

G-0674-1
June 10, 2016



Ms. Kristin Doundoulakis
Project Management Specialist
Department of Public Works
Town of Groton
134 Groton Long Point Road
Groton, Connecticut 06340

Re: **Hazardous Building Material Assessment Report
Former Groton Heights School
244 Monument Street
Groton, Connecticut**

Dear Ms. Doundoulakis:

In accordance with our proposal dated June 2015, Tighe & Bond has completed a Hazardous Materials Building Materials Assessment (HBMA) on behalf of the Town of Groton (Town) for the Former Groton Heights School. It is our understanding that the HBMA was requested to support potential re-use of the building for office or residential use. Furthermore, this work is being funded through a Department of Economic and Community Development Brownfields Assessment Grant.

Assessment Summary

The HBMA was conducted in accordance with the Environmental Protection Agency (EPA) National Emissions Standard for Hazardous Air Pollutants Act (NESHAP). The assessment included sampling of suspect asbestos containing materials (ACM), lead-based paint (LBP) screening, and sampling of suspect polychlorinated biphenyl (PCB) containing building materials such as caulking, glazing, sealants and paints for analysis. A visual assessment of microbial growth and universal wastes were also performed along with air sampling for radon.

The initial HBMA was performed on November 13, 2015 with a follow up visit on December 14, 2015. The sampling and inventory was conducted by State of Connecticut licensed asbestos and lead inspectors, Philip Hutter and Justin Proto of Tighe & Bond. A photographic log is found in Appendix A. Copies of the inspector's licenses are included in Appendix B. Sampling locations are shown on Figures HBM-1.1 and HBM-1.2 in Appendix C.

Tighe & Bond utilized information contained in previous reports for the school provided by the Town when conducting the HBMA including the Asbestos Hazard Emergency Response Act (AHERA) Management Plan and subsequent re-inspections, as well as lead and indoor air quality surveys prepared by Mystic Air Quality Consultants, Inc.

Suspect Asbestos-Containing Material Sampling

A total of 45 different types of suspect ACM were observed and sampled, including sheetrock, joint compound, floor tile, ceiling tile, vinyl cove base, mastics, caulks, adhesives, sink undercoating, multiple types of roof flashing, multiple types of built up roofing, roof flashing caulk, chimney flashing, gutter flashing, roof patch, flue seam caulk, stair tread and other miscellaneous materials. Sampled materials are listed in Tables 1 and 2 (Appendix D). Sample locations are depicted in Figure HBM-1.1.

Up to seven samples were collected of each suspect material in accordance with the EPA requirements for asbestos identification. Samples were submitted to EMSL Laboratories in



Wallingford, Connecticut for asbestos analysis via Polarized Light Microscopy (PLM) using EPA approved protocol in accordance with accreditation of the National Institute of Standards and Technology (NIST). During assessment activities, the sample locations, types of material, and quantities were recorded. Homogenous materials were noted when observed.

Lead-Based Paint Screening

Lead-based Paint (LBP) screening was conducted using an XRF analyzer, serial no. 512345. The XRF is an instant-read instrument that measures lead content of painted surfaces in milligrams per square centimeter. Representative painted building components (interior and exterior) such as walls, floors, ceilings, door and window systems, metal I-beams and other miscellaneous components were screened with the XRF and measurements were recorded as part of the assessment. Interior components and surface locations were identified by side designations represented by the letters "A", "B", "C", and "D". The "A" side is considered the door/entrance side to the various rooms with the "B", "C", and "D" side following in a clockwise order.

Sampling of Suspect PCB Sources and Materials

Samples were collected of suspect PCB containing source materials including paint, caulking, glazing, and sealant type compounds observed during the assessment. Three samples of each different type of material were collected in accordance with the EPA sampling guidelines. These samples were submitted to Phoenix Laboratories of Manchester, Connecticut for analysis of PCBs utilizing the EPA 3540C Soxhlet Extraction method and SW 846 8082 analytical method. Source sample locations are depicted in Figure HBM-1.2.

Radon Air Sampling

Passive air sampling for radon was conducted using charcoal canisters. Charcoal canisters were placed in the lowest level of the building according to procedures recommended by the testing laboratory, Radon Testing Corporation of America (RTCA). Canisters were placed at least 20 inches from the ground, at least 3 feet away from walls and away from sources of air disturbance, such as frequently used doors, windows and vents. Canisters were not placed in a room with a direct source of heat, such as a boiler room, or a direct source of moisture, such as a bathroom. The canisters remained in the sampling location for a period of 72 hours, after which time they were retrieved and submitted to RTCA in Elmsford, NY, for laboratory analysis.

Visual Assessment for Suspect Microbial Growth

A visual assessment was performed to evaluate building materials for signs of water damage and suspect microbial growth. The visual assessment was performed only within the interior of the building. Building materials such as sheetrock, plaster, caulk and other miscellaneous materials were visually assessed.

Visual Assessment for Universal Wastes

A visual assessment was conducted for lighting ballasts, transformers, electrical switches, small electrical motor capacitors and other items that could contain mercury, PCBs, or di-(2-ethylhexyl) phthalate (DEHP). The assessment included identification of fluorescent light tubing, emergency lights, and exit signs that may contain mercury or lead-acid batteries.

Findings and Conclusions

Asbestos Sampling Results

During the course of the assessment, a total of 101 bulk samples of suspect ACM were collected. Some materials were observed to be homogeneous within several rooms and sampled as sets. 89 samples were analyzed by PLM based on the "stop on first positive" request to the laboratory.

Refer to Table 1 in Appendix D for a summary of asbestos containing materials sampled, with locations. Table 2 is a summary of sampled materials found to be non-asbestos containing. Laboratory analytical reports for asbestos sampling are provided in Appendix E.

EPA defines any material containing more than 1% asbestos to be an asbestos containing material. The following materials were determined to be asbestos-containing:

- Tan Sink Undercoating (1st Floor Room 2)
- Black Sink Undercoating (1st Floor by Health Room)
- Gray 9"x9" Vinyl Floor Tile and associated mastic (Rooms 13 and 14)
- Black/Yellow Mastic associated with White 12"x12" Floor Tile (Gym Foyer)
- Gray Plaster Rough Coat (1st and 2nd Floors Walls/Ceilings; Basement Ceilings)
- Roof Curb Flashing (Roof #3)
- Roof Perimeter Flashing (Roof #2)
- White Flashing Caulk (Roof #2)
- Black Gutter Flashing (Roof #1)
- Black Chimney Flashing (Roof #1)
- White/Gray Flue Caulk (Boiler Room)

The stair tread material found in the stairwells was analyzed via Transmission Electron Microscopy (TEM) and determined to be < 1% asbestos. This material would not be considered asbestos containing per EPA and State of Connecticut regulations but OSHA regulations still apply. The work would require OSHA Class II removal operation with critical barriers, negative pressure, and wet methods by 32 hour asbestos trained workers and supervised by a 40 hour trained competent person. Once packaged in leak tight containers may be disposed of as general construction debris; however, it is Tighe and Bond's understanding that it is difficult to find a landfill that will take "general constructions debris" in asbestos labeled containers therefore many contractors remove and dispose of the material as ACM.

Previous sampling by Mystic Air Quality Consultants, Inc. determined that the Boiler Insulation was also asbestos containing. This material is still exists in association with the boiler.

The following materials are assumed to be asbestos-containing and located in inaccessible locations:

- Thermal systems insulation (possibly in pipe chases, behind walls, above ceilings)
- Glue daubs behind boards (chalk, tack, dry-erase) and mirrors

The following observations were made during this HBMA, some of which contradict information presented in previous reports.

- Fallen asbestos-containing plaster debris was observed in 1st Floor Room 1, 2nd Floor Room 6 and may be present in other rooms. The debris in this room and others should be avoided to prevent the release of asbestos dust.
- Asbestos-containing acoustical ceiling tile is noted in previous reports within different areas of the building; however, subsequent assessments do not list this material as

ACM. Additionally, ceiling tile was either not observed or was observed to have been replaced during this assessment.

- Asbestos-containing 9"x9" vinyl floor tile was previously documented in the classrooms. However, wood flooring that appears to be original was documented in previous reports and observed during this HBMA. There is a possibility that asbestos-containing material may be encountered under the wood flooring.

If additional materials are encountered during demolition activities that were not previously sampled, they would either need to be sampled to determine asbestos content or should be assumed to contain asbestos.

All regulated friable and non-friable ACM must be removed prior to demolition activities. A State of Connecticut Licensed Asbestos Abatement Contractor must be retained to perform removal work. Visual inspections must be performed within each abatement area at the completion of the abatement work. The visual inspection must be performed by a State of Connecticut Licensed Asbestos Project Monitor (APM). The abatement areas must meet final visual inspection criteria prior to renovation activities. Re-occupancy air monitoring is required by an APM before entry of any person into the work area.

The Asbestos Abatement Contractor must submit a notice of asbestos abatement to the State of Connecticut Department of Health post marked or hand delivered 10 days prior to the commencement of any asbestos abatement activities involving the abatement of greater than 10 linear feet or 25 square feet of asbestos containing materials.

Lead-Based Paint Screening Results

A total of 63 readings were collected during the lead-based paint screening of the building. Refer to Table 3 for a detailed list of painted surfaces screened and XRF measurements recorded.

For purposes of waste characterization, lead-based paint is defined as paint containing 1.0 mg/cm² of lead or greater. Any component containing 1.0 mg/cm² or greater is considered to contain a "high level" of lead. Any component containing less than 1.0 mg/cm² of lead in paint is considered to have a "low level" of lead.

XRF readings identified high levels of lead on the following surfaces:

- White Plaster Walls – 1st and 2nd Floors
- White Wood Door Casings – Basement
- Green Wood Doors - Exterior
- Green Wood Door Casings – Exterior

The previous report from Mystic Air Quality Consultants dated December 19, 1991 expresses that the following additional components were determined to have lead-based paint via XRF (identical components listed in our findings are excluded):

- Roof Overhang Fascia and Soffit - Exterior
- Yellow Traffic Lines – Exterior
- White Traffic Lines – Exterior
- Window Sashes, Sills, Casings – Basement
- Sheetrock Walls - Basement

If items identified to contain high or low concentrations of lead (i.e. plaster walls) will be impacted by cutting, grinding or other dust generating activities, a task-specific exposure assessment should be conducted by the contractor in accordance with OSHA 29 CFR

1926.62. If items containing high or low concentrations of lead are not scheduled to be disturbed, current regulations allow for them to remain in place.

PCB Sample Results of Suspect Source Materials

A total of 27 source samples were submitted for PCB analysis. Refer to Table 4 for a detailed list of building components sampled for PCBs. Laboratory analytical reports for PCB sampling are provided in Appendix F.

Materials containing PCBs at concentrations from 1 to less than 50 parts per million (ppm) are regulated by the Connecticut Department of Energy and Environmental Protection (CTDEEP). Materials containing PCBs greater than or equal to 50 ppm are regulated by CTDEEP and EPA. In general regulations require removal of these materials, however there is no dictated time frame. Materials with PCB concentrations less than 1 ppm are not regulated.

Fourteen of the 27 source samples analyzed were found to contain PCBs, including various paints located throughout the building. PCB concentrations in paint ranged from non-detect to 7.6 ppm. Below is a list of the PCB source materials identified with concentrations above 1 ppm.

- 4.3 ppm on blue concrete floor paint
- 7.6 ppm on red concrete floor paint
- 2.2 ppm on the plaster walls
- 2.1 ppm on brick walls
- 1.1 ppm on fallen paint from within the study area.

Additional sampling of adjacent substrate materials (i.e. concrete, plaster, brick) is needed to determine if these materials have been impacted by leaching of PCBs from source materials into underlying substrates.

Radon Air Sampling Results

Four radon canisters were placed in the lowest level of the building (ground floor) and were analyzed by RTCA Laboratories. Each radon sample was reported to be below the EPA action level of 4 picocuries per Liter (pCi/L). Levels detected ranged from 0.1 pCi/L to 1 pCi/L. The levels detected by the radon sampling suggest that radon mitigation is not needed. Table 5 provides a detailed summary of locations and analysis results for each radon sampling canister. Radon laboratory reports are provided in Appendix G.

Microbial Visual Assessment

During the assessment fungal growth and/or mold spore colonization was evident within the building. A heavy amount of visible microbial growth along with accompanying strong odors were encountered within the gymnasium. Essentially all surfaces from within the gymnasium and entry foyer were observed to have microbial growth. These surfaces include but are not limited to concrete masonry unit walls, metal roof deck, metal ducts, plywood stage front and duct canvas from within storage room. A failing roof system combined with an unconditioned building may likely be the source of the microbial growth. A moderate to heavy amount of fungal growth was observed on the sheetrock walls within basement rooms 18, 16 and associated lavatory. All walls in each of these rooms had some amount of microbial growth. The exterior portions of the walls in the hallway were also observed to have a minor amount of microbial growth. The basement boys' lavatory brick walls were also observed to have a light to moderate amount of microbial growth. It is

likely the source of the microbial growth in these basement rooms are from moisture in an unconditioned space.

Refer to Table 6 for a detailed summary of areas with suspect microbial growth.

Visual Assessment for Universal Waste Materials

The universal waste inventory primarily identified the presence of fluorescent light bulbs and electric ballasts throughout the building. Additionally, emergency lights and mercury thermostats were identified in multiple locations in the building. Exit signs potentially containing lead-acid batteries were identified in most locations within the building.

Table 7 provides a detailed summary of locations and quantities of universal wastes observed.

Opinion of Probable Abatement Costs

Tighe & Bond has prepared a preliminary Opinion of Probable Costs (OPC) for abatement of identified hazardous building materials, removal/disposal of universal wastes and remediation microbial contamination at the former Groton Heights School. This OPC was developed using a "gut" renovation scenario and is intended to have an anticipated accuracy range of +30% to -20%. The OPC is presented as Table 8.

Tighe & Bond recommends that the following additional activities be completed to further refine the OPC.

- Additional sampling of porous substrate materials (i.e. concrete, plaster, brick) in contact with PCB containing paints to determine if these materials have been impacted by leaching of PCBs.
- A hazardous building materials abatement design be completed for the building.
- Technical specifications be developed to detail required removal and disposal procedures for identified HBMs.

Please note that fallen hazardous building materials are found in multiple locations in the building. Asbestos-containing plaster debris is on the floor in rooms 1 and 6 and may be found elsewhere in the building. Fallen paint or damaged floor paint containing lead and PCBs is found in several locations in the building. Tighe & Bond suggests that entrance to the building be limited and any one entering the building should don personal protective equipment (PPE) including Tyvek suits and half-face air purifying respirators until area has microbial remediation completed. Furthermore, it may be prudent to retain an abatement contractor to conduct a cursory cleaning of the HMB debris on the floors.

If you have any questions regarding this letter report please contact Amy Vaillancourt at (860)704-4760 or ajvaillancourt@tighebond.com.

Very truly yours,

TIGHE & BOND, INC.



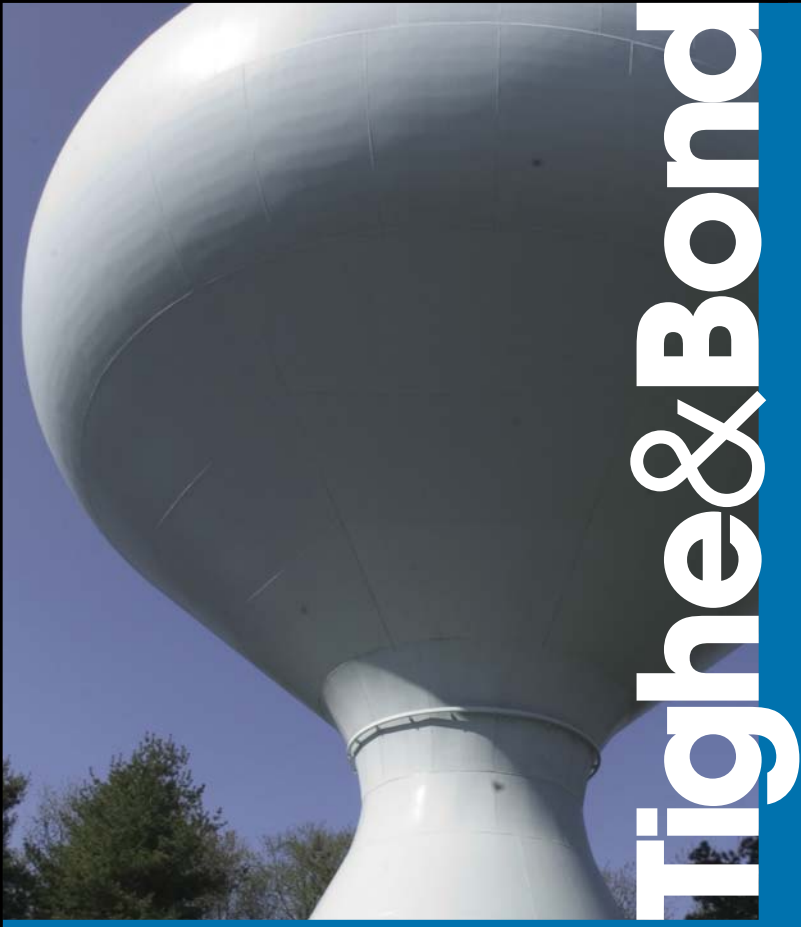
Amy Vaillancourt, LEP
Project Manager



Enclosures:

- Appendix A - Photographic Log
- Appendix B - Inspector Licenses
- Appendix C - Figure HBM-1.1 Asbestos Sample Locations
Figure HBM-1.2 PCB Sample Locations
- Appendix D - Table 1 Summary of Asbestos Containing Materials
Table 2 Summary of Non-Asbestos Containing Materials
Table 3 Summary of XRF Lead Screening Results
Table 4 Summary of PCB Sampling Results
Table 5 Summary of Radon Sampling Results
Table 6 Summary of Visual Microbial Assessment
Table 7 Summary of Universal Waste Assessment
Table 8 Probable Cost of Abatement Estimate
- Appendix E - Asbestos (EMSL) Laboratory Analytical Reports
- Appendix F - PCB (Phoenix) Laboratory Analytical Reports
- Appendix G - Radon (RTCA) Laboratory Analytical Reports





Appendix A


Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 1	Date: 11/13/15 & 12/14/15
Description: South Stairwell; PCB Paint on Ceiling	
	

Photograph No.: 2	Date: 11/13/15 & 12/14/15
Description: Basement South; PCB Paint on Floor	
	

Appendix A


Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 3	Date: 11/13/15 & 12/14/15
Description: Basement Girls' Lavatory; PCB Paint on Brick Walls	
	

Photograph No.: 4	Date: 11/13/15 & 12/14/15
Description: Typical Fallen Paint with PCB concentrations	
	

Appendix A

Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 5	Date: 11/13/15 & 12/14/15
Description: Asbestos-Containing Sink Undercoating; 1st Floor—Room 2	
	

Photograph No.: 6	Date: 11/13/15 & 12/14/15
Description: Asbestos-Containing Floor Tile & Mastic; Basement Rooms 13 and 14	
	

Appendix A


Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 7	Date: 11/13/15 & 12/14/15
Description: Asbestos-containing Yellow/Black mastic associated with White 12"x12" Floor Tile	
	

Photograph No.: 8	Date: 11/13/15 & 12/14/15
Description: Asbestos-containing Plaster Rough Coat	
	

Appendix A

Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 9	Date: 11/13/15 & 12/14/15
Description: Asbestos-containing Roof Curb Flashing (Roof #3)	
	

Photograph No.: 10	Date: 11/13/15 & 12/14/15
Description: Asbestos-containing Roof Flashing and Flashing Caulk (Roof #2)	
	

Appendix A

Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 11 **Date:** 11/13/15 & 12/14/15

Description: Asbestos-containing Gutter Flashing (Roof #1)



Photograph No.: 12 **Date:** 11/13/15 & 12/14/15

Description: Asbestos-containing Chimney Flashing (Roof #1)



Appendix A

Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 13 **Date:** 11/13/15 & 12/14/15

Description: Asbestos-containing Sink Undercoating; 1st Floor by Health Room



Photograph No.: 14 **Date:** 11/13/15 & 12/14/15

Description: Asbestos-containing Flue Duct Caulk; Boiler Room



Appendix A

Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 15 **Date:** 11/13/15 & 12/14/15

Description: Asbestos-containing Boiler Insulation; Behind Metal and Fiberglass



Photograph No.: 16 **Date:** 11/13/15 & 12/14/15

Description: Lead Based Paint on Door and Door Frames



Appendix A

Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 17 **Date:** 11/13/15 & 12/14/15

Description: Lead-Based Paint on Soffit



Photograph No.: 18 **Date:** 11/13/15 & 12/14/15

Description: Lead-Based Paint on Boiler Room Window Components



Appendix A

Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 19 **Date:** 11/13/15 & 12/14/15

Description: Lead-Based Paint on Exterior Yellow Caution Stripes



Photograph No.: 20 **Date:** 11/13/15 & 12/14/15

Description: Lead-Based Paint on Exterior White Parking Stripes



Appendix A

Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 21	Date: 11/13/15 & 12/14/15
Description: Heavy Microbial Growth on Basement Sheetrock walls (Room 18)	
	

Photograph No.: 22	Date: 11/13/15 & 12/14/15
Description: Heavy Microbial Growth on Gym Block Walls	
	

Appendix A


Photographic Log

Tighe&Bond

Client: Town of Groton

Job Number: G-0674-1

Site: Groton Heights School, 244 Monument Street, Groton, CT

Photograph No.: 23	Date: 11/13/15 & 12/14/15
Description: Heavy Microbial Growth on Gym Deck, Ducts and Bar Joists	
	

Photograph No.: 24	Date: 11/13/15 & 12/14/15
Description: Water Leak and Heavy Microbial Growth on Gym Surfaces (East)	
	



Tighe & Bond

CERT# A-509 - 538

**CHEMSCOPE TRAINING DIVISION
ASBESTOS INSPECTOR REFRESHER
4 HOUR TRAINING CERTIFICATE**

Justin F. Proto

213 Court Street, Suite 1100 , Middletown CT

Has attended an 4 hour annual refresher course on the subject discipline on
9/4/2015 and has passed a written examination.

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

Course topics include a review and update on asbestos health hazards, functions of inspectors and management planners, building systems, planning, inspecting for asbestos, sampling and analysis, respiratory protection, government regulations and preparing the inspection report.

Examination Date: 9/4/2015

Expiration Date: 9/4/2016

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

Ronald D. Arena
Training Manager



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

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

VALIDATION NO.
03-436533

NAME
JUSTIN F. PROTO

CERTIFICATE NO.
000697

CURRENT THROUGH
03/31/17

PROFESSION
ASBESTOS CONSULTANT-INSPECTOR

SIGNATURE

COMMISSIONER



CERT# L-600 - 819

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

**Justin F. Proto
213 Court Street, Suite 1100 , Middletown CT**

Has attended an 8 hour course on the subject discipline in English on
9/3/2015 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: 9/3/2015


Expiration Date: 9/3/2016

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 Mouthrop Street
North Haven CT 06473
(203) 865-5605

WALLET CARD			
STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH			
SIGNATURE	NAME	VALIDATION NO.	CURRENT THROUGH
	JUSTIN F. PROTO	03-436531	03/31/17
PROFESSION		CERTIFICATE NO.	
LEAD INSPECTOR RISK ASSESSOR		002204	
COMMISSIONER			



State of Connecticut

Lookup Detail View**Name****Name**

PHILIP C HUTTER

License Information

lookup

License Type	License Number	Expiration Date	Granted Date	License Name	License Status	Licensure Actions or Pending Charges
Asbestos Consultant-Inspector	916	03/31/2017	06/16/2015	PHILIP C HUTTER	ACTIVE	None

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State of Connecticut

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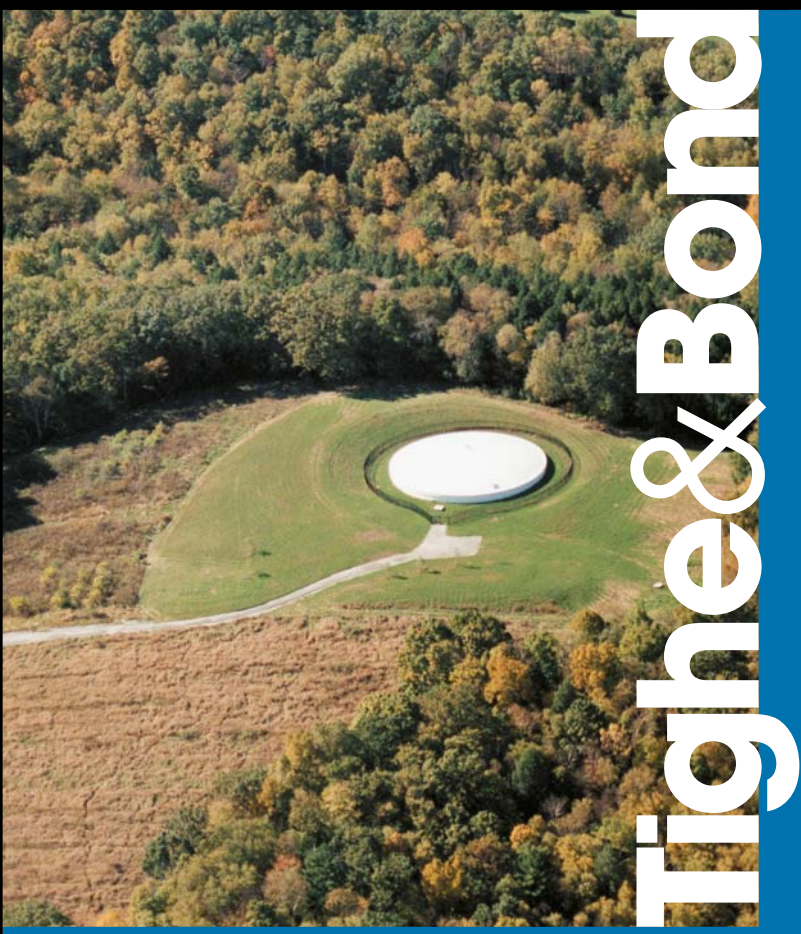
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License Information

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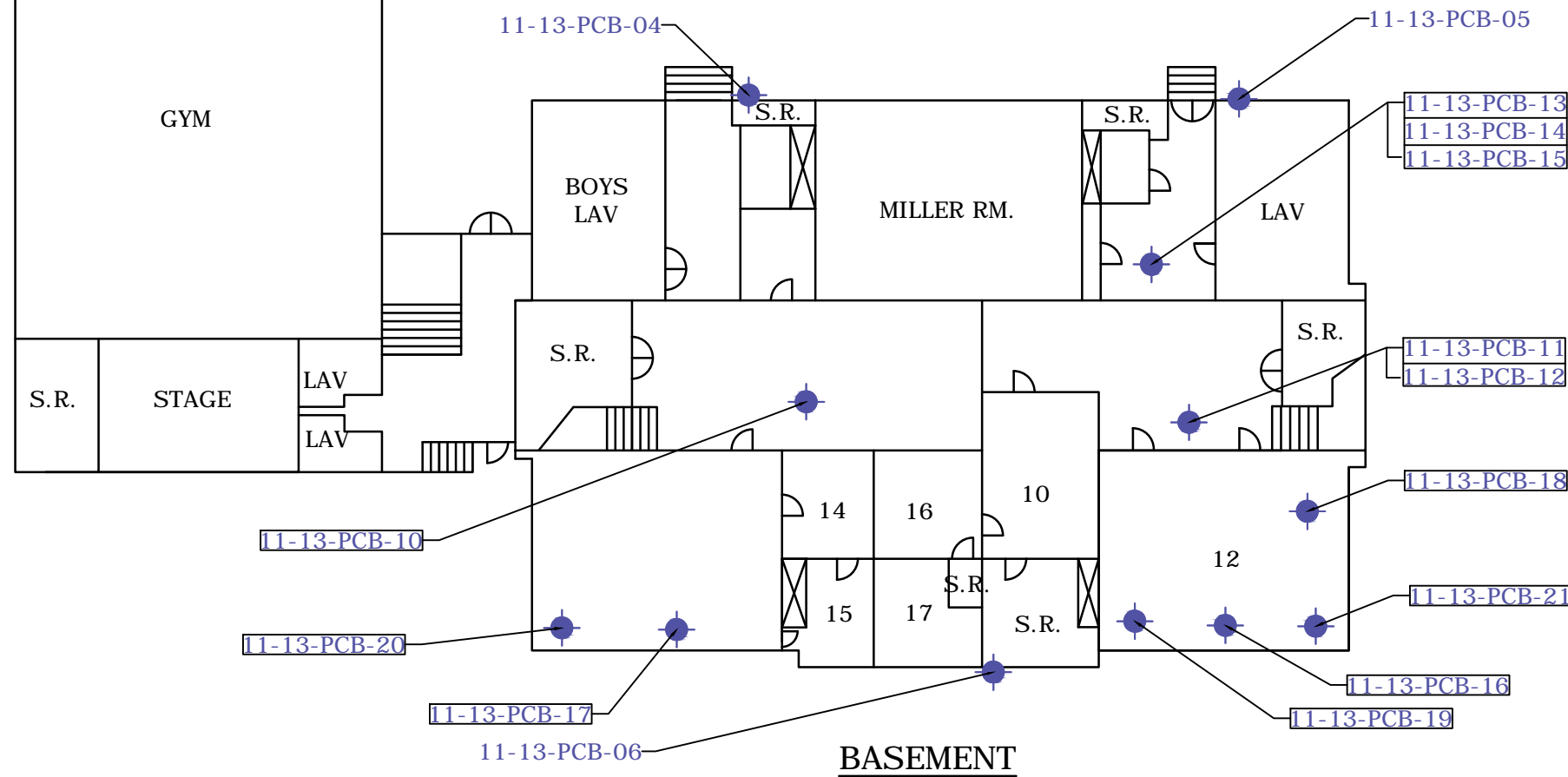
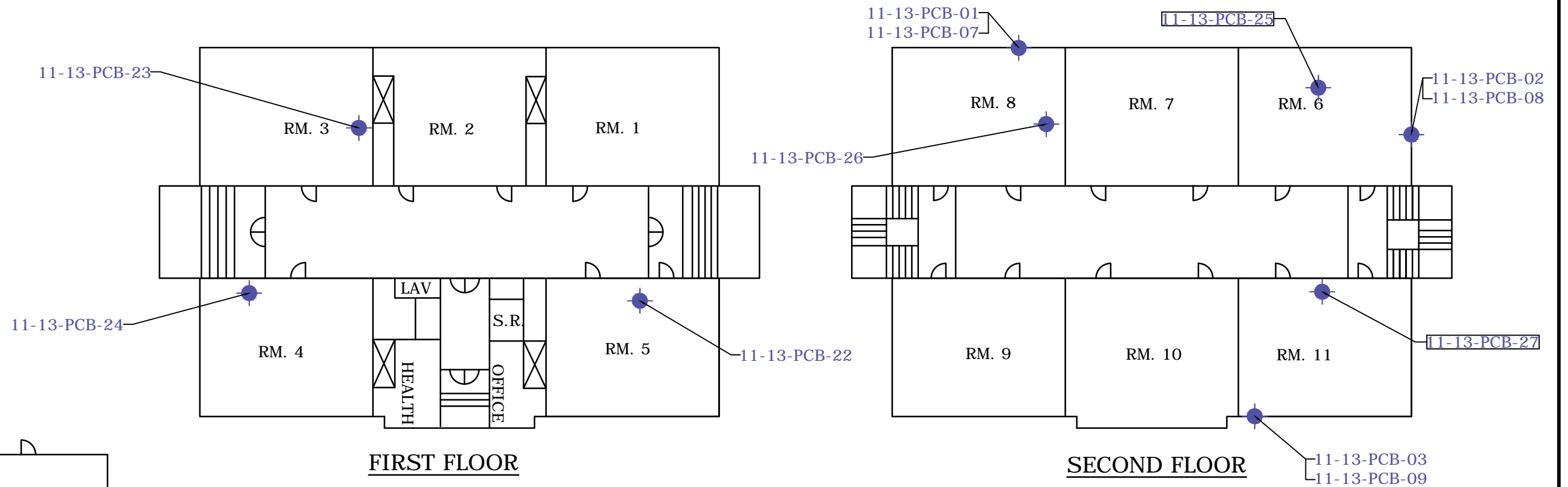
License Type	License Number	Expiration Date	Granted Date	License Name	License Status	Licensure Actions or Pending Charges
Lead Inspector Risk Assessor	2264	03/31/2017	10/06/2015	PHILIP C HUTTER	ACTIVE	None

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Tighe & Bond

Jan 07, 2016, 10:08am Plotted By: csl
Tighe & Bond, Inc. C:\Users\CSL\AppData\Local\Temp\AcPublish_4648\GROTON HEIGHTS.dwg



- LEGEND**
- 11-13-PCB-00 = INDICATES PCBS < 1PPM
 - 11-13-PCB-00 = INDICATES PCBS > 1PPM BUT < 50 PPM
 - 11-13-PCB-00 = INDICATES PCBS ≥ 50 PPM

GROTON HEIGHTS SCHOOL GROTON, CT	
PCB SAMPLE LOCATIONS	
DATE: 01/06/2016	Tighe&Bond www.tighebond.com
SCALE: NO SCALE	
HBM - 1.2	



Tighe & Bond

TABLE 1

Summary of Asbestos Containing Materials
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Asbestos Sampling Date: November 13 and December 14, 2015

Sample ID	Material	Color	Sample Location	Approximate Quantity	Result
11-13-PCH-07	Sink Undercoating	Tan	Room 2	1 Each	12% Chrysotile
11-13-PCH-08					Not analyzed (Stop positive)
11-13-PCH-27	9"x9" Floor Tile	Gray	Room 13 and 14	784 SF	5% Chrysotile
11-13-PCH-28					Not analyzed (Stop positive)
11-13-PCH-29	Black Mastic associated with Gray 9"x9" Floor Tile	Black	Room 13 and 14	784 SF	8% Chrysotile
11-13-PCH-30					Not analyzed (Stop positive)
11-13-PCH-53	Black/Yellow Mastic associated with White 12"x12" Floor Tile	Yellow/Black	Foyer by Gymnasium	400 SF	6% Chrysotile
11-13-PCH-54					Not analyzed (Stop positive)
12-14-PCH-26	Gray Plaster Rough Coat ^{*2}	Gray	1st and 2nd Floor Walls and Ceilings; Basement Ceilings	38,500 SF	1.75% Chrysotile ^{*1}
12-14-PCH-05	Roof Curb Flashing	Black	Roof #3	8 LF	2% Chrysotile
12-14-PCH-06					Not analyzed (Stop positive)
12-14-PCH-09	Roof Perimeter Flashing	Black	Roof #2	82 LF	4% Chrysotile
12-14-PCH-10					Not analyzed (Stop positive)
12-14-PCH-11	White Flashing Caulk	White	Roof #2 South	25 LF	2% Chrysotile
12-14-PCH-12					Not analyzed (Stop positive)
12-14-PCH-17	Gutter Flashing	Black	Roof #1 Perimeter	324 LF	8% Chrysotile
12-14-PCH-18					Not analyzed (Stop positive)
12-14-PCH-19	Chimney Flashing	Black	Roof #1	8 LF	10% Chrysotile
12-14-PCH-20					Not analyzed (Stop positive)

TABLE 1

Summary of Asbestos Containing Materials
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Sample ID	Material	Color	Sample Location	Approximate Quantity	Result
12-14-PCH-32	Sink Undercoating	Black	1st Floor by Health Room	1 Each	3% Chrysotile
12-14-PCH-33					Not analyzed (Stop positive)
12-14-PCH-34	Flue Caulk	White/Gray	Boiler Room Duct	16 LF	4% Chrysotile
12-14-PCH-35					Not analyzed (Stop positive)
Previous Sampling	Boiler Packing	White	Boiler Room - 2 Boilers	672 SF	Previously Determined
N/A	Thermal Systems Insulation	Not Determined	Behind Walls, Pipe Chases, Ceilings	Not Determined	Assumed
N/A	Glue Daubs associated with Mirrors and Boards (Chalk, Tack, and Dry-Erase)	Not Determined	<u>Basement</u> - Rooms 12 and 13, Restrooms; <u>1st Floor</u> - Rooms 1, 3, 4 & 5; <u>2nd Floor</u> - Rooms 6 to 11	2,732 SF	Assumed
N/A	Vapor Barrier Paper under Wood Flooring	Not Determined	Throughout	10,000 SF	Assumed

LEGEND

Asbestos Containing Material = > 1% Asbestos

*1 Sample Analyzed via EPA 400 Point Count Method

*2 Plaster Skim coat is both PCB Containing > 1 ppm and coated with Lead-Based Paint

LF = Linear Foot

SF= Square Foot

TABLE 2

Summary of Non-Asbestos Containing Materials
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Asbestos Sampling Date: November 13 and December 14, 2015

Sample ID	Material	Color	Location(s)	Result
11-13-PCH-01				None Detected
11-13-PCH-02				None Detected
11-13-PCH-03				None Detected
12-14-PCH-21	White Plaster Skim Coat ^{*2*6}	White	1st and 2nd Floor Classrooms (Ceilings and Walls); Stairwell 1 Ceiling, Stairwell 2 (Walls and Ceiling)	<0.25% Chrysotile ^{*1}
12-14-PCH-22				<0.25% Chrysotile ^{*1}
12-14-PCH-23				None Detected
12-14-PCH-24				None Detected
11-13-PCH-04				None Detected
11-13-PCH-05				None Detected
11-13-PCH-06	Brown Plaster Rough Coat ^{*3}	Brown	1st and 2nd Floor Classrooms (Ceilings and Walls); Stairwell 1 Ceiling, Stairwell 2 (Walls and Ceiling)	None Detected
12-14-PCH-25				1.00% Chrysotile ^{*1}
12-14-PCH-27				0.50% Chrysotile ^{*1}
12-14-PCH-28				1.00% Chrysotile ^{*1}
11-13-PCH-11	Stair Tread	Red	Stairwells 1 and 2	0.53% Chrysotile ^{*4}
11-13-PCH-12				<1% Chrysotile

TABLE 2

Summary of Non-Asbestos Containing Materials
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Sample ID	Material	Color	Location(s)	Result
11-13-PCH-11	Stair Tread Adhesive	Yellow	Stairwells 1 and 2	None Detected
11-13-PCH-12				None Detected
11-13-PCH-13	Sheetrock	White	Stairwell 1 and Basement Rooms 16 and 18	None Detected
11-13-PCH-14				None Detected
11-13-PCH-15	Joint Compound associated with Sheetrock*5	White	Stairwell 1 and Basement Rooms 16 and 18	None Detected
11-13-PCH-16				Insufficient Material
11-13-PCH-17	Light Gray Mottled 12"x12" Floor Tile	Light Gray	Basement Rooms 16 and 18	None Detected
11-13-PCH-18				None Detected
11-13-PCH-19	Cream / Black Mastic associated with Light Gray Mottled Floor Tile	Cream / Black	Basement Rooms 16 and 18	None Detected
11-13-PCH-20				None Detected
11-13-PCH-21	Light Gray with Gray Streaks 12"x12" Floor Tile	Light Gray	1st Floor Hall Closet and Basement Restroom by Room 15	None Detected
11-13-PCH-22				None Detected
11-13-PCH-23	Brown/Black Floor Tile Mastic	Brown / Black	Restroom by Room 15	None Detected
11-13-PCH-24				None Detected
11-13-PCH-25	White 2'x4" Drop Ceiling Tile	White	Rooms 16, 18, Restroom by 15 and Boy's Restroom	None Detected
11-13-PCH-26				None Detected

TABLE 2

Summary of Non-Asbestos Containing Materials
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Sample ID	Material	Color	Location(s)	Result
11-13-PCH-31	White Pipe Mastic (fiberglass insulation)	White	Basement Hallways, storage rooms, above ceilings and boiler room	None Detected
11-13-PCH-32				None Detected
12-14-PCH-29				None Detected
11-13-PCH-33	White Boiler Flue Panel Insulation	White	Boiler Room	None Detected
11-13-PCH-34				None Detected
12-14-PCH-30				None Detected
11-13-PCH-35	Exterior Wood Window Glazing Compound	White	Stairwell 1	None Detected
11-13-PCH-36				None Detected
11-13-PCH-37	Black/Brown Floor Felt	Black/Brown	1st Floor Hall Closet (Layer 2 of 3)	None Detected
11-13-PCH-38				None Detected
11-13-PCH-39	Red/White Floor Filler	Red/White	1st Floor Hall Closet (Layer 3 of 3)	None Detected
11-13-PCH-40				None Detected
11-13-PCH-41	Beige Cloth Plaster Backing	Beige	Behind Plaster Areas	None Detected
11-13-PCH-42				None Detected
11-13-PCH-43	Tan Paper-like Plaster Backing	Tan	Behind Cloth Backing on Plaster Areas	None Detected
11-13-PCH-44				None Detected

TABLE 2

Summary of Non-Asbestos Containing Materials
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Sample ID	Material	Color	Location(s)	Result
11-13-PCH-45	White Fire Door Insulation	White	Hallway Doors	None Detected
11-13-PCH-46				None Detected
11-13-PCH-47	Metal Door Frame Caulk	White	Exterior at Entrances	None Detected
11-13-PCH-48				None Detected
11-13-PCH-49	Metal Window Frame Caulk	White / Gray	Front and Rear Windows	None Detected
11-13-PCH-50				None Detected
11-13-PCH-51	White 12"x12" Floor Tile	White	Foyer by Gymnasium	None Detected
11-13-PCH-52				None Detected
11-13-PCH-55	12"x12" Floor Tile	Green	Gymnasium	None Detected
11-13-PCH-56				None Detected
11-13-PCH-57	12"x12" Floor Tile	Peach	Gymnasium	None Detected
11-13-PCH-58				None Detected
11-13-PCH-59	Mastic associated with Peach and Green Floor Tile	White	Gymnasium	None Detected
11-13-PCH-60				None Detected
11-13-PCH-61				None Detected
11-13-PCH-62	Duct Cover	White / Black	Closet by Stage / Gym	None Detected
12-14-PCH-31				None Detected

TABLE 2

Summary of Non-Asbestos Containing Materials
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Sample ID	Material	Color	Location(s)	Result
11-13-PCH-63	Thick Ceiling Paint	White	All Floors	None Detected
11-13-PCH-64				None Detected
11-13-PCH-65	White Thick Wall Paint	White	All Floors	None Detected
11-13-PCH-66				None Detected
12-14-PCH-01	Black Asphalt Built-up Roofing with Brown Insulation	Black/Brown	Roof #3	None Detected
12-14-PCH-02				None Detected
12-14-PCH-03	Roof Perimeter Flashing	Black	Roof #3	None Detected
12-14-PCH-04				None Detected
12-14-PCH-07	Black Asphalt Built-up Roofing with Brown Insulation	Black/Brown	Roof #2	None Detected
12-14-PCH-08				None Detected
12-14-PCH-13	Black Asphalt Built-up Roofing with Brown Insulation	Black/Brown	Roof #1	None Detected
12-14-PCH-14				None Detected
12-14-PCH-15	Black Roof Patch	Black	Roof #1	None Detected
12-14-PCH-16				None Detected

LEGEND

*¹ Sample Analyzed via EPA 400 Point Count Method

*² Bottom (Rough) Coat Plaster is Asbestos-Containing

*³ Material is Homogeneous to Asbestos-Containing Rough Coat Plaster

*⁴ Sample Analyzed via Transmission Electron Microscopy (TEM) Method

*⁵ Material is coated with Lead-Based Paint

*⁶ Plaster Skim coat is both PCB Containing > 1 ppm and coated with Lead-Based Paint

LF = Linear Foot

SF= Square Foot

TABLE 3

Summary of XRF Lead Screening Results
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

XRF Screening Date: November 13, 2015

Location	Component	Side	Paint Color	Substrate	XRF Result (mg/cm ²)
Room 3	Wall	C	White	Plaster	7.53 * ¹
	Window Sill	A	White	Wood	0.45
	Door Casing	C	White	Wood	0.34
Room 4	Wall	A	White	Plaster	2.41 * ¹
	Window Sill	C	White	Wood	0.4
	Door Casing	B	White	Wood	0.23
	Door	B	White	Wood	0.21
Room 5	Door	D	White	Wood	0.25
	Door Casing	D	White	Wood	0.23
	Window Sill	C	White	Wood	0.3
	Wall	B	White	Plaster	5.2 * ¹
Room 6	Wall	A	White	Plaster	3.7 * ¹
	Window Sill	A	White	Wood	0.12
	Door Casing	C	White	Wood	0.23
Room 7	Wall	C	White	Plaster	6.2 * ¹
	Window Sill	A	White	Wood	0.1
	Door Casing	C	White	Wood	0.34
Room 8	Wall	A	White	Plaster	4.9 * ¹
	Window Sill	A	White	Wood	0.3
	Door Casing	C	White	Wood	0.43
	Radiator	A	White	Metal	0.3

TABLE 3

Summary of XRF Lead Screening Results
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Location	Component	Side	Paint Color	Substrate	XRF Result (mg/cm ²)
Room 9	Radiator	C	white	Metal	0.3
	Wall	A	White	Plaster	5.3 * ¹
Room 9	Door Casing	B	White	Wood	0.7
	Window Sill	C	White	Wood	0.4
Room 10	Wall	C	White	Plaster	5.7 * ¹
Room 11	Wall	C	White	Plaster	6.3 * ¹
Room 12	Wall	C	White	Concrete	0.53
	Wall	B	White	Wood	0.16
	Window Casing	C	White	Wood	0.13
	Door Casing	A	White	Wood	0.16
Room 13	Wall	C	White	Concrete	0.6
	Wall	A	White	Sheetrock	0.2
Basement Hall	Floor	A	Blue	Concrete	0.7
	Wall	A	White	Brick	0.3 * ²
	Door Casing	A	White	Metal	0
	Ceiling	C	White	Plaster	0 * ¹
	Door	D	White	Wood	0
	Door Casing	D	White	Wood	5.26
	Door	B	White	Metal	0.24 * ²
	Wall	C	White	Brick	0.1 * ²
Boys Lavatory	Window Casing	A	White	Wood	0.4
	Wall	D	White	Brick	0.24
	Wall	C	White	Brick	0.21
Room 22	Door	C	Red	Wood	0.4

TABLE 3

Summary of XRF Lead Screening Results
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Location	Component	Side	Paint Color	Substrate	XRF Result (mg/cm ²)
Room 22	Door Casing	C	White	Wood	7
1st Floor Inner Hall	Wall	A	White	Plaster	7.08 * ¹
Room 1	Wall	A	White	Plaster	6.19 * ¹
	Window Sill	A	White	Wood	0.21
Room 2	Wall	A	White	Plaster	1.43 * ¹
	Window Casing	A	White	Wood	0.3
North Stair	Wall	A	White	Plaster	9.8 * ¹
Gym	Wall	B	Blue	CMU	0.12
	Door Casing	B	Blue	Metal	0.34
	I-Beam	B	Brown	Steel	0.16
Façade A	Door Casing	A	Green	Metal	0
	Door	A	Green	Metal	0.1
Façade B	Door Casing	B	Green	Wood	2.83
	Door	B	Green	Wood	0.4
Façade C	Door Casing	C	Green	Wood	1.03
	Door	C	Green	Wood	1.61
Façade D	Door Casing	D	Green	Metal	0
	Door	D	Green	Metal	0

LEGEND

XRF = X-Ray Fluorescence Analyzer

mg/cm² = milligrams per square centimeter

*¹ Material is found on Plaster that has asbestos-containing rough coat and PCB containing > 1 ppm

*² Material is also PCB containing > 1 ppm

Bolded text indicates a hazardous or "high" level of lead-based paint.

TABLE 4

Summary of PCB Sampling Results
 Groton Heights School
 244 Monument Street
 Groton, CT

PCB Sample date: November 13, 2015

Sample #	Material and Type	Aroclor	Total PCB Concentration (ppm)	Location and Description	Approximate Quantity
11-13-PCB-01	<u>Source Material</u>	N/A	ND < 0.83		
11-13-PCB-02	Window Glazing Compound	N/A	ND < 0.82	Exterior Wood Windows	N/A
11-13-PCB-03		N/A	ND < 0.75		
11-13-PCB-04	<u>Source Material</u>	N/A	ND < 0.80		
11-13-PCB-05	Exterior Door Frame Caulk	N/A	ND < 0.93	All Entrance Doors	N/A
11-13-PCB-06		N/A	ND < 0.82		
11-13-PCB-07	<u>Source Material</u>	N/A	ND < 0.55		
11-13-PCB-08	Window Frame Caulk	N/A	ND < 0.96	Exterior at Metal Window Frames	N/A
11-13-PCB-09		N/A	ND < 0.41		
11-13-PCB-10		1254	4.2		
11-13-PCB-11	<u>Source Material</u> Blue Paint * ¹	1254	4.3	Basement North Half of Hallway and Lavatory	1,250 SF
11-13-PCB-12		1254	3.2		
11-13-PCB-13		1254	4.2		
11-13-PCB-14	<u>Source Material</u> Red Paint * ¹	1254	2	Basement South Half of Hallway and Lavatory	1,200 SF
11-13-PCB-15		1254	7.6		
11-13-PCB-16	<u>Source Material</u>	1254	2.2		
11-13-PCB-17	White Paint on Plaster* ²	1254	1.3	1st and 2nd Floor Walls and Ceilings; Basement Upper Ceilings	38,500 SF
11-13-PCB-18		1254	1.2		
11-13-PCB-19	<u>Substrate Material</u>	1254	1.6		
11-13-PCB-20	White Paint on Brick	1254	2.1	Basement Walls	7,500 SF
11-13-PCB-21		1254	1.2		
11-13-PCB-22	<u>Substrate Material</u>	N/A	ND < 0.80		
11-13-PCB-23	Fallen White Paint	N/A	ND < 0.61	1st Floor on Floors	N/A
11-13-PCB-24		N/A	ND < 0.63		
11-13-PCB-25	<u>Substrate Material</u>	1254	1.1		
11-13-PCB-26	Fallen White Paint	1254	1	2nd Floor on Floors	<1,000 SF
11-13-PCB-27		1254	1.1		

Notes

Bolded results indicate PCBs in concentrations greater than 1 ppm, subject to State of CT and EPA regulations. Shaded results indicate concentrations greater than 50 ppm, subject to EPA regulations.

*¹ Material also contains Lead-Based Paint

*² Material has Asbestos-containing rough coat and is painted with Lead-Based Paint

SF = Square feet, LF = Linear feet

TABLE 5

Summary of Radon Sampling Results
Groton Heights School
244 Monument Street
Groton, CT 06340

Sampling Dates: 11/13-11/16/15

Level	Location in Building	ID #	Date Placed	Time Placed	Date Retrieved	Time Retrieved	Result* (pCi/L)
Ground	Room 12 by Wall "D"	2451190	11/13/2015	800	11/16/2015	800	0.4
Ground	Center Hallway	2451192	11/13/2015	745	11/16/2015	800	1
Ground	Duplicate - Center Hallway	2451197	11/13/2015	745	11/16/2015	800	0.7
Ground	Room 13 - Center	2451198	11/13/2015	800	11/16/2015	800	0.7

* Radon was not reported at concentrations above the EPA level of concern (4.0 pCi/L) in samples collected during this assessment.

TABLE 6

Microbial Visual Inspection
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Inspection Date: 12/14/15

Room	Location in Room	Notes
Gymnasium	Foyer	Moderate to Heavy Microbial Growth Throughout CMU Walls
	Main Area	Heavy Microbial Growth on Majority of items in room including but not limited to CMU Walls, Metal Deck, Metal Bar Joists, Metal Ducts, Vents, etc.; Water Damage on Roof Deck and Ducts from Roof Leak(s) in East Section of Room
	Storage Room	Heavy Microbial Growth on Duct Canvas
Basement Room 18	All Walls	Moderate to Heavy Microbial Growth Throughout Sheetrock Walls
Basement Room 16	Main Room - All Walls	Moderate to Heavy Microbial Growth Throughout Sheetrock Walls
	Bathroom - All Walls	Moderate to Heavy Microbial Growth Throughout Sheetrock Walls
2nd Floor Room 6	Ceiling	Heavy Water Damage
1st Floor Room 1	Ceiling	Heavy Water Damage
2nd Floor South Stairwell	Ceiling	Heavy Water Damage

TABLE 7

Summary of Universal Wastes and Misc Items
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

Inventory Date: November 13, 2015

Location/ Room	Lighting Ballasts			Fluorescent Lamps			Emergency Lights	Fire Extinguishers	Exit Signs	Mercury Thermostats	Transformers	Freon (Gal.)	Capacitors	Miscellaneous Items
	Electric	PCB	DEHP	LF	Round	U-Shape								
Basement	42	-	-	324	-	-	1	-	-	2	-	1 @ Water Fountain	1 @ Water Fountain	-
1st Floor	45	-	-	452	-	-	2	-	-	7	-	-	-	-
2nd Floor	42	-	-	504	-	-	1	-	-	6	-	-	-	-
Gym	37	-	-	132	-	-	2	-	3	-	-	-	-	-
Total	166	0	0	1,412	0	0	6	0	3	15	0	1	1	-

LEGEND

LF = Linear Feet

PCB = Polychlorinated biphenyl

DEHP = Di(2-ethylhexyl) phthalate

Table 8**DRAFT** Preliminary Opinion of Probable Hazardous Building Materials Abatement and Mold Remediation Costs

Groton Heights School

244 Monument Street

Groton, CT 06340

ASBESTOS ABATEMENT

MATERIAL	QUANTITY		UNIT COST	TOTAL COST
Roof - Curb, Chimney, Gutter and Perimeter Flashing	422	LF	\$ 4	\$ 1,688
Roof - Caulk at Parapet Walls	25	LF	\$ 4	\$ 100
Complete Demolition of 2 Boilers (Boiler Room)	2	EA	\$ 4,100	\$ 8,200
Boiler Insulation (Boiler Room)	672	SF	\$ 25	\$ 16,800
Pipe Insulation & Mudded Pipe Fitting Cement***	2,000	LF	\$ 25	\$ 50,000
Glue Daubs (associated with Boards and Mirrors)	2,732	SF	\$ 3	\$ 8,196
Rough Coat Plaster (Walls and Ceilings) *	38,500	SF	\$ 8	\$ 308,000
Flue Caulk	16	LF	\$ 4	\$ 64
Sink Under Coatings	2	EA	\$ 50	\$ 100
Floor Tile and Mastic	1,184	SF	\$ 5.5	\$ 6,512
Assumed Vapor Barrier Paper under Wood Floors	10,000	SF	\$ 3	\$ 30,000
ASBESTOS ABATEMENT TOTAL				\$ 429,660

LEAD-BASED PAINT ABATEMENT

MATERIAL	QUANTITY		UNIT COST	TOTAL COST
Door Casings (Wood)	10	EA	\$ 100	\$ 1,000
Walls (Plaster)*	19,492	SF	See Above *	See Above*
Exterior Traffic Lines	960	LF	\$ 5	\$ 4,800
Window Sills,Sashes, Casings (Wood) Basement	4	EA	\$ 250	\$ 1,000
Exterior Doors and Door Casings	10	EA	\$ 200	\$ 2,000
Roof Overhang Fascia and Soffit	324	SF	\$ 20	\$ 6,480
Sheetrock Walls**	2,500	SF	\$ 5	\$ 12,500
LEAD-BASED PAINT ABATEMENT TOTAL				\$ 27,780

Note: Toxicity Characteristic Leaching Procedure (TCLP) testing is recommended to determine if lead wastes will be classified as hazardous. Costs presented assume that waste is non-hazardous.

PCB ABATEMENT

MATERIAL	QUANTITY		UNIT COST	TOTAL COST
Paint on Plaster Walls and Ceilings*	38,500	SF	See Above *	See Above*
Paint Contamination on Carpet/Shelving/Ceiling Tile/Ceiling Grid/(Pricing Includes Labor and Disposal)	2	Tons	\$ 800	\$ 1,600
Paint on Concrete Floors (Shotblast)****	2,416	SF	\$ 4	\$ 9,664
Paint on Brick Walls (Sandblasting or Grinding)	7,500	SF	\$ 6	\$ 45,000
PCB CLEANUP TOTAL				\$ 56,264

Note: Additional testing of substrates is recommended to determine if PCBs have leached into porous substrates (i.e. brick, concrete, plaster). Costs for removal of substrates is not included.

MICROBIAL REMEDIATION

MATERIAL	QUANTITY		UNIT COST	TOTAL COST
Fungal Impacted Items in Gymnasium Surfaces		N/A	N/A	\$ 25,000
Sheetrock Walls (Basement) **	2,500	SF	See Above**	See Above**
MICROBIAL REMEDIATION TOTAL				\$ 25,000

Table 8

DRAFT Preliminary Opinion of Probable Hazardous Building Materials Abatement and Mold Remediation Costs
 Groton Heights School
 244 Monument Street
 Groton, CT 06340

UNIVERSAL & MISCELLANEOUS WASTE REMOVAL AND DISPOSAL

MATERIAL	QUANTITY		UNIT COST	TOTAL COST
Fluorescent Light Tubing	1,412	LF	\$ 3	\$ 4,236
Lead Acid Batteries at Lights and Exit Signs	9	EA	\$ 20	\$ 180
Mercury Thermostats	15	EA	\$ 20	\$ 300
Refrigerants at Water Fountain	1	GAL	\$ 60	\$ 60
Capacitors at Small Motors	1	EA	\$ 25	\$ 25
UNIVERSAL WASTE TOTAL				\$ 4,801

*Note: Material contains Asbestos, Lead Paint and PCBs <50 ppm and will require disposal as mixed Asbestos/Lead/PCB waste.

**Note: Material contains Lead and Microbial growth; Lead Based Paint will supercede microbial containment

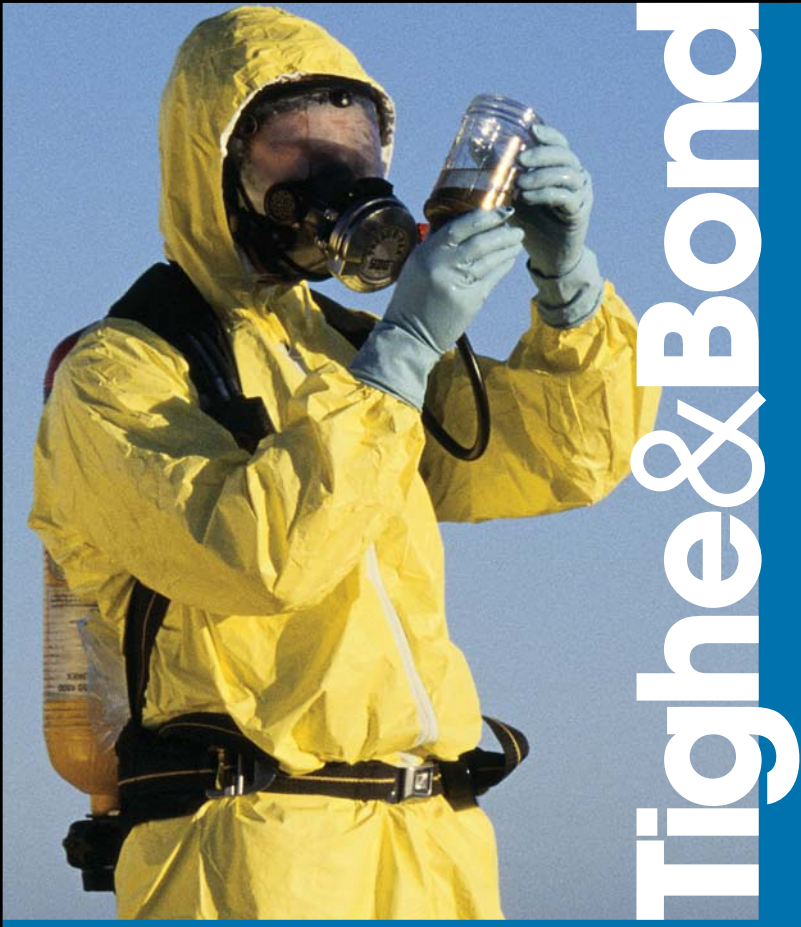
***Note: Materials likely exist in wall, ceilings, and other inaccessible areas. Quantity is assumed and may be more or less than what is used in this cost opinion.

****Note: Material also contains Lead-Based Paint and will require disposal as mixed PCB/Lead Waste.

ASBESTOS ABATEMENT TOTAL	\$ 429,660
LEAD-BASED PAINT/PCB ABATEMENT TOTAL	\$ 56,264
MICROBIAL REMEDIATION TOTAL	\$ 25,000
UNIVERSAL & MISC. WASTE REMOVAL TOTAL	\$ 4,801
SUBTOTAL	\$ 515,725
20% CONTINGENCY	\$ 103,145
Consulting Costs @ 15% total contractor fee	\$ 92,831

The anticipated accuracy of this opinion of probable cost is +30% to -20%

TOTAL OPINION OF PROBABLE HAZARDOUS BUILDING MATERIALS ABATEMENT COSTS	\$ 711,701
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Tighe & Bond



EMSL Analytical, Inc.

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Tel/Fax: (203) 284-5948 / (203) 284-5978

<http://www.EMSL.com / wallingfordlab@emsl.com>

EMSL Order: 241505441

Customer ID: TIGH62

Customer PO:

Project ID:

Attention: Phillip Hutter
Tighe & Bond
213 Court Street
Suite 1100
Middletown, CT 06457

Phone: (860) 704-4760

Fax: (860) 704-4775

Received Date: 12/14/2015 2:25 PM

Analysis Date: 12/21/2015

Collected Date:

Project: GROTON HEIGHTS SCHOOL 16-0674

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

Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
12-14-PH-01 241505441-0001	BLACK ASPHALT BUILT-UP ROOFING W/ BROWN INS.ROOF - #3	Tan/Black Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
12-14-PH-02 241505441-0002	BLACK ASPHALT BUILT-UP ROOFING W/ BROWN INS.ROOF - #3	Black Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
12-14-PH-03 241505441-0003	BLACK ROOF FLASHING W/ ROOF #3 EAST	Gray/Tan Fibrous Homogeneous	20% Cellulose 10% Glass	70% Non-fibrous (Other)	None Detected
12-14-PH-04 241505441-0004	BLACK ROOF FLASHING W/ ROOF #3 NORTH	Gray/Black Fibrous Homogeneous	20% Cellulose 15% Glass	65% Non-fibrous (Other)	None Detected
12-14-PH-05 241505441-0005	BLACK CURB FLASHING/ ROOF #3 EXHAUST	Black Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
12-14-PH-06 241505441-0006	BLACK CURB FLASHING/ ROOF #3 EXHAUST				Stop Positive (Not Analyzed)
12-14-PH-07 241505441-0007	BLACK ASPHALT BUILT-UP ROOFING W/ BROWN INS/ROOF#2	Tan/Black Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (Other)	None Detected
12-14-PH-08 241505441-0008	BLACK ASPHALT BUILT-UP ROOFING W/ BROWN INS/ROOF#2	Tan/Black Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
12-14-PH-09 241505441-0009	BLACK ROOF FLASHING/ ROOF #2 SOUTH	Black Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
12-14-PH-10 241505441-0010	BLACK ROOF FLASHING/ ROOF #2 SOUTH				Stop Positive (Not Analyzed)
12-14-PH-11 241505441-0011	WHITE FLASHING CAULK/ ROOF #2 SOUTH	Gray Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
12-14-PH-12 241505441-0012	WHITE FLASHING CAULK/ ROOF #2 SOUTH				Stop Positive (Not Analyzed)
12-14-PH-13 241505441-0013	BLACK ASPHALT BUILT-UP ROOFING/ ROOF #1 SOUTH	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
12-14-PH-14 241505441-0014	BLACK ASPHALT BUILT-UP ROOFING/ ROOF #1 NORTH	Black Fibrous Homogeneous	20% Cellulose 5% Synthetic	75% Non-fibrous (Other)	None Detected
12-14-PH-15 241505441-0015	BLACK ROOF PATCH/ ROOF #1 NORTH EAST	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected



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EMSL Order: 241505441

Customer ID: TIGH62

Customer PO:

Project ID:

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
12-14-PH-16	BLACK ROOF PATCH/ ROOF #1	Black Fibrous	20% Cellulose	80% Non-fibrous (Other)	None Detected
241505441-0016	SOUTH EAST	Homogeneous			
12-14-PH-17	BLACK GUTTER FLASHING/ ROOF #1	Black Non-Fibrous		92% Non-fibrous (Other)	8% Chrysotile
241505441-0017	EAST	Homogeneous			
12-14-PH-18	BLACK GUTTER FLASHING/ ROOF #1				Stop Positive (Not Analyzed)
241505441-0018	WEST				
12-14-PH-19	BLACK CHIMNEY FLASHING/ ROOF #1	Black Non-Fibrous		90% Non-fibrous (Other)	10% Chrysotile
241505441-0019	CHIMNEY	Homogeneous			
12-14-PH-20	BLACK CHIMNEY FLASHING/ ROOF #1				Stop Positive (Not Analyzed)
241505441-0020	CHIMNEY				
12-14-PH-21	WHITE PLASTER SKIM COAT/ RM 13	White Non-Fibrous		10% Quartz	<1% Chrysotile
241505441-0021	CEILING	Homogeneous		90% Non-fibrous (Other)	
12-14-PH-22	WHITE PLASTER SKIM COAT/ BOILER	White Non-Fibrous		10% Quartz	<1% Chrysotile
241505441-0022	RM CEILING	Homogeneous		90% Non-fibrous (Other)	
12-14-PH-23	WHITE PLASTER SKIM COAT/ ROOM	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
241505441-0023	4 WALL	Homogeneous			
12-14-PH-24	WHITE PLASTER SKIM COAT/ ROOM	White Non-Fibrous		15% Quartz	None Detected
241505441-0024	10 WALL	Homogeneous		85% Non-fibrous (Other)	
12-14-PH-25	WHITE PLASTER ROUGH COAT/ RM	Gray Non-Fibrous	<1% Hair	15% Quartz	<1% Chrysotile
241505441-0025	13 CEILING	Homogeneous		85% Non-fibrous (Other)	
12-14-PH-26	WHITE PLASTER ROUGH COAT/	Gray Non-Fibrous	<1% Hair	12% Quartz	<1% Chrysotile
241505441-0026	BOILER RM CEILING	Homogeneous		88% Non-fibrous (Other)	
12-14-PH-27	WHITE PLASTER ROUGH COAT/ RM	Gray Non-Fibrous	<1% Glass	15% Quartz	<1% Chrysotile
241505441-0027	4 WALL	Homogeneous		85% Non-fibrous (Other)	
12-14-PH-28	WHITE PLASTER ROUGH COAT/ RM	Gray Non-Fibrous		20% Quartz	<1% Chrysotile
241505441-0028	10 WALL	Homogeneous		80% Non-fibrous (Other)	
12-14-PH-29	WHITE PIPE MASTIC/ BOILER	Beige Fibrous	2% Min. Wool	98% Non-fibrous (Other)	None Detected
241505441-0029	ROOM	Homogeneous			
12-14-PH-30	WHITE FLUE INSULATION/	White Fibrous	99% Min. Wool	1% Non-fibrous (Other)	None Detected
241505441-0030	BOILER ROOM	Homogeneous			
12-14-PH-31	WHITE/BLACK DUCT COVER/ STOR. BY	Various Fibrous	85% Cellulose	5% Non-fibrous (Other)	None Detected
241505441-0031	STAGE	Heterogeneous	10% Min. Wool		
12-14-PH-32	BLACK SINK MASTIC/ 1ST FL BY	Black Non-Fibrous		97% Non-fibrous (Other)	3% Chrysotile
241505441-0032	HEALTH RM	Homogeneous			
12-14-PH-33	BLACK SINK MASTIC/ 1ST FL BY				Stop Positive (Not Analyzed)
241505441-0033	HEALTH RM				
12-14-PH-34	WHITE/GRAY FLUE CAULK/ BOILER RM	Gray Non-Fibrous		96% Non-fibrous (Other)	4% Chrysotile
241505441-0034		Homogeneous			



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EMSL Order: 241505441

Customer ID: TIGH62

Customer PO:

Project ID:

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

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
12-14-PH-35	WHITE/GRAY FLUE CAULK/ BOILER RM				Stop Positive (Not Analyzed)

241505441-0035

Analyst(s)

Jeremy Patino (10)

Lauren Brennan (5)

William Shedrawy (13)

Gloria V. Oriol, Laboratory Manager
or Other Approved Signatory

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

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0,

Initial Report From: 12/21/2015 17:56:36

EMSL ANALYTICAL, INC.
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Asbestos Chain of Custody

EMSL Order Number (Lab Use Only)

241505441

 EMSL ANALYTICAL, INC.
 1411 SOUTH PLAINS ROAD, BOX #4
 WALLINGFORD, CT 06492
 PHONE (203) 284-5948
 FAX (203) 284-5978

Company Name: <u>Tighe Bond</u>		EMSL Customer ID:	
Street: <u>213 Court Street</u>		City:	State/Province:
Zip/Postal Code: <u>06457</u>	Country: <u>US</u>	Telephone #:	Fax #:
Report To (Name): <u>Philip Hutter</u>		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: <u>pchutter@tighebond.com</u>		Purchase Order:	
Project Name/Number: <u>Brooklyn Heights School 16-0674</u>		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: <u>CT</u>		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** Third Party Billing requires written authorization from third party			
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
*For TEM Air 3 hr through 6 hr, please call ahead to schedule *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.			
PCM - Air <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NYS 198.8 SOF-V <input type="checkbox"/> NIOSH 9002 (<1%)		TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
TEM - Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)		Soil/Rock/Vermiculite* <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> TEM Qual. via Filtration Technique <input type="checkbox"/> TEM Qual. via Drop-Mount Technique *Can not accept New York State Loose Fill Vermiculite Samples Other: <input type="checkbox"/>	
<input checked="" type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name: <u>Philip Hutter</u>		Samplers Signature: <u>Philip C Hutter</u>	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
12-14-PC-H-01	Black Asphalt Builtup Roofing w/ Brown Ins. / Roof #3		12/14/15
-02	↓ ↓ ↓ ↓		
-03	Black Roof Flashing w/ Light grey conc. / Roof #3 East		
-04	↓ ↓ Roof #3 North		
-05	Black Curb Flashing / Roof #3 Exhaust		
-06	↓ ↓		
-07	Black Asphalt Builtup Roofing w/ Brown Ins. / Roof #2		
Client Sample # (s): <u>12-14-PC-H-01 - 12-14-PC-H-35</u>		Total # of Samples: <u>35</u>	
Relinquished (Client): <u>Philip Hutter</u>		Date: <u>12/14/15</u> Time:	
Received (Lab):		Date:	
Comments/Special Instructions:		Time:	



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only)

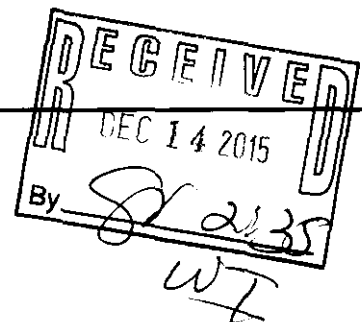
241505441

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

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

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
12-14-PCH-08	Black Asphalt Built up Roofing / ^{Brown} Ins. / Roof #2		12/14/15
- 09	Black Roof Flashing / Roof #2 South		
- 10	↓ ↓ ↓ ↓		
- 11	White Flashing Girth / Roof ↓ ↓		
- 12	↓ ↓ ↓ ↓		
- 13	Black Asphalt Built up Roofing / Roof #1 South		
- 14	↓ ↓ Roof #1 North		
- 15	Black Roof Patch / Roof #1 North East		
- 16	↓ ↓ ↓ southwest		
- 17	Black butte-Flashing / Roof #1 East		
- 18	↓ ↓ ↓ west		
- 19	Black chimney Flashing / Roof #1 chimney		
- 20	↓ ↓ ↓		
- 21	White Plaster-Skim Coat / Rm 13 ceiling		
- 22	↓ ↓ / Boiler-Rm ceiling		
- 23	↓ ↓ / Rm 4 wall		
- 24	↓ ↓ / Rm 10 wall		
- 25	White Plaster-Rough Coat / Rm 13 ceiling		
- 26	↓ ↓ / Boiler-Rm ceiling		
- 27	↓ ↓ / Rm 4 wall		
- 28	↓ ↓ / Rm 10 wall		
- 29	White Pipe Mantle / Boiler-Room		
- 30	White Plur Insulation ↓		
- 31	White/Black Duck cover / stor. by stage		
*Comments/Special Instructions:			

Page 2 of 3 pages



24150545

Page 3 Of 3



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EMSL Order: 241505109

Customer ID: TIGH62

Customer PO:

Project ID:

Attention: Phillip Hutter
Tighe & Bond
213 Court Street
Suite 900
Middletown, CT 06457

Phone: (860) 704-4760

Fax: (860) 704-4775

Received Date: 11/18/2015 9:40 AM

Analysis Date: 11/27/2015

Collected Date:

Project: GROTON HEIGHTS SCHOOL- 16-0674

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

Sample	Description	Appearance	% Fibrous	Non-Asbestos	Asbestos
				% Non-Fibrous	% Type
11-13-PCH-01 241505109-0001	basement room 12 ceiling - white plaster skim coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-02 241505109-0002	1st floor room 1 wall - white plaster skim coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-03 241505109-0003	2nd floor room 6 ceiling - white plaster skim coat	White Non-Fibrous Homogeneous	<1% Synthetic	10% Quartz 90% Non-fibrous (Other)	None Detected
11-13-PCH-04 241505109-0004	basement room 12 ceiling - brown plaster rough coat	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-05 241505109-0005	1st floor room 1 wall - brown plaster rough coat	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-06 241505109-0006	2nd floor room 6 ceiling - brown plaster rough coat	Gray Fibrous Homogeneous		8% Quartz 92% Non-fibrous (Other)	None Detected
11-13-PCH-07 241505109-0007	room 2 - white sink undercoating	Tan Non-Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
11-13-PCH-08 241505109-0008	room 2 - white sink undercoating				Stop Positive (Not Analyzed)
11-13-PCH-09 241505109-0009	stairwell #1 - red vinyl stair tread	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
11-13-PCH-10 241505109-0010	stairwell #2 - red vinyl stair tread	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
11-13-PCH-11 241505109-0011	stairwell #1 - yellow stair tread adhesive	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-12 241505109-0012	stairwell #1 - yellow stair tread adhesive	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-13 241505109-0013	stairwell #1 - white sheetrock	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-14 241505109-0014	basement room 18 - white sheetrock	Gray Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
11-13-PCH-15 241505109-0015	stairwell #1 - white joint compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-16 241505109-0016	basement room 18 - white joint compound				Insufficient Material



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EMSL Order: 241505109

Customer ID: TIGH62

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Project ID:

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
11-13-PCH-17 241505109-0017	1st floor hall closet - light gray mottled 12"x12' floor tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-18 241505109-0018	basement room 16 - light gray mottled 12"x12' floor tile	White Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
11-13-PCH-19 241505109-0019	room 16 - cream/ black mastic associated with lt. gray FT	Tan/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-20 241505109-0020	room 18 - cream/ black mastic associated with lt. gray FT	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
11-13-PCH-21 241505109-0021	RR by rm 15 - Lt. gray with gray streaks 12"x12" floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-22 241505109-0022	RR by rm 15 - Lt. gray with gray streaks 12"x12" floor tile	Gray Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
11-13-PCH-23 241505109-0023	RR by rm 15 - brown/ black floor tile mastic	Black/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-24 241505109-0024	RR by rm 15 - brown/ black floor tile mastic	Black Non-Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
11-13-PCH-25 241505109-0025	room 18 - white 2'x4' gouges drop ceiling tile	Tan Fibrous Homogeneous	20% Cellulose 60% Min. Wool	20% Non-fibrous (Other)	None Detected
11-13-PCH-26 241505109-0026	room 16 - white 2'x4' gouges drop ceiling tile	Gray Fibrous Homogeneous	30% Cellulose 50% Min. Wool	20% Non-fibrous (Other)	None Detected
11-13-PCH-27 241505109-0027	room 13 - gray 9"x9" vinyl floor tile	Gray Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
11-13-PCH-28 241505109-0028	room 15 - gray 9"x9" vinyl floor tile				Stop Positive (Not Analyzed)
11-13-PCH-29 241505109-0029	room 13 - black mastic associated with gray 9"x9" FT	Black Non-Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile
11-13-PCH-30 241505109-0030	room 15 - black mastic associated with gray 9"x9" FT				Stop Positive (Not Analyzed)
11-13-PCH-31 241505109-0031	basement hallway by stairwell #2 - white pipe mastic	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-32 241505109-0032	basement boiler room - white pipe mastic	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-33 241505109-0033	basement boiler room - white boiler flue panel insulation	White Non-Fibrous Homogeneous	60% Fibrous (Other)	40% Non-fibrous (Other)	None Detected
11-13-PCH-34 241505109-0034	basement boiler room - white boiler flue panel insulation	White Fibrous Homogeneous	99% Min. Wool	1% Non-fibrous (Other)	None Detected
11-13-PCH-35 241505109-0035	stairwell #1 - white exterior wood window glazing compound	White/Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial Report From: 11/27/2015 15:19:04



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Project ID:

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

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
11-13-PCH-36 241505109-0036	stairwell #1 - white exterior wood window glazing compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-37 241505109-0037	1st floor hall closet layer 2 of 3 - black/ brown floor felt	Tan/Black Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
11-13-PCH-38 241505109-0038	1st floor hall closet layer 2 of 3 - black/ brown floor felt	Brown/Black Fibrous Homogeneous	65% Cellulose	35% Non-fibrous (Other)	None Detected
11-13-PCH-39 241505109-0039	1st floor hall closet layer 2 of 3 - red/ white floor filler	White/Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-40 241505109-0040	1st floor hall closet layer 2 of 3 - red/ white floor filler	White/Red Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
11-13-PCH-41 241505109-0041	1st floor room 1 - beige cloth plaster backing	Tan Fibrous Homogeneous	40% Fibrous (Other)	60% Non-fibrous (Other)	None Detected
11-13-PCH-42 241505109-0042	2nd floor room 6 - beige cloth plaster backing	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
11-13-PCH-43 241505109-0043	1st floor room 1 - tan paper-like plaster backing	Tan/Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
11-13-PCH-44 241505109-0044	2nd floor room 6 - tan paper-like plaster backing	Brown Fibrous Homogeneous	80% Cellulose 10% Synthetic	10% Non-fibrous (Other)	None Detected
11-13-PCH-45 241505109-0045	1st floor at room 5 - white fire door insulation	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-46 241505109-0046	2nd floor at room 7 - white fire door insulation	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-47 241505109-0047	rear entrance - white metal door frame caulk	White/Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-48 241505109-0048	side entrance - white metal door frame caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-49 241505109-0049	front - white/ gray metal window caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-50 241505109-0050	rear - white/ gray metal window caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-51 241505109-0051	foyer by gym - white 12"x12" floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-52 241505109-0052	foyer by gym - white 12"x12" floor tile	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
11-13-PCH-53 241505109-0053	foyer by gym - black/ yellow mastic assoc. w/ white FT	Black/Yellow Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
11-13-PCH-54 241505109-0054	foyer by gym - black/ yellow mastic assoc. w/ white FT				Stop Positive (Not Analyzed)



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EMSL Order: 241505109

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Customer PO:

Project ID:

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

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
11-13-PCH-55 241505109-0055	gym - green 12"x12" vinyl floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-56 241505109-0056	gym - green 12"x12" vinyl floor tile	Green Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
11-13-PCH-57 241505109-0057	gym - peach 12"x12" vinyl floor tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-58 241505109-0058	gym - peach 12"x12" vinyl floor tile	Peach Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
11-13-PCH-59 241505109-0059	gym - white mastic assoc. with green & peach FT	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-60 241505109-0060	gym - white mastic assoc. with green & peach FT	White Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
11-13-PCH-61 241505109-0061	gym - white/ black duct cover	Black/Yellow Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
11-13-PCH-62 241505109-0062	gym - white/ black duct cover	Brown/Black Fibrous Homogeneous	2% Cellulose 5% Min. Wool	93% Non-fibrous (Other)	None Detected
11-13-PCH-63 241505109-0063	1st floor room 5 - white thick ceiling paint	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-64 241505109-0064	2nd floor room 6 - white thick ceiling paint	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11-13-PCH-65 241505109-0065	basement room 13 - white thick wall paint	Various Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
11-13-PCH-66 241505109-0066	basement girls restroom - white thick wall paint	White/Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Jeremy Patino (34)

Lauren Brennan (27)

Gloria V. Oriol, Laboratory Manager
or Other Approved Signatory

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

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0,

Initial Report From: 11/27/2015 15:19:04

**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

EMSL Order: 241505109

CustomerID: TIGH62

CustomerPO:

ProjectID:

Attn: **Phillip Hutter**
Tighe & Bond
213 Court Street
Suite 1100
Middletown, CT 06457

Phone: (860) 704-4760
Fax: (860) 704-4775
Received: 11/18/15 9:40 AM
Analysis Date: 12/7/2015
Collected:

Project: GROTON HEIGHTS SCHOOL- 16-0674

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
11-13-PCH-09 241505109-0009	stairwell #1 - red vinyl stair tread	Red Fibrous Heterogeneous	99.5	None	0.53% Chrysotile

Analyst(s)

William Shedrawy (1)

Gloria V. Oriol, Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT

Initial report from 12/07/2015 17:11:23

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

241505109

29 N. PLAINS HIGHWAY
WALLINGFORD, CT 06492

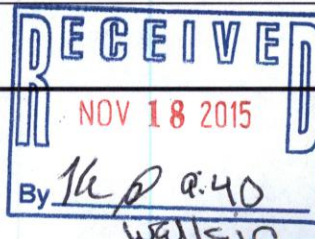
PHONE: (203) 284-5948

FAX: (203) 284-5978

Company : Tighe & Bond		EMSL-Bill to: <input type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: 213 Court Street		<i>Third Party Billing requires written authorization from third party</i>	
City: Middletown	State/Province: CT	Zip/Postal Code:	Country:
Report To (Name): Philip Hutter		Telephone #:	
Email Address: pchutter@tighebond.com		Fax #:	Purchase Order:
Project Name/Number: Groton Heights School - 16-0674		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
U.S. State Samples Taken: CT		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
<small>*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.</small>			
PCM - Air <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA		TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312	
PLM - Bulk (reporting limit) <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)		TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
TEM - Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)		Soil/Rock/Vermiculite <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> TEM Qual. via Filtration Technique <input type="checkbox"/> TEM Qual. via Drop-Mount Technique	
<input checked="" type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name: Philip C. Hutter		Samplers Signature: <i>Philip C. Hutter</i>	

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
11-13-PCH-01	White Plaster Skim Coat / Basement Room 12 Ceiling	(01-03)	11/13/15
11-13-PCH-02	White Plaster Skim Coat / 1st Floor Room 1 Wall	(01-03)	11/13/15
11-13-PCH-03	White Plaster Skim Coat / 2nd Floor Room 6 Ceiling	(01-03)	11/13/15
11-13-PCH-04	Brown Plaster Rough Coat / Basement Room 12 Ceiling	(04-06)	11/13/15
11-13-PCH-05	Brown Plaster Rough Coat / 1st Floor Room 1 Wall	(04-06)	11/13/15
11-13-PCH-06	Brown Plaster Rough Coat / 2nd Floor Room 6 Ceiling	(04-06)	11/13/15
11-13-PCH-07	White Sink Undercoating / Room 2	(07-08)	11/13/15
11-13-PCH-08	White Sink Undercoating / Room 2	(07-08)	11/13/15

Client Sample # (s): 11-13-PCH-01 - 11-13-PCH-66	Total # of Samples: 66
Relinquished (Client):	Date: Time:
Received (Lab):	Date: Time:
Comments/Special Instructions:	





EMSL ANALYTICAL, INC.
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Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

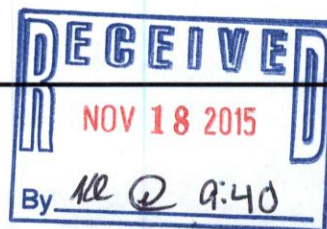
241505109

EMSL ANALYTICAL, INC.
29 N. PLAINS HWY
WALLINGFORD, CT06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

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

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
11-13-PCH-09	Red Vinyl Stair Tread / Stairwell #1	(09-10)	11/13/15
11-13-PCH-10	Red Vinyl Stair Tread / Stairwell #2	(09-10)	11/13/15
11-13-PCH-11	Yellow Stair Tread Adhesive / Stairwell #1	(11-12)	11/13/15
11-13-PCH-12	Yellow Stair Tread Adhesive / Stairwell #1	(11-12)	11/13/15
11-13-PCH-13	White Sheetrock / Stairwell #1	(13-14)	11/13/15
11-13-PCH-14	White Sheetrock / Basement Room 18	(13-14)	11/13/15
11-13-PCH-15	White Joint Compound / Stairwell #1	(15-16)	11/13/15
11-13-PCH-16	White Joint Compound / Basement Room 18	(15-16)	11/13/15
11-13-PCH-17	Light Gray Mottled 12"x12" Floor Tile / 1 st Floor Hall Closet	(17-18)	11/13/15
11-13-PCH-18	Light Gray Mottled 12"x12" Floor Tile / Basement Room 16	(17-18)	11/13/15
11-13-PCH-19	Cream / Black Mastic Associated with Lt. Gray FT / Room 16	(19-20)	11/13/15
11-13-PCH-20	Cream / Black Mastic Associated with Lt. Gray FT / Room 18	(19-20)	11/13/15
11-13-PCH-21	Lt. Gray with Gray Streaks 12"x12" Floor Tile / RR by Rm 15	(21-22)	11/13/15
11-13-PCH-22	Lt. Gray with Gray Streaks 12"x12" Floor Tile / RR by Rm 15	(21-22)	11/13/15
11-13-PCH-23	Brown / Black Floor Tile Mastic / RR by Rm 15	(23-24)	11/13/15
11-13-PCH-24	Brown / Black Floor Tile Mastic / RR by Rm 15	(23-24)	11/13/15
11-13-PCH-25	White 2'x4' Gouges Drop Ceiling Tile / Room 18	(25-26)	11/13/15
11-13-PCH-26	White 2'x4' Gouges Drop Ceiling Tile / Room 16	(25-26)	11/13/15
11-13-PCH-27	Gray 9"x9" Vinyl Floor Tile / Room 13	(27-28)	11/13/15
11-13-PCH-28	Gray 9"x9" Vinyl Floor Tile / Room 15	(27-28)	11/13/15
11-13-PCH-29	Black Mastic associated with Gray 9"x9" FT / Room 13	(29-30)	11/13/15
11-13-PCH-30	Black Mastic associated with Gray 9"x9" FT / Room 15	(29-30)	11/13/15
11-13-PCH-31	White Pipe Mastic / Basement Hallway by Stairwell #2	(31-32)	11/13/15
11-13-PCH-32	White Pipe Mastic / Basement Boiler Room	(31-32)	11/13/15
*Comments/Special Instructions:			

Page 2 of 4 pages





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Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

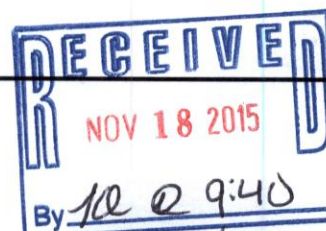
241505109

EMSL ANALYTICAL, INC.
29 N. PLAINS HWY
WALLINGFORD, CT06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

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

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
11-13-PCH-33	White Boiler Flue Panel Insulation / Basement Boiler Room	(33-34)	11/13/15
11-13-PCH-34	White Boiler Flue Panel Insulation / Basement Boiler Room	(33-34)	11/13/15
11-13-PCH-35	White Exterior Wood Window Glazing Compound / Stairwell #1	(35-36)	11/13/15
11-13-PCH-36	White Exterior Wood Window Glazing Compound / Stairwell #1	(35-36)	11/13/15
11-13-PCH-37	Black / Brown Floor Felt / 1 st Floor Hall Closet Layer 2 of 3	(37-38)	11/13/15
11-13-PCH-38	Black / Brown Floor Felt / 1 st Floor Hall Closet Layer 2 of 3	(37-38)	11/13/15
11-13-PCH-39	Red / White Floor Filler / 1 st Floor Hall Closet Layer 2 of 3	(39-40)	11/13/15
11-13-PCH-40	Red / White Floor Filler / 1 st Floor Hall Closet Layer 2 of 3	(39-40)	11/13/15
11-13-PCH-41	Beige Cloth Plaster Backing / 1 st Floor Room 1	(41-42)	11/13/15
11-13-PCH-42	Beige Cloth Plaster Backing / 2 nd Floor Room 6	(41-42)	11/13/15
11-13-PCH-43	Tan Paper-like Plaster Backing / 1 st Floor Room 1	(43-44)	11/13/15
11-13-PCH-44	Tan Paper-like Plaster Backing / 2 nd Floor Room 6	(43-44)	11/13/15
11-13-PCH-45	White Fire Door Insulation / 1 st Floor at Room 5	(45-46)	11/13/15
11-13-PCH-46	White Fire Door Insulation / 2 nd Floor at Room 7	(45-46)	11/13/15
11-13-PCH-47	White Metal Door Frame Caulk / Rear Entrance	(47-48)	11/13/15
11-13-PCH-48	White Metal Door Frame Caulk / Side Entrance	(47-48)	11/13/15
11-13-PCH-49	White / Gray Metal Window Frame Caulk / Front	(49-50)	11/13/15
11-13-PCH-50	White / Gray Metal Window Frame Caulk / Rear	(49-50)	11/13/15
11-13-PCH-51	White 12"x12" Floor Tile / Foyer by Gym	(51-52)	11/13/15
11-13-PCH-52	White 12"x12" Floor Tile / Foyer by Gym	(51-52)	11/13/15
11-13-PCH-53	Black/Yellow Mastic assoc. w/ White FT / Foyer by Gym	(53-54)	11/13/15
11-13-PCH-54	Black/Yellow Mastic assoc. w/ White FT / Foyer by Gym	(53-54)	11/13/15
11-13-PCH-55	Green 12"x12" Vinyl Floor Tile / Gym	(55-56)	11/13/15
11-13-PCH-56	Green 12"x12" Vinyl Floor Tile / Gym	(55-56)	11/13/15
*Comments/Special Instructions:			

Page 3 of 4 pages





EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (*Lab Use Only*):

241505109

EMSL ANALYTICAL, INC.
29 N. PLAINS HWY
WALLINGFORD, CT 06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

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

[illegible]

**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

EMSL Order: 241505520

CustomerID: TIGH62

CustomerPO:

ProjectID:

Attn: **Phillip Hutter**
Tighe & Bond
213 Court Street
Suite 1100
Middletown, CT 06457

Phone: (860) 704-4760
Fax: (860) 704-4775
Received: 12/23/15 9:10 AM
Analysis Date: 12/30/2015
Collected:

Project: **GROTON HEIGHTS SCHOOL 16-0674**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy. Quantitation using 400 Point Count Procedure

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
12-14-PCH-21 241505520-0001	WHITE PLASTER SKIM COAT/ RM 13 CEILING	White Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<0.25% Chrysotile
12-14-PCH-22 241505520-0002	WHITE PLASTER SKIM COAT/ BOILER RM CEILING	Gray Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<0.25% Chrysotile
12-14-PCH-25 241505520-0003	WHITE PLASTER ROUGH COAT/ RM 13 CEILING	Gray Non-Fibrous Homogeneous		99.00% Non-fibrous (other)	1.00% Chrysotile
12-14-PCH-26 241505520-0004	WHITE PLASTER ROUGH COAT/ BOILER RM CEILING	Gray Non-Fibrous Homogeneous		98.25% Non-fibrous (other)	1.75% Chrysotile
12-14-PCH-27 241505520-0005	WHITE PLASTER ROUGH COAT/ RM 4 WALL	Gray Non-Fibrous Homogeneous		99.50% Non-fibrous (other)	0.50% Chrysotile
12-14-PCH-28 241505520-0006	WHITE PLASTER ROUGH COAT/ RM 10 WALL	Gray Non-Fibrous Homogeneous		99.00% Non-fibrous (other)	1.00% Chrysotile

Analyst(s)

Kristin Lopez (6)

Gloria V. Oriol, Laboratory Manager
or other approved signatory

Disclaimer: Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.25%. EMSL Analytical Inc suggests that samples reported as <0.25% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval of EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc., bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc., liability is limited to the cost of sample analysis. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0, CT PH-0322, MA AA000191, RI AAL-108T3, VT AL357101

Initial report from 12/31/2015 10:14:15

EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

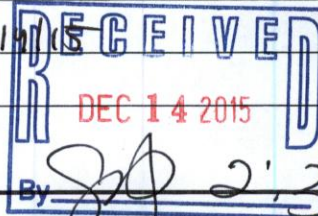
Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

241505441

 EMSL ANALYTICAL, INC.
 29 NORTH PLAINS HWY. UNIT # 4
 WALLINGFORD, CT 06492
 PHONE: (203) 284-5948
 FAX: (203) 284-5978

Company Name: <u>Tight Bond</u>		EMSL Customer ID:	
Street: <u>213 Court Street</u>		City:	State/Province:
Zip/Postal Code: <u>06457</u>	Country: <u>US</u>	Telephone #:	Fax #:
Report To (Name): <u>Philip Hutter</u>		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: <u>pchutter@tightbond.com</u>		Purchase Order:	
Project Name/Number: <u>Greene, Heights School - 16-0674</u>		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: <u>CT</u>		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** Third Party Billing requires written authorization from third party			
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
<small>*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.</small>			
PCM - Air <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) dp <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NYS 198.8 SOF-V <input type="checkbox"/> NIOSH 9002 (<1%)		TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
TEM - Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) Soil/Rock/Vermiculite* <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> TEM Qual. via Filtration Technique <input type="checkbox"/> TEM Qual. via Drop-Mount Technique <small>*Can not accept New York State Loose Fill Vermiculite Samples</small> Other: <input type="checkbox"/>			
<input checked="" type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name: <u>Philip Hutter</u>		Samplers Signature: <u>Philip Hutter</u>	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
12-14-PC-H-01	Black Asphalt Builtup Roofing w/ Brown Ins. / Roof #3		12/14/15
-02	↓ ↓ ↓ ↓		↓
-03	Black Roof Flashing w/ Lightweight Conc. / Roof #3 East		
-04	↓ ↓ Roof #3 North		
-05	Black Curb Flashing / Roof #3 Exhaust		
-06	↓ ↓		
-07	Black Asphalt Builtup Roofing w/ Brown Ins. / Roof #2		
Client Sample # (s): <u>12-14-PC-H-01 - 12-14-PC-H-35</u>		Total # of Samples: <u>35</u>	
Relinquished (Client): <u>Philip Hutter</u>		Date: <u>12/14/15</u>	Time:
Received (Lab):		Date:	Time:
Comments/Special Instructions:			





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Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

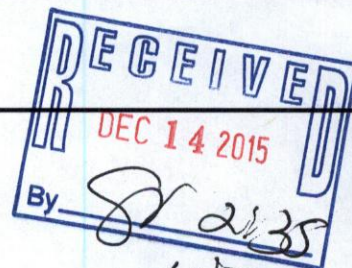
241505441

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

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

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
12-M-PCH-08	Black Asphalt Built up Roofing w/ ^{Brown} Ins. / Roof #2		12/14/15
- 09	Black Roof Flashing / Roof #2 South		
- 10	↓ ↓ ↓ ↓		
- 11	White Flashing Girth / Roof ↓ ↓		
- 12	↓ ↓ ↓ ↓		
- 13	Black Asphalt Built up Roofing / Roof #1 South		
- 14	↓ ↓ Roof #1 North		
- 15	Black Roof Patch / Roof #1 North East		
- 16	↓ ↓ ↓ South West		
- 17	Black gutter-Flashing / Roof #1 East		
- 18	↓ ↓ ↓ West		
- 19	Black chimney Flashing / Roof #1 chimney		
- 20	↓ ↓ ↓		
- 21	White Plaster-skin Coat / Rm 13 ceiling		
- 22	↓ ↓ / Boiler-Rm ceiling		
- 23	↓ ↓ / Rm 4 wall		
- 24	↓ ↓ / Rm 10 wall		
- 25	White Plaster-Rough coat / Rm 13 ceiling		
- 26	↓ ↓ / Boiler-Rm ceiling		
- 27	↓ ↓ / Rm 4 wall		
- 28	↓ ↓ / Rm 10 wall		
- 29	White Pipe Mastic / Boiler-Room		
- 30	White Plur Insulation ↓		
- 31	White/Black Duck cover 1 stor. by stage		
*Comments/Special Instructions:			

Page 2 of 3 pages



241505457

RECEIVED
DEC 14 2015
By *[Signature]*

241505520

Brennan, Lauren

From: Philip C. Hutter <PCHutter@tighebond.com>
Sent: Wednesday, December 23, 2015 9:06 AM
To: EMSL Lab - Wallingford
Subject: Point Count Needed
Attachments: 241505441_001.pdf

Please point count (400) the following samples to the attached lab report (241505441). 5 Day TAT (first positive stop). Thank you.

Skim Coat Plaster

- 12-14-PCH-21
- 12-14-PCH-22

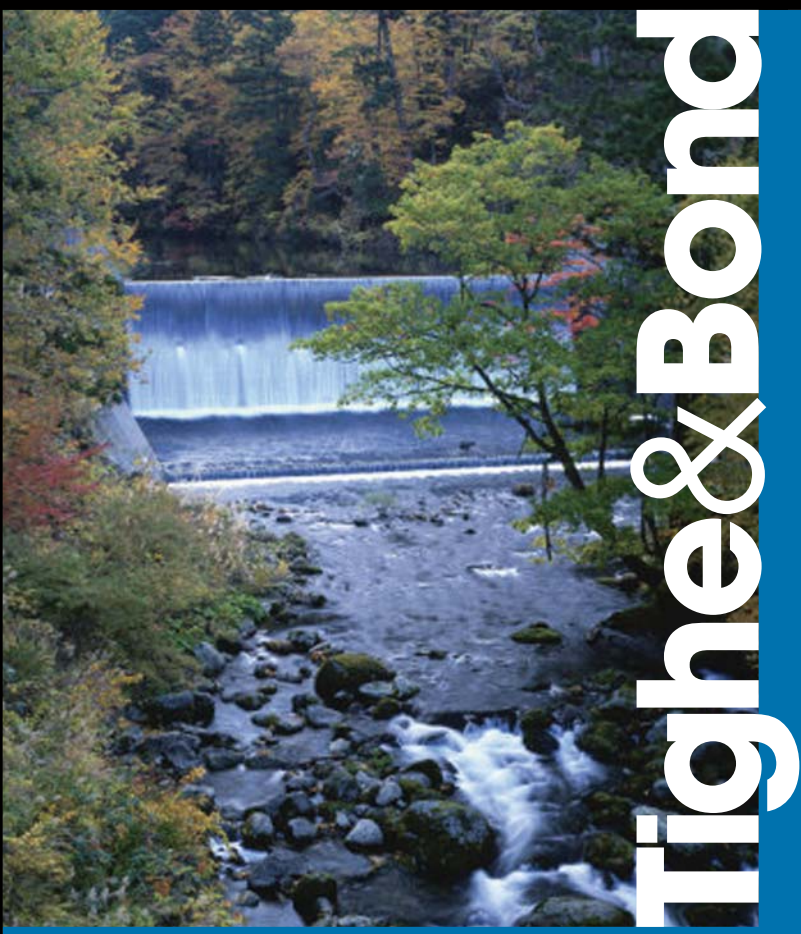
Rough Coat Plaster

- 12-14-PCH-25
- 12-14-PCH-26
- 12-14-PCH-27
- 12-14-PCH-28

Philip C. Hutter | Project Environmental Compliance Specialist

Tighe & Bond | 213 Court Street Suite 1100 | Middletown, CT, 06457 | 860.704.4760 (Main) | 804.283.4735 (Mobile)
www.tighebond.com | Follow us on: [Twitter](#) [Facebook](#) [LinkedIn](#)

Tighe&Bond





Monday, November 23, 2015

**Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457**

**Project ID: GROTON HEIGHTS SCHOOL
Sample ID#s: BK23310 - BK23336**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

**Phyllis Shiller
Laboratory Director**

**NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B**

**NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301**



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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23310

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-01 EXT WGC

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	100	1	%		11/16/15		SW846-%Solid
Caulk Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	830	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	830	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	830	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	830	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	830	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	ND	830	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	830	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	830	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	830	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	86	%	5	11/17/15	AW	30 - 150 %
% TCMX	71	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

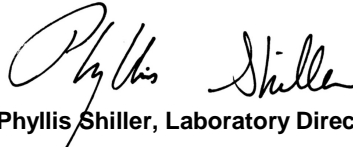
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23311

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-02 EXT WGC

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	100	1	%		11/16/15		SW846-%Solid
Caulk Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	820	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	64	%	5	11/17/15	AW	30 - 150 %
% TCMX	49	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23312

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-03 EXT WGC

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	100	1	%		11/16/15		SW846-%Solid
Caulk Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	750	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	750	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	750	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	750	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	750	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	ND	750	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	750	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	750	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	750	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	90	%	5	11/17/15	AW	30 - 150 %
% TCMX	75	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

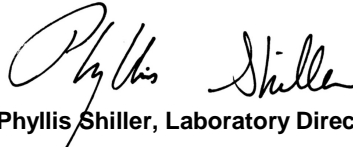
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23313

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-04 EXT DFC

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	100	1	%		11/16/15		SW846-%Solid
Caulk Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	800	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	89	%	5	11/17/15	AW	30 - 150 %
% TCMX	80	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

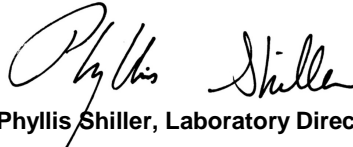
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23314

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-05 EXT DFC

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	100	1	%		11/16/15		SW846-%Solid
Caulk Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	930	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	930	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	930	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	930	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	930	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	ND	930	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	930	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	930	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	930	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	79	%	5	11/17/15	AW	30 - 150 %
% TCMX	61	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

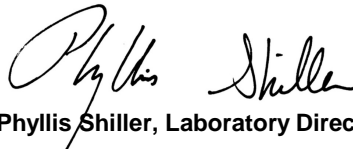
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23315

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-06 EXT DFC

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	100	1	%		11/16/15		SW846-%Solid
Caulk Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	820	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	82	%	5	11/17/15	AW	30 - 150 %
% TCMX	66	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

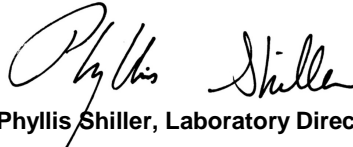
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Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23316

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-07 EXT WFC

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	100	1	%		11/16/15		SW846-%Solid
Caulk Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	550	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1221	ND	550	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1232	ND	550	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1242	ND	550	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1248	ND	550	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1254	ND	550	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1260	ND	550	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1262	ND	550	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1268	ND	550	ug/Kg	2	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	66	%	2	11/17/15	AW	30 - 150 %
% TCMX	67	%	2	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

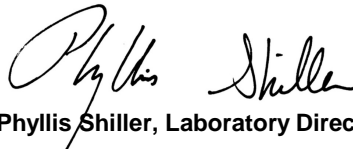
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23317

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-08 EXT WFC

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	100	1	%		11/16/15		SW846-%Solid
Caulk Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	960	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1221	ND	960	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1232	ND	960	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1242	ND	960	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1248	ND	960	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1254	ND	960	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1260	ND	960	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1262	ND	960	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1268	ND	960	ug/Kg	2	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	71	%	2	11/17/15	AW	30 - 150 %
% TCMX	67	%	2	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

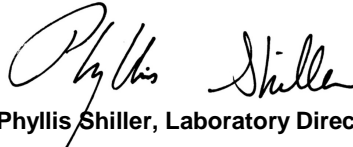
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23318

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-09 EXT WFC

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	100	1	%		11/16/15		SW846-%Solid
Caulk Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1221	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1232	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1242	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1248	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1254	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1260	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1262	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1268	ND	410	ug/Kg	2	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	67	%	2	11/17/15	AW	30 - 150 %
% TCMX	47	%	2	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

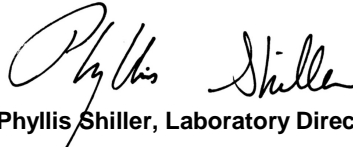
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

11/13/15

Time

15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23319

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-10 BLUE PAINT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	810	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1221	ND	810	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1232	ND	810	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1242	ND	810	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1248	ND	810	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1254	4200	810	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1260	ND	810	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1262	ND	810	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1268	ND	810	ug/Kg	2	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	85	%	2	11/17/15	AW	30 - 150 %
% TCMX	69	%	2	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

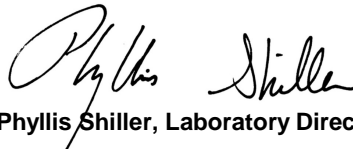
Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

11/13/15

Time

15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23320

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-11 BLUE PAINT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	830	ug/Kg	5	11/19/15	AW	SW8082A
PCB-1221	ND	830	ug/Kg	5	11/19/15	AW	SW8082A
PCB-1232	ND	830	ug/Kg	5	11/19/15	AW	SW8082A
PCB-1242	ND	830	ug/Kg	5	11/19/15	AW	SW8082A
PCB-1248	ND	830	ug/Kg	5	11/19/15	AW	SW8082A
PCB-1254	4300	830	ug/Kg	5	11/19/15	AW	SW8082A
PCB-1260	ND	830	ug/Kg	5	11/19/15	AW	SW8082A
PCB-1262	ND	830	ug/Kg	5	11/19/15	AW	SW8082A
PCB-1268	ND	830	ug/Kg	5	11/19/15	AW	SW8082A

QA/QC Surrogates

% DCBP	160	%	5	11/19/15	AW	30 - 150 %	3
% TCMX	94	%	5	11/19/15	AW	30 - 150 %	

Client ID: 11-13 PCB-11 BLUE PAINT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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3 = This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

11/13/15

Time

15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23321

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-12 BLUE PAINT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	500	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1221	ND	500	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1232	ND	500	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1242	ND	500	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1248	ND	500	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1254	3200	500	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1260	ND	500	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1262	ND	500	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1268	ND	500	ug/Kg	2	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	98	%	2	11/17/15	AW	30 - 150 %
% TCMX	71	%	2	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

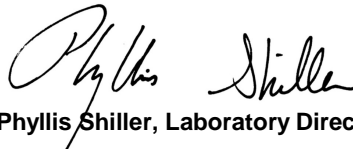
Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23322

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-13 RED PAINT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	600	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1221	ND	600	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1232	ND	600	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1242	ND	600	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1248	ND	600	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1254	4200	600	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1260	ND	600	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1262	ND	600	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1268	ND	600	ug/Kg	2	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	89		%	2	11/17/15	AW	30 - 150 %
% TCMX	61		%	2	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

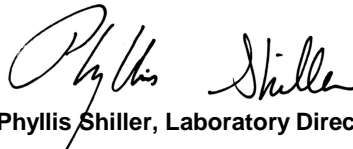
Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

11/13/15

Time

15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23323

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-14 RED PAINT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	570	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1221	ND	570	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1232	ND	570	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1242	ND	570	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1248	ND	570	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1254	2000	570	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1260	ND	570	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1262	ND	570	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1268	ND	570	ug/Kg	2	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	53	%	2	11/17/15	AW	30 - 150 %
% TCMX	36	%	2	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

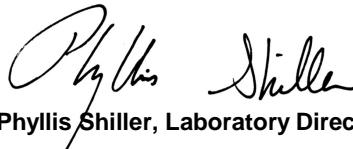
Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23324

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-15 RED PAINT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/18/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	6100	ug/Kg	20	11/19/15	AW	SW8082A
PCB-1221	ND	6100	ug/Kg	20	11/19/15	AW	SW8082A
PCB-1232	ND	6100	ug/Kg	20	11/19/15	AW	SW8082A
PCB-1242	ND	6100	ug/Kg	20	11/19/15	AW	SW8082A
PCB-1248	ND	6100	ug/Kg	20	11/19/15	AW	SW8082A
PCB-1254	7600	6100	ug/Kg	20	11/19/15	AW	SW8082A
PCB-1260	ND	6100	ug/Kg	20	11/19/15	AW	SW8082A
PCB-1262	ND	6100	ug/Kg	20	11/19/15	AW	SW8082A
PCB-1268	ND	6100	ug/Kg	20	11/19/15	AW	SW8082A

QA/QC Surrogates

% DCBP	Diluted Out		%	20	11/19/15	AW	30 - 150 %
% TCMX	Diluted Out		%	20	11/19/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

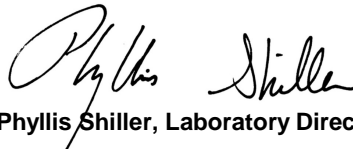
Comments:

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

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23325

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-16 WHITE PAINT PLASTER

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	730	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	730	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	730	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	730	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	730	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	2200	730	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	730	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	730	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	730	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	106	%	5	11/17/15	AW	30 - 150 %
% TCMX	78	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

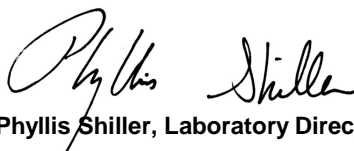
Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23326

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-17 WHITE PAINT PLASTER

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	1300	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	820	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	820	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	88		%	5	11/17/15	AW	30 - 150 %
% TCMX	59		%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

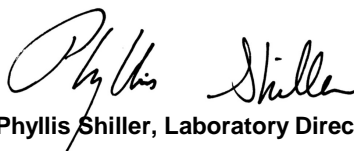
Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

11/13/15

Time

15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23327

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-18 WHITE PAINT PLASTER

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	740	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	740	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	740	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	740	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	740	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	1200	740	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	740	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	740	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	740	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	82	%	5	11/17/15	AW	30 - 150 %
% TCMX	55	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

11/13/15

Time

15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23328

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-19 WHITE PAINT BRICK

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	610	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1221	ND	610	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1232	ND	610	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1242	ND	610	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1248	ND	610	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1254	1600	610	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1260	ND	610	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1262	ND	610	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1268	ND	610	ug/Kg	2	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	79		%	2	11/17/15	AW	30 - 150 %
% TCMX	62		%	2	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

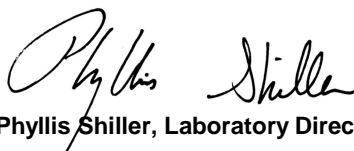
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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

11/13/15

Time

15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23329

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-20 WHITE PAINT BRICK

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1221	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1232	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1242	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1248	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1254	2100	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1260	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1262	ND	410	ug/Kg	2	11/17/15	AW	SW8082A
PCB-1268	ND	410	ug/Kg	2	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	83	%	2	11/17/15	AW	30 - 150 %
% TCMX	64	%	2	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23330

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-21 WHITE PAINT BRICK

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	720	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	720	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	720	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	720	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	720	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	1200	720	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	720	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	720	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	720	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	85	%	5	11/17/15	AW	30 - 150 %
% TCMX	57	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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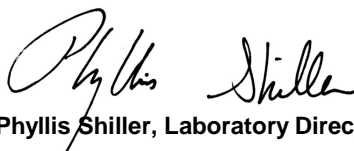
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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23331

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-22 WHITE PAINT 1ST

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	800	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	800	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	90	%	5	11/17/15	AW	30 - 150 %
% TCMX	65	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Phyllis Shiller, Laboratory Director

November 23, 2015

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23332

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-23 WHITE PAINT 1ST

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	610	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	610	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	610	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	610	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	610	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	ND	610	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	610	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	610	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	610	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	74	%	5	11/17/15	AW	30 - 150 %
% TCMX	63	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

11/13/15

Time

15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23333

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-24 WHITE PAINT 1ST

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	630	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1221	ND	630	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1232	ND	630	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1242	ND	630	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1248	ND	630	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1254	ND	630	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1260	ND	630	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1262	ND	630	ug/Kg	5	11/17/15	AW	SW8082A
PCB-1268	ND	630	ug/Kg	5	11/17/15	AW	SW8082A

QA/QC Surrogates

% DCBP	91	%	5	11/17/15	AW	30 - 150 %
% TCMX	83	%	5	11/17/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
-----------	--------	------------	-------	----------	-----------	----	-----------

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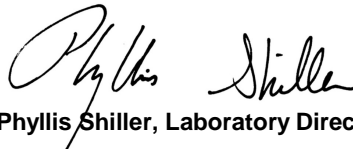
Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23334

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-25 WHITE PAINT 2ND

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	600	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1221	ND	600	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1232	ND	600	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1242	ND	600	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1248	ND	600	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1254	1100	600	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1260	ND	600	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1262	ND	600	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1268	ND	600	ug/Kg	5	11/18/15	AW	SW8082A

QA/QC Surrogates

% DCBP	104		%	5	11/18/15	AW	30 - 150 %
% TCMX	84		%	5	11/18/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
-----------	--------	------------	-------	----------	-----------	----	-----------

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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

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



Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

11/13/15

Time

15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23335

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-26 WHITE PAINT 2ND

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	960	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1221	ND	960	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1232	ND	960	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1242	ND	960	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1248	ND	960	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1254	1000	960	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1260	ND	960	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1262	ND	960	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1268	ND	960	ug/Kg	5	11/18/15	AW	SW8082A

QA/QC Surrogates

% DCBP	106	%	5	11/18/15	AW	30 - 150 %
% TCMX	79	%	5	11/18/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
-----------	--------	------------	-------	----------	-----------	----	-----------

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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

Analysis Report

November 23, 2015

FOR: Attn: Ms Amy Vaillancourt
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information

Matrix: SOLID
Location Code: TIGHE
Rush Request: Standard
P.O.#: 1606741

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date

Time

11/13/15
11/16/15 15:08

Laboratory Data

SDG ID: GBK23310
Phoenix ID: BK23336

Project ID: GROTON HEIGHTS SCHOOL
Client ID: 11-13 PCB-27 WHITE PAINT 2ND

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				11/16/15	QQ/I	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	810	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1221	ND	810	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1232	ND	810	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1242	ND	810	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1248	ND	810	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1254	1100	810	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1260	ND	810	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1262	ND	810	ug/Kg	5	11/18/15	AW	SW8082A
PCB-1268	ND	810	ug/Kg	5	11/18/15	AW	SW8082A

QA/QC Surrogates

% DCBP	106	%	5	11/18/15	AW	30 - 150 %
% TCMX	76	%	5	11/18/15	AW	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
-----------	--------	------------	-------	----------	-----------	----	-----------

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

November 23, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

QA/QC Report

November 23, 2015

QA/QC Data

SDG I.D.: GBK23310

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
-----------	-------	-----------	----------	-----------	------------	---------	----------	-----------	--------------------	--------------------

QA/QC Batch 326740 (ug/Kg), QC Sample No: BK22364 10X (BK23310, BK23311, BK23312, BK23313, BK23314, BK23315, BK23316, BK23317, BK23318, BK23319, BK23320, BK23321, BK23322, BK23323)

Polychlorinated Biphenyls - Solid

PCB-1016	ND	170	84	91	8.0	89	89	0.0	40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	112	112	0.0	109	108	0.9	40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	133	%	140	139	0.7	133	134	0.7	30 - 150	30
% TCMX (Surrogate Rec)	86	%	85	101	17.2	94	95	1.1	30 - 150	30

QA/QC Batch 326854 (ug/Kg), QC Sample No: BK23324 10X (BK23324, BK23325, BK23326, BK23327, BK23328, BK23329, BK23330, BK23331, BK23332, BK23333, BK23334, BK23335, BK23336)

Polychlorinated Biphenyls - Solid

PCB-1016	ND	170	82	83	1.2				40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	86	95	9.9				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	103	%	107	114	6.3				30 - 150	30
% TCMX (Surrogate Rec)	73	%	76	78	2.6				30 - 150	30

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

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis Shiller, Laboratory Director
November 23, 2015

Sample Criteria Exceedences Report
GBK23310 - TIGHE

Criteria: None

State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
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*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax: (860) 645-0823
Client Services (860) 645-8726

Coolant: Yes ☒ No ☐
Coolant: IPK ☒ ICE ☐ No ☐
Temp: ☐ °C ☐ °F of

Data Delivery:

☐ Fax #: _____
☐ Email: _____

Project P.O.: 1606741

Project: Creston Heights School

Report to: Amy Vaillancourt

Invoice to: T + D Westfield

Phone #: _____

Fax #: _____

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification
Sampler's Signature:
Date: 11-16-15
Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
23322	11-13 PCB 13-Red Paint	SD	11-13-15	P.M.
23323	11-13 PCB 14-			
23324	11-13 PCB 15-			
23325	11-13 PCB 16-White Paint Pigment			
23326	11-13 PCB 17-			
23327	11-13 PCB 18-			
23328	11-13 PCB 19-White Paint Brick			
23329	11-13 PCB 20-			
23330	11-13 PCB 21-			
23331	11-13 PCB 22-White Paint 1st			
23332	11-13 PCB 23-			
23333	11-13 PCB 24-			

Relinquished by:
Accepted by: T + D Fridge
Date: 11-16-15 11:00
Time: 11:00
Date: 11-16-15 15:08
Time: 15:08

Comments, Special Requirements or Regulations:
Reporting Limit < 1 ppm

Analysis Request	CI	RI	Time	Date
Soil VOA Vial (Methanol) [H2O]	<input type="checkbox"/>	<input type="checkbox"/>	Direct Exposure (Residential)	11-16-15
GL Soil container (40 ml VOA Vial) [As is] [HCl]	<input type="checkbox"/>	<input type="checkbox"/>	GW	11-16-15
GL Soil container (40 ml VOA Vial) [As is] [H2SO4]	<input type="checkbox"/>	<input type="checkbox"/>	Other	11-16-15
PL As is [250ml] [500ml] [1000ml]	<input type="checkbox"/>	<input type="checkbox"/>	Other	11-16-15
PL H2SO4 [250ml] [500ml] [1000ml]	<input type="checkbox"/>	<input type="checkbox"/>	Other	11-16-15
PL HNO3 250ml	<input type="checkbox"/>	<input type="checkbox"/>	Other	11-16-15
Bacteria Bottle	<input type="checkbox"/>	<input type="checkbox"/>	Other	11-16-15

Data Format <input type="checkbox"/> Excel <input type="checkbox"/> PDF <input type="checkbox"/> GIS/Key <input type="checkbox"/> EQUIS <input type="checkbox"/> Other	MA <input type="checkbox"/> MCP Certification <input type="checkbox"/> GW-1 <input type="checkbox"/> GW-2 <input type="checkbox"/> GW-3 <input type="checkbox"/> S-1 <input type="checkbox"/> S-2 <input type="checkbox"/> S-3 <input type="checkbox"/> MWRA eSMART <input type="checkbox"/> Other	CI <input type="checkbox"/> RCP Cert <input type="checkbox"/> GW Protection <input type="checkbox"/> SW Protection <input type="checkbox"/> GA Mobility <input type="checkbox"/> GB Mobility <input type="checkbox"/> Residential DEC <input type="checkbox"/> IJC DEC <input type="checkbox"/> Other	RI <input type="checkbox"/> Direct Exposure (Residential) <input type="checkbox"/> GW <input type="checkbox"/> Other	Time 11-16-15 11:00 11-16-15 15:08	Date 11-16-15 11-16-15
Turnaround: <input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input type="checkbox"/> 3 Days <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other					
Data Package <input type="checkbox"/> Tier II Checklist <input type="checkbox"/> Full Data Package <input type="checkbox"/> Phoenix Std Report <input type="checkbox"/> Other					
State where samples were collected: CT					
* SURCHARGE APPLIES					

Cooler: Yes ☒ No ☐
Coolant: IPK ☒ ICE ☐ No ☐

Temp 4 °C Pg of

CHAIN OF CUSTODY RECORD



PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery:

☐ Fax #
☐ Email:

Project P.O: 1606341

Customer: Tights + Dead
Address: 213 Court Street Suite 100
Middlesex, CT
Phone #:
Fax #:

Project: Groton Heights School
Report to: Army Vailancourt
Invoice to: rt D westfield
Phone #:
Fax #:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature _____ Date: _____
Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
23334	11-13 PCB ZF-WHITE SD	SD	11-13-15	P.M
23335	11-13 PCB ZF	SD	↓	↓
23336	11-13 PCB ZF	SD	↓	↓

Analysis Request

Soil VOA Vials (Methanol) 1 H ₂ O	
GL Soil container () oz	
40 ml VOA Vial () oz	
GL Amber 100ml () As is () HCl	
PL As is () 250ml () As is () H ₂ SO ₄	
PL H ₂ SO ₄ () 250ml () 500ml () 1000ml	
PL HNO ₃ 250ml	
Bacteria Bottle	

Relinquished by:

Accepted by:

Date:

Time:

RI

Direct Exposure (Residential)

CI

RCP Cert

MA

MCP Certification

Data Format

Excel

PDF

GIS/Key

EQUS

Other

Data Package

Tier II Checklist

Full Data Package*

Phoenix Std Report

Other

* SURCHARGE APPLIES

State where samples were collected: CT

Turnaround:

1 Day*

2 Days*

3 Days*

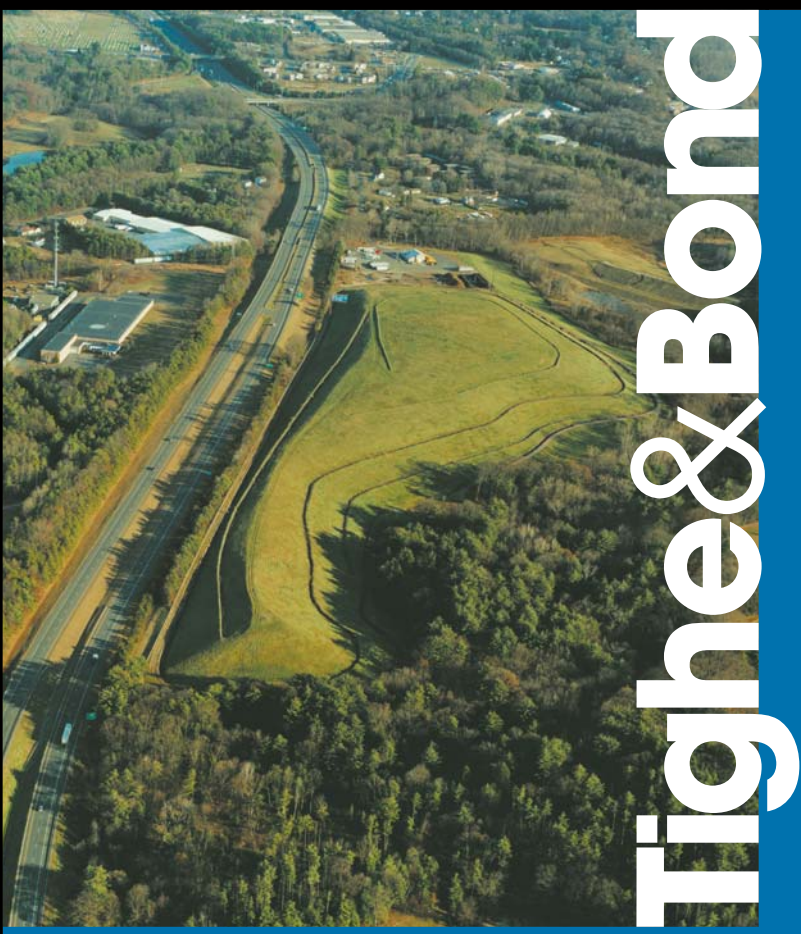
Standard

Other

* SURCHARGE APPLIES

Comments, Special Requirements or Regulations:

Reporting Limit < 1ppm



Site Radon Inspection Report

Date : 11/18/2015

Mr. James Webb
TIGHE & BOND
53 Southhampton Road
Westfield, MA 01085-

Client: Unknown
Test Location: No test Location.

Individual Canister Results

Canister ID# :	2451190	Test Start :	11/13/2015 @ 08:00
Canister Type :	Charcoal Canister 4 inch	Test Stop :	11/16/2015 @ 08:00
Location :	Basement	Received:	11/18/2015 @ 09:57
Radon Level :	0.4 pCi/L	Analyzed:	11/18/2015 @ 12:40
Error for Measurement is: \pm	0.1 pCi/L		

Canister ID# :	2451198	Test Start :	11/13/2015 @ 08:00
Canister Type :	Charcoal Canister 4 inch	Test Stop :	11/16/2015 @ 08:00
Location :	Basement	Received:	11/18/2015 @ 09:57
Radon Level :	0.7 pCi/L	Analyzed:	11/18/2015 @ 12:40
Error for Measurement is: \pm	0.1 pCi/L		

The reported results indicate that radon levels in the building tested are below the United States Environmental Protection Agency (EPA) action level of 4.0 picoCuries per liter of air (pCi/L). The EPA recommends retesting if your living patterns change and you begin occupying a lower level of the building, such as a basement or if major remodeling is done.

General radon information may be obtained by consulting the EPA booklet: A Citizen's Guide to Radon (www.epa.gov/radon/pubs/citguide.html). To request a copy or for further information, please contact your state health department. The EPA maintains a radon information website, including copies of its publications, at www.epa.gov/iaq/radon.

For New Jersey clients: Please see the attached guidance document entitled Radon Testing and Mitigation: The Basics for further information.

For New York clients: If the radon level of one or more testing devices is equal to or exceeds 20 pCi/L please contact the New York State Department of Health, Bureau of Environmental Radiation Protection, for technical advice and assistance at 518-402-7556 or toll free 1-800-458-1158.

PLEDGE OF ASSURED QUALITY

All procedures used for generating this report are in complete accordance with the current EPA protocols for the analysis of radon in air (EPA 402-R-92-004). The analytical results relate only to the samples tested, in the condition received by the lab, and that calculations were based upon the information supplied by client. RTCA and its personnel do not assume responsibility or liability, collectively and individually, for analysis results when detectors have been improperly handled or placed by the consumer, nor does RTCA and its personnel accept responsibility for any financial or health consequences of subsequent action or lack of action, taken by the customer or its consultants based on RTCA-provided results.



Andreas C. George
Radon Measurement Specialist

NJ MES 11089

Dante Galan
Laboratory Director

NRSB ARL0001
NYS ELAP ID: 10806
PADEP ID: 0346
NJDEP ID: NY933
NJ MEB 90036
FL DOH RB1609
IL RNL2000201

Site Radon Inspection Report

Date : 11/18/2015

Philip Hutter
TIGHE & BOND
213 Court Street
Middletown, CT 06457-

Client: Unknown
Test Location: 244 Monument Street
Groton, CT 06340-

Individual Canister Results

Canister ID# :	2451192	Test Start :	11/13/2015 @ 07:45
Canister Type :	Charcoal Canister 4 inch	Test Stop :	11/16/2015 @ 08:00
Location :	Basement	Received:	11/18/2015 @ 10:30
Radon Level :	1.0 pCi/L	Analyzed:	11/18/2015 @ 14:25
Error for Measurement is: \pm	0.2 pCi/L		

Canister ID# :	2451197	Test Start :	11/13/2015 @ 07:45
Canister Type :	Charcoal Canister 4 inch	Test Stop :	11/16/2015 @ 08:00
Location :	Basement	Received:	11/18/2015 @ 10:30
Radon Level :	0.7 pCi/L	Analyzed:	11/18/2015 @ 14:25

Average of Side by Side Canisters 0.9 pCi/L

Error for Measurement is: \pm 0.1 pCi/L

The reported results indicate that radon levels in the building tested are below the United States Environmental Protection Agency (EPA) action level of 4.0 picoCuries per liter of air (pCi/L). The EPA recommends retesting if your living patterns change and you begin occupying a lower level of the building, such as a basement or if major remodeling is done.

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Dante Galan
Laboratory Director

NRSB ARL0001
NYS ELAP ID: 10806
PADEP ID: 0346
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NJ MEB 90036
FL DOH RB1609
IL RNL2000201