



Tighe&Bond

**Roxbury Elementary School
Media Center Windows**

**Hazardous Building
Materials Assessment**

Prepared For:

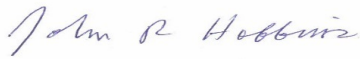
Stamford Mold Task Force

May 2019


Hazardous Building Materials Assessment Report Prepared for:

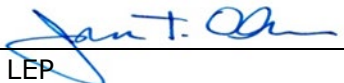
Mold Task Force
888 Washington Blvd., 10th Floor
Stamford, CT 06901
ATTENTION: Mr. Michael Handler, Director of Administration

Hazardous Building Materials Assessment Performed by:

Inspector's Signature: 
Inspector's Name: John (Bob) Hobbins
Title: Project Compliance Specialist 1
State License #: 000700

Hazardous Building Materials Assessment Report Reviewed and Approved By:

Reviewer's Signature: 
Reviewer's Name: Kevin McCarthy
Title: Project Manager 2


James T. Olsen, PG, LEP
Vice President

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Section 1

Introduction

Tighe & Bond, Inc. (Tighe & Bond) was retained by the Stamford Mold Task Force (the "Client") to complete a Hazardous Building Materials Assessment (the "Assessment") of the Roxbury Elementary School Media Center Windows located at 751 W. Hill Road in Stamford, Connecticut (the "site").

The Assessment was performed on March 15, 2019, by Mr. John R. Hobbins of Tighe & Bond, a Connecticut licensed asbestos inspector. Mr. Hobbins' license and accreditation are included as Appendix A of this report. The Assessment was performed due to proposed window re-caulking to be conducted at the site by the Mold Task Force (the "Project").

1.1 Assessment Summary

The Assessment at the site was conducted with the understanding that the Client is scheduled to conduct re-caulking as part of the Mold Task Force work at the site. Window systems located in other sections of the school building not scheduled for renovations and/or upgrades were not included in this Assessment.

The window systems included in the Assessment consist of two curtain-wall style window systems with built in doors and blue block exterior façade is located at the rear of the Media Center. The third window system included in the Assessment located adjacent to the Media Center computer lab has a brick façade.

The Assessment included a visual assessment of suspect hazardous building materials (asbestos and polychlorinated biphenyls [PCBs]), and physical bulk sampling of suspect asbestos and PCB-containing materials. Asbestos and PCB sample locations are depicted in Figure 1.

Section 2

Assessment Protocols

2.1 Asbestos-Containing Materials

Prior to any type of building demolition or renovation, a thorough investigation is required to identify and quantify asbestos containing materials (ACM) which may be impacted by the demolition or renovation activities. The survey is required by the United States Environmental Protection Agency (EPA) National Emissions Standard for Hazardous Air Pollutants (NESHAP) regulations (Title 40 CFR, Part 61, Subpart M), State of Connecticut Department of Public Health (CTDPH) Standards for Asbestos Abatement (19a-332a-1 – 19a-332a-23) as well as applicable portions of the Occupational Safety and Health Administration (OSHA) CFR 1926.1101 asbestos in construction regulations.

The assessment included a visual inspection to locate, as far as practical, suspect ACM. The majority of the assessment involved visible and accessible materials.

Suspect materials were divided into "homogeneous materials", building materials which were determined by the inspector to be homogeneous based on their color, texture, and age. During the asbestos portion of the Assessment, the sample locations, types of material, quantities and asbestos content, were recorded in tabular form.

The EPA recommends collecting samples of suspect ACM in a manner sufficient to determine asbestos content. The EPA NESHAP regulation does not specifically identify a minimum number of samples to be collected for each homogeneous material, but the NESHAP regulation does recommend the use of sampling protocols outlined in the EPA Asbestos Hazard Emergency Response Act (AHERA) (Title 40 CFR, Part 763, Subpart E). Numbers of samples collected by Tighe & Bond at the site were based in part on the AHERA regulation.

Bulk material samples collected were logged on proper chain-of-custody forms for transport to EMSL Analytical Inc. (EMSL), of Wallingford, Connecticut, for analysis. EMSL is a Connecticut licensed and American Industrial Hygiene Association (AIHA)-accredited asbestos laboratory. Initial asbestos sample analysis was conducted using the EPA Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116) via Polarized Light Microscopy with Dispersion Staining (PLM/DS) in accordance with the accreditation of the National Institute of Standards and Technology (NIST). Additionally, in accordance with EPA guidance documents, non-friable organically bound materials (NOB) (e.g., window caulk) were further analyzed by Transmission Electron Microscopy (TEM) to confirm PLM analysis.

The EPA, OSHA, and the CTDPH define a material that contains greater than one percent (>1%) asbestos, utilizing PLM/DS, as being an ACM. Materials that are identified as "none detected" are specified as not containing asbestos. Materials containing less than one percent (<1%) asbestos are regulated to a degree by OSHA related to work practices, worker exposure, and waste containerization.

2.2 Polychlorinated Biphenyl-Containing Building Materials

PCBs in building materials have received extensive attention over recent years by environmental regulators, consultants, and contractors, and PCBs are increasingly being

identified in buildings that may undergo demolition or renovation. Buildings/structures that were constructed (or renovated) between the 1950s and the late 1970s have a greater potential to contain PCBs in certain building materials.

It is important to note that EPA regulations which govern the Toxic Substance Control Act (TSCA) requirements including PCBs and PCB Bulk Product Wastes require the proper disposal of PCB-containing building materials, however, there is no current regulatory requirement to sample for PCBs (local, state or federal) prior to renovation or demolition.

Regardless of the regulatory sampling requirements, many waste/recycling receiving facilities may request PCB sampling to be performed. If it is suspected that PCBs could be present, it is important to also mitigate potential human health and safety risk to abatement/demolition contractors and owners' potential liability associated with the proper recycling/disposal of certain generated demolition waste materials.

Four types of window caulk were tested by Tighe & Bond. These samples were submitted to Phoenix Environmental Laboratories, Inc. of Manchester, Connecticut, a Connecticut-accredited laboratory, for analysis of PCBs utilizing the EPA 3540C Soxhlet Extraction and SW 846 8082 analytical method.

Source material sampling involved removal of the source materials using hand tools to submit in bulk form to determine PCB content. The sampling tools utilized during the sampling were properly decontaminated prior to sample collection and following the collection of each individual sample in accordance with EPA guidelines to prevent cross-contamination of samples.

Presently, source materials containing PCBs at concentrations ≥ 50 parts per million (ppm) or the equivalent units of milligrams per kilogram (mg/kg) are regulated by the EPA and characterized as PCB Bulk Product Waste. Source materials containing < 50 ppm may be regulated by the EPA unless proven to be an Excluded PCB Product. The definition of an Excluded PCB Product includes those products or source of the products containing < 50 ppm concentration of PCBs that were legally manufactured, processed, distributed in commerce, or used before October 1, 1984. Based on the Excluded PCB Product definition, materials installed after 1984 and determined to contain PCBs in concentrations > 1 ppm are considered PCB Remediation Waste. Source materials determined to be Excluded PCB Product containing > 1 ppm PCBs but < 50 ppm PCBs are regulated by the Connecticut Department of Energy and Environmental Protection (CTDEEP). Source materials containing ≤ 1 ppm PCBs are considered non-regulated by the EPA and CTDEEP.

Section 3 Findings

3.1 Asbestos-Containing Materials

A total of 4 homogeneous materials were identified during the Assessment and 8 samples of suspect ACM anticipated to be impacted by the proposed Project were collected. Materials observed to be homogeneous throughout the site (i.e. window caulk) were sampled in accordance with EPA regulations and analyzed by PLM/DS. NOB materials determined to be non-asbestos by PM/DS analysis were further analyzed by TEM to determine asbestos content.

None of the materials sampled during this Assessment were found to be ACM

A complete list of suspect homogenous materials, along with sample ID numbers, material description, location, quantities and asbestos content is provided in Table 1. Refer to Figure 1 indicating locations of suspect asbestos samples collected. The laboratory analytical report and chain-of-custody forms for asbestos sampling conducted by Tighe & Bond are in Appendix B.

Suspect materials encountered during renovation that are not identified in this report as being non-ACM should be assumed to be ACM until sample collection and laboratory analysis indicate otherwise.

3.2 Polychlorinated Biphenyl-Containing Building Materials

Caulk samples collected and analyzed were determined to be none detected with laboratory reporting limits < 1 ppm. Materials sampled were determined to be unregulated for PCBs.

Refer to Table 2 for a detailed list of building components sampled by Tighe & Bond for PCBs. Refer to Figure 1 indicating locations of suspect PCB samples collected.

Laboratory analytical reports for PCB samples collected by Tighe & Bond are provided in Appendix C.

Section 4

Hazardous Building Material Assessment Limitations

This report has been prepared on behalf of and for the exclusive use of the Client and is subject to and issued in accordance with the Agreement and the provisions thereof. Documents provided on this project shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party without the prior written consent of Tighe & Bond. Reuse of documents by Client or others without Tighe & Bond's written permission and mutual agreement shall be at the user's sole risk, without liability on Tighe & Bond's part and Client agrees to indemnify and hold Tighe & Bond harmless from all claims, damages, and expenses, including attorney's fees, arising out of such unauthorized use or reuse.

Tighe & Bond performed the work in accordance with our Agreement (including any stated scope and schedule limitations) and used the degree of care and skill ordinarily exercised under similar circumstances by members of the profession practicing in the same or similar locality. The HBMA may not identify all regulated building materials as our scope may be limited to certain locations within an identified structure(s). Tighe & Bond performed the HBMA using reasonable methods to access and identify the presence of suspect materials. Therefore, additional suspect materials may be enclosed/hidden in inaccessible areas, including within the interior of walls, beneath slabs, above fixed ceilings or otherwise not readily accessible. Occupied buildings spaces, including the presence of tenant/building owner's materials may have restricted our access or observations of suspect materials. Tighe & Bond did not access or disassemble electrical/mechanical equipment. If applicable and to the extent feasible, we recommend supplemental evaluations following full building vacancy. Unless otherwise noted, sampling of building materials for polychlorinated biphenyls (PCBs) was not performed and the evaluation of the potential presence of mold was not completed.

If an Opinion of Probable Construction Costs (OPCC) is provided, Tighe & Bond has no control over the cost or availability of labor, equipment or materials, or over market conditions or the contractor's method of pricing, and that the opinion of probable costs is made on the basis of Tighe & Bond's professional judgment and experience is based on currently available information. Tighe & Bond makes no guarantee nor warranty, expressed or implied, that the actual costs of the construction work will not vary from the OPCC.

This report is not intended to be utilized as a bidding document or as a project specification document. This report was prepared for use by the building owner and project team (i.e. architect, construction manager, general contractor, demolition contractor, abatement contractor) for locating identified hazardous regulated building materials within the contracted limits of the scope of services.

J:\S\S2087 Stamford\033 Mold Remediation
Consulting\Sites\Roxbury\Media\Media_Windows_Assessment.docx

Tighe&Bond

TABLES

**TABLE 1
SUMMARY OF SUSPECT ASBESTOS-CONTAINING MATERIALS
ROXBURY ELEMENTARY SCHOOL
751 W. HILL ROAD
STAMFORD, CONNECTICUT**

Sample #	Material Description	Color	Material Location	Approximate Quantity	Asbestos Result	Comment
0315BH-01A	Exterior Door/Window Caulking	White	Media – east exit/entrance	NA	ND ¹	
0315BH-01B	Exterior Door/Window Caulking	White	Media – east exit/entrance	NA	ND	
0315BH-02A	Exterior Window Caulking-Type 1	Black	Media – east exit/entrance	NA	ND ¹	
0315BH-02B	Exterior Window Caulking-Type 1	Black	Media – east exit/entrance	NA	ND	
0315BH-03A	Exterior Window Caulking	Red	Media – southwest window system adj. to computer room	NA	ND ¹	
0315BH-03B	Exterior Window Caulking	Red	Media – southwest window system adj. to computer room	NA	ND	
0315BH-04A	Exterior Window Caulking-Type 2	Black	Media – southwest window system adj. to computer room	NA	ND ¹	
0315BH-04B	Exterior Window Caulking-Type 2	Black	Media – southwest window system adj. to computer room	NA	ND	

LEGEND

SURVEY PERFORMED BY: JOHN R. HOBBS

State License #:00700

ND = NONE DETECTED

¹ - CONFIRMATORY ANALYSIS VIA TEM NOB

NA = NOT APPLICABLE

BOLDED AREAS INDICATE REGULATED ACM

TABLE 2
SUMMARY OF SUSPECT PCB-CONTAINING BUILDING MATERIALS
ROXBURY ELEMENTARY SCHOOL
751 W. HILL ROAD
STAMFORD, CONNECTICUTT

Sample #	Material Description	Material Location	Substrate	PCB Results (PPM)	Comments
0315BH-01	White Window Caulking	Media Center – East Main Window System	Blue Block	ND	
0315BH-02				ND	
0315BH-03				ND	
0315BH-04	Black Window Caulking	Media Center – East Main Window System	Blue Block	ND	
0315BH-05				ND	
0315BH-06				ND	
0315BH-07	Red Window Caulking	Media Center – Side Window System at Computer Room	Brick	ND	
0315BH-08				ND	
0315BH-09				ND	
0315BH-10	Black Window Caulking – Type 2	Media Center – Side Window System at Computer Room	Brick	ND	
0315BH-11				ND	

LEGEND

SURVEY PERFORMED BY: JOHN R. HOBBS

PPM = PARTS PER MILLION

ND= NONE DETECTED

Tighe&Bond

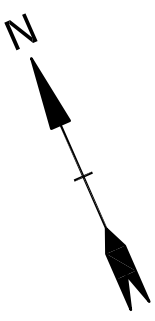
FIGURES

LEGEND

-  = NON-ASBESTOS CONTAINING EXTERIOR SAMPLE LOCATION
-  = PCB SOURCE SAMPLE LOCATIONS



FIRST FLOOR PLAN



ROXBURY ELEMENTARY SCHOOL
 STAMFORD, CONNECTICUT

ASBESTOS AND PCB
 SAMPLE LOCATION MAP

DATE: 04/02/2019
 SCALE: NOT TO SCALE
 FIGURE: FIGURE-1

Tighe & Bond
 Engineers | Environmental Specialists

Tighe&Bond

APPENDIX A

Dear JOHN R. HOBBS,

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

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

RAUL PINO, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED
BY THIS DEPARTMENT AS A
ASBESTOS CONSULTANT-INSPECTOR

JOHN R. HOBBS

CERTIFICATE NO.
000700

CURRENT THROUGH
01/31/20

VALIDATION NO.
03-733676

SIGNATURE
COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
JOHN R. HOBBS

VALIDATION NO.
03-733676

CERTIFICATE NO.
000700

CURRENT THROUGH
01/31/20

PROFESSION
ASBESTOS CONSULTANT-INSPECTOR

SIGNATURE
COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
JOHN R. HOBBS

VALIDATION NO.
03-733676

CERTIFICATE NO.
000700

CURRENT THROUGH
01/31/20

PROFESSION
ASBESTOS CONSULTANT-INSPECTOR

SIGNATURE
COMMISSIONER

1004342-0002330-0000001 of 0000001-C01-1-1400101-0664-02326

QES&T

Quality Environmental Solutions & Technologies, Inc.
1376 Route 9, Wappingers Falls, NY 12590
Phone (845) 298-6031 Fax (845) 298-6251

HEREBY CERTIFIES THAT

JOHN R. HOBBS

HAS SUCCESSFULLY COMPLETED A TRAINING SEMINAR IN:

NYS/EPA INSPECTOR REFRESHER

MEETING THE REQUIREMENTS OF NYSDOH 10 NYCRR, PART 73 AND
TSCA TITLE II AND HAS BEEN AWARDED THIS CERTIFICATE BY:



PAUL A. RODRIGUEZ
TRAINING DIRECTOR

NOTE: Official record of successful completion is DOH 2832 Certificate of Completion of Asbestos Safety Training

NOTE: DOH 2832 - A \$20 fee shall be charged for replacement of Certificate of Completion DOH 2832
ON THIS DATE: 9/6/2018

CERTIFICATE NUMBER: 816236

EXPIRATION DATE: 9/6/2019

Tighe&Bond

APPENDIX B



EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

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

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

EMSL Order: 241901294

Customer ID: TIGH62

Customer PO:

Project ID:

Attention: Kevin McCarthy

Tighe & Bond

213 Court Street

Suite 1100

Middletown, CT 06457

Phone: (203) 641-2782

Fax: (860) 704-4775

Received Date: 03/18/2019 4:30 PM

Analysis Date: 03/20/2019

Collected Date: 03/15/2019

Project: 28-2087-033I/ STAMFORD MOLD TASK FORCE, ROXBURY SCHOOL, STAMFORD, CT

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
0315BH-01A 241901294-0001	Media-east exit/entrance - white exterior door/window caulking	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
0315BH-01B 241901294-0002	Media-east exit/entrance - white exterior door/window caulking	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
0315BH-02A 241901294-0003	Media-east exit/entrance - black exterior window caulking-type 1	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
0315BH-02B 241901294-0004	Media-east exit/entrance - black exterior window caulking-type 1	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
0315BH-03A 241901294-0005	Media-southwest window system adj. to computer room - red exterior window caulking	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
0315BH-03B 241901294-0006	Media-southwest window system adj. to computer room - red exterior window caulking	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
0315BH-04A 241901294-0007	Media-southwest window system adj. to computer room - black exterior window caulking-type 2	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
0315BH-04B 241901294-0008	Media-southwest window system adj. to computer room - black exterior window caulking-type 2	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 03/20/2019 13:21:40



EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

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

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

EMSL Order: 241901294

Customer ID: TIGH62

Customer PO:

Project ID:

Analyst(s) _____

Almedina Hodzic (4)

Quetcy Castro Romero (4)

Almedina Hodzic, Asbestos Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. 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. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

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

Initial report from: 03/20/2019 13:21:40



EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

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

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

EMSL Order: 241901294
Customer ID: TIGH62
Customer PO:
Project ID:

Attention: Kevin McCarthy Tighe & Bond 213 Court Street Suite 1100 Middletown, CT 06457	Phone: (203) 641-2782 Fax: (860) 704-4775 Received Date: 03/18/2019 4:30 PM Analysis Date: 03/22/2019 Collected Date: 03/15/2019
Project: 28-2087-033I/ STAMFORD MOLD TASK FORCE, ROXBURY SCHOOL, STAMFORD, CT	

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
0315BH-01A 241901294-0001	Media-east exit/entrance - white exterior door/window caulking	White Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
0315BH-02A 241901294-0003	Media-east exit/entrance - black exterior window caulking-type 1	Gray Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
0315BH-03A 241901294-0005	Media-southwest window system adj. to computer room - red exterior window caulking	Red Non-Fibrous Heterogeneous	99.76 Other	0.24 Fibrous_Other	No Asbestos Detected
0315BH-04A 241901294-0007	Media-southwest window system adj. to computer room - black exterior window caulking-type 2	Gray Non-Fibrous Heterogeneous	98.0 Other	2.0 Fibrous_Other	No Asbestos Detected

Analyst(s)

Almedina Hodzic (4)

Almedina Hodzic, Asbestos 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: 03/22/2019 09:50:47

241901294

213 Court Street, Suite 1100, Middletown, CT 06457

Phone 860-704-4760

SAMPLE LOG FOR ASBESTOS BULKS

Sheet 1 of 1

Project Name: Stamford Mold Task Force

Project No. 28-2087-033I

Building: Roxbury School, Stamford, CT

Project Manager: K. McCarthy

Sample ID	Material Description	Color	Sample Location
*0315BH-01A	Exterior Door/Window Caulking	White	Media - east exit/entrance
0315BH-01B	Exterior Door/Window Caulking	White	Media - east exit/entrance
*0315BH-02A	Exterior Window Caulking-Type 1	Black	Media - east exit/entrance
0315BH-02B	Exterior Window Caulking-Type 1	Black	Media - east exit/entrance
*0315BH-03A	Exterior Window Caulking	Red	Media - southwest window system adj. to computer room
0315BH-03B	Exterior Window Caulking	Red	Media - southwest window system adj. to computer room
*0315BH-04A	Exterior Window Caulking-Type 2	Black	Media - southwest window system adj. to computer room
0315BH-04B	Exterior Window Caulking-Type 2	Black	Media - southwest window system adj. to computer room

TOTAL # OF SAMPLES: 8 State sample collected in: CT

Analysis Method: PLM TEM-NOB Point CT - 400 Other

Turnaround Time (check one): 3-hr 6-hr 24-hr 48-hr 72-hr 96-hr 1-week 2-week

Please call the office if analyses will be late at: _____

Email Results to: kmccarthy@tighebond.com **Do Not Mail Hard Copy Report**

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, as noted by asterisk and bold front.

Samples collected by: Bob Hobbins **Date:** 3-15-19 **Time:** _____

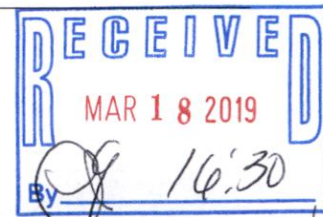
Samples Relinquished by: BA **Date:** 3-18-19 **Time:** _____

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

Shipped To: EMSL State CT Other _____

Method of Shipment: Overnight (Check one: Fed Ex / UPS) Other _____

*Per Kevin
Analyze samples on a 48hr TAT
Via phone 8:19am 3/19/19 @*



Tighe&Bond

APPENDIX C



Monday, March 25, 2019

Attn: Kevin McCarthy
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
SDG ID: GCC70132
Sample ID#s: CC70132 - CC70142

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. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

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 #M-CT007
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
UT Lab Registration #CT00007
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

Sample Id Cross Reference

March 25, 2019

SDG I.D.: GCC70132

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL

Client Id	Lab Id	Matrix
0315BS-01	CC70132	BULK
0315BS-02	CC70133	BULK
0315BS-03	CC70134	BULK
0315BS-04	CC70135	BULK
0315BS-05	CC70136	BULK
0315BS-06	CC70137	BULK
0315BS-07	CC70138	BULK
0315BS-08	CC70139	BULK
0315BS-09	CC70140	BULK
0315BS-10	CC70141	BULK
0315BS-11	CC70142	BULK



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19
 03/19/19

Time

10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70132

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/19/19	XX/AK/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	490	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1221	ND	490	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1232	ND	490	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1242	ND	490	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1248	ND	490	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1254	ND	490	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1260	ND	490	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1262	ND	490	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1268	ND	490	ug/Kg	2	03/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	56		%	2	03/20/19	SC	30 - 150 %
% DCBP (Confirmation)	62		%	2	03/20/19	SC	30 - 150 %
% TCMX	45		%	2	03/20/19	SC	30 - 150 %
% TCMX (Confirmation)	65		%	2	03/20/19	SC	30 - 150 %

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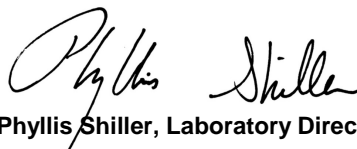
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19
 03/19/19

Time

10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70133

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/19/19	XX/AK/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	430	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1221	ND	430	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1232	ND	430	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1242	ND	430	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1248	ND	430	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1254	ND	430	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1260	ND	430	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1262	ND	430	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1268	ND	430	ug/Kg	2	03/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	45		%	2	03/20/19	SC	30 - 150 %
% DCBP (Confirmation)	55		%	2	03/20/19	SC	30 - 150 %
% TCMX	49		%	2	03/20/19	SC	30 - 150 %
% TCMX (Confirmation)	55		%	2	03/20/19	SC	30 - 150 %

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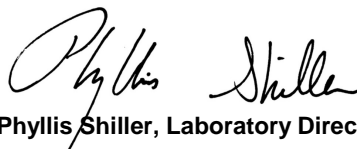
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19
 03/19/19

Time

10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70134

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/19/19	XX/AK/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	650	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1221	ND	650	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1232	ND	650	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1242	ND	650	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1248	ND	650	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1254	ND	650	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1260	ND	650	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1262	ND	650	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1268	ND	650	ug/Kg	2	03/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	43		%	2	03/20/19	SC	30 - 150 %
% DCBP (Confirmation)	55		%	2	03/20/19	SC	30 - 150 %
% TCMX	47		%	2	03/20/19	SC	30 - 150 %
% TCMX (Confirmation)	53		%	2	03/20/19	SC	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 (preceeded 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

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19
 03/19/19

Time

10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70135

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/19/19	XX/AK/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	790	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1221	ND	790	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1232	ND	790	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1242	ND	790	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1248	ND	790	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1254	ND	790	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1260	ND	790	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1262	ND	790	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1268	ND	790	ug/Kg	5	03/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	88		%	5	03/20/19	SC	30 - 150 %
% DCBP (Confirmation)	84		%	5	03/20/19	SC	30 - 150 %
% TCMX	78		%	5	03/20/19	SC	30 - 150 %
% TCMX (Confirmation)	75		%	5	03/20/19	SC	30 - 150 %

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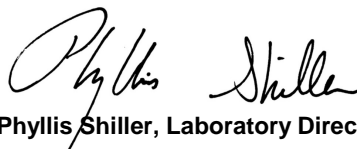
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19
 03/19/19

Time

10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70136

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-05

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/19/19	XX/AK/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	620	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1221	ND	620	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1232	ND	620	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1242	ND	620	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1248	ND	620	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1254	ND	620	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1260	ND	620	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1262	ND	620	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1268	ND	620	ug/Kg	2	03/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	61		%	2	03/20/19	SC	30 - 150 %
% DCBP (Confirmation)	64		%	2	03/20/19	SC	30 - 150 %
% TCMX	44		%	2	03/20/19	SC	30 - 150 %
% TCMX (Confirmation)	64		%	2	03/20/19	SC	30 - 150 %

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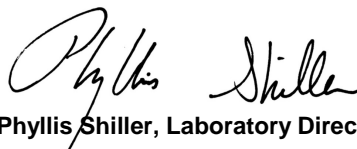
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19
 03/19/19

Time

10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70137

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-06

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/19/19	XX/AK/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	410	ug/Kg	1	03/20/19	SC	SW8082A
PCB-1221	ND	410	ug/Kg	1	03/20/19	SC	SW8082A
PCB-1232	ND	410	ug/Kg	1	03/20/19	SC	SW8082A
PCB-1242	ND	410	ug/Kg	1	03/20/19	SC	SW8082A
PCB-1248	ND	410	ug/Kg	1	03/20/19	SC	SW8082A
PCB-1254	ND	410	ug/Kg	1	03/20/19	SC	SW8082A
PCB-1260	ND	410	ug/Kg	1	03/20/19	SC	SW8082A
PCB-1262	ND	410	ug/Kg	1	03/20/19	SC	SW8082A
PCB-1268	ND	410	ug/Kg	1	03/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	43		%	1	03/20/19	SC	30 - 150 %
% DCBP (Confirmation)	48		%	1	03/20/19	SC	30 - 150 %
% TCMX	30		%	1	03/20/19	SC	30 - 150 %
% TCMX (Confirmation)	45		%	1	03/20/19	SC	30 - 150 %

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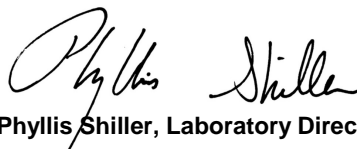
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19
 03/19/19

Time

10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70138

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/19/19	XX/AK/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	800	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1221	ND	800	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1232	ND	800	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1242	ND	800	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1248	ND	800	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1254	ND	800	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1260	ND	800	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1262	ND	800	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1268	ND	800	ug/Kg	5	03/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	86		%	5	03/20/19	SC	30 - 150 %
% DCBP (Confirmation)	87		%	5	03/20/19	SC	30 - 150 %
% TCMX	63		%	5	03/20/19	SC	30 - 150 %
% TCMX (Confirmation)	63		%	5	03/20/19	SC	30 - 150 %

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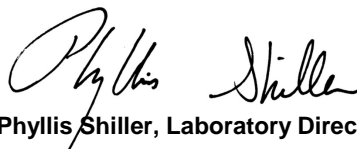
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19

Time

03/19/19 10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70139

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/19/19	XX/AK/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	780	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1221	ND	780	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1232	ND	780	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1242	ND	780	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1248	ND	780	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1254	ND	780	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1260	ND	780	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1262	ND	780	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1268	ND	780	ug/Kg	5	03/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	76		%	5	03/20/19	SC	30 - 150 %
% DCBP (Confirmation)	73		%	5	03/20/19	SC	30 - 150 %
% TCMX	64		%	5	03/20/19	SC	30 - 150 %
% TCMX (Confirmation)	59		%	5	03/20/19	SC	30 - 150 %

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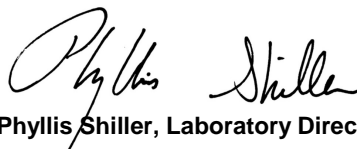
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19
 03/19/19

Time

10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70140

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/20/19	XX/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	750	ug/Kg	5	03/21/19	SC	SW8082A
PCB-1221	ND	750	ug/Kg	5	03/21/19	SC	SW8082A
PCB-1232	ND	750	ug/Kg	5	03/21/19	SC	SW8082A
PCB-1242	ND	750	ug/Kg	5	03/21/19	SC	SW8082A
PCB-1248	ND	750	ug/Kg	5	03/21/19	SC	SW8082A
PCB-1254	ND	750	ug/Kg	5	03/21/19	SC	SW8082A
PCB-1260	ND	750	ug/Kg	5	03/21/19	SC	SW8082A
PCB-1262	ND	750	ug/Kg	5	03/21/19	SC	SW8082A
PCB-1268	ND	750	ug/Kg	5	03/21/19	SC	SW8082A

QA/QC Surrogates

% DCBP	88		%	5	03/21/19	SC	30 - 150 %
% DCBP (Confirmation)	87		%	5	03/21/19	SC	30 - 150 %
% TCMX	73		%	5	03/21/19	SC	30 - 150 %
% TCMX (Confirmation)	76		%	5	03/21/19	SC	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

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19
 03/19/19

Time

10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70141

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/19/19	XX/AK/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	330	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1221	ND	330	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1232	ND	330	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1242	ND	330	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1248	ND	330	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1254	ND	330	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1260	ND	330	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1262	ND	330	ug/Kg	2	03/20/19	SC	SW8082A
PCB-1268	ND	330	ug/Kg	2	03/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	35		%	2	03/20/19	SC	30 - 150 %
% DCBP (Confirmation)	33		%	2	03/20/19	SC	30 - 150 %
% TCMX	40		%	2	03/20/19	SC	30 - 150 %
% TCMX (Confirmation)	53		%	2	03/20/19	SC	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 (preceeded 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

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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

Analysis Report

March 25, 2019

FOR: Attn: Kevin McCarthy
 Tighe & Bond
 213 Court St, Suite 1100
 Middletown, CT 06457

Sample Information

Matrix: BULK
 Location Code: TIGHE
 Rush Request: Standard
 P.O.#: 28-2087-0331

Custody Information

Collected by: BS/BH
 Received by: SW
 Analyzed by: see "By" below

Date

03/15/19
 03/19/19

Time

10:56

Laboratory Data

SDG ID: GCC70132
 Phoenix ID: CC70142

Project ID: SMTF-ROXBURY ELEMENTARY SCHOOL
 Client ID: 0315BS-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/19/19	XX/AK/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	730	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1221	ND	730	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1232	ND	730	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1242	ND	730	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1248	ND	730	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1254	ND	730	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1260	ND	730	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1262	ND	730	ug/Kg	5	03/20/19	SC	SW8082A
PCB-1268	ND	730	ug/Kg	5	03/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	85		%	5	03/20/19	SC	30 - 150 %
% DCBP (Confirmation)	84		%	5	03/20/19	SC	30 - 150 %
% TCMX	63		%	5	03/20/19	SC	30 - 150 %
% TCMX (Confirmation)	62		%	5	03/20/19	SC	30 - 150 %

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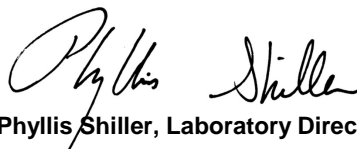
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QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

March 25, 2019

Reviewed and Released by: Rashmi Makol, Project Manager



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QA/QC Report

March 25, 2019

QA/QC Data

SDG I.D.: GCC70132

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 471010 (ug/Kg), QC Sample No: CC69179 10X (CC70140)

Polychlorinated Biphenyls - Bulk

PCB-1016	ND	170	90	99	9.5				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	99	107	7.8				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	95	%	102	105	2.9				30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	109	%	111	97	13.5				30 - 150	30
% TCMX (Surrogate Rec)	86	%	96	91	5.3				30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	88	%	100	96	4.1				30 - 150	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 470837 (ug/Kg), QC Sample No: CC69919 10X (CC70132, CC70133, CC70134, CC70135, CC70136, CC70137, CC70138, CC70139, CC70141, CC70142)

Polychlorinated Biphenyls - Bulk

PCB-1016	ND	170	84	79	6.1				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	94	97	3.1				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	101	%	101	106	4.8				30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	102	%	95	106	10.9				30 - 150	30
% TCMX (Surrogate Rec)	95	%	93	86	7.8				30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	86	%	85	83	2.4				30 - 150	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

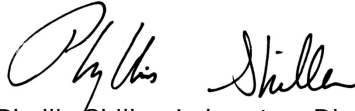
QA/QC Data

SDG I.D.: GCC70132

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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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
March 25, 2019

Monday, March 25, 2019

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCC70132 - TIGHE

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 exceedance 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.



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



Analysis Comments

March 25, 2019

SDG I.D.: GCC70132

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

PCB Narration

AU-ECD5 03/20/19-1: CC70133, CC70134

The following Continuing Calibration compounds did not meet % deviation criteria:

Samples: CC70133, CC70134

Preceding CC 320B027 - DCBP SURR 17%L (15%)

Succeeding CC 320B040 - None.

2.2 encl
10

Tighe & Bond

PCB SOURCE SAMPLE CHAIN OF CUSTODY

Project Number: 28-2087-0331 **Date:** 3/18/2019
Project Name: SMTF - Roxbury Elementary School **Page:** 1 of 1
Site Address: Stamford, CT
Project Manager: Kevin McCarthy

Sample ID	Sample Location	Material	Substrate	Date Collected	Time Collected	Notes
0315BS-01	Media Center - Main Windows	White Caulking	Blue Block	3/15/2019	AM	70132
0315BS-02	Media Center - Main Windows	White Caulking	Blue Block	3/15/2019	AM	70133
0315BS-03	Media Center - Main Windows	White Caulking	Blue Block	3/15/2019	AM	70134
0315BS-04	Media Center - Main Windows	Black Caulking	Blue Block	3/15/2019	AM	70135
0315BS-05	Media Center - Main Windows	Black Caulking	Blue Block	3/15/2019	AM	70136
0315BS-06	Media Center - Main Windows	Black Caulking	Blue Block	3/15/2019	AM	70137
0315BS-07	Media Center - Side Windows	Red Caulking	Brick	3/15/2019	AM	70138
0315BS-08	Media Center - Side Windows	Red Caulking	Brick	3/15/2019	AM	70139
0315BS-09	Media Center - Side Windows	Red Caulking	Brick	3/15/2019	AM	70140
0315BS-10	Media Center - Side Windows	Black Caulking (Type 2)	Brick	3/15/2019	AM	70141
0315BS-11	Media Center - Side Windows	Black Caulking (Type 2)	Brick	3/15/2019	AM	70142

Analysis Method: EPA Method 3500B/3540C (extraction), EPA Method 8082 (analysis) **Laboratory:** Phoenix **Turnaround Time:** 5 day
Email PDF of Results to: kmccarthy@tighebond.com **Reporting Limit:** <1 ppm

Special Instructions:
Samples Collected By: B. Sirowich/B. Hobbins **Date:** 3/15/2019 **Time:** 8:52
Relinquished [By][To]: [Signature] [Signature] **Date:** 3/19/19 **Time:** 10:56
Relinquished [By][To]: [Signature] [Signature] **Date:** [] **Time:** []
Relinquished [By][To]: [Signature] [Signature] **Date:** [] **Time:** []