. *If no asbestos is detected in a sample, or if the asbestos content is less than 1% by PLM, additional samples of the same material should be submitted for confirmation. Please check with the laboratory for guidance on the number of samples needed. Sample collection in Connecticut must be by a DPH Licensed Asbestos Inspector. Many other states also require licensing.*
3. *Floor Tile Mastic: Mastic under floor tile should be separately sampled by scraping some of the mastic from the floor to avoid contamination from the floor tile.*
4. *Although Chem Scope, Inc. takes great effort to insure accuracy in the estimation of asbestos in the materials analyzed, no quantitation method is without some uncertainty. Based on independent calibration studies and comparison of Chem Scope's quantitative results with NVLAP and AIHA round robin programs we estimate our uncertainty in quantitation to be relatively small. The average relative uncertainty of the estimate is calculated to be 35% for samples that contain less than 10% asbestos. This means a estimate of 10% asbestos in a sample has a probable range of 6.5% to 13.5% while an estimate of 1% has a range of 0.65% to 1.35%.*
5. *The presence of non-asbestos components, which are recognized by the PLM analyst, is reported with the estimated amounts. This is not an exhaustive analysis for the non-asbestos materials since the primary purpose is to determine if asbestos is present and, if so, how much is present of each type of asbestos.*
6. *Results reported apply only to the sample(s) analyzed.*
7. *Special treatment of samples: Chem Scope, Inc. routinely uses gravimetric sample reduction techniques such as low temperature ashing or acid dissolution on samples like floor tile, roofing materials, glue dots, or high cellulose content samples prior to PLM analysis. These methods are used to aid in the PLM analysis and to provide better quantitative data. Layered samples, if possible, are analyzed separately as individual layers. However, in accordance with the method, if any layer contains >1% asbestos (greater than 1%) it is to be considered an asbestos containing material. All results are reported to the original sample basis.*
8. *Sample results are not corrected for blanks. Analytical blanks are run daily and if contamination is suspected the samples are rerun.*
9. *Chem Scope, Inc. performs "400 point" point counting when the asbestos content is visually estimated to be less than 10%. There is no additional charge for this analysis.*

The Scope of Accreditation referenced in this report applies to bulk asbestos fiber analysis by PLM (Polarized Light Microscopy).

Accreditation does not imply endorsement by NVLAP, NIST or any Federal or State Agency.

This report pertains only to the samples tested and may not be reproduced in part.

Condition of the samples at the time of receipt was acceptable unless otherwise noted on the Certificate of Analysis.

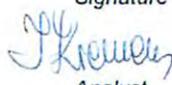
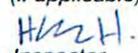
See test parameters above and attached chain of custody form.

We would love to hear from you. Comments? Questions? Please call or email us at chem.scope@snet.net

ChemScope, Inc. is accredited by AIHA LAP, LLC LAB #100134

NVLAB Lab Code 101061-0.

Connecticut Department of Public Health (DPH) Approval Environmental Lab PH 0581

Signature	Signature (if applicable)	Authorized Signature or	Authorized Signature	or Authorized Signature
 Analyst	 Inspector	Suzanne Cristante Laboratory Director	Izabela Kremens Quality Manager	 Ronald D. Arena President

Dear Laboratory Customer or Potential Customer,

New laboratory accreditation standards require us to provide our clients information about our services to make sure that your requirements for testing are adequately defined, documented and understood. The following is for your information. Please call us if you have any questions or comments.

Type of Samples

/ / PCM cassettes are routinely run by NIOSH Method 7400.
/ / Bulk materials are run by EPA Method: #600/R-93/116.

Air Samples: NIOSH 7400 Method counts all fibers. This method may be used for personal air samples and for finals. Two field blanks must be submitted for each set of samples. In the unlikely event that there is to be any deviation from the standard test, you will be consulted by phone before the work begins. Those clients who have not had NIOSH 582 or AHERA asbestos training courses (either supervisor or project monitor) should consult with the lab director for more information. The test parameters are further explained in the analytical report.

Bulk materials: sampled are analyzed by the latest EPA Method: (#600/R-93/116) which uses polarized light microscopy (PLM). When asbestos is detected and the amount is estimated to be less than 10%, we automatically point count the samples. When there are interfering substances present, we may use ashing, acid washing or other procedures described in the method to handle the interference. Those clients who have not had AHERA asbestos training courses (either inspector, supervisor or project designer) should consult with the lab director for more information. The test parameters are further explained in the analytical report.

All Samples must be clearly labeled with source name and identification number or sufficient information from the client to make this sample uniquely identified. (We will then add our notebook #, page # (batch) and unique number within the batch.) Samples must be in a clean, air tight package such as a zip loc bag. Appropriate completed paperwork must accompany the sample. Bulk and air samples may not be submitted in the same package.

As soon as available bench top results will be faxed to you and reports will then be mailed. We will retain air samples for at least three months and bulk samples for 6 months unless you advise us otherwise.

You are welcome to visit the laboratory at any time to discuss the work, monitor the work or verify our testing services. We appreciate your business and encourage any feedback regarding improving our services or our quality

You are welcome to visit the laboratory at any time to discuss the work, monitor the work or verify our testing services. We appreciate your business and encourage any feedback regarding improving our services or our quality

Customer Service Survey

To help us improve our services give your opinions to the following:

- 1- The printed laboratory report was complete and easy to understand. YES__ NO__
If no, please explain _____.
- 2- The turn around time for results met your expectations/needs. YES__ NO__
If no, please explain _____.
- 3- How likely are you to recommend ChemScope Inc. to someone?
Excellent__ Very Good__ Good__ Fair__ Poor__
- 4- How likely are you to return to ChemScope in the future if the need arises?
Excellent__ Very Good__ Good__ Fair__ Poor__
5. On a scale of 1 to 5 where 1 represents "Satisfied" and 5 represents "Dissatisfied", how would you rate your level of overall satisfaction.
1__ 2__ 3__ 4__ 5__
- 6- Please add any additional comments or suggestions that would be helpful when you use our services:

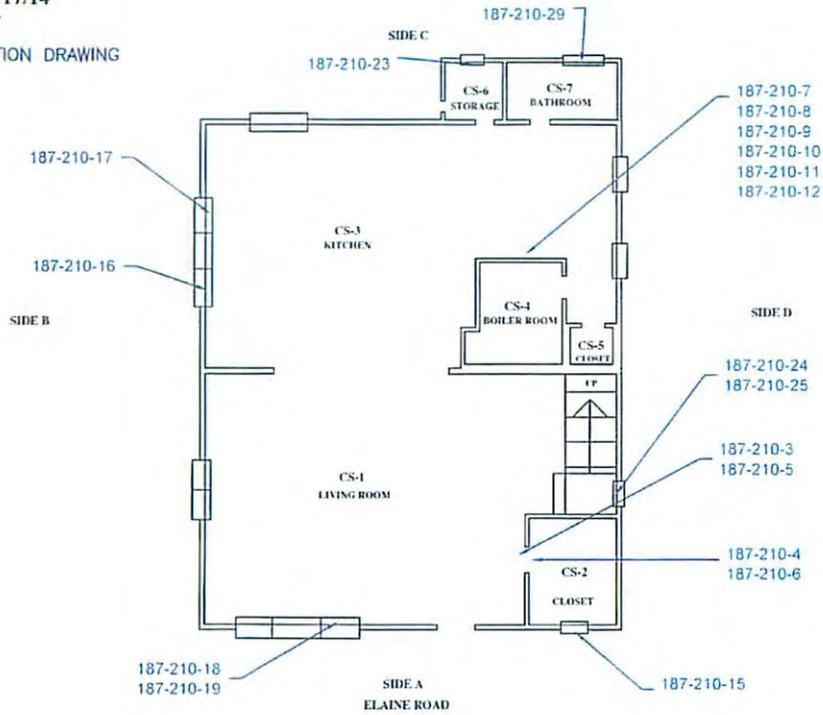
Name _____ Company _____

Address _____ Telephone/e-mail _____

Can we contact you regarding this survey? YES__ NO__

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 First Floor

BULK SAMPLE LOCATION DRAWING



	
LEGEND OF SYMBOLS	
#	Bulk Sample No.
BUILDING	
TOTAL SQUARE FEET	1274
CONSTRUCTION YEAR	1924
--- KALLA CARTER TECHNOLOGIES	
ChemScope Inc.	
FIRST FLOOR	
LEAD-MOLD-ASBESTOS RADON INSPECTION 24 ELAINE ROAD MILFORD, CT	
187-210	1
NOT TO SCALE	
11/17/14	

ChemScope Inc.

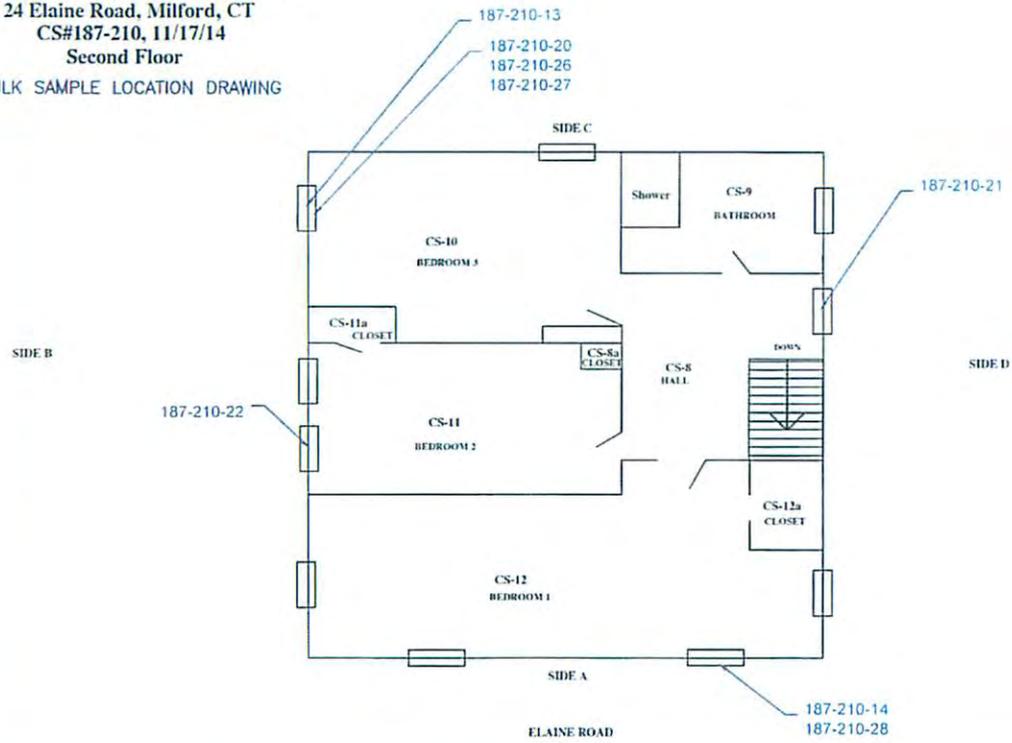
Site #030 (Serini) - Application #1437

24 Elaine Road, Milford, CT

CS#187-210, 11/17/14

Second Floor

BULK SAMPLE LOCATION DRAWING



LEGEND OF SYMBOLS

#	Bulk Sample No.

NOTATIONS

TOTAL SQUARE FEET	= 1,014
CONSTRUCTION YEAR	= 1978

DATE: 11/17/14

ChemScope Inc.

PLAN
SECOND FLOOR

LEAD/MOLD/ASBESTOS
RADON INSPECTION

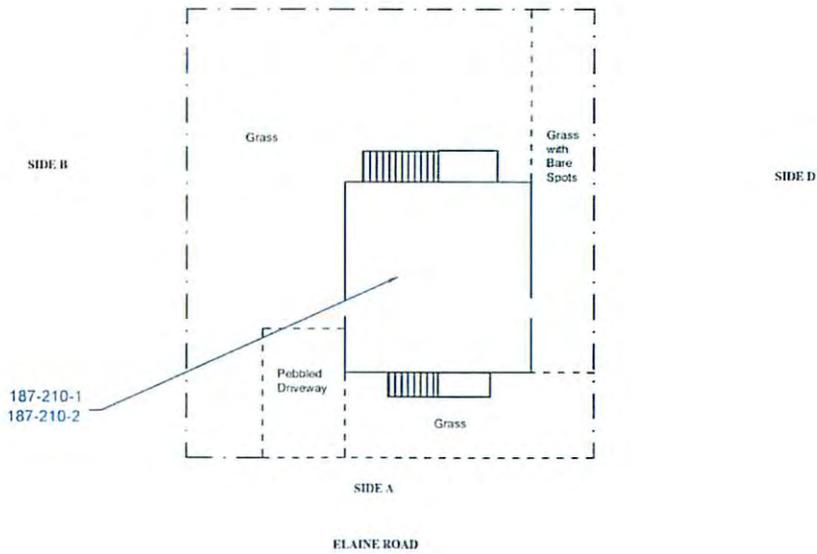
24 ELAINE ROAD
MILFORD, CT

REVISED
NOT TO SCALE
ISSUE

2

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior
 BULK SAMPLE LOCATION DRAWING

SIDE C



LEGEND OF SYMBOLS

#	Bulk Sample No.

NOTATIONS

- Fence
- Ground Cover Change

DATE: 11/17/14

ChemScope Inc.

BASEMENT & EXTERIOR

**LEAD-MOLD/ASBESTOS
 RADON INSPECTION
 24 ELAINE ROAD
 MILFORD, CT**

187-210
 NOT TO SCALE
 PLOT/TA

3

Scott Feulner
Diversified Technology Consultants (DTC)
2321 Whitney Avenue, Suite 301
Hamden, CT 06518

12/1/2014

**RADON AIR SAMPLING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437
CS#187-210, 11/17/2014 – 11/20/2014, PAGE 1 OF 4**

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Radon Sampling Report Synopsis	3
Limitations of the Sampling	4
Recommendations	4

Attachments:

- Radon Analysis report, 1 page(s)
- Chain of Custody Document(s), 2 page(s)
- Sample Location Drawing(s), 1 page(s)
- Radon Occupant Notification Forms, 2 page(s)
- Radon Training Qualification, 1 page(s)

Report Distribution:

Scott Feulner, DTC Scott.Feulner@teamdtc.com
Curtis Graham, DTC graham.curtis@teamdtc.com
Michael Casey, DTC michael.casey@teamdtc.com

File Location:

NAS D(dan):\myfilesds\mydocuments\DS_Radon_2014.doc

RADON AIR SAMPLING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437
CS#187-210, 11/17/2014 – 11/20/2014, PAGE 2 OF 4

INTRODUCTION

EXECUTIVE SUMMARY: Radon activity detected was below 4.0 pCi/L. Since the initial results are less than 4.0 pCi/L follow-up testing is probably not needed. The EPA recommends re-testing a home every two years.

PURPOSE: To determine if Radon is present in the in the subject home and at what levels.

BUILDING DESCRIPTION: The subject building is a two-story (plus basement crawlspace), single family, residential structure, totaling approximately 1220 sq ft, which was built in 1928 of wood-frame construction. The subject house was occupied at the time of our inspection. We understand the siding, gutters/downspouts, and some fencing have already been replaced after damage caused by hurricane Sandy in October of 2012. See attached drawings for detail.

BACKGROUND: We understand the subject house suffered damage as a result of hurricane Sandy on October 29-30, 2012. We understand the house suffered mainly from water and wind damage in relation to the storm and that the owner has already completed the following repairs: siding replacement, gutter/downspout replacement, and some fence replacement. We understand the scope of the renovations still to be completed as follows: Scope of work consists of; replacing/repairing front door and front windows, replacing of all flooring on 1st Floor, re-insulation of basement, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in basement.

SCOPE OF INSPECTION: We conducted short-term simultaneous radon testing.

This investigation and information provided in this report depends partly on background information provided by the client. This report is intended for the use of the client. The scope of services performed may not be appropriate for other users and any use of this report by third parties is at their sole risk. This report is intended to be used in its entirety. No excerpts may be taken to be representative of this report.

METHOD OF TESTING: For sampling we followed protocols outlined in "Protocols for Radon and Radon Decay Product Measurements in Homes" (EPA, May 1993). EPA recommends that testing take place in the lowest level of the home, which is currently suitable for occupancy. This means the lowest level that is currently lived in. Measurements should be made in a room, which is used regularly. The basement in this case is unfinished, so samples were run in the living room. Measurements were taken in an area at least 20" above the floor and at least 3' from any door, window or exterior wall. Measurements were not taken near HVAC vents, fans or in an area of frequent drafts.

Samples were collected by ChemScope and analyzed at EMSL (Cinnaminson, NJ). EMSL is a DPH approved Environmental Lab and a NEHA certified Analytical Laboratory. (See analytical reports enclosed). Samples were analyzed using liquid scintillation radon detectors and counted on a liquid scintillation counter using approved EPA testing protocols for Radon in Air testing. For more information on this method go to:
http://www.epa.gov/radon/pdfs/homes_protocols.pdf

RADON AIR SAMPLING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437
CS#187-210, 11/17/2014 – 11/20/2014, PAGE 3 OF 4

INSPECTION REPORT SYNOPSIS

LOCATION NAME AND ADDRESS: Site 030 (Serini) – Application #1437
 24 Elaine Road, Milford, CT

INSPECTION DATE(S): 11/17/2014-11/20/2014

QUALIFICATIONS: The survey team consisted of inspector, Dan Sullivan. Dan is a NRPP (National Radon Proficiency Program) trained technician and his certification number is 107005RT.

For information about Chem Scope, Inc., log onto <http://www.chem-scope.com>.

FINDINGS: The following chart is a summary of the results of our Radon sampling:

Sample Location	Canister #	Sample #'s	Radon Activity (pCi/L)
Living Room - Mantel	178768	187-210-1R	0.1
Living Room - Mantel	178764	187-210-2R	-0.1

Note: None of the samples collected were equal to or greater than 4.0 pCi/L. The EPA recommends a follow-up test (either short-term or long-term) if the average of the two short-term simultaneous tests is greater than or equal to 4.0 pCi/L and less than 10 pCi/L. If the average of the follow-up and initial tests is equal to or greater than 4.0 pCi/L then remedial action is required.

Temperature & Humidity Results

Location	%RH 11/17/14 9:30am	Air Temp (°F) 11/17/14	Pressure (mm Hg) 11/17/14	%RH 11/20/14 9:30 am	Air Temp (°F) 11/20/14	Pressure (mm Hg) 11/20/14
Living Room	54	67	758	57	66	760
Exterior	41	92	758	60	40	760

The sling psychrometer is the classical method for measuring humidity. Two ASTM thermometers are secured to a device that is spun through the air. One of the thermometers has a wick on the end soaked in water (WB or wet bulb reading). The other thermometer has no wick (DB or dry bulb reading = room temperature). The principle is that for a given temperature, the difference in WB and DB readings is a direct measure of the amount of water in the air. If air were very dry, it would evaporate much more water from the DB and the evaporation causes cooling. Results can be converted to %RH and dew point (DP). The dew point is a measure of the absolute amount of water in the air and is more useful in comparisons than the relative humidity, which is also affected by temperature.

RADON AIR SAMPLING
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437
CS#187-210, 11/17/2014 – 11/20/2014, PAGE 4 OF 4

GENERAL INFORMATION ABOUT RADON

From "Protocols for Radon and Radon Decay Product Measurements in Homes" (EPA, May 1993): "The average year-round residential indoor radon level is estimated to be about 1.3 pCi/L, and about 0.4 pCi/L of radon is normally found in outside air. The U.S. Congress has set a long-term goal that indoor radon levels be no more than outdoor levels. There is some risk from radon levels below 4 pCi/L, and EPA recommends that the homeowner consider reducing the radon level if the average of the first and second short-term measurements or if a long-term follow-up measurement is between 2 and 4 pCi/L (0.01 and 0.02 WL). While it is not yet technologically achievable for all homes to have their radon levels reduced to outdoor levels, the radon levels in some homes today can be reduced to 2 pCi/L or below."

LIMITATIONS OF SAMPLING

The radon test run was a short-duration test (2-90 days). The test is designed to be run under Closed- building conditions. The occupants were given notice of the testing by our client prior to our testing and given instructions on maintaining Closed-building conditions during the test. ChemScope is not responsible for maintaining Closed-building conditions; that is the responsibility of the occupants. The building conditions appeared to meet Closed-building conditions when we arrived to set-up the test and again when we arrived to pick-up the canister at the conclusion of the test. The occupants have signed our form indicating that Closed-building conditions were kept during the duration of the test (48 hrs). See attached notification forms.

RECOMMENDATIONS

Radon activity detected was below 4.0 pCi/L. Since the initial results are less than 4.0 pCi/L follow-up testing is probably not needed. The EPA recommends retesting a home every two years or if the basement becomes more frequently used.

Please call me if there are any questions about this report or if you need further assistance.

Thank you for calling on us.



Dan Sullivan
Vice President, Operations



EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675 / (856) 786-0327

<http://www.EMSL.com>

cinnaminsonradonlab@emsl.com

EMSL Order:	381406661
CustomerID:	CHEM51
CustomerPO:	1369
ProjectID:	

Attn: **Dan Sullivan**
ChemScope, Inc.
15 Moulthrop Street
North Haven, CT 06473

Phone: (203) 865-5605
 Fax: (203) 498-1610
 Received: 11/25/14 11:15 AM
 Analysis Date: 11/25/2014
 Collected: 11/17/2014

Project: CS #187-210-1R / CS #187-210-2R

Test Site: **Serini**
24 Elaine Street
Milford, CT 06460

Test Report: Radon in Air Test Results

Samples for EMSL Kit 106490

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
178768 381406661-0001	CS #187-210-1R - Living Room (Mantle)	0.1	11/17/2014 8:45:00 AM	11/20/2014 8:45:00 AM	66	57	Customer

Sample Notes:

Samples for EMSL Kit 106491

Liquid Scintillation ID	Location	Radon Activity pCi/L	Start	Stop	Temperature F	Humidity %	Sample Type
178764 381406661-0002	CS #187-210-2R - Living Room (Mantle)	-0.1	11/17/2014 8:45:00 AM	11/20/2014 8:45:00 AM	66	57	Customer

Sample Notes:

The radon test was performed using a liquid scintillation radon detector/s and counted on a liquid scintillation counter using approved EPA testing protocols for Radon in Air testing. The EPA recommends fixing your home if the average of two short-term tests taken in the lowest lived-in level of the home show radon levels that are equal to or greater than 4.0pCi/L. The EPA recommends retesting your home every two years.

Please contact EMSL Analytical, Inc. or your State Health Department for further information.

All procedures used for generating this report are in complete accordance with the current EPA protocols for the analysis of Radon in Air.

Report Note

Analyst(s)

Laura Freeman (1)

Tiffanie Cosgrove (1)

Garrett A. Ray, Laboratory Manager
 Certified Radon Measurement Specialist NRSB 5SS0093
 NJ MES12264, FL R2001, NE 116, PA 2572

In no event shall EMSL be liable for indirect, special, consequential, or incidental damages, including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages, arising out of or in connection with EMSL's services thereunder or the delivery, use, reliance upon or interpretation of test results by client or any third party. We accept no legal responsibility for the purposes for which the client uses the test results. In no event shall EMSL be liable to a client or any third party, whether based upon theories of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereunder. The test results meets all NELAC requirements unless otherwise specified. Accreditations: NRSB ARL6006, NJ DEP 03036, MEB 92525, PA 2573, IN 00455, IA L00032, RI RAS-024, ME 20200C, NE RMB-1083, NY ELAP 10872, NM 885-10L, FL RB2034, OH RL-39, NRPP #106178AL, KS-LB-0005

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ

Initial report from 12/01/2014 11:16:38

Please visit www.radontestinglab.com



EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
Tel: 800-220-3675 • Fax: 856-786-0327
www.radontestinglab.com

381406661

DOM: 8/15/14 m⁺
EXP: 8/15/15 4

RECEIVED
EMSL
CINNAMINSON, NJ

CHEMSI
5day

CS# 187-210-1R NOV 25 AM 11:14
PO# 1369

Radon In Air Data Sheet

Send Written Report To:

Name Dan Sullivan - ChemScope
Address 15 Mouthrop Street
City North Haven State CT Zip 06473
Phone 203-805-5605 Fax 203-498-1610
Email sullivan.chemscope@snet.net
Technician Name Dan Sullivan
Technician Certification # 107005 RT
Technician Signature Dan Sullivan

1ST RED VIAL # 178768
LOCATION CS# 187-210-1R
 Basement First Floor Bedroom Den
 Living Room Other _____
 Location in Room mantel

2ND RED VIAL # _____
(If Purchased)

The device has been scientifically tested to provide reliable indoor radon measurements when exposed to temperatures between 60 and 80 degrees F; temperatures outside this range will invalidate the test results.

Kit # 106490 (Outside of Box)

The test device must remain open for 48 to 96 hours • Return this section with the test device to the laboratory

Property Tested:

Name Serini
Address 24 Elaine Street
City Milford
Municipality _____ County New Haven
State CT Zip 06460

Check here if this is a Post Mitigation test.

Technician Name _____
Technician Certification # _____
Technician Signature _____

INDOOR CONDITIONS

Temperature 67°F / 66 °F Humidity 54% / 57%
11/17 11/20

EXPOSURE PERIOD

Beginning Date: 11 / 17 / 2014

Time: 8:45am (AM) / PM (Circle)

Ending Date: 11 / 20 / 2014

Time: 845 (AM) / PM (Circle)

Tear Here



EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
Tel: 800-220-3675 • Fax: 856-786-0327
www.radontestinglab.com

381406661

DOM: 8/15/14 #1
EXP: 8/15/15 #1

RECEIVED
EMSL
CINNAMINSON, NJ
NOV 25 AM 11:14
CS#187-210-2R PO# 1369

Chemist
today

Radon In Air Data Sheet

Send Written Report To:

Name Dan Sullivan - ChemScape, Inc
Address 15 Mouthrop Street
City North Haven State CT Zip 06473
Phone 203-865-5605 Fax 203-498-1610
Email Sullivan.chemscape@snet.net
Technician Name Daniel Sullivan
Technician Certification # 107005 RT
Technician Signature Dan Sullivan

1ST RED VIAL # 178764
LOCATION CS#187-210-2R
 Basement First Floor Bedroom Den
 Living Room Other _____
 Location in Room Master

2ND RED VIAL # _____
(If Purchased)

The device has been scientifically tested to provide reliable indoor radon measurements when exposed to temperatures between 60 and 80 degrees F; temperatures outside this range will invalidate the test results.

Kit # 106491 (Outside of Box)

The test device must remain open for 48 to 96 hours • Return this section with the test device to the laboratory

Property Tested:

Name Serini
Address 24 Elaine Road
City Milford
Municipality _____ County New Haven
State CT Zip 06460

Check here if this is a Post Mitigation test.

Technician Name _____
Technician Certification # _____
Technician Signature _____

INDOOR CONDITIONS

Temperature ^{11/17} 67°F / ^{11/20} 66 °F Humidity ^{11/17} 54% / ^{11/20} 57 %

EXPOSURE PERIOD

Beginning Date: 11 / 17 / 2014

Time: 8:45 (AM) / PM (Circle)

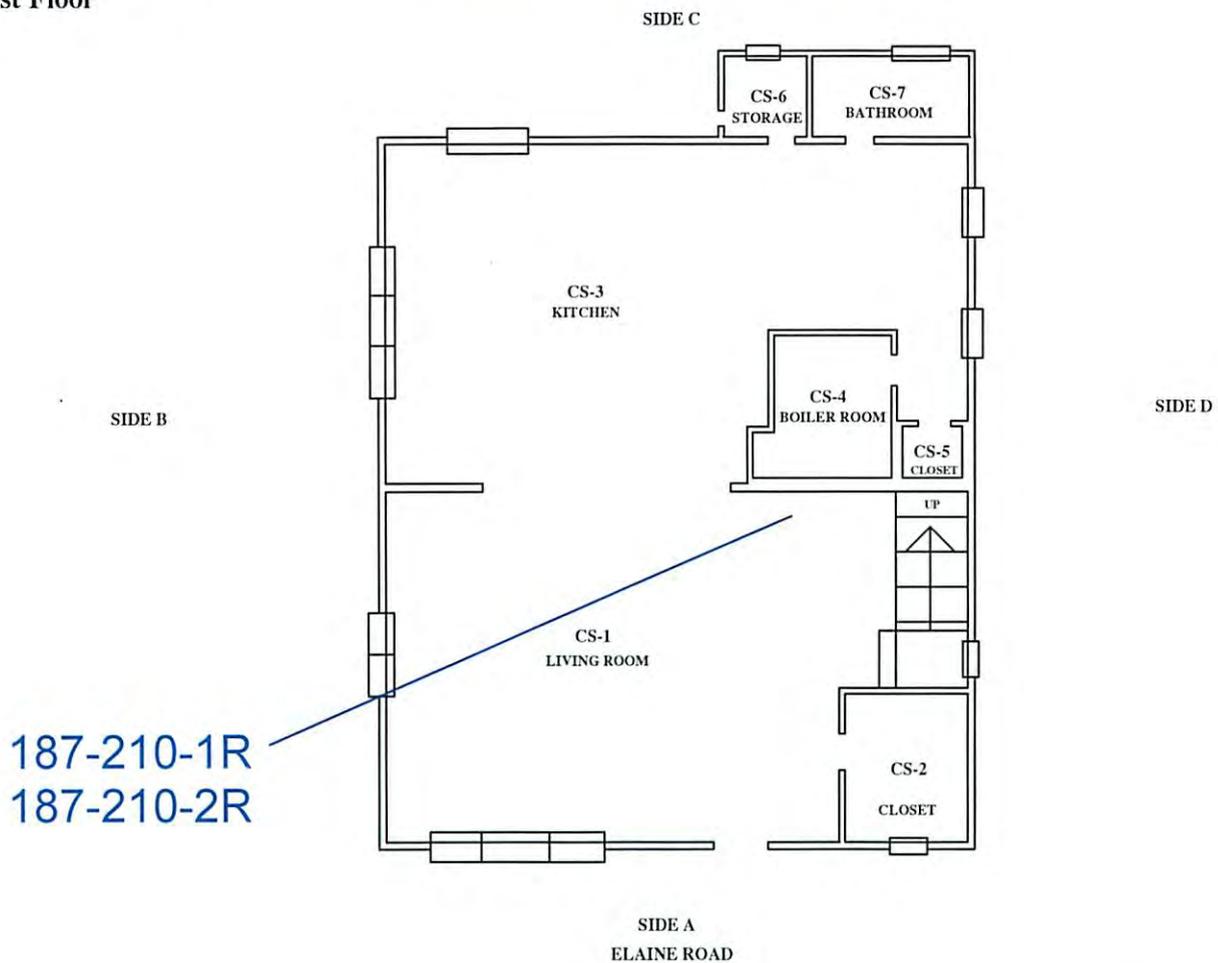
Ending Date: 11 / 20 / 2014

Time: 8:45 (AM) / PM (Circle)

Tear Here

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 First Floor

Radon Sample Locations 11/17-11/20/2014



LEGEND OF SYMBOLS

NOTATIONS

TOTAL SQUARE FEET = 1218
 CONSTRUCTION YEAR = 1928

Drawn BY: KAYLA CARNES LEIGH HONOROF

ChemScope Inc.

FIRST FLOOR

LEAD/MOLD/ASBESTOS
 RADON INSPECTION
 24 ELAINE ROAD
 MILFORD, CT

PROJECT NUMBER

187-210

SCALE

NOT TO SCALE

DATE

11/17/14

1 R

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

15 Moulthrop Street, North Haven, CT 06473-3686 • Phone (203) 865-5605 • Fax (203) 498-1610

COMPLIANCE AGREEMENT – Page 1 of 2

Dear occupant of 24 Elaine Road, Milford, CT,

Radon gas is the second leading cause of lung cancer and the leading cause of lung cancer in non-smokers. Radon is a naturally occurring radioactive gas that can be present in some homes at concentrations that are dangerous to you, your family and pets.

An important step is being taken to lower your risk of lung cancer. A radon test is being scheduled for the property.

Radon test devices will be placed in your home for several days to take a reading.

It is important that we can gain access to place test devices and that required test conditions are maintained.

Required Closed-building conditions

- Closed-building conditions must be maintained for 12 hours prior to the initiation of the test and during the test.
- All windows on all levels and external doors must be kept closed (except for momentary events such as normal entry and exit) before and during the test period.
- Heating and cooling systems must be set to normal occupied operating temperatures and their fan/blower controls must be set to normal intermittent activity unless continuous activity is a permanent setting.
- Window air conditioning units must only be operated in a recirculating mode. Equipment that supplies fresh air to the dwelling must be deactivated except for make-up air to combustion appliances.
- Whole house fans must not be operated. Window fans should be removed or sealed shut. Wood burning fireplaces must not be operated unless they are the primary sources of heat for the dwelling. Avoid excessive operation of clothes dryers, range hoods, bathroom fans and other mechanical systems that draw air out of the building.

Tentative device placement: Day Monday Date 11/17/2014 Time 8:30AM

We will request your signature and any comments on a form left with the test device.

Tentative device pick-up: Day Wednesday Date 11/19/2014 Time 8:30AM
Thursday 11/20 *11/20/2014*

Test devices are not dangerous in any way and a sample test device is available at our office for you to examine if you wish. Copies of EPA's A Citizen's Guide to Radon are available upon request or you can contact your State Radon Office or EPA regional office for additional information on radon.

For any questions, concerns or if you have independently performed radon testing in your home, please contact: Dan Sullivan, ChemScope, Inc. 203-865-5605.

We thank you for your cooperation in helping to ensure safe and healthy homes.

Sincerely,



Daniel P. Sullivan

Vice President, Operations

Office 203-865-5605

Cell 203-996-3621

D(dan):myfilesds\mydocuments\Radon\Radon Forms 2014.doc

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

15 Moulthrop Street, North Haven, CT 06473-3686 • Phone (203) 865-5605 • Fax (203) 498-1610

COMPLIANCE AGREEMENT – Page 2 of 2

Dear occupant of 24 Elaine Road, Milford, CT,

An important step is being taken to help ensure healthy conditions in your home. It is important that required test conditions be maintained.

Please sign this form and add any comments to help ensure accurate tests:

To the best of my knowledge, the required conditions were kept during the test.

Occupant X Mrs. Patricia Serino Date 11.20.14

Comments if any: _____

Device Pick-up Day Thursday Date 11/20/2014 Time 8:30AM
Wednesd Date 11/19/2014
at 11/20 at 11/20

Required Closed-building conditions:

- Closed-building conditions must be maintained for 12 hours prior to the initiation of measurements lasting less than four days and throughout the test period.
- All windows on all levels must be kept closed and external doors must be kept closed (except for momentary entry and exit).
- Heating and cooling systems must be set to normal, occupied operating temperatures; fan/blower controls must be set to intermittent activity unless continuous activity is a permanent setting.
- Whole house fans must not be operated.
- Occupants should avoid excessive operation of clothes dryers, range hoods, bathroom fans and other mechanical systems that draw air out of the building.
- Wood burning fireplaces must not be operated unless they are the primary sources of heat for the dwelling.

We thank you for your cooperation in helping to ensure safe and healthy homes.

Sincerely,



Daniel P. Sullivan
Vice President, Operations
Office 203-865-5605
Cell 203-996-3621

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National Radon Proficiency Program



February 20, 2013

Daniel Sullivan
Chem Scope, Inc.
15 Moulthrop Street
North Haven, CT 06473

Residential Measurement Provider

NRPP Certification Number: 107005 RT

NRPP Expiration Date: 2/28/2015

Your NRPP identification card is enclosed. Your certification will expire on the date indicated above. Information regarding the National Radon Program may be obtained by visiting our web site located at nrpp.info.

Comments:

Best regards,

A handwritten signature in cursive script that reads 'Angel Anderson Price'.

Angel Anderson Price, Executive Director, NRPP

Non-Photo ID

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

15 Moulthrop Street, North Haven, CT 06473-3686 • Phone (203) 865-5605 • Fax (203) 498-1610

Scott Feulner
Diversified Technology Consultants (DTC)
2321 Whitney Avenue, Suite 301
Hamden, CT 06518

12/1/2014

**PRELIMINARY MOLD ASSESSMENT
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 1 OF 5**

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Limitations of Assessment	5

Attachments:

- Site Drawings – 2 page(s)
- Mold Swab Analytical Report and Chain of Custody – 2 page(s)
- Mold Swab Location Drawing – 1 page(s)
- Mold Location Drawing – 1 page(s)

Report Distribution:

Scott Feulner, DTC Scott.Feulner@teamdtc.com
Curtis Graham, DTC graham.curtis@teamdtc.com
Michael Casey, DTC michael.casey@teamdtc.com

File Location:

D(dan):\myfilesds\mydocuments\Mold\indoorfo_2014.doc

This investigation and information provided in this report depends partly on background information provided by the client. This report is intended for the use of the client. The scope of services performed may not be appropriate for other users and any use of this report by third parties is at their sole risk. This report is intended to be used in its entirety. No excerpts may be taken to be representative of this report.

It is possible that hidden mold may be growing inside the building cavities. Some floor, wall or ceiling demolition would be needed to find hidden mold.

**PRELIMINARY MOLD ASSESSMENT
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 2 OF 5**

INTRODUCTION

EXECUTIVE SUMMARY: Based on our assessment, the only suspect mold growth seen was in the crawlspace. All materials tested from the first floor were dry at the time of our assessment.

BUILDING DESCRIPTION: The subject building is a two-story (plus basement crawlspace), single family, residential structure, totaling approximately 1220 sq ft, which was built in 1928 of wood-frame construction. The subject house was occupied at the time of our inspection. We understand the siding, gutters/downspouts, and some fencing have already been replaced after damage caused by hurricane Sandy in October of 2012. See attached drawings for detail.

BACKGROUND: We understand the subject house suffered damage as a result of hurricane Sandy on October 29-30, 2012. We understand the house suffered mainly from water and wind damage in relation to the storm and that the owner has already completed the following repairs: siding replacement, gutter/downspout replacement, and some fence replacement. We understand the scope of the renovations still to be completed as follows: Scope of work consists of; replacing/repairing front door and front windows, replacing of all flooring on 1st Floor, re-insulation of basement, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in basement.

INSPECTION AND TESTING: Dan Sullivan of Chem Scope, Inc. was at the site on 11/17/2014 to conduct the subject tests. All of the doors and windows were closed at the time of our inspection, which was normal given the weather conditions. Our work included:

- Visual inspection
- Temperature/Humidity and Moisture in building materials

SCOPE OF WORK: Our client has hired us to do a preliminary mold assessment of the first floor and crawlspace, where there was past water damage.

MOLD ASSESSMENT REPORT SYNOPSIS

Observations from Visual Inspection/temperature and humidity testing:

We arrived on site at around 8:00 AM. It was raining at the time of our assessment. The temperature at the time of our assessment was about 40 deg F and it was lightly raining. We were let into the house by our client and the owner. There was no visible mold or noticeable smells/odors in the first floor and second floor rooms.

All materials tested on the first floor had <20% WME (wood moisture equivalents).

The crawlspace is under the entire first floor and there is access from the side of the house. The crawlspace has a soil floor and a wood ceiling. There are no stored materials in the crawlspace. There is visible suspect mold growth on the wood ceiling to the crawlspace and on wooden beams and framing. The soil is a naturally occurring place where mold is certain to be present and now wet we have to assume there is mold growth, which is not likely to become visible.

**PRELIMINARY MOLD ASSESSMENT
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 3 OF 5**

MOLD ASSESSMENT REPORT SYNOPSIS (cont)

The temperature and humidity, inside vs outside was determined using a sling psychrometer. Normal dew point levels are generally considered between 10 and 21 °C (50 and 69 °F). In areas with dew points under 10 °C (50 °F), the air is considered too dry. In areas with dew points above 21 °C (69 °F), the air is considered too humid. Normal relative humidity for a house is 30-50% depending on the outdoor climate. Humidity and dew points in the house were normal for the exterior conditions that day. The humidity in the crawlspace was elevated as expected given the conditions of the day and a damp soil crawlspace floor.

Table 1 - Temperature & Humidity Results (11/17/2014, Pressure 758 mm Hg)

Location	Dry Bulb (°F) (Room / Air Temperature)	Wet Bulb (°F)	%RH	Dew Point (°F)
Kitchen	67	57	54	50
Living Room	67	57	54	50
Crawlspace	45	44	93	43
Exterior	41	42	92	40

A Protimeter Moisture Measurement System (Marlow England) was used to measure the amount of moisture in various surfaces and materials in terms of wood moisture equivalents (WME). This device has two pin-point probes, which are inserted in the surface and the conductivity is used to measure moisture in the material as % H₂O. Moisture is important to detect potential biological growth. The normal amount of moisture in each material varies with humidity. Materials which have >30% H₂O are relatively damp and may be wet enough to permit mold growth. A material with 70% H₂O is very wet and likely to have mold growth. This instrument does not measure below 7% moisture, which is considered bone dry. This device was also used to test for room temperature, % relative humidity and dew point. The dew point is a measure of the absolute amount of water in the air and is more useful in comparisons than the relative humidity, which is also affected by temperature.

A Summary of the moisture readings and visual inspection is listed in Table below:

Table 2 – Visible Mold and % Moisture in Building materials (11/17/2014)

Room / Material	% Moisture (WME)	Notes
First Floor / Lower sheetrock walls and wood baseboards	< 15%	No Visible Mold
First Floor Living Room / Carpet	10-20%	No Visible Mold
Crawlspace / Wood ceiling and beams	10-15%	Suspect Mold Growth – Confirmed by Swab Sampling
Crawlspace / Poly on soil on floor	80%	Likely mold growth in damp soil

PRELIMINARY MOLD ASSESSMENT
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 4 OF 5

MOLD ASSESSMENT REPORT SYNOPSIS (cont)

MOLD IN SURFACE RESULTS: A swab sample was taken on suspect beige and white spots on the wooden crawlspace ceiling (187-210-1M and 187-210-2M). For reference a sample was taken of a clean section of wood ceiling in the crawlspace (187-210-3M). Data is summarized in Table 3 below. Fruiting structures and/or hyphae were found on sample 183-210-2M indicating that the mold growth is active. See EMSL report attached for details.

Table 3 - Principal Molds detected on surfaces – 11/17/2014

Sample #	Location / Surface Tested	Principal Mold Detected
183-210-1M (Swab)	Crawlspace / Beige spots on wooden ceiling	None Detected
183-210-2M (Swab)	Crawlspace / White spots on wooden ceiling	*High* Aspergillus/Penicillium
183-210-2M (Swab)	Crawlspace / Clean section of wooden ceiling	None Detected

*Fruiting Structures present

General Information about Mold: EPA does not call for routinely air testing for mold in assessment. Mold is always present indoors and outdoors and is a natural and necessary part of the environment. There are no Connecticut or federal health based standards for molds. EPA and other agencies report that molds have the potential to cause health effects. The main concerns are people with allergies, asthma and compromised immune systems. There are thousands of mold species, and many are not yet identified. There is much more to learn and new information is becoming available regularly. In mold assessment, we strive to detect moisture problems that cause excessive biological growth and when appropriate, recommend a plan of corrective action. When moisture problems occur, mold growth is likely if organic materials are not promptly dried up. Hidden mold may exist which cannot be seen without demolition.

RECOMMENDATIONS

See our separate Asbestos Pre-Renovation Inspection Report and Lead Pre-renovation XRF Screening Report for details regarding asbestos and lead present in these areas.

In general, correction of water damage requires first eliminating the source of the water. With the house being raised there should be a great increase in the ventilation below the house, which should address the excess humidity in the crawlspace. Raising the structure and installing a concrete foundation will also address the potential for mold in the soil of the crawlspace.

Continued

**PRELIMINARY MOLD ASSESSMENT
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 5 OF 5**

RECOMMENDATIONS (CONT)

Instructions for Moisture Remediation: These instructions are intended for trained moisture/mold remediation contractors who are familiar with the terms used and skilled in the operations involved in moisture/mold remediation. Although no mold was seen on sheetrock walls, based on the homeowner's previous renovations, mold is assumed to exist inside the wall cavities and the following instructions should be used:

For the Crawlspace:

1. The work area must be unoccupied except for authorized personnel during subsequent work. Use poly to isolate the work areas from the rest of the building.
2. Negative air must be used to purge out the areas using HEPA filtered blowers, at least 2000 CFM per area. Negative air must be exhausted outside.
3. HEPA vacuums must be used for the cleanup. Thorough HEPA vacuuming is essential.
4. Abrasively clean suspect mold growth from wood ceilings and beams from the crawlspace. Abrasive removal should be done within a negative pressure containment or enclosure and cleaned using HEPA vacuums and tack cloths.
5. Some demolition may be necessary to access all of the suspect mold growth.
6. Clean out any debris and clean all surfaces. With the owner's approval, spray cleaned surfaces, especially wall cavities with mold inhibitor. Quaternary ammonium compounds are preferred mold growth inhibitors. Only EPA/DEEP registered fungicides may be used such as Fiberloc Shockwave^R and Aftershock^R. Any product used at the contractor's discretion to kill mold or to deter future mold growth must be an EPA/DEEP registered fungicide including any sealant finishing products.
7. Replace with new mold-free similar materials.
8. After the work is complete, a final visual inspection is suggested for quality control. Air samples could be run at the conclusion of the work at the owner's discretion. Any testing should be done after the negative air units have been shut off for at least a day.

Limitations of Mold Removal: It is well known in the industry that mold can never completely be removed from a site because of the constant presence of mold spores in the outdoor environment and the ability of molds to remain dormant within a building. If moisture problems recur, mold growth is likely.

For guidance on mold, log onto EPA.gov and search mold remediation or the state DPH web site.

Please call me if there are any questions about this report or if you need further assistance.

Thank you for calling on us.

Dan Sullivan
Vice President, Operations



EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492
Phone/Fax: 203-284-5948 / (203) 284-5978
<http://www.EMSL.com> / wallingfordlab@emsl.com

Order ID: 241404589
Customer ID: CHEM51
Customer PO: 1366
Project ID:

Attn: Dan Sullivan
ChemScope, Inc.
15 Moulthrop Street
North Haven, CT 06473
Phone: (203) 865-5605
Fax: (203) 498-1610
Collected: 07/17/2014
Received: 11/18/2014
Analyzed: 11/24/2014
Proj: CS#187-210

Test Report: Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, and Other Particulates from Swab Samples (EMSL Method: M041)

Lab Sample Number: Client Sample ID: Sample Location:	241404589-0001 187-210-1M Wood ceiling- beige spot	241404589-0002 187-210-2M Wood ceiling- white spot	241404589-0003 187-210-3M Wood ceiling- clean		
Spore Types	Category	Category	Category		
Agrocybe/Coprinus	-	-	-		
Alternaria	-	-	-		
Ascospores	-	-	-		
Aspergillus/Penicillium	-	*High*	-		
Basidiospores	-	-	-		
Bipolaris++	-	-	-		
Chaetomium	-	-	-		
Cladosporium	-	-	-		
Curvularia	-	-	-		
Epicoccum	-	-	-		
Fusarium	-	-	-		
Ganoderma	-	-	-		
Myxomycetes++	-	-	-		
Paecilomyces	-	-	-		
Rust	-	-	-		
Scopulariopsis	-	-	-		
Stachybotrys	-	-	-		
Torula	-	-	-		
Ulocladium	-	-	-		
Unidentifiable Spores	-	-	-		
Zygomycetes	-	-	-		
Fibrous Particulate	-	Low	-		
Hyphal Fragment	-	Low	-		
Insect Fragment	-	-	-		
Pollen	-	-	-		

Sample Comment: 241404589-0001 None Detected
Sample Comment: 241404589-0003 None Detected

Report Comment: Expired Swab media used: 08/2014

Category: Count/per area analyzed
Rare: 1 to 10 Low: 11 to 100 Medium: 101 to 1000 High: >1000
Bipolaris++ = Bipolaris/Dreschlera/Exserohilum Myxomycetes++ = Myxomycetes/Periconia/Smut
* = Sample contains fruiting structures and/or hyphae associated with the spores.

Gloria V. Oriol, Laboratory Manager
or Other Approved Signatory

No discernable field blank was submitted with this group of samples.

EMSL maintains liability limited to cost of analysis. 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 or analytical method limitations. Interpretation of the data contained in this report is the responsibility of the client. *- denotes not detected. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT AIHA-LAP, LLC--EMLAP Accredited #165118

Initial report from: 11/24/2014 17:02:21

For Information on the fungi listed in this report please visit the Resources section at www.emsl.com



EMSL ANALYTICAL, INC.
LABORATORY-PRODUCTS-TRAINING

EMSL Order Number (Lab Use Only):

241404589

EMSL ANALYTICAL, INC.
29 NORTH PLAINS HWY, UNIT 4
WALLINGFORD, CT 06492

PHONE (203) 284-5948
FAX (203) 284-5978

Company: ChemScan		EMSL-Bill to: <input type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 15 Mouthwep St.		Third Party Billing requires written authorization from third party	
City: North Ham	State/Province: CT	Zip/Postal Code: 06473	Country: USA
Report To (Name): Dan Sullivan		Telephone #: 203-865-5605	
Email Address:		Fax #: 203-498-1610	Purchase Order:
Project Name/Number: CS#187-210		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
U.S. State Samples Taken:		Connecticut Samples: <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential	

Turnaround Time (TAT) Options* - Please Check

- 3 Hour 6 Hour 24 Hour 48 Hour 72 Hour 96 Hour 1 Week 2 Week

*Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide. TATs are subject to methodology requirements

Non Culturable Air Samples (Spore Traps)

- M001 Air-O-Cell
- M049 BioSIS
- M030 Micro 5
- M173 Allegro M2
- M003 Burkard
- M174 MoldSnap
- M004 Allergenco
- M043 Cyclex
- M176 Relle Smart
- M032 Allergenco-D
- M002 Cyclex-d
- M130 Via-Cell
- M172 Versa Trap

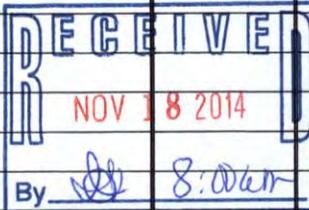
Other Microbiology Test Codes

- M041 Fungal Direct Examination
- M005 Viable Fungi ID and Count
- M006 Viable Fungi ID and Count (Speciation)
- M007 Culturable Fungi
- M008 Culturable Fungi (Speciation)
- M009 Gram Stain Culturable Bacteria
- M010 Bacterial Count and ID - 3 Most Prominent
- M011 Bacterial Count and ID - 5 Most Prominent
- M013 Sewage Contamination in Buildings
- M014 Endotoxin Analysis
- M015 Heterotrophic Plate Count
- M180 Real Time Q-PCR-ERMI 36 Panel
- M018 Total Coliform (Membrane Filtration)
- M020 Fecal Streptococcus (Membrane Filtration)
- M210-215 Legionella Detection
- M026 Recreational Water Screen
- M027 Mycotoxin Analysis
- M029 Enterococci
- M019 Fecal Coliform
- M133 MRSA Analysis
- M028 Cryptococcus neoformans Detection
- M120 Histoplasma capsulatum Detection
- M033-39 Allergen Testing
- M044 Group Allergen (Cat, Dog, Cockroach, Dustmites)
- Other See Analytical Price Guide

Preservation Method (Water):

Name of Sampler:

Signature of Sampler:

Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
187-210-1m	Wood Ceiling - beige spot	Swab	M041	-	11/17/14 9:30am
-2m	" " - white spot	"	"	-	" "
-3m	Wood Ceiling - clean	"	"	-	" "
					

Client Sample # (s): 187-210- (1m-3m)

Total # of Samples: 3

Relinquished (Client): Dan Sullivan

Date: 11/17/14

Time: 5:40 PM

Received (Client):

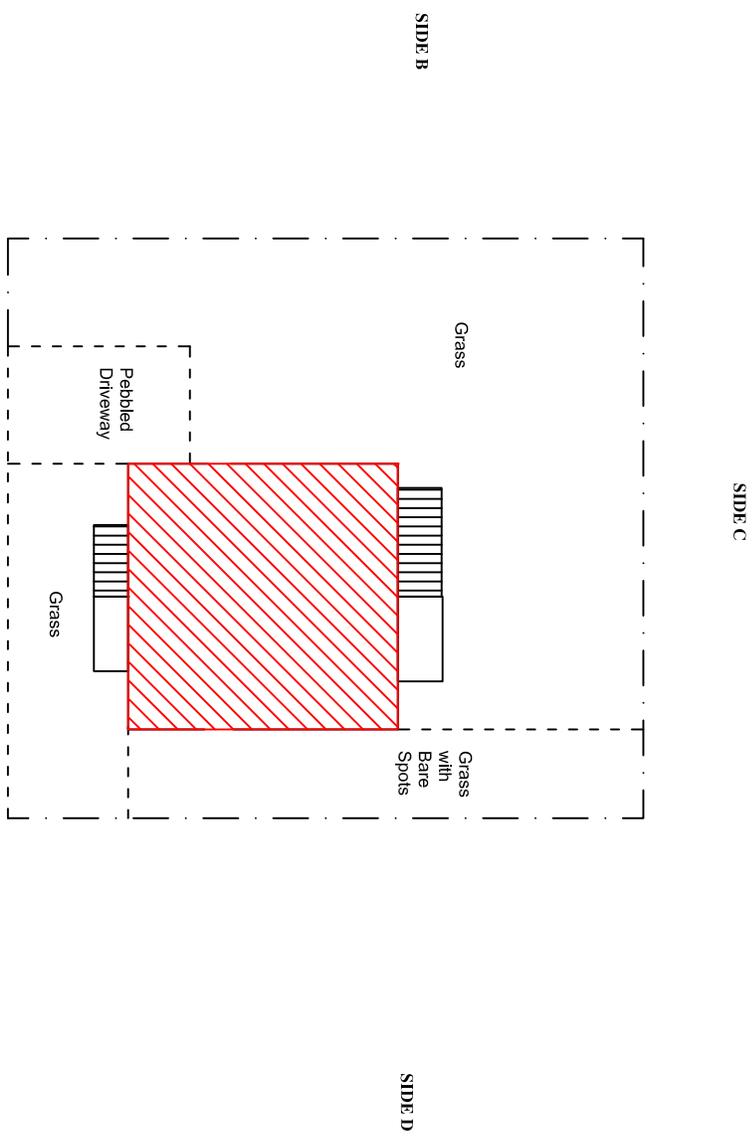
Date:

Time:

Comments:

Swab media exp. 8/2014 informed client via email 11/18/14
Dan acknowledge disclaimer in report - request to continue analysis

ChemScope Inc.
 Site #030 (Seriini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior



 LEGEND OF SYMBOLS	
	Location of Mold On Wood Ceiling
NOTATIONS	
	Fence
	Ground Cover Change
PROJECT: KAYLA CARNS/LEIGH HONOROP ChemScope Inc. BASEMENT & EXTERIOR SERVICE: LEAD/MOLD/ASBESTOS RADON INSPECTION 24 ELAINE ROAD MILFORD, CT	
ORDER NUMBER: 187210 NOT TO SCALE DATE: 11/17/14	DRAWING NUMBER: 3 M

MOLD REMEDIATION TECHNICAL SPECIFICATIONS

SERINI RESIDENCE

SITE 030 – 24 ELAINE ROAD, MILFORD, CT

APPLICATION #1437

DECEMBER 2014

Prepared by



Daniel P. Sullivan
Vice President, Operations

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

Section 020920

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PART 3	6-19	MOLD REMEDIATION
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PART 5	27-30	DEFINITIONS
PART 6	31	LIST OF DRAWINGS
ATTACHED	32	APPENDIX A PRELIMINARY MOLD ASSESSMENT REPORT (11 PAGES)

PART 1 BACKGROUND INFORMATION

1.1 REASON FOR THE WORK:

- A. The mold/moisture remediation at this facility is being done to accommodate the planned renovation to repair storm damage. The scope of the renovations involves:
 - 1. Based on the storm damage the following items are scheduled for removal and replacement: replacing/repairing front door and front windows, replacing of all flooring on 1st Floor, re-insulation of basement, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in basement. Based on Chem Scope's Preliminary Mold Assessment report (attached, CS#187-210, dated 12/1/2014), Mold and moisture issues, as a result of a past water-damage, need to be resolved. There is visible mold in the crawlspace.

1.2 BUILDING DESCRIPTION:

- A. The subject building is a two-story (plus basement crawlspace), single family, residential structure, totaling approximately 1220 sq ft, which was built in 1928 of wood-frame construction. The subject house was occupied at the time of our inspection. We understand the siding, gutters/downspouts, and some fencing have already been replaced after damage caused by hurricane Sandy in October of 2012.

1.3 RELATED DOCUMENTS

- A. See Separate Lead and Asbestos Design Specifications for further details.
- B. Architect's Plans and Specifications

1.4 SUBMITTALS CONCERNING MOLD AND MOISTURE REMEDIATION:

- A. Contractor must submit the following to the Engineer prior to the work:
 - 1. Detailed description of how the mold remediation will take place. Must include information on phasing and scheduling of the work (not date specific, but a time-line indicating the approximate length of time for the work).
 - 2. A list of any and all chemicals (non-hazardous or hazardous chemicals as defined in CFR 29 1926.59), to be used in any or all part(s) of this work, including amounts to be brought to the site. Applicable MSDS sheets for these chemicals must be provided prior to commencement, and will remain in a centralized location, onsite, during work duration.

PART 2 - MOLD SCOPE OF WORK

2.1 BASIC SERVICES:

- A. Mold work areas are listed in Schedule A.
- B. Examine all conditions, as they exist at the work site prior to submitting a bid for the work of this Section. Where amounts or quantities are given these amounts or quantities have been estimated. Contractor shall have no claim as to added work as the result of accepting said estimates. Contractor is required to verify quantities on site and report any discrepancies no later than seven (7) calendar days before the bid due date or to accept the amounts or quantities to be correct as herein stated.
- C. Furnish all labor, materials, and services for the removal and disposal of all specified mold contaminated materials located at the subject site. The mold remediation to be performed will be as needed to support the renovation activities. All work shall be coordinated by the Contractor. If the drawings or specifications should provide a contradiction, the most stringent information or requirement shall apply, as determined by the Engineer. All mold detected in the path of the renovation shall be removed prior to the renovation of the subject building. Except where noted, perform incidental demolition to access materials to be removed where removal is indicated.
- D. Contractor shall retain a Mold Remediation Contractor (MRC) to perform the mold and moisture remediation work of this Section.
- E. Engineer shall retain an Industrial Hygiene firm, with a trained Mold Inspector (PM) that shall be designated as the authorized representative of the Owner for purposes of monitoring the mold remediation work. The level of monitoring shall be at the discretion of the Engineer. The Contractor will regard the PM's direction as authoritative and binding as provided herein, in matters particularly but not limited to approval of work areas, pre-abatement inspections and final completion of the abatement. Final visual inspection will be conducted by the PM for all mold remediation work completed. Cooperate with the client and testing laboratory in scheduling and obtaining any samples.
- F. Any deviation from these specifications requires the written approval and authorization from the Owner.
- G. MRC is responsible for proper disposal of all mold-contaminated wastes, see separate lead and asbestos specifications for disposal issues regarding these items.
- H. Quantities given either in this specification are estimated; The MRC is responsible for accepting the quantities or measuring them to their satisfaction. The MRC shall have no claim as to added work as the result of accepting said measurements or other stated conditions. The MRC shall report any discrepancies to the Owner, the Engineer and to Chem Scope, Inc. or accept the amounts or quantities to be correct as herein stated.

- I. All replacement materials will be put in by others.
- J. Refer to drawings appended where work locations are shown schematically.
- K. In the event of disagreement between drawings and the specification, the specification shall take precedence.
- L. The Work of this Project Design is to be done in accordance with applicable regulations and these specifications. Where this design and regulations disagree, the strictest requirements shall be observed.

2.2 DETAILED SCOPE OF WORK:

- A. The MRC shall refer to the Preliminary Mold Assessment Report in Appendix A of these Specifications and the instructions to follow.
- B. This Section specifies the requirements for the removal of mold and moisture damage at the Work Site. The Work includes, but may not be limited to, removal and disposal of mold and moisture damage from the subject site, including all selective demolition and dismantling needed to perform the work, as delineated in Schedule A. The quantities of Mold, if given, in Schedule A are approximate.
- C. The MRC must remove all mold as delineated in Schedule A. The IH will verify with a visual inspection at the conclusion of the work that the areas are visibly clean of suspect mold growth and the remaining building materials are adequately dry (< 20% moisture or wood moisture equivalent).
- D. Any re-cleaning or additional drying needed as a result of a failed visual or moisture test will be done at the MRC's expense.

2.3 SCHEDULE A:

A. CRAWLSPACE: WORK MAY BE ACCOMPLISHED BY EITHER OF THE FOLLOWING:

1. Remove Mold from crawlspace as follows:
 - a. The work area should be unoccupied except for authorized personnel during subsequent work. Use poly to isolate the work areas from the rest of the building.
 - b. Negative air must be used to purge out the areas using HEPA filtered blowers and must be exhausted outdoors.
 - c. HEPA vacuums must be used for the cleanup. Thorough HEPA vacuuming is essential.
 - d. Remove all fiberglass batt insulation and all other porous materials as mold contaminated waste.
 - e. Use abrasive blasting methods to remove all accessible visible mold. Wet mold removal methods are not recommended for interior plywood. Abrasive removal should be done within a negative pressure containment or enclosure and cleaned using HEPA vacuums and tack cloths.
 - f. Clean out any debris and clean all surfaces. With the owner's approval, spray cleaned surfaces, especially wall cavities with mold inhibitor. Quaternary ammonium compounds are preferred mold growth inhibitors. Only EPA/DEP registered fungicides may be used such as Fiberloc Shockwave[®] and Aftershock[®]. Any product used at the contractor's discretion to kill mold or to deter future mold growth must be an EPA/DEP registered fungicide including any sealant finishing products.
 - g. Replace with new mold-free similar materials.
 - h. After the work is complete, a final visual inspection will be performed by the IH. Air samples could be run at the conclusion of the work at the Engineer's discretion. Any testing should be done after the negative air units have been shut off for at least a day.

END 2.3 SCHEDULE A

PART 3 – MOLD REMEDIATION

3.1 REGULATIONS

- A. Conform to all applicable Federal State and Local Regulations. The principal Applicable Regulations are:
1. Principal related OSHA regulations in 29 CFR:
 - a. 1910.134 (Respirators)
 - b. 1910.38, 1926.24 and 1926.150-155 (Fire safety and emergency response)
 - c. 1926.450 et seq (Ladder and Scaffold safety)
 - d. 1926.402 and .416-.417 (Electrical safety)
 - e. 1926.51 (Personal Hygiene, washing facilities)
 - f. Additional Regulations re: Protective Clothing and Equipment:
 - 1910.132-3 Protective Clothing
 - 1910.136 Foot protection
 - 1910.137 Electrical protective devices
 - 1910.94 ventilation
 - 1910.119 process safety
 - 1910.134 respirators
 - 1910.120 hazardous waste
 - 1910.preface 179.220-227 PPE program
 - 1910.146 permit required spaces
 - 1910.156 fire brigades
 - 1910.160 fire extinguishers
 - 1910.335 energized plugs and receptacles
 - 1910.1000 air contaminants
 - 1926.28 PPE
 - g. 1926.22 (Recording and Reporting of Injuries)
 - h. 1926.23 (First Aid and Medical Attention)
 - i. 1910.141 (Shower and Sanitation requirements)
 - j. 1926.59 (Hazard Communication)
 2. All State, County, and City or Municipal codes and ordinances as applicable.
- B. Where applicable State, Federal and Local Regulations differ, the more stringent portion of the regulation applies.

3.2 SPECIAL METHODS:

A. Mold Remediation/Cleanup and Biocides

1. The use of a biocide, such as chlorine bleach is not recommended by EPA as a routine practice for mold remediation.
 - a. It is necessary to clean up mold contamination, not just to kill the mold.
 - b. Dead mold is still allergenic, and some dead molds are potentially toxic.
 - c. It is often not possible to kill molds.
 - d. Even if molds are killed, if moisture conditions are not corrected the mold comes back.
 - e. These spores will not grow if the moisture problem in the building has been resolved.
2. Biocides may be appropriate in certain circumstances, including bacterial cleanup and where unusually toxic molds are present. The decision to use biocides or any sterilization methods should be made by a qualified expert.
3. If you choose to use disinfectants or biocides:
 - a. Follow instructions in the label and MSDS's for ventilation and personal protection
 - b. Ventilate the area, usually with negative air machines
 - c. Biocides are toxic to humans, as well as to mold.
 - d. Never mix chlorine bleach solution with cleaning solutions or detergents that contain ammonia.
 - e. Avoid using chlorine bleach around building materials with urea-formaldehyde glues such as interior plywood, paneling, sheetrock and particle board.
 - f. Do not attempt to treat porous materials such as insulation, carpets or fabrics
 - g. Some biocides are considered pesticides, and some States require that only registered pesticide applicators apply these products in schools.
 - 1) CT DEEP requires CT and EPA registration of the product. The state regulation technically requires Applicator Certification but the DEEP is not at this time requiring applicator certification for mold remediation. They require applicator certification for many other pesticide applications (The Connecticut General Statutes, chapter 441, Pesticides; 22a-46 through 22a-66.)
 - 2) What makes a material a pesticide is the application, not the particular chemical. For example sodium hypochlorite used in chlorine bleach sold as a laundry and household material is not a pesticide, but it becomes a pesticide if it is added to a product whose application is to kill mold.
 - h. Fungicides are commonly applied to outdoor plants, soil, and grains as a dust or spray—examples include hexachlorobenzene, organomercurials, pentachlorophenol, phthalimides, and dithiocarbamates. Do not use fungicides developed for use outdoors for mold remediation or for any other indoor situation.

B. OTHER METHODS

1. These are not included in the EPA standard remediation guidance. They have been used alone and in conjunction with standard methods. There is limited data available on the results of these methods.

a. Sanding, Scraping Or Other Abrasive Methods:

- 1). Don't paint or caulk moldy surfaces; clean and dry surfaces before painting. Paint applied over moldy surfaces is likely to peel.
- 2) Sanding has been routinely used by painters on exterior preparation with mildew in the paint. Dust control measures are still needed including HEPA filtered suction devices, shrouds and drop cloths. Respirators, protective suits and decontamination might be needed as well.
- 3) Sanding has been used for mold remediation on hard surfaces such as bare and painted wood.
- 4) Refinishing of the wood should include an antifungal protective coating.
- 5) Water seepage must be corrected.
- 6) On the interior, sanding should be used with containment including critical barriers and negative air and personal protection to include at least: respirators, protective suits and decontamination.
- 7) One advantage of sanding is that no water is used.

b. Fungicidal protective coatings (may also be pesticides)

- 1) Applications are inside and outside duct surfaces, and on walls and ceilings.
- 2) Follow manufacturer's directions and observe MSDS precautions.
- 3) Should be used in conjunction with Table 2 methods or surface preparation such as sanding.
- 4) Should be compatible with the substrate and expected to adhere and wear.

c. Ultraviolet Light (UVC) for HVAC Systems

- 1) "C" refers to the band of UV energy from 200-280 nanometers.
- 2) The use of UVC light is well known but has had some disadvantages in the past.
- 3) New more efficient applications have been reported

3.3 OCCUPANT PROTECTION

- A. Occupants shall not be permitted to enter the work area during mold remediation activities, until after the mold remediation work has been completed and cleared by the IH.

3.4 PREPARATION OF THE WORK AREAS

- A. Where necessary, shut down the electric power including equipment, receptacles and lighting fixtures. Coordinate any special safety requirements with the Owner, PM and GC, including lock-out/tag-out and isolation of electrical equipment.
- B. Provide temporary power, circuits and lighting and ensure safe installation of temporary power sources and equipment per applicable code requirements, regulations and as specified in Section 01500. Provide safety lighting and ground fault interrupter circuits (GFCI) for all power cords and electrical equipment. Only 3 prong grounded cords will be permitted.
- C. Mold Remediation Contractor will coordinate locations of Decons and Negative Air Unit locations with the PM.
- E. **Shut down and isolate any heating, cooling and ventilating air systems to prevent contamination and fiber dispersal to other areas of the house.** Seal any vents within the Work Area. Isolation will be accomplished by sealing airtight using plastic, tape and other means.
- E. Establish Critical Barriers: Seal off all openings and any penetrations into the Work Area with plastic sheeting. Do not seal off sprinkler heads, smoke/heat detectors or other such safety equipment. Consult the Owner for advice or instructions on such items. Doorways and corridors, which will not be used for passage during the Work, must be sealed with barriers.
- F. Establish Negative Air HEPA filtered air flow at the first opportunity.
- G. Pre-clean movable objects within the proposed Work Area using HEPA vacuums and remove such objects from Work Areas to a temporary location.
- H. Pre-clean fixed objects within the Work Areas using HEPA vacuums as appropriate and enclose with a minimum of 4-mil plastic sheeting and tape.
- I. Clean the Work Area surfaces using HEPA vacuums.
- J. Cover all floors surfaces not included in the mold remediation work with fire retardant polyethylene sheeting. Cover all walls and other fixed items not included in the mold remediation work with fire retardant polyethylene sheeting. Poly sheeting must conform to the requirements of the National Fire Protection Association Standard 701.
- K. Maintain emergency exits including fire exits satisfactory to fire officials.
- L. Any ceiling protrusions, ceiling panels, porous surfaces, or irregularities which may become contaminated, interfere with the Work or permit contamination beyond the confines of the Work Area must be managed to prevent contamination or release of mold.
- M. Any barriers constructed and structural members of Decon units using framing must conform to applicable building codes. This construction must be sufficiently sturdy to resist breaching or collapsing under active work conditions. Portable or prefabricated structures with comparable strength and effectiveness may be used.
- M. In all cases, access between contaminated and uncontaminated areas must be through the decon unit as described in section 3.5 and 3.9.

3.5 PREPARATION OF THE DECONTAMINATION ENCLOSURE SYSTEM (DECON)

- A. In general, the Decon unit will conform to drawings appended, and consist of 3 totally enclosed chambers contiguous to the Work Area plus a provision for managing dirty equipment as delineated below and in Section 19a-332a-6:
1. An Equipment Room with two (2) curtained doorways; one to the Work Area and one to the Airlock.
 2. A Shower Room with two curtained doorways; one to each Airlock. Plastic on Shower Room and adjoining Equipment and Clean Rooms shall be non-transparent. Showers with hot and cold water shall be provided and used. Careful attention shall be paid to the shower construction to prevent leakage of any kind. The shower will be supplied with soap, water and towels at all times. Wastes from the shower shall be filtered using best available technology prior to disposal in the drain.
 3. A Clean Room with one Curtained Doorway into the Airlock and one entrance or exit to non-contaminated areas of the building. The Clean Room shall have sufficient lockers for storage of the workers street clothes, towels and other non-contaminated items. Joint use of this space for other functions such as offices, extraneous equipment, materials or tools shall be prohibited.
 4. Equipment Decontamination Enclosure: Provide or construct an Equipment Decontamination enclosure consisting of two (2) totally enclosed chambers including: a) a Washroom consisting of an Airlock with a Curtained Doorway to a designated staging area of the Work Area and a Curtained Doorway to the Holding Area. b) A Holding Area constituting an Airlock with a Curtained Doorway to the Washroom and a Curtained Doorway to a designated uncontaminated area.

3.6 NEGATIVE AIR MACHINE SET UP AND OPERATION

A. HEPA Filter: high efficiency particulate air filter; designed to trap 99.97% of particles >0.3 microns.
Used in:

1. Respirators
2. Negative Air Machines
3. Vacuums

B. Negative Air Machine:

1. A fan with a series of filters including a HEPA filter, usually 2000 CFM (cubic feet of air/ minute)
2. Air velocity = Distance air travels in a unit of time. (e.g. ft/minute, or fpm).
3. Volume flow = air velocity times the cross sectional area of a duct, e.g. (fpm) (f²) = CFM (cubic ft / minute).

C. Negative Air Units shall be provided by the Mold Remediation Contractor to meet HEPA requirement and be of sufficient capacity to maintain at least 4 air changes per hour and a Negative Air pressure of at least 0.02 inches of water in the Enclosure. Airflow shall be sufficient through the Decon areas so any fibers are not able to escape outside the containment. Unit intakes shall be located to draw contaminated air away from the breathing zone of employees in the regulated area and through the HEPA filter. Units shall be equipped with warning lights, alarms, or other devices to sense pressure drop variation to prevent operation when filters are overloaded or ruptured. Negative air machines must be used to purge out the areas using HEPA filtered blowers and must be exhausted outdoors.

3.7 REMEDIATION EQUIPMENT

A. HEPA Vacuums:

1. A vacuum cleaner with a HEPA filter.
2. Air sucked into the cleaner first goes to a vacuum bag, then to a secondary filter and finally to the HEPA filter.
3. Never use an ordinary vacuum cleaner since it will blow out fine mold dust.
4. Most HEPA vacuums move about 200 CFM (cubic ft/min) of air through the filter.
5. Used for cleaning surfaces before, during and after remediation
6. Used for cleaning self before leaving Work Area
7. Operating instructions provided by the manufacturer of the machine are to be followed.
8. Attachments:
 - a. Brush tool for walls, fixtures and woodwork.
 - b. Wheeled floor nozzle for bare floors
 - c. Carpet beater for carpets
 - d. Rubber cone where the floor meets the wall and other cracks.
 - e. Slender and long plastic fitting for between radiator sections.
9. Filter change:
 - a. When machine flow begins to get restricted.
 - b. In a contained area.
 - c. Full set of protective clothing including appropriate respirator.
 - d. Usually change bag and prefilter first and see if the flow is OK.
 - e. Hose must be checked for blockage and cleaned by suction from a second HEPA unit. Do not blow out the hose since this will contaminate the area.
 - f. Check gaskets, filters and vacuum bag for tears.
 - g. A second HEPA unit can be used to advantage to clean out the unit being serviced.
 - h. Use caution to avoid release of dust into the environment.
 - i. Used HEPA filters and vacuumed debris are to be included with the mold wastes.
 - j. After servicing, the machine should be turned on to check the operation.
 - k. Room surfaces near the filter change must be cleaned up.
10. Check daily for damage, especially power cords and switches.
11. At the end of the job before the cleaner is to be taken out of the Work Area, it is to be sealed in leak proof wrapping after doing the following:
 - a. Clean each attachment by sucking through the vacuum while tapping and wet wipe each attachment. Place the cleaned parts in a sealable plastic bag.
 - b. Suck out and seal the end of the hose with duct tape to prevent dust from leaking.
 - c. Unplug and damp wipe the unit clean.

B. Airless Sprayers

1. Used to spray mold treatment chemicals.
2. Airless sprayers really use air but the air is not mixed with the spray.
 - a. Compressed air applied to top
 - b. Liquid distributed from bottom
3. Fine spray is important
4. Critical to clean nozzle after use
5. Follow manufacturer's instructions for the chemical you are using, but in general:
 - a. Clean freshly after use as chemicals can dry out
 - b. Brush and rinse out the tank thoroughly
 - c. Add some clean water to the tank
 - d. Point the nozzle at a cardboard or other waste sheet
 - e. Pressurize the tank to clean the nozzle
 - f. Dump the water, put in clean water and again blow out the nozzle
 - g. Depending on the chemical, it might take additional flushing.

C. Wet Cleaning equipment:

1. Brushes, rags sponges and mops
 - a. Dip in detergent
 - b. Rinse thoroughly in running water.
 - c. Work from cleaner to dirty areas
 - d. Never dip dirty units into the detergent since it will contaminate the next area.
2. Disposable towels
 - a. Best for very contaminated areas
 - b. Dip, use and discard
3. Water rinse
 - a. Not required, but desirable if the detergent leaves a visible residue or if the detergent manufacturer says to do so.

3.8 HEAVY DUTY AND DEMOLITION OPERATIONS

A. In General

1. Work from top down
2. Get rid of the dirtiest exposed materials first
3. Keep the area constantly policed up and cleaned
4. Always protect floors and any fixed objects in the work area

B. Mold Contaminated Fiberglass Insulation

1. Remove any exposed insulation early in the work.
2. Fiberglass and mineral wool are very irritating and require care even when not moldy.
3. These are bulky to bag. Figure 100 sq ft of 6" thick insulation is 50 cubic ft or 400 gallons of volume. A large plastic waste bag effectively holds 20 gallons, so you will need 20 bags per 100 sq ft.
4. Make sure the neck of the bag is securely closed as you suck out the air with a HEPA vacuum cleaner. Then goose-neck the top and seal with duct tape. By sucking out the air, the air is less likely to break and takes up less space in the dumpster.
5. There is likely to be contamination outside the bag. Do not carry these through clean areas unless you clean each bag first.
6. Cleaning outside of bags is very labor intensive, but not as bad as contaminating and then cleaning the clients clean areas. If you plan for a lot of bags, then it is worthwhile to set up a two chamber bag out decon. Install an inlet of a 2000 CFM negative air inlet in the dirty side use a leaf blower to dislodge the fibers from the bag so that the negative air unit can capture the dust. Then move the clean bags to the clean side. Inspect the bags and double bag if needed.
7. In some work areas bulk handling methods can be used.
 - a. Moving a dumpster inside the work area and covering the dumpster before transporting.
 - b. Use of a vacuum truck.
 - c. Works well with dry soil, loose insulation and similar debris.

C. Wall and Ceiling Demolition

1. Provide extra negative air to allow for openings (leaks) to other areas .
2. Do ceilings before walls
3. Install a negative air inlet very close to the demolition site to cut down on fine dust getting away.
4. It is very messy work and requires the greatest attention to containment and negative air.
5. Install an extra floor plastic sheet.

D. Ongoing Clean-up and Containment Maintenance:

1. Police debris and droppings constantly through the job.
 - a. Wet sweeping or shovels may be used if HEPA vacuums cannot be used for a particular clean-up item such as wet sludge.
 - b. Leave negative air running overnight and through the job if possible
 - c. If negative air must be shut down:
 - 1) HEPA vacuum at the end of each workday.
 - 2) Seal up the decon entry and see that all critical barriers over openings are secure.
2. Monitor the containment. Holes and rips patched
3. Package wastes promptly and move them out of the area to the waste storage area.

3.9 ENTRY, EXIT AND DECONTAMINATION:

A. Entry

1. Personal Protective Equipment (PPE)
 - a. Protective clothing is needed to keep gross contamination off the body, thus making decontamination easier and minimizing the chance of tracking to other areas of the building.
 - 1) Disposable coveralls usually with attached "feet" and hooded head covering.
 - 2) Loose vs catching in equipment and fall hazards
 - 3) Disposable suits are used which are made of Tyvek, or spun breathable fabrics.
 - 4) Storage in clean area for donning.
 - b. Respirator
 - c. Eye protection
 - d. Gloves
 - e. Other equipment may be needed such as:
 - 1) Hard hats
 - 2) Boots
 - 3) Safety shoes
 - 4) Ear protection
 - 5) Knee pads

2. Donning the PPE

- a. In clean area outside the work area or in clean change area of the Decontamination unit. Use a bathing suit under the disposable suit if the shower is going to be used
- b. Use duct tape if necessary to blouse or adjust fit.
- c. Don and seal check respirator.
- d. Pull hood over head.
- e. Don any other needed safety equipment.
- f. Use this opportunity to bring clean supplies and tools into the work area.
- g. Ready to enter work area
- h. Enter via the shower Decon, airlock, or other designated entry point.

B. Personal Decontamination Procedure:

1. In the work area near the Decon Unit, **HEPA vacuum off gross contamination** paying attention to the respirator itself.
2. Proceed to the Decon.
3. Remove protective clothing and dispose of suit in waste receptacle.
4. Proceed to the shower. Still wearing the respirator, clean the respirator and self using soap and water and rinse self in the shower. Dispose of the wet respirator cartridges in the waste receptacle.
5. Following showering and drying off, go to the Clean (change) Room and dress in clean clothes.
6. Be sure that respirator cartridges have been discarded, disinfect the mask.

C. Decontaminating HEPA Vacuums And Negative Air Machines:

1. Follow manufacturers instructions for operation disassembly and filter changes.
2. Tips for units contaminated with mold at the end of the job:
 - a. Do in the work area using PPE
 - b. Dispose of all pre filters
 - c. Thoroughly clean the surfaces of the unit.
 - d. Replace heavily contaminated HEPA filters.
 - e. If lightly used HEPA filters are to be re-used in the near future*:
 - 1) After re-assembly, purge with very dry air (which may be generated near a local heater).
 - 2) Seal the inlet of the unit with poly and duct tape.
 - 3) Store in a dry location
 - 4) Unseal just before turning on at the next work area.
 - f. Perform personal decontamination as usual.

*Lightly used means not contaminated with a recognized biohazard and still delivering the manufacturer's specified static pressure and flow.

D. Clean up of Showers and Portable Decon Units:

1. Clean and dry all non-disposable surfaces with special attention to the floors and drains and drain hoses of shower unit.
2. Shower equipped with waste water filters:
 - a. Don't connect the filter, unless needed for a combination asbestos and mold job.
 - b. If used, the filter should be discarded and the housing cleaned thoroughly.

E. Other Reusable Equipment

1. Clean as appropriate for the equipment
2. Disinfect when appropriate
3. Leave in a clean and dry condition.
4. Items that can't be decontaminated should be kept dry and sealed.

F. Decontamination of Equipment with Disinfectants:

1. Disinfection is used to eliminate the pathogenic agents present. One type of disinfectant generally does not kill all biological materials.
2. If the type is known, the disinfectant can be selected according to the specific type as each chemical compound has a selective germicidal activity.
3. Liquid disinfectants are available under a wide variety of trade names.
4. The more active a compound is, the more likely it is to have undesirable characteristics such as corrosivity.
5. The most practical use of liquid disinfectants is for surface decontamination of non-porous materials like porcelain, metal, real wood, plastics including melamine laminated countertops and ceramic tiles and finished concrete products.
6. Disinfecting Agents:
 - a. Chlorine Compounds (hypochlorites):
 - 1) Disinfect media with a 10% solution of chlorine bleach (5.25% hypochlorite mixed 1/10 with water) for 15 to 30 minutes. (Bleach is sodium hypochlorite solution.)
 - 2) Must be made up fresh. Solutions deteriorate with age and are neutralized by organic matter.
 - 3) Corrosive to metal surfaces including stainless steel; rinse thoroughly with water.
 - 4) A very active disinfectant, chlorine kills a wide variety of bacteria and most viruses.
 - 5) Effectiveness may be enhanced by the addition of 0.1% solution of an ionic detergent.
 - 7) Keep cool and tightly covered.
 - 8) **Remember, don't use bleach around ammonia or urea formaldehyde products.**

b. Iodophors:

- 1) Characteristics of chlorine and Iodophor are similar.
- 2) Iodophors are effective against gram-positive and gram-negative organisms, mycobacteria, and some viruses.
- 3) Most effective in acid solutions.
- 4) Organic matter reduces effectiveness, but iodophors are less affected than hypochlorites.
- 5) Have a built-in indicator. If the solution is brown or yellow, it is active.
- 6) Relatively harmless to man. (Wescodyne diluted 1 to 10 is a popular disinfectant for washing hands.)
- 7) Can be readily inactivated and iodophor stains can be removed with solutions of $\text{Na}_2\text{S}_2\text{O}_3$ (sodium thiosulfate).
- 8) Keep cool and tightly covered.

c. Alcohols (ethyl or isopropyl):

- 1) Good general use disinfectant in concentrations of 70 to 80%. 100% ethanol is not a good disinfectant.
- 2) They exhibit no activity against bacterial spores.
- 3) Fast acting, evaporate rapidly, and leave no residue.
- 4) Alcohols can be combined with other disinfectants (quaternaries, phenolics and iodine) to form tinctures further enhancing germicidal action.

d. Formaldehyde Solutions:

- 1) Normally purchased as a 37% solution in methanol called "formalin". Very toxic.
- 2) Irritating odor and carcinogenic.
- 3) Solutions of 8% formalin in 70% alcohol are considered very good for disinfection purposes because of the effectiveness against bacteria and viruses.
- 4) Have been used to disinfect bird droppings.

e. Mercurials--toxic, therefore not recommended.

f. Quaternary Ammonium Compounds

- 1) Widely used as mold inhibitors
- 2) Acceptable to control vegetative bacteria and some viruses.
- 3) They are not active against bacterial spores at the usual concentrations (1:750) and may be neutralized by anionic detergents (soaps).

g. Phenolic Compounds:

- 1) Recommended for killing vegetative bacteria including tuberculosis, fungi and lipid-containing viruses (0.5-2.0%).
- 2) They are less effective against spores and non-lipid-containing viruses. They have an unpleasant odor (e.g., Amphyl, Vesphene II)

G. Final Cleanup of Work Area

1. Visual inspection for completeness of work
2. No visible dust or mold residue.
3. Equipment not in use cleaned or sealed and removed.
4. Waste removed
5. Plastic removed except barriers at the perimeter of the work area
6. HEPA vacuum area or wet clean as appropriate
7. Negative Air Units remain in operation
8. Final visual and moisture testing will be performed by the IH. Contractor is responsible for any additional cleaning or drying needed as a result of a failed visual. Sampling may be done if requested by the Engineer.

3.10 EVALUATION BEFORE OCCUPANCY

A. EPA Guidance

1. The source of the water or moisture problem must have been corrected.
2. Mold removal must be complete.
3. IH will determine if the cleanup is sufficient.
4. Visible mold, mold-damaged materials, and moldy odors must not be present.

B. Lab Testing:

1. Use with caution and when special circumstances dictate testing.
2. Remember, there are no standards.
3. Remember, viable sampling might take 2- 3 weeks; nonviable testing is much faster.
4. Dust/Tape or Swab samples over a measured area might be useful.
 - a. Quantitative using suction cassettes and PVC filters over 1 sq meter
 - b. Swab or wipe samples according
 - c. Standards are not available- before vs after comparisons are useful
5. Comparison of inside vs outside air might be useful.
6. If testing was done before the job, use the same method after the job.
7. Should be figured in the sampling plan at the start of the job.

PART 4 EPA GUIDELINES

4.1. EPA TABLE I GUIDELINES

A. Recent Water Damage

1. Correct Existing Leaks, water infiltration or severe condensation.
2. Remove standing water from floors and other horizontal surfaces
 - a. Pumps
 - b. Wet/dry vacuum
 - c. Mops and buckets
3. Remove porous furnishings and wet building materials
4. Wipe smooth objects or building materials dry

B. Follow up as soon as feasible:

1. Relocate furnishings, equipment and other material to be preserved out of the affected area.
2. Induce evaporation of water, especially important for inaccessible areas that can't be physically dried.
 - a. Moisture control professionals use a combination of heat and air flow to dry surfaces.
 - b. Turn up the heat
 - c. In warm dry weather exhaust air and allow air to enter from the outside to flush out the areas.
 - d. If a forced air heating system is available and mold contamination is not suspected, this may be turned on with heat applied to aid in the drying. Make sure any humidity addition systems in the HVAC are shut down.
 - e. Address the underlying causes of the water damage.
 - f. Use dehumidifiers

C. EPA Table 1 Guidelines:

1. These guidelines are for damage caused by clean water. If you know or suspect that the water source is contaminated with sewage, or chemical or biological pollutants, then Personal Protective Equipment and containment are required by OSHA. An experienced professional should be consulted if you and/or your remediators do not have expertise remediating in contaminated water situations. Do not use fans before determining that the water is clean or sanitary.
2. If mold growth has occurred or materials have been wet for more than 48 hours, consult Table 2 guidelines. Even if materials are dried within 48 hours, mold growth may have occurred. Items may be tested by professionals if there is doubt. Note that mold growth will not always occur after 48 hours; this is only a guideline.
3. If a particular item(s) has high monetary or sentimental value, you may wish to consult a restoration/water damage specialist.
4. The subfloor under the carpet or other flooring material must also be cleaned and dried. See the appropriate section of this table for recommended actions depending on the composition of the subfloor.

D. Table 1 Guidelines:

1. Books and papers
 - a. For non-valuable items, discard books and papers.
 - b. Photocopy valuable/important items, discard originals.
 - c. Freeze (in frost-free freezer or meat locker) or freeze-dry.
2. Carpet and backing
 - a. Dry within 24-48 hours
 - b. Remove water with water extraction vacuum.
 - c. Reduce ambient humidity levels with dehumidifier.
 - d. Accelerate drying process with fans.
3. Ceiling tiles
 - a. Discard and replace.
4. Cellulose insulation
 - a. Discard and replace.

5. Concrete or cinder block surfaces
 - a. Remove water with water extraction vacuum.
 - b. Accelerate drying process with dehumidifiers, fans, and/or heaters.
6. Fiberglass insulation
 - a. Discard and replace.
7. Hard surface, porous flooring (Linoleum, ceramic tile, vinyl)
 - a. Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary.
 - b. Check to make sure underflooring is dry and dry underflooring if necessary.
8. Non-porous, hard surfaces (Plastics, metals)
 - a. Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary.
9. Upholstered furniture
 - a. Remove water with water extraction vacuum.
 - b. Accelerate drying process with dehumidifiers, fans, and/or heaters.
 - c. May be difficult to completely dry within 48 hours. If the piece is valuable, you may wish to consult a restoration/water damage professional who specializes in furniture.
10. Wallboard (Drywall and gypsum board)
 - a. May be dried in place if there is no obvious swelling and the seams are intact. If not, remove, discard, and replace.
 - b. Ventilate the wall cavity, if possible.
11. Window drapes
 - a. Follow laundering or cleaning instructions recommended by the manufacturer.
12. Wood surfaces
 - a. Remove moisture immediately and use dehumidifiers, gentle heat, and fans for drying. (Use caution when applying heat to hardwood floors.)
 - b. Treated or finished wood surfaces may be cleaned with mild detergent and clean water and allowed to dry.
 - c. Wet paneling should be pried away from wall for drying.

4.2 EPA TABLE 2 GUIDELINES:

E. EPA Table 2

Table 2:
 Guidelines for Remediating Building Materials
 with Mold Growth Caused by Clean Water*

1. SMALL - Total Surface Area Affected Less Than 10 square feet

Material or furnishing affected	Cleanup Method Use each successively	Personal Protective Equipment (PPE)	Containment
Books and papers	3 (HEPA vac) 4 Discard ?* ^	Minimum, N-95 respirator, gloves, and goggles	None required
Carpet and backing	1 (wet Vac) 3 (HEPA vac)	Minimum	None required
Concrete or cinder block	1 (wet Vac) 3 (HEPA vac))	Minimum	None required
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1 (wet Vac) 2 (damp wipe) 3 (HEPA vac))	Minimum	None required
Non-porous, hard surfaces (plastics, metals)	1 (wet Vac) 2 (damp wipe) 3 (HEPA vac))	Minimum	None required
Upholstered furniture & drapes	1 (wet Vac) 3 (HEPA vac))	Minimum	None required
Wallboard (drywall and gypsum board)	3 (HEPA vac)	Minimum	None required
Wood surfaces	1 (wet Vac) 2 (damp wipe) 3 (HEPA vac))	Minimum	None required

EPA Table 2 Guidelines (cont)

2. MEDIUM - Total Surface Area Affected Between 10 and 100 (ft²)

Material or furnishing affected	Cleanup Method Use each successively	Personal Protective Equipment (PPE)	Containment
Books and papers	3 (HEPA vac) 4 Discard ?*^	<u>Limited or Full</u> , Use professional judgement, based on exposure potential and size of area	<u>Limited</u> , Use professional Judgement, based on exposure potential and size of area
Carpet and backing	1 (wet Vac) 3 (HEPA vac) 4 Discard	<u>Limited or Full</u>	<u>Limited</u>
Concrete or cinder block	1 (wet Vac) 3 (HEPA vac)	<u>Limited or Full</u>	<u>Limited</u>
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1 (wet Vac) 2 (damp wipe) 3 (HEPA vac)	<u>Limited or Full</u>	<u>Limited</u>
Non-porous, hard surfaces (plastics, metals)	1 (wet Vac) 2 (damp wipe) 3 (HEPA vac)	<u>Limited or Full</u>	<u>Limited</u>
Upholstered furniture & drapes	1 (wet Vac) 3 (HEPA vac) 4 Discard	<u>Limited or Full</u>	<u>Limited</u>
Wallboard (drywall and gypsum board)	3 (HEPA vac) 4 Discard	<u>Limited or Full</u>	<u>Limited</u>
Wood surfaces	1 (wet Vac) 2 (damp wipe) 3 (HEPA vac)	<u>Limited or Full</u>	<u>Limited</u>

EPA Table 2 Guidelines (cont)

3. LARGE - Total Surface Area Affected Greater Than 100 (ft²) or Potential for Increased Occupant or Remediator Exposure During Remediation Estimated to be Significant

Material or furnishing affected	Cleanup Method Use each successively	Personal Protective Equipment (PPE)	Containment
Books and papers	3 (HEPA vac) 4 Discard ?* ^	Full : Use professional judgment, consider potential for remediator exposure and size of contaminated area	Full : Use professional judgment, consider potential for remediator/ occupant exposure and size of contaminated area
Carpet and backing	1 (wet Vac) 3 (HEPA vac) 4 Discard	Full	Full
Concrete or cinder block	1 (wet Vac) 3 (HEPA vac)	Full	Full
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1 (wet Vac) 2 (damp wipe) 3 (HEPA vac) 4 Discard	Full	Full
Non-porous, hard surfaces (plastics, metals)	1 (wet Vac) 2 (damp wipe) 3 (HEPA vac)	Full	Full
Upholstered furniture & drapes	1 (wet Vac) 3 (HEPA vac) 4 Discard	Full	Full
Wallboard (drywall and gypsum board)	3 (HEPA vac) 4 Discard	Full	Full
Wood surfaces	1 (wet Vac) 2 (damp wipe) 3 (HEPA vac) 4 Discard	Full	Full

4 Discard ?* ^ We added this to the table since we believe this was an omission from Table 2. Please see EPA Table 1.

EPA Table 2 Guidelines (cont)

4. Notes:

*a. Use professional judgment to determine prudent levels of Personal Protective Equipment and containment for each situation, particularly as the remediation site size increases and the potential for exposure and health effects rises. Assess the need for increased Personal Protective Equipment, if, during the remediation, more extensive contamination is encountered than was expected.

b. Consult Table 1 if materials have been wet for less than 48 hours, and mold growth is not apparent. These guidelines are for damage caused by clean water. If you know or suspect that the water source is contaminated with sewage, or chemical or biological pollutants, then the Occupational Safety and Health Administration (OSHA) requires PPE and containment.

c. An experienced professional should be consulted if you and/or your remediators do not have expertise in remediating contaminated water situations.

d. Select method most appropriate to situation. Since molds gradually destroy the things they grow on, if mold growth is not addressed promptly, some items may be damaged such that cleaning will not restore their original appearance. If mold growth is heavy and items are valuable or important, you may wish to consult a restoration/water damage/remediation expert. Please note that these are guidelines; other cleaning methods may be preferred by some professionals.

e. Please note that Tables 1 and 2 contain general guidelines. Their purpose is to provide basic information for remediation managers to first assess the extent of the damage and then to determine whether the remediation should be managed by in-house personnel or outside professionals. The remediation manager can then use the guidelines to help design a remediation plan or to assess a plan submitted by outside professionals.

f. Although this document has a residential focus, it is applicable to other building types.

g. If you are unsure what to do, or if the item is expensive or of sentimental value, you may wish to consult a specialist. Specialists in furniture repair/restoration, painting, art restoration and conservation, carpet and rug cleaning, water damage, and fire/water restoration are commonly listed in phone books. Be sure to ask for and check references; look for affiliation with professional organizations.

PART 5 DEFINITIONS:

- A. ACGIH: American Conference of Governmental Industrial Hygienists. A group of private industrial hygienists which makes recommendations on exposure limits for chemicals.
- B. ACM: asbestos containing material
- C. Aerosol: - mists or droplets suspended in air, liquid particulates
- D. AIHA: American Industrial Hygiene Association
- E. Air Monitoring: The process of measuring the contaminant content of a specific volume of air in a stated period of time.
- F. Air Purifying Respirator: A respirator that filters or purifies the air from the work area.
- G. Allergic (immunological) Effects: Sensitivity to a substance believed to be caused by an immune response
- H. ASHRAE: American Society of Heating Refrigeration and Air Conditioning Engineers
- I. Asthma: A condition where an individual is susceptible to Asthmatic attack.
- J. Asthmatic attack: Air hunger, difficulty breathing, which can occur suddenly in susceptible individuals. Attacks can be prolonged and very violent and can result in death.
- K. ASHRAE: American Society of Heating Refrigeration and Air Conditioning Engineers.
- L. ASTM: American Society Of Testing And Materials
- M. Bacterium: A single-celled microorganism, usually ranging in size from .4 to 2.0 microns, which multiplies by subdivision
- N. Bacteria: Plural of bacterium
- O. Bioaerosol: microbiological airborne particles including fungi, mold and bacteria.
- P. Biocide Substance or chemical that kills organisms such as molds.
- Q. Biological Pollutants: pollutants which are or were living organisms.
- R. Biological Reservoir: A local condition conducive to biological growth which always includes moisture or water and usually contains some organic matter for organisms to feed on.
- S. Boroscope: device used to look inside wall and ceiling cavities and inside ducts.
- T. Carbon monoxide (CO): a colorless odorless gas which is immediately toxic in high concentrations.
- U. CDC: Centers for Disease Control
- V. CFM: cubic ft of per minute, usually of air.
- W. CFR: Code of Federal Regulations.

- X. Containment is a process for protecting workers, residents, and the environment during remediation.
- Y. Critical Barrier: The last layer of plastic sheeting separating Work Areas from non-work Areas
- Z. Decon. Decontamination Enclosure: An area for the decontamination of workers.
- AA. DEEP: CT Department of Energy and Environmental Protection
- BB. Demolition: taking down walls or other building components.
- CC. Dew point: the temperature of air with a given amount of moisture (in degrees F) at which condensation occurs.
- DD. DPH: State of Connecticut Department of Public Health.
- EE. Dust mites: microscopic animals living in household dust
- FF. Engineer: Diversified Technology Consultants (DTC)
- GG. EMLAP: AIHA Environmental Microbiology Laboratory Accreditation Program
- HH. Endotoxins: toxic by-products from gram-negative bacteria
- II. EPA: Environmental Protection Agency.
- JJ. Etiologic agent: A disease-causing organism or toxin
- KK. Fit Test: Check of the respirator fit every year.
- LL. Seal Check: Check of the respirator fit each time the respirator is donned.
- MM. Ft²: Square feet.
- NN. Full Face: Type of respirator.
- OO. Fungi: Fungi are neither animals nor plants and are classified in a kingdom of their own. Fungi include molds, yeasts, mushrooms, and puffballs. In this document, the terms fungi and mold are used interchangeably. Molds reproduce by making spores. Mold spores waft through the indoor and outdoor air continually. When mold spores land on a damp spot indoors, they may begin growing and digesting whatever they are growing on. Molds can grow on virtually any organic substance, providing moisture and oxygen are present. It is estimated that more than 1.5 million species of fungi exist.
- PP. Fungicide Substance or chemical that kills fungi.
- QQ. GFCI: Ground Fault Circuit Interrupter, a safety device to prevent death from electrical shock.
- RR. Gram-negative or gram positive: classification of bacteria determined by staining tests and microscopic examination.
- SS. Gravity Convection: Movement of air caused by differences in temperature where warm air rises and cool air falls.
- TT. Half-Mask, Half Face: type of respirator.

- UU. HEPA High-Efficiency Particulate Air means a filtering system capable of filtering out particles of 0.3 microns or greater diameter from a body of air at 99.97% efficiency or greater.
- VV. Humidistat: A control and device that turns on HVAC System (or other equipment such as a dehumidifier) at a Specific Relative Humidity (RH). It is typically adjusted so that, if the humidity level rises above a set point, the HVAC system will automatically come on.
- WW. HVAC: heating, ventilation and air conditioning system
- XX. Hypersensitivity: Great or excessive sensitivity
- YY. IAQ: Indoor Air Quality
- ZZ. Immunological: See Allergic
- AAA. Ketone: volatile chemical found in MVOC, oxidation product of a secondary alcohol.
- BBB. m³: Cubic meter
- CCC. mg: Milligram
- DDD. Microbe, Microbial: Refers to Microorganisms – Mold (fungi), algae, bacteria, protozoa, and viruses
- EEE. Level A Protection: The highest level of protection for biological materials, which includes SCBA and an impervious suit and special decontamination procedures.
- FFF. Microbiology: the science of the study of microorganisms
- GGG. Mold Molds are a group of organisms that belong to the kingdom Fungi. In this document, the terms fungi and mold are used interchangeably. There are over 20,000 species of mold.
- HHH. MSDS: Material safety data sheet
- III. MVOC Microbial volatile organic compound, a chemical made by a mold which may have a moldy or musty odor.
- JJJ. Negative Air Units or Negative Air Pressure Equipment: A portable local exhaust system equipped with HEPA filtration used to create negative pressure in a contaminated area(negative with respect to adjacent uncontaminated areas) and capable of maintaining a constant discharge of filtered air outside and creating suction so that air flow direction moves from uncontaminated areas into the Work Areas.
- KKK. NIOSH: National Institute for Occupational Safety and Health.
- LLL. OSHA Occupational Safety and Health Administration
- MMM. Owner: Serini
- NNN.
- OOO. PAPR: A powered air purifying respirator.
- PPP. Pathogenic organisms: Organisms capable of causing disease, either directly (by infecting) or indirectly by producing a toxin.

APPLICANT NO. 1437
OORR PROGRAM
CDBG-DR STORM SANDY

SERINI RESIDENCE
24 ELAINE ROAD
MILFORD, CT

- QQQ. PF protection factor of a respirator
- RRR. Poly: Short for polyethylene, a plastic sheet.
- SSS. PPE Personal Protective Equipment
- TTT. PPM: parts of a substance per million parts of air
- UUU. Relative humidity (%RH): The amount of water vapor in air relative to the amount of water vapor that the air can hold at a given temperature. For example, 50% RH means that the air is half full of water.
- VVV. Remediate Fix
- WWW. Rhinitis: Inflammation of the mucous membrane
- XXX. SBS: Sick Building syndrome
- YYY. SCBA: self contained breathing apparatus
- ZZZ. Seal Check) : Check of the respirator fit each time the respirator is donned.
- AAAA. Sensitization Repeated or single exposure to an allergen that results in the exposed individual becoming hypersensitive to the allergen. After initial or prolonged exposure, persons may become sensitive and develop symptoms after several years even at very low exposures.
- BBBB. Sensitizer: an agent producing sensitization.
- CCCC. Sling psychrometer: device used for measuring humidity.
- DDDD. Spore Molds reproduce by means of spores. Spores are microscopic; they vary in shape and size (2-100 micrometers). Spores may travel in several ways—they may be passively moved (by a breeze or waterdrop), mechanically disturbed (by a person or animal passing by), or actively discharged by the mold (usually under moist conditions or high humidity).
- EEEE. UFFI: urea formaldehyde foam insulation)
- FFFF. Ventilation: bringing fresh air from outside into a building or allowing fresh air to enter.
- GGGG. VOC: volatile organic compounds
- HHHH. Yeasts: a type of fungi

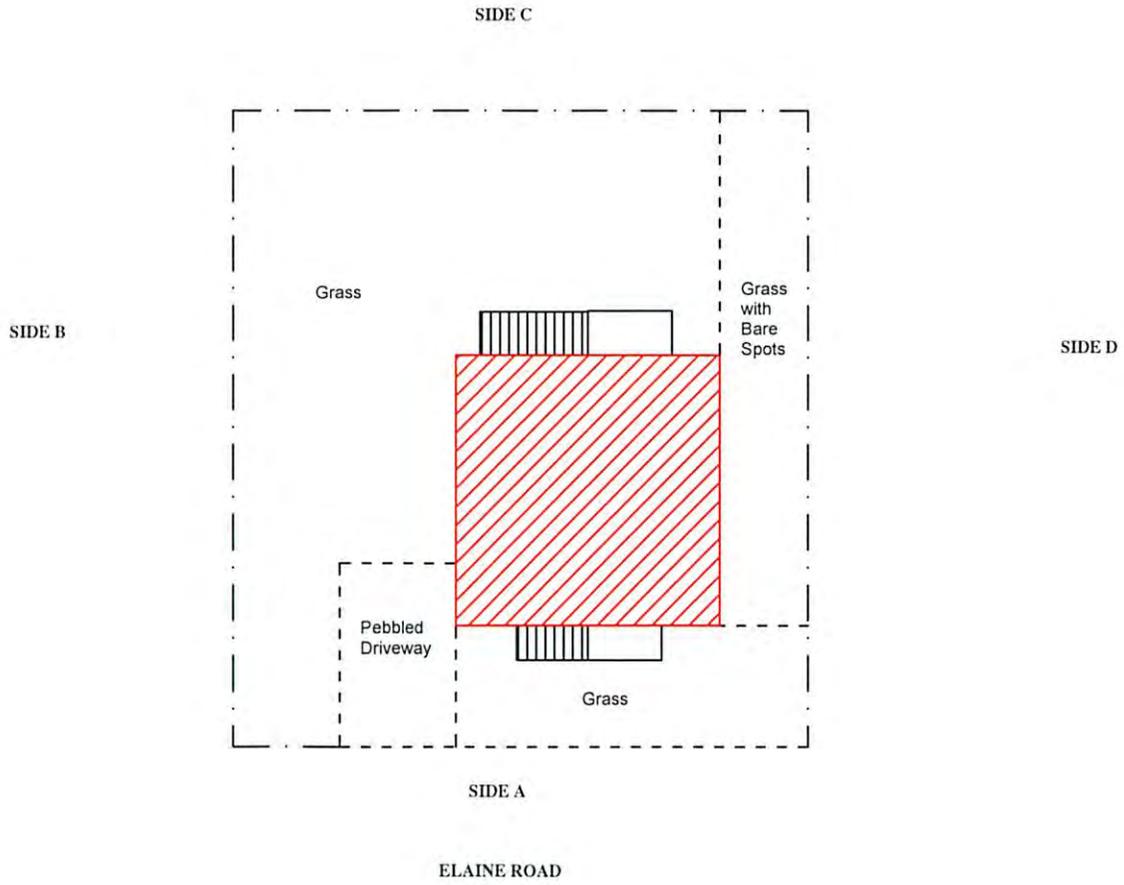
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SERINI RESIDENCE
24 ELAINE ROAD
MILFORD, CT

PART 5 - LIST OF DRAWINGS

5.1	DRAWING NUMBER	DESCRIPTION
A.	3M	LOCATION OF MOLD/MOISTURE DAMAGE IN SCOPE OF WORK

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior



LEGEND OF SYMBOLS

 Location of Mold
On Wood Ceiling

NOTATIONS

 Fence

 Ground Cover
Change

DRAWN BY: KAYLA CARNES LEIGH HONOROF

ChemScope Inc.

BASEMENT & EXTERIOR

LEAD/MOLD/ASBESTOS
RADON INSPECTION

24 ELAINE ROAD
MILFORD, CT

PROJECT NUMBER:
187-210

NOT TO SCALE

DATE:
11/17/14

3 M

APPLICANT NO. 1437
OORR PROGRAM
CDBG-DR STORM SANDY

SERINI RESIDENCE
24 ELAINE ROAD
MILFORD, CT

APPENDIX A

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

15 Moulthrop Street, North Haven, CT 06473-3686 • Phone (203) 865-5605 • Fax (203) 498-1610

Scott Feulner
Diversified Technology Consultants (DTC)
2321 Whitney Avenue, Suite 301
Hamden, CT 06518

12/1/2014

**PRELIMINARY MOLD ASSESSMENT
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 1 OF 5**

TABLE OF CONTENTS

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Table of Contents	1
Introduction	2
Assessment Report Synopsis	2-4
Recommendations	4-5
Limitations of Assessment	5

Attachments:

- Site Drawings – 2 page(s)
- Mold Swab Analytical Report and Chain of Custody – 2 page(s)
- Mold Swab Location Drawing – 1 page(s)
- Mold Location Drawing – 1 page(s)

Report Distribution:

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Michael Casey, DTC michael.casey@teamdtc.com

File Location:

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This investigation and information provided in this report depends partly on background information provided by the client. This report is intended for the use of the client. The scope of services performed may not be appropriate for other users and any use of this report by third parties is at their sole risk. This report is intended to be used in its entirety. No excerpts may be taken to be representative of this report.

It is possible that hidden mold may be growing inside the building cavities. Some floor, wall or ceiling demolition would be needed to find hidden mold.

**PRELIMINARY MOLD ASSESSMENT
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 2 OF 5**

INTRODUCTION

EXECUTIVE SUMMARY: Based on our assessment, the only suspect mold growth seen was in the crawlspace. All materials tested from the first floor were dry at the time of our assessment.

BUILDING DESCRIPTION: The subject building is a two-story (plus basement crawlspace), single family, residential structure, totaling approximately 1220 sq ft, which was built in 1928 of wood-frame construction. The subject house was occupied at the time of our inspection. We understand the siding, gutters/downspouts, and some fencing have already been replaced after damage caused by hurricane Sandy in October of 2012. See attached drawings for detail.

BACKGROUND: We understand the subject house suffered damage as a result of hurricane Sandy on October 29-30, 2012. We understand the house suffered mainly from water and wind damage in relation to the storm and that the owner has already completed the following repairs: siding replacement, gutter/downspout replacement, and some fence replacement. We understand the scope of the renovations still to be completed as follows: Scope of work consists of; replacing/repairing front door and front windows, replacing of all flooring on 1st Floor, re-insulation of basement, replacing electrical wiring, removal of in-ground oil tank from front yard, and installation of concrete pad in basement.

INSPECTION AND TESTING: Dan Sullivan of Chem Scope, Inc. was at the site on 11/17/2014 to conduct the subject tests. All of the doors and windows were closed at the time of our inspection, which was normal given the weather conditions. Our work included:

- Visual inspection
- Temperature/Humidity and Moisture in building materials

SCOPE OF WORK: Our client has hired us to do a preliminary mold assessment of the first floor and crawlspace, where there was past water damage.

MOLD ASSESSMENT REPORT SYNOPSIS

Observations from Visual Inspection/temperature and humidity testing:

We arrived on site at around 8:00 AM. It was raining at the time of our assessment. The temperature at the time of our assessment was about 40 deg F and it was lightly raining. We were let into the house by our client and the owner. There was no visible mold or noticeable smells/odors in the first floor and second floor rooms.

All materials tested on the first floor had <20% WME (wood moisture equivalents).

The crawlspace is under the entire first floor and there is access from the side of the house. The crawlspace has a soil floor and a wood ceiling. There are no stored materials in the crawlspace. There is visible suspect mold growth on the wood ceiling to the crawlspace and on wooden beams and framing. The soil is a naturally occurring place where mold is certain to be present and now wet we have to assume there is mold growth, which is not likely to become visible.

**PRELIMINARY MOLD ASSESSMENT
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 3 OF 5**

MOLD ASSESSMENT REPORT SYNOPSIS (cont)

The temperature and humidity, inside vs outside was determined using a sling psychrometer. Normal dew point levels are generally considered between 10 and 21 °C (50 and 69 °F). In areas with dew points under 10 °C (50 °F), the air is considered too dry. In areas with dew points above 21 °C (69 °F), the air is considered too humid. Normal relative humidity for a house is 30-50% depending on the outdoor climate. Humidity and dew points in the house were normal for the exterior conditions that day. The humidity in the crawlspace was elevated as expected given the conditions of the day and a damp soil crawlspace floor.

Table 1 - Temperature & Humidity Results (11/17/2014, Pressure 758 mm Hg)

Location	Dry Bulb (°F) (Room / Air Temperature)	Wet Bulb (°F)	%RH	Dew Point (°F)
Kitchen	67	57	54	50
Living Room	67	57	54	50
Crawlspace	45	44	93	43
Exterior	41	42	92	40

A Protimeter Moisture Measurement System (Marlow England) was used to measure the amount of moisture in various surfaces and materials in terms of wood moisture equivalents (WME). This device has two pin-point probes, which are inserted in the surface and the conductivity is used to measure moisture in the material as % H₂O. Moisture is important to detect potential biological growth. The normal amount of moisture in each material varies with humidity. Materials which have >30% H₂O are relatively damp and may be wet enough to permit mold growth. A material with 70% H₂O is very wet and likely to have mold growth. This instrument does not measure below 7% moisture, which is considered bone dry. This device was also used to test for room temperature, % relative humidity and dew point. The dew point is a measure of the absolute amount of water in the air and is more useful in comparisons than the relative humidity, which is also affected by temperature.

A Summary of the moisture readings and visual inspection is listed in Table below:

Table 2 – Visible Mold and % Moisture in Building materials (11/17/2014)

Room / Material	% Moisture (WME)	Notes
First Floor / Lower sheetrock walls and wood baseboards	< 15%	No Visible Mold
First Floor Living Room / Carpet	10-20%	No Visible Mold
Crawlspace / Wood ceiling and beams	10-15%	Suspect Mold Growth – Confirmed by Swab Sampling
Crawlspace / Poly on soil on floor	80%	Likely mold growth in damp soil

**PRELIMINARY MOLD ASSESSMENT
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 4 OF 5**

MOLD ASSESSMENT REPORT SYNOPSIS (cont)

MOLD IN SURFACE RESULTS: A swab sample was taken on suspect beige and white spots on the wooden crawlspace ceiling (187-210-1M and 187-210-2M). For reference a sample was taken of a clean section of wood ceiling in the crawlspace (187-210-3M). Data is summarized in Table 3 below. Fruiting structures and/or hyphae were found on sample 183-210-2M indicating that the mold growth is active. See EMSL report attached for details.

Table 3 - Principal Molds detected on surfaces – 11/17/2014

Sample #	Location / Surface Tested	Principal Mold Detected
183-210-1M (Swab)	Crawlspace / Beige spots on wooden ceiling	None Detected
183-210-2M (Swab)	Crawlspace / White spots on wooden ceiling	*High* Aspergillus/Penicillium
183-210-2M (Swab)	Crawlspace / Clean section of wooden ceiling	None Detected

*Fruiting Structures present

General Information about Mold: EPA does not call for routinely air testing for mold in assessment. Mold is always present indoors and outdoors and is a natural and necessary part of the environment. There are no Connecticut or federal health based standards for molds. EPA and other agencies report that molds have the potential to cause health effects. The main concerns are people with allergies, asthma and compromised immune systems. There are thousands of mold species, and many are not yet identified. There is much more to learn and new information is becoming available regularly. In mold assessment, we strive to detect moisture problems that cause excessive biological growth and when appropriate, recommend a plan of corrective action. When moisture problems occur, mold growth is likely if organic materials are not promptly dried up. Hidden mold may exist which cannot be seen without demolition.

RECOMMENDATIONS

See our separate Asbestos Pre-Renovation Inspection Report and Lead Pre-renovation XRF Screening Report for details regarding asbestos and lead present in these areas.

In general, correction of water damage requires first eliminating the source of the water. With the house being raised there should be a great increase in the ventilation below the house, which should address the excess humidity in the crawlspace. Raising the structure and installing a concrete foundation will also address the potential for mold in the soil of the crawlspace.

Continued

PRELIMINARY MOLD ASSESSMENT
SITE 030 (SERINI) – 24 ELAINE ROAD, MILFORD, CT
APPLICATION #1437, CS#187-210, 11/17/2014, PAGE 5 OF 5

RECOMMENDATIONS (CONT)

Instructions for Moisture Remediation: These instructions are intended for trained moisture/mold remediation contractors who are familiar with the terms used and skilled in the operations involved in moisture/mold remediation. Although no mold was seen on sheetrock walls, based on the homeowner's previous renovations, mold is assumed to exist inside the wall cavities and the following instructions should be used:

For the Crawlspace:

1. The work area must be unoccupied except for authorized personnel during subsequent work. Use poly to isolate the work areas from the rest of the building.
2. Negative air must be used to purge out the areas using HEPA filtered blowers, at least 2000 CFM per area. Negative air must be exhausted outside.
3. HEPA vacuums must be used for the cleanup. Thorough HEPA vacuuming is essential.
4. Abrasively clean suspect mold growth from wood ceilings and beams from the crawlspace. Abrasive removal should be done within a negative pressure containment or enclosure and cleaned using HEPA vacuums and tack cloths.
5. Some demolition may be necessary to access all of the suspect mold growth.
6. Clean out any debris and clean all surfaces. With the owner's approval, spray cleaned surfaces, especially wall cavities with mold inhibitor. Quaternary ammonium compounds are preferred mold growth inhibitors. Only EPA/DEEP registered fungicides may be used such as Fiberloc Shockwave^R and Aftershock^R. Any product used at the contractor's discretion to kill mold or to deter future mold growth must be an EPA/DEEP registered fungicide including any sealant finishing products.
7. Replace with new mold-free similar materials.
8. After the work is complete, a final visual inspection is suggested for quality control. Air samples could be run at the conclusion of the work at the owner's discretion. Any testing should be done after the negative air units have been shut off for at least a day.

Limitations of Mold Removal: It is well known in the industry that mold can never completely be removed from a site because of the constant presence of mold spores in the outdoor environment and the ability of molds to remain dormant within a building. If moisture problems recur, mold growth is likely.

For guidance on mold, log onto EPA.gov and search mold remediation or the state DPH web site.

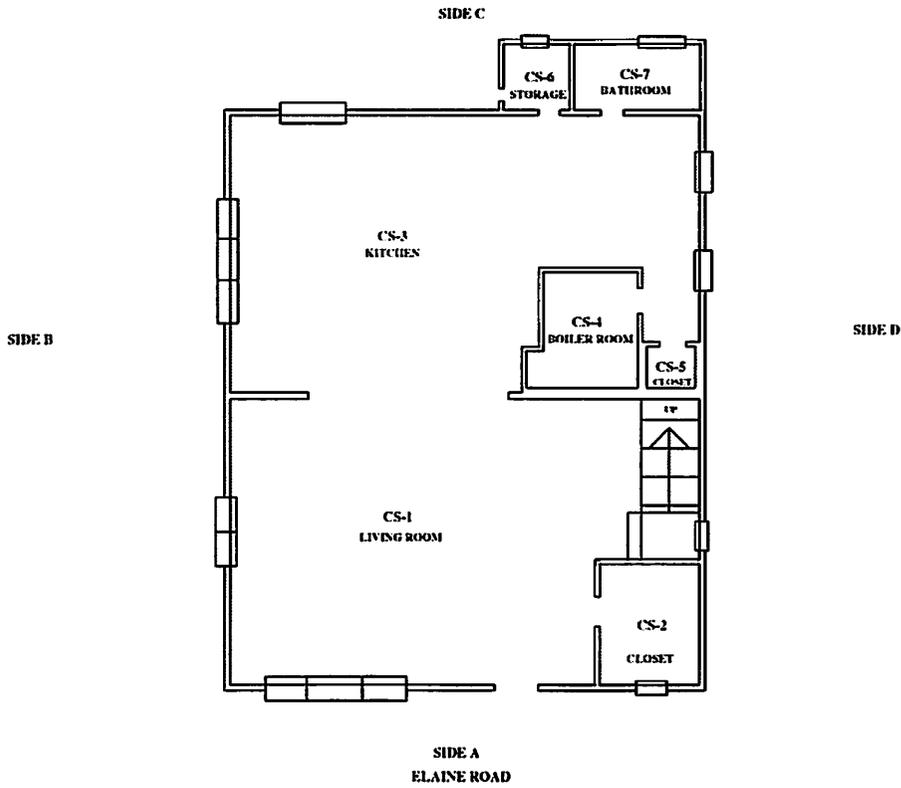
Please call me if there are any questions about this report or if you need further assistance.

Thank you for calling on us.



Dan Sullivan
Vice President, Operations

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 First Floor



INDEX OF SYMBOLS

NOTES

TOTAL SQUARE FEET = 1218
 CONSTRUCTION YEAR = 1968

BY KAYLA CARNOLEI/ENR/ENR/ENR

ChemScope Inc.

FIRST FLOOR

**LEAD/MOLD/ASBESTOS
 RADON INSPECTION**
 24 ELAINE ROAD
 MILFORD, CT

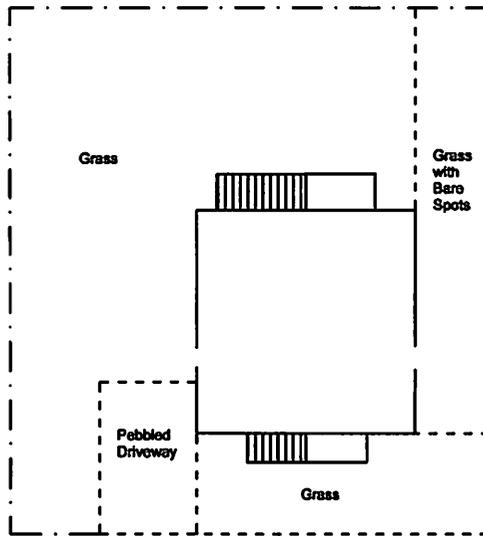
187-210
 NOT TO SCALE
 11/17/14

1 M

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior

SIDE C

SIDE B



SIDE A

ELAINE ROAD

SIDE D



LEGEND OF SYMBOLS

-  Fence
-  Ground Cover Change

Prepared by: KATHA CARDELLI LEIGH BROWNE

ChemScope Inc.

BASEMENT & EXTERIOR

Lead by:

LEAD/MOLD/ASBESTOS
 RADON INSPECTION
 24 ELAINE ROAD
 MILFORD, CT

Project Number 187-210	Revision Number
NOT TO SCALE	3
Date 11/17/14	



EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492
Phone/Fax: 203-284-5948 / (203) 284-5978
<http://www.EMSL.com> / wallingfordlab@emsl.com

Order ID: 241404589
Customer ID: CHEM51
Customer PO: 1366
Project ID:

Attn: Dan Sullivan
ChemScope, Inc.
15 Moulthrop Street
North Haven, CT 06473

Phone: (203) 865-5605
Fax: (203) 498-1610
Collected: 07/17/2014
Received: 11/18/2014
Analyzed: 11/24/2014

Proj: CS#187-210

Test Report: Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, and Other Particulates from Swab Samples (EMSL Method: M041)

Lab Sample Number:	241404589-0001	241404589-0002	241404589-0003		
Client Sample ID:	187-210-1M	187-210-2M	187-210-3M		
Sample Location:	Wood ceiling- beige spot	Wood ceiling- white spot	Wood ceiling- clean		
Spore Types	Category	Category	Category		
Agrocybe/Coprinus	-	-	-		
Alternaria	-	-	-		
Ascospores	-	-	-		
Aspergillus/Penicillium	-	*High*	-		
Basidiospores	-	-	-		
Bipolaris++	-	-	-		
Chaetomium	-	-	-		
Cladosporium	-	-	-		
Curvularia	-	-	-		
Epicoccum	-	-	-		
Fusarium	-	-	-		
Ganoderma	-	-	-		
Myxomycetes++	-	-	-		
Paecilomyces	-	-	-		
Rust	-	-	-		
Scopulariopsis	-	-	-		
Stachybotrys	-	-	-		
Torula	-	-	-		
Ulocladium	-	-	-		
Unidentifiable Spores	-	-	-		
Zygomycetes	-	-	-		
Fibrous Particulate	-	Low	-		
Hyphal Fragment	-	Low	-		
Insect Fragment	-	-	-		
Pollen	-	-	-		

Sample Comment: 241404589-0001 None Detected
Sample Comment: 241404589-0003 None Detected

Report Comment: Expired Swab media used: 08/2014

Category: Count/per area analyzed
Rare: 1 to 10 Low: 11 to 100 Medium: 101 to 1000 High: >1000
Bipolaris++ = Bipolaris/Dreschlera/Exserohilum Myxomycetes++ = Myxomycetes/Periconia/Smut
* = Sample contains fruiting structures and/or hyphae associated with the spores.

Gloria V. Oriol, Laboratory Manager
or Other Approved Signatory

No discernable field blank was submitted with this group of samples.

EMSL maintains liability limited to cost of analysis. 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 or analytical method limitations. Interpretation of the data contained in this report is the responsibility of the client. ** denotes not detected. Samples received in good condition unless otherwise noted.
Samples analyzed by EMSL Analytical, Inc. Wallingford, CT AIHA-LAP, LLC--EMLAP Accredited #165118

Initial report from: 11/24/2014 17:02:21

For Information on the fungi listed in this report please visit the Resources section at www.emsl.com



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

EMSL Order Number (Lab Use Only):

241404589

EMSL ANALYTICAL, INC.
19 NORTH PLAINS HWY. UNIT 3
CHALLENGER, CT 06497
PHONE (203) 284-5948
FAX (203) 284-5978

Company: <u>Chem Scan</u>		EMSL-Bill to: <input type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: <u>15 Mouthrop St.</u>		Third Party Billing requires written authorization from third party	
City: <u>North Ham</u>	State/Province: <u>CT</u>	Zip/Postal Code: <u>06473</u>	Country: <u>USA</u>
Report To (Name): <u>Dan Sullivan</u>		Telephone #: <u>203-565-5605</u>	
Email Address:		Fax #: <u>203-498-1610</u>	Purchase Order:
Project Name/Number: <u>CS#187-210</u>		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
U.S. State Samples Taken:		Connecticut Samples: <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential	

Turnaround Time (TAT) Options* - Please Check

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

*Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide. TATs are subject to methodology requirements

Non Culturable Air Samples (Spore Traps)

• M001 Air-O-Cell	• M173 Allegro M2	• M004 Allergenco	• M032 Allergenco-D	• M172 Versa Trap
• M049 BioSIS	• M003 Burkard	• M043 Cyclex	• M002 Cyclex-d	
• M030 Micro 5	• M174 MoldSnap	• M176 Relle Smart	• M130 Via-Cell	

Other Microbiology Test Codes

<ul style="list-style-type: none"> • M041 Fungal Direct Examination • M005 Viable Fungi ID and Count • M006 Viable Fungi ID and Count (Speciation) • M007 Culturable Fungi • M008 Culturable Fungi (Speciation) • M009 Gram Stain Culturable Bacteria • M010 Bacterial Count and ID - 3 Most Prominent • M011 Bacterial Count and ID - 5 Most Prominent • M013 Sewage Contamination in Buildings 	<ul style="list-style-type: none"> • M014 Endotoxin Analysis • M015 Heterotrophic Plate Count • M180 Real Time Q-PCR-ERMI 36 Panel • M018 Total Coliform (Membrane Filtration) • M020 Fecal Streptococcus (Membrane Filtration) • M210-215 Legionella Detection • M026 Recreational Water Screen • M027 Mycotoxin Analysis 	<ul style="list-style-type: none"> • M029 Enterococci • M019 Fecal Coliform • M133 MRSA Analysis • M028 Cryptococcus neoformans Detection • M120 Histoplasma capsulatum Detection • M033-39 Allergen Testing • M044 Group Allergen (Cat, Dog, Cockroach, Dustmites) • Other See Analytical Price Guide
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Preservation Method (Water):

Name of Sampler: _____ Signature of Sampler: _____

Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
187-210-1m	Wood ceiling - beige spot	Swab	M001	-	11/17/14 9:30am
-2m	" " - white spot	"	"	-	" "
-3m	Wood ceiling - clean	"	"	-	" "
 By: <u>[Signature]</u> <u>S. Owen</u> <u>Went</u>					

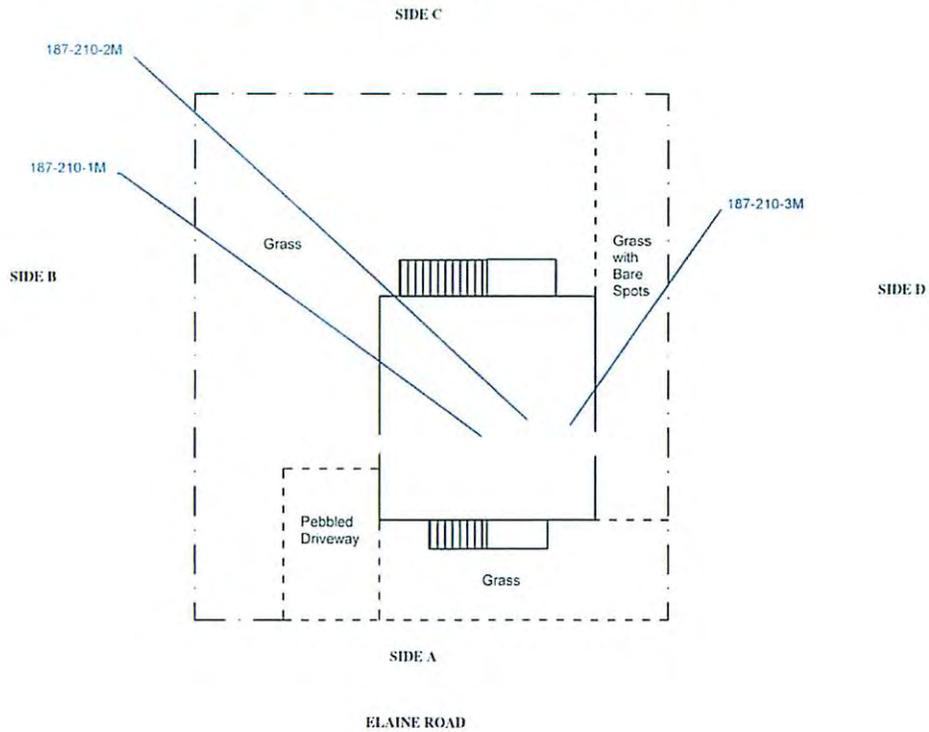
Client Sample # (s): 187-210- (1m-3m) Total # of Samples: 3

Relinquished (Client): Dan Sullivan Date: 11/17/14 Time: 5:40pm

Received (Client): _____ Date: _____ Time: _____

Comments:
Swab media exp. 8/2014 informed client via email 11/18/14
Dan acknowledged disclaimer in report request to continue analysis

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
Basement and Exterior
Mold Swab Sample Locations



LEGEND OF SYMBOLS

NOTATIONS

- Fence
- Ground Cover Change

Drawn by: KAYLA C. ARSIS LEIGH@CHEMSCOPE.COM

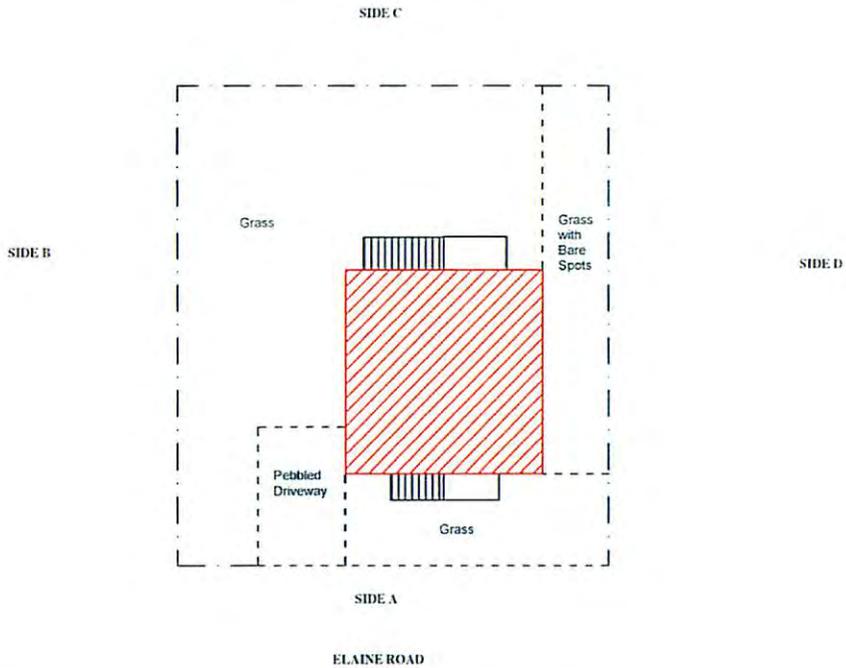
ChemScope Inc.

BASEMENT & EXTERIOR

**LEAD MOLD/ASBESTOS
 RADON INSPECTION**
 24 ELAINE ROAD
 MILFORD, CT

187-210	3 MS
NOT TO SCALE	
11/17/14	

ChemScope Inc.
 Site #030 (Serini) - Application #1437
 24 Elaine Road, Milford, CT
 CS#187-210, 11/17/14
 Basement and Exterior



LEGEND OF SYMBOLS

 Location of Mold On Wood Ceiling

NOTATIONS

 Fence

 Ground Cover Change

SCALE: AS SHOWN

ChemScope Inc.

BASEMENT & EXTERIOR

**LEAD/MOLD/ASBESTOS
 RADON INSPECTION**
 24 ELAINE ROAD
 MILFORD, CT

187-210

NOT TO SCALE

11/17/14

3 M

Appendix B

DECD/SHPO/DOH Professional Certification Form

For all General Permit Applications submitted as part of the Flood Management Certification for Disaster Recovery Activities, the following certification must be signed and sealed by a professional engineer licensed to practice in Connecticut.

Property: 24 Elaine Road, Milford, CT 06460

Application Number: 1437

"I certify that in my professional judgment, the above referenced project has been designed consistent with the Flood Management Certification for Disaster Recovery Activities as approved by DEEP and that the information is true, accurate and complete to the best of my knowledge and belief.

I understand that a false statement made in the submitted information may, pursuant to Section 22a-6 of the General Statutes, be punishable as a criminal offense under Section 53a-157b of the General Statutes, and may also be punishable under Section 22a-438 of the General Statutes."

H. Delaie

12/12/2014

Signature of Applicant

Date

Hermia Delaie

DOH CDBG-DR

Program Manager

Name of Applicant (print or type)

Title

J. Andrew Belivacqua

12/12/2014

Signature of Professional Engineer

Date

J. Andrew Belivacqua

18477

Name of Professional Engineer (print or type)

P.E. Number

Affix P.E. Stamp Here





United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 3301
PHONE: (603)223-2541 FAX: (603)223-0104
URL: www.fws.gov/newengland

Consultation Code: 05E1NE00-2015-SLI-0169

December 17, 2014

Event Code: 05E1NE00-2015-E-00261

Project Name: 1437 Serini 24 Elaine Rd. Milford, CT

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: 1437 Serini 24 Elaine Rd. Milford, CT

Official Species List

Provided by:

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 3301
(603) 223-2541
<http://www.fws.gov/newengland>

Consultation Code: 05E1NE00-2015-SLI-0169

Event Code: 05E1NE00-2015-E-00261

Project Type: ** Other **

Project Name: 1437 Serini 24 Elaine Rd. Milford, CT

Project Description: Project includes underground oil tank removal, new windows and doors, new concrete slab in crawl space, and minor interior improvements.

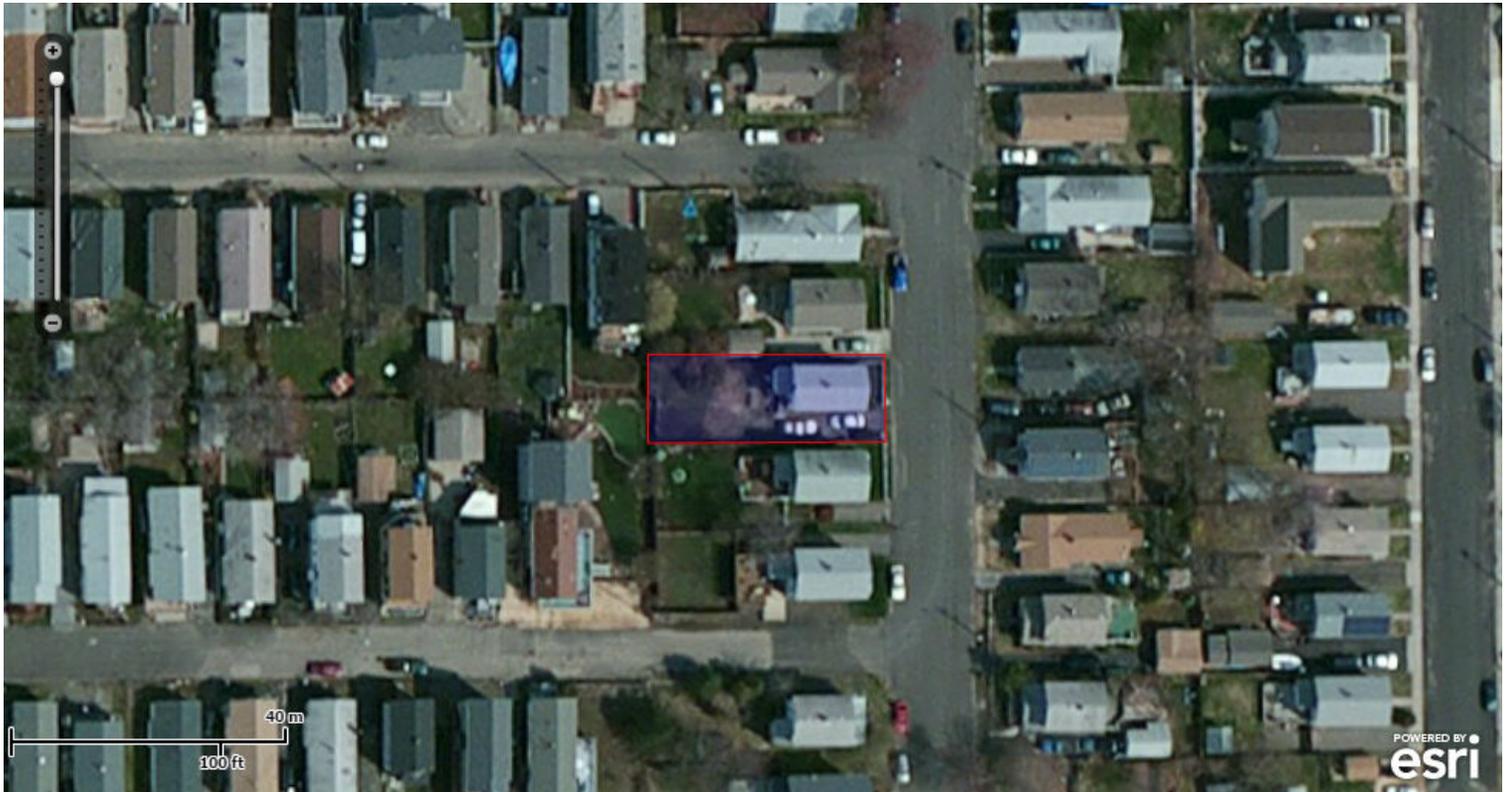
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: 1437 Serini 24 Elaine Rd. Milford, CT

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-73.0180289 41.2057678, -73.0176158 41.2057678, -73.0176131 41.2056528, -73.0180289 41.2056508, -73.0180289 41.2057678)))

Project Counties: New Haven, CT



United States Department of Interior
Fish and Wildlife Service

Project name: 1437 Serini 24 Elaine Rd. Milford, CT

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Red Knot (<i>Calidris canutus rufa</i>)	Threatened		

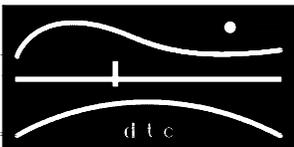
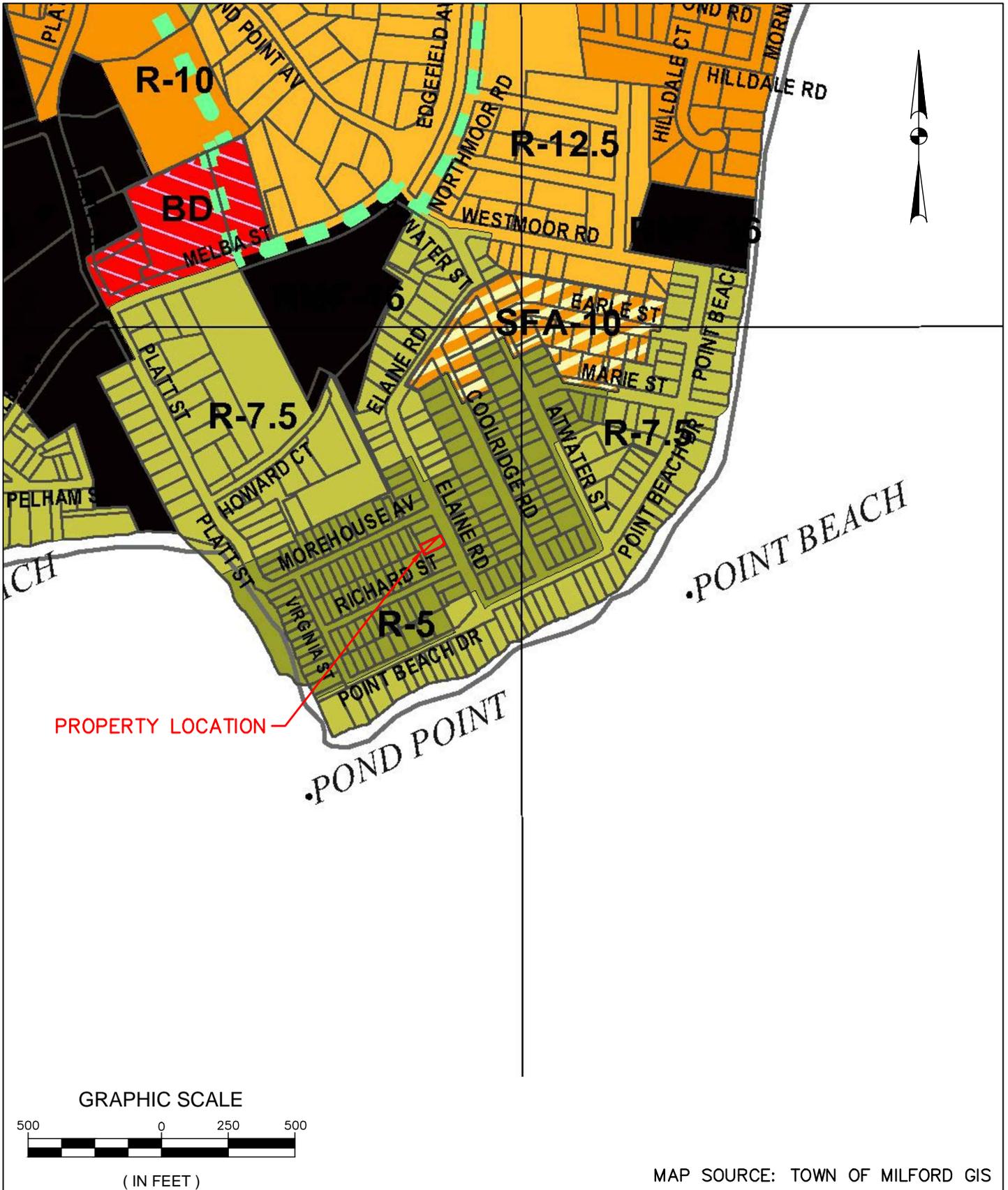


United States Department of Interior
Fish and Wildlife Service

Project name: 1437 Serini 24 Elaine Rd. Milford, CT

Critical habitats that lie within your project area

There are no critical habitats within your project area.



DIVERSIFIED TECHNOLOGY CONSULTANTS
 2321 Whitney Avenue - Hamden Center II - Hamden CT 06518
 Ph: 203 239 4200 Fax: 203 234 7376

DEPARTMENT OF HOUSING
 COMMUNITY DEVELOPMENT BLOCK GRANT
 DISASTER RECOVERY

24 ELAINE ROAD
 MILFORD, CT

ATTACHMENT 14
 ZONING MAP

PROJECT NUMBER: 13-449-030

APPLICANT NO:

1437

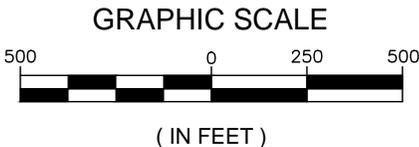
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DRAWN BY: EPZ

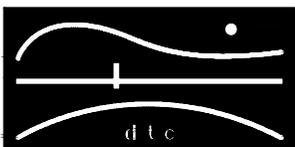
DATE: 11/24/2014

CHECKED BY: JAB

MAP SOURCE: TOWN OF MILFORD GIS



MAP SOURCE: CITY OF MILFORD ENGINEERING DEPARTMENT



DIVERSIFIED TECHNOLOGY CONSULTANTS
 2321 Whitney Avenue - Hamden Center II - Hamden CT 06518
 Ph: 203 239 4200 Fax: 203 234 7376

DEPARTMENT OF HOUSING
 COMMUNITY DEVELOPMENT BLOCK GRANT
 DISASTER RECOVERY

24 ELAINE ROAD
 MILFORD, CT

ATTACHMENT 15
 TOPOGRAPHIC MAP

PROJECT NUMBER: 13-449-030 APPLICANT NO: 1437

SCALE: 1"=500' DRAWN BY: EPZ

DATE: 11/24/2014 CHECKED BY: JAB