SAMPLING DATA

TEM CLEARANCE SAMPLES

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: 241500221
CustomerID: AMCT50
CustomerPO:
ProjectID:

Attn: **Jason Pringle**
AMC Environmental, LLC
PO Box 423

Stratford, CT 06615

Phone: (203) 378-5020
Fax: (203) 375-7344
Received: 01/17/15 1:50 PM
Analysis Date: 1/19/2015
Collected: 1/17/2015

Project: **OSBORN**

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm^2)	Non Asb	Asbestos Type(s)	# Structures ≥ 0.5µ < 5µ	# Structures ≥5µ	Analytical Sensitivity (S/cc)	Asbestos Concentration (S/mm^2)	Asbestos Concentration (S/cc)
C0117-04 *241500221-0001*	OSBORN GYMANSIUM	1210.00	0.0660	0	None Detected			0.0048	**<15.00**	**<0.0048**
C0117-05 *241500221-0002*	OSBORN GYMANSIUM	1210.00	0.0660	0	None Detected			0.0048	**<15.00**	**<0.0048**
C0117-06 *241500221-0003*	OSBORN GYMANSIUM	1210.00	0.0660	0	None Detected			0.0048	**<15.00**	**<0.0048**
C0117-07 *241500221-0004*	OSBORN GYMANSIUM	1220.00	0.0660	0	None Detected			0.0048	**<15.00**	**<0.0048**
C0117-08 *241500221-0005*	OSBORN GYMANSIUM	1210.00	0.0660	0	None Detected			0.0048	**<15.00**	**<0.0048**

Analyst(s)

William Shedrawy (5)

Gloria V. Oriol, Laboratory Manager
or other approved signatory

Initial report from 01/19/2015 12:54:33

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4, Wallingford, CT 06492
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EMSL Order:	241404555
CustomerID:	AMCT50
CustomerPO:	
ProjectID:	

Attn: **Jason Pringle**
AMC Environmental, LLC
PO Box 423

Stratford, CT 06615

Phone:	(203) 378-5020
Fax:	(203) 375-7344
Received:	11/13/14 4:10 PM
Analysis Date:	11/14/2014
Collected:	11/13/2014

Project: **OSBORN**

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm^2)	Non Asb	Asbestos Type(s)	# Structures ≥ 0.5µ < 5µ	# Structures ≥5µ	Analytical Sensitivity (S/cc)	Asbestos Concentration (S/mm^2)	Asbestos Concentration (S/cc)
C1113-04 *241404555-0001*	GYMNASIUM	1200.00	0.0660	0	None Detected			0.0049	**<15.00**	**<0.0049**
C1113-05 *241404555-0002*	GYMNASIUM	1200.00	0.0660	0	None Detected			0.0049	**<15.00**	**<0.0049**
C1113-06 *241404555-0003*	GYMNASIUM	1200.00	0.0660	0	None Detected			0.0049	**<15.00**	**<0.0049**
C1113-07 *241404555-0004*	GYMNASIUM	1200.00	0.0660	0	None Detected			0.0049	**<15.00**	**<0.0049**
C1113-08 *241404555-0005*	GYMNASIUM	1210.00	0.0660	0	None Detected			0.0049	**<15.00**	**<0.0049**

Analyst(s)

William Shedrawy (5)

Gloria V. Oriol, Laboratory Manager
or other approved signatory

Initial report from 11/14/2014 10:20:58

PCB ANALYTICAL RESULTS
(Please see laboratory results attachment.)

PROJECT MONITOR ACCREDITATION

State of Connecticut

Lookup Detail View

Name

Name
JASON P PRINGLE

License Information
lookup

License Type	License Number	Expiration Date	Granted Date	License Name	License Status	Licensure Actions or Pending Charges
Asbestos Consultant-Project Monitor	157	09/30/2015	10/06/1995	Jason P. Pringle	ACTIVE	None

Generated on: 11/20/2015 2:33:31 PM

CERT# PM-200 - 446

CHEMSCOPE TRAINING DIVISION

ASBESTOS PROJECT MONITOR REFRESHER

8HOUR TRAINING CERTIFICATE

Jason P. Pringle

PO Box 423 , Stratford CT

Has attended a 8 hour Course on the subject discipline on

03/06/2014 and has passed a written examination

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

Course topics include all the EPA MAP curriculum items. This training course has been accredited by the State of Connecticut.

Examination Date: 03/06/2014

Expiration Date: 03/06/2015

The course meets the requirements of DPH Regulation 20-440-7 and the EPA Model Accreditation Plan.

Ronald D. Arena or Brian Santos
Training Director Training Manager

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

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PCB CLEARNACE REPORT

ENVIRONMENTAL, LLC

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P.O Box 423
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06615

March 24, 2015

Mr. Sal Morabito
Fairfield Public Schools
501 Kings Highway East
Fairfield, CT 06824

RE: PCB Interim Clearance Report at Osborne Hill Elementary School in Fairfield, CT Windows and Gymnasium Remediation Summer and Fall 2014

Dear Mr. Morabito:

INTRODUCTION

AMC Environmental, LLC was retained by Fairfield Public Schools to conduct project monitoring at Osborn Hill School in Fairfield, Connecticut during the PCB Remediation performed by Environmental Consulting and Contracting (ENCO). ENCO is a licensed abatement firm that is trained to handle Hazardous materials. ENCO was contracted to remove Federally Regulated PCB containing window caulking/glazing and adjacent porous masonry materials within Osborn Hill School by the Fairfield Board of Education that were previously identified by AMC Environmental. AMC provided continuous monitoring to ensure the work areas were properly isolated from non-work areas and that no breeches in the containments occurred during abatement. Additionally, AMC obtained continuous particulate air monitoring data around the work areas both prior to and during abatement.

BACKGROUND

The removal of PCB containing materials was separated into 3 sections: window removal, paint removal (hallways) and gymnasium abatement. The window removal commenced on July 10, 2014 and continued through until July 28, 2014. The hallway abatement commenced on July 28, 2014 and continued through August 18, 2014 and the gymnasium abatement commenced on August 18, 2014 and is in the re-building stage (a report will be issued separately, upon 100% completion).

REMEDIATION AND CONTROLS

All easily moveable items were removed from the work areas prior to the beginning of the abatement and negative pressure air scrubbers were installed inside each room of each work area. Each work area was segregated from non-work areas by the means of containments consisting of poly sheeting. Classroom containments consisted of three classrooms. The hallway containments were segregated into two containments.

Following the removal of the windows, and contaminated adjacent masonry materials, ENCO proceeded to final cleaning all surfaces within each of the window containments including their tools and equipment. Upon successful cleaning of the work area, AMC Environmental performed a post abatement visual inspection within each work area. This included the window openings, exposed surfaces, polyethylene sheeting associated with the containment, tools and equipment. After, passing the visual inspection process, AMC Environmental collected air, chip and dust wipe samples from within the containments for clearance requirements. The results of the sampling are explained below.

SAMPLING AND RESULTS

Air Samples

Air samples were obtained from within each containment upon completion of abatement work and cleaning. The windows and surround PCB contaminated substrates (CMU block, CMU mortar, brick and brick mortar) were removed from Rooms 116, 117, 118, 119, 120, 121, 122, 123 and 124. The PCB containing paint was removed from the CMU block walls in the hallways outside 112-115. The Hallway outside Room 119 and the Main Hallway also had PCB containing stone tile and sealant removed. The following are the results of the air samples obtained following the remediation activities in each of the above mentioned areas (See Table 1 for PCB Air sample results).

All air samples were analyzed using EPA Method TO-10A for PCB Homolog Analysis and were submitted to Con-Test Analytical Laboratories in East Longmeadow, MA.

Table 1 – PCB Air Samples

Date	Location	Results ng/m^3
Window Removal		
July 27, 2014	**Room 119***	**110**
July 31, 2014	**Room 120***	**110**
August 9, 2014	Rooms 121-119*	37
July 27, 2014	Room 122	19
July 30, 2014	Room 116-118	50
Paint & Tile/Sealant Removal		
August 14, 2014	Hallway outside Room 119	13
August 11, 2014	Main Hallway	44
August 14, 2014	Hallway	100

The EPA recommended limit for air samples is 100 ng/m^3

**** Please note: samples in Rooms 119 and 120 were initially unacceptable; however follow-up sampling was done in both areas and is listed on the table as Rooms 121-119.***

Chip Samples

PCB chip samples were obtained from representative substrates that were in contact with the PCB containing caulk/paint. Following remediation, chip samples were obtained to verify that all building materials (brick/mortar/CMU block) that contained PCBs were removed. The chip samples were obtained from CMU block, CMU mortar, brick and brick mortar in the areas were window and surround substrate was removed. The chip samples were obtained from the CMU block and CMU mortar in the hallways in which PCB contain paint was removed (See Table 2 for PCB chip sample results).

Chip samples were analyzed using EPA Method 8082 with extraction performed by EPA Method 3540C and were submitted to Con-Test Analytical Laboratories in East Longmeadow, MA.

Table 2 – PCB Chip Samples

Date	Substrate	Location	Results PPM
Window Removal			
7/30/14	Brick	Room 116	ND
7/30/14	CMU block	Room 116	0.11
7/30/14	Brick mortar	Room 117	ND
7/30/14	CMU mortar	Room 117	ND
7/30/14	Brick	Room 118	ND
7/30/14	CMU block	Room 118	0.11
7/27/14	Brick mortar	Room 119	ND
7/27/14	Brick	Room 119	ND
7/27/14	CMU block	Room 119	0.13
7/27/14	CMU mortar	Room 119	ND
7/27/14	Brick mortar	Room 120	ND
7/27/14	Brick	Room 120	ND
7/27/14	CMU block	Room 120	ND
7/27/14	CMU mortar	Room 120	ND
7/27/14	Brick mortar	Room 121	ND
7/27/14	Brick	Room 121	ND
7/27/14	CMU block	Room 121	0.1
7/27/14	CMU mortar	Room 121	ND
7/27/14	CMU mortar	Room 122	ND
7/27/14	Brick	Room 122	ND
7/27/14	CMU block	Room 123	0.13
7/27/14	Brick	Room 123	ND
7/27/14	CMU block	Room 124	0.2
7/27/14	Brick mortar	Room 124	ND
Paint Removal			
7/30/14	CMU block	Hallway	ND
7/30/14	CMU block w/ paint	Hallway	ND
7/30/14	Skim coat	Hallway	ND
8/13/14	CMU block	Hallway Paint	ND
(17 samples in total, obtained from hallway paint CMU block documented ND)			
8/13/14	CMU mortar	Hallway Paint	ND
(19 samples in total obtained from hallway paint CMU mortar documented ND			

Table 2 – PCB Chip Samples (cont'd)

Date	Substrate	Location	Results PPM
Paint Removal			
8/13/14	CMU block	Hallway paint	0.37
8/13/14	CMU block	Hallway paint	0.13
8/13/14	CMU block	Hallway paint	0.12
8/13/14	CMU mortar	Hallway paint	0.1
Tile/Sealant Removal			
7/30/14	Slab	Hallway	ND
8/9/14	Slab	Hallway o/s 119	ND
8/9/14	Slab	Hallway o/s 119	ND
8/9/14	Slab	Hallway o/s 119	ND
8/9/14	Slab	Hallway o/s 119	ND
8/9/14	CMU block	Hallway o/s 119	ND
8/9/14	CMU mortar	Hallway o/s 119	ND
8/10/14	Slab	Main Hallway	ND
(17 samples obtained from Main Hallway slab documented ND)			
8/9/14	Slab	Main Hallway	0.26
8/9/14	Slab	Main Hallway	0.13
8/9/14	Slab	Main Hallway	0.54
8/9/14	Slab	Main Hallway	0.26

1 PPM is the recommended limit for surfaces within dermal contact set forth by the EPA and the CT DEEP

Wipe Samples

PCB wipe samples were obtained from the poly sheeting on the walls within each containment. Wipe samples were obtained to verify that all areas were cleaned and no PCB containing dust was present prior to removing the containment (See Table 2 for PCB wipe sample results).

Wipe samples were analyzed using EPA Method 8082 with extraction performed by EPA Method 3540C and were submitted to Con-Test Analytical Laboratories in East Longmeadow, MA.

Table 3 – PCB Wipe Samples

Date	Surface	Location	Results $\mu g/100cm^2$
Window Removal			
7/27/14	Poly wall (ext.)	Room 119	ND
7/27/14	Poly floor (int.)	Room 119	ND
7/27/14	Poly wall (ext.)	Room 120	ND
7/27/14	Poly wall (int.)	Room 120	ND
7/27/14	Poly wall (ext.)	Room 121	ND
7/27/14	Poly wall (int.)	Room 121	ND
7/27/14	Poly (ext.)	Room 122	ND
7/27/14	Poly wall (int.)	Room 122	ND
7/27/14	Poly wall (ext.)	Room 123	ND

Table 3 – PCB Wipe Samples (cont'd)

Date	Surface	Location	Results µg/100cm^2
Window Removal			
7/27/14	Poly wall (int.)	Room 123	ND
7/27/14	Poly wall (ext.)	Room 124	ND
7/27/14	Poly wall (int.)	Room 124	ND
7/30/14	Poly (ext.)	Room 116	ND
7/30/14	Poly (Int.)	Room 116	ND
7/30/14	Poly (ext.)	Room 117	ND
7/30/14	Poly (int.)	Room 117	ND
7/30/14	Poly (ext.)	Room 118	ND
7/30/14	Poly (int.)	Room 118	ND
Paint & Tile/Sealant Removal			
8/9/14	Poly wall	Hallway o/s 119	ND
8/9/14	Poly wall	Hallway o/s 119	ND
8/10/14	Poly	Main Hallway	ND
8/10/14	Poly	Main Hallway	ND
8/10/14	Metal	Main Hallway	0.25
8/14/14	Metal	Main Hallway	ND
8/10/14	Metal	Main Hallway	0.68
8/10/14	Metal	Main Hallway	0.32
8/10/14	Metal	Main Hallway	0.32
8/10/14	Metal	Main Hallway	0.28
8/10/14	Metal	Main Hallway	ND
8/10/14	Metal	Main hallway	0.38
8/14/14	Cove base	Main Hallway	ND
8/13/14	Poly	Hallway Paint	ND
8/13/14	Equipment	Hallway Paint	ND

1 µg/100 cm^2 is the recommended limit for surfaces within dermal contact set forth by the EPA and the CT DEEP

CONCLUSION

In closing, the samples obtained during this final clearance sampling inspection document acceptable results following the window removal, paint removal (hallways) and the tile/sealant removal from the hallways (a separate report will be issued upon the completion of the gymnasium remediation). The samples (air, chip and dust wipes) illustrate acceptable levels of PCB concentrations within the school that are in compliance with the EPA approved remediation plans.

Based on sample results, all portions of the building were remediated documented acceptable PCB levels in both the air, chip and dust. Please note, Phase II, which includes the remaining windows of the school, will be removed during the summer of 2015. All of these windows contain non-regulated PCB caulk/glazing except for several windows.

Very truly yours,

Jason Pringle
Principal

Laboratory Results – PCB Air Samples

Laboratory Results – PCB Chip Samples

Laboratory Results – PCB Wipe Samples

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P.O Box 423
Stratford, CT
06615

March 31, 2015

Mr. Sal Morabito
Fairfield Public Schools
501 Kings Highway East
Fairfield, CT 06824

RE: PCB Interim Clearance Report at Osborne Hill Elementary School in Fairfield, CT Windows and Gymnasium Remediation Summer and Fall 2014 – Gymnasium Report

Dear Mr. Morabito:

INTRODUCTION

AMC Environmental, LLC was retained by Fairfield Public Schools to conduct project monitoring at Osborn Hill School in Fairfield, Connecticut during the PCB Remediation performed by Environmental Consulting and Contracting (ENCO). ENCO is a licensed abatement firm that is trained to handle Hazardous materials. ENCO was contracted to remove Federally Regulated PCB containing materials and adjacent contaminated porous masonry materials within the Gymnasium that were previously identified by AMC Environmental. During the course of the remediation, AMC provided monitoring to ensure the work areas were properly isolated from non-work areas and that no breeches in the containments occurred during abatement. Additionally, AMC obtained continuous particulate air monitoring data in areas adjacent to the work areas both during abatement.

BACKGROUND

The PCB remediation in the Gymnasium was in response to the discovery of elevated air samples and regulated PCB materials. After the discovery of these materials and the elevated air levels, the Gymnasium was closed and segregated from the rest of the building. The remediation in the gymnasium commenced on August 18, 2014 and concluded on February 13, 2015.

REMEDIATION AND CONTROLS

The remediation in the Gymnasium employed the use of negative pressure air scrubbers within the work area. The work area was segregated from non-work areas by the means of containments consisting of multi-layers of poly sheeting.

Following the removal of the following materials: expansion joint caulk, door frame caulk, wall paint, spray applied fireproofing, Tectum decking, rubber flooring/adhesive, hardwood flooring/sealant/foam, cove base adhesive, acoustical panel insulation; and the PCB contaminated substrates removed were: CMU block, CMU mortar and 1 ¼" of the concrete slab gym floor and contaminated adjacent masonry materials, ENCO proceeded to final cleaning all surfaces within the Gym. Upon successful cleaning of the work area, AMC Environmental performed a post abatement visual inspection within each work area. The cleaning included all remaining exposed surfaces, polyethylene sheeting associated with the containment, tools and equipment. After, passing the visual inspection process, AMC Environmental collected air, chip and dust wipe samples from within the containments for clearance requirements. The results of the sampling are explained below.

SAMPLING AND RESULTS

Air Samples

Air samples were obtained from within the gymnasium containment upon completion of abatement work and cleaning. Please note, reoccupancy samples were obtained on November 13, 2014 prior to the removal of the floors and ceiling in order to allow non-hazardous material workers to access the Gym to secure the walls that may be compromised during the remaining work. The PCB containing materials removed from the Gymnasium were expansion joint caulk, door frame caulk, wall paint, spray applied fireproofing, Tectum decking, rubber flooring/adhesive, hardwood flooring/sealant/foam, cove base adhesive, acoustical panel insulation; and the PCB contaminated substrates removed were: CMU block, CMU mortar and 1 ¼" of the concrete slab gym floor. The following are the results of the air samples obtained following the remediation in the Gymnasium (See Table 1 for PCB Air sample results).

All air samples were analyzed using EPA Method TO-10A for PCB Homolog Analysis and were submitted to Con-Test Analytical Laboratories in East Longmeadow, MA.

Table 1 – PCB Air Samples

Date	Location	Results ng/m^3
Gymnasium		
9/24/14	Gym – Front	2500*
9/24/14	Gym – Back	2000*
9/24/14	Blank	2
11/13/14	Blank	ND
11/13/14	Gym B Side	71
11/13/14	Gym B Side (duplicate)	79
11/13/14	Gym D Side	89
2/8/15	Blank	ND
2/8/15	Gym Side B	14
2/8/15	Gym Side B (duplicate)	23
2/8/15	Gym Side D	ND

The EPA recommended limit for air samples is 100 ng/m^3 for children < 6 years old

*Please note that samples obtained on September 24, 2014, were samples taken during remediation to determine current air concentrations.

Chip Samples

PCB chip samples were obtained from representative substrates that were in contact with the PCB containing materials in the gymnasium. Following remediation, chip samples were obtained to verify that all building materials (CMU block/concrete slab) that contained PCBs were removed. The chip samples were obtained from CMU block, CMU mortar and the concrete slab floor in the Gymnasium. (See Table 2 for PCB chip sample results).

Chip samples were analyzed using EPA Method 8082 with extraction performed by EPA Method 3540C and were submitted to Con-Test Analytical Laboratories in East Longmeadow, MA.

Table 2 – PCB Chip Samples

Date	Substrate	Location	Results PPM
Gymnasium			
8/13/14	CMU	Gymnasium-Office	0.6
8/13/14	CMU	Gymnasium-Office	0.86
9/24/14	**CMU**	**Gymnasium**	**21**
9/24/14	**CMU**	**Gymnasium**	**28**
9/24/14	**CMU**	**Gymnasium**	**25**
9/24/14	**CMU**	**Gymnasium**	**15**
9/24/14	CMU	Gymnasium	7.8
9/24/14	**CMU**	**Gymnasium**	**16**
9/24/14	**CMU**	**Gymnasium**	**13**
9/24/14	**CMU**	**Gymnasium**	**21**
9/24/14	**CMU**	**Gymnasium**	**50**
9/24/14	**CMU**	**Gymnasium**	**12**
9/24/14	**CMU**	**Gymnasium**	**17**
9/24/14	**CMU**	**Gymnasium**	**24**
9/24/14	**CMU**	**Gymnasium**	**12**
9/24/14	**CMU**	**Gymnasium**	**17**
9/24/14	**CMU**	**Gymnasium**	**13**
9/24/14	**CMU**	**Gymnasium**	**19**
9/24/14	CMU	Gymnasium	2.7
9/24/14	CMU	Gymnasium	4.1
9/24/14	CMUM	Gymnasium	6
9/24/14	CMUM	Gymnasium	5.6
9/24/14	CMUM	Gymnasium	3.1
9/24/14	**CMUM**	**Gymnasium**	**14**
9/24/14	CMUM	Gymnasium	3
9/24/14	CMUM	Gymnasium	3.2
9/24/14	CMUM	Gymnasium	3.8
9/24/14	CMUM	Gymnasium	9.6
9/24/14	**CMUM**	**Gymnasium**	**17**
9/24/14	CMUM	Gymnasium	5
9/24/14	**CMUM**	**Gymnasium**	**12**
9/24/14	CMUM	Gymnasium	7.6
9/24/14	CMUM	Gymnasium	5.6
9/24/14	**CMUM**	**Gymnasium**	**24**
9/24/14	**CMUM**	**Gymnasium**	**16**
9/24/14	**CMUM**	**Gymnasium**	**20**

Table 2 – PCB Chip Samples (cont'd)

Date	Substrate	Location	Results PPM
9/24/14	CMUM	Gymnasium	4.3
10/14/14	CMU	Gymnasium	8.3
10/14/14	**CMU**	**Gymnasium**	**14**
10/14/14	CMU	Gymnasium	7.1
10/14/14	**CMUM**	**Gymnasium**	**14**
10/14/14	CMUM	Gymnasium	4.2
11/13/14	Floor	Gymnasium	0.22
11/13/14	Floor	Gymnasium	0.33
11/13/14	Floor	Gymnasium	0.25
11/13/14	Floor	Gymnasium	1.3
11/13/14	Floor	Gymnasium	0.85
11/13/14	Floor	Gymnasium	1.8
11/13/14	Floor	Gymnasium	3.7
11/13/14	Floor	Gymnasium	3.3
11/13/14	Floor	Gymnasium	1.58
11/13/14	Floor	Gymnasium	3.1
11/13/14	Floor	Gymnasium	4
11/13/14	Floor	Gymnasium	3.86
11/13/14	Floor	Gymnasium	1.56
11/13/14	Floor	Gymnasium	1.57
11/13/14	Floor	Gymnasium	0.57
11/13/14	Floor	Gymnasium	2.09
11/13/14	Floor	Gymnasium	1.84
11/13/14	Floor	Gymnasium	0.87
11/13/14	**Floor**	**Gymnasium**	**14.9**
11/13/14	Floor	Gymnasium	4.33
11/13/14	Floor	Gymnasium	ND
11/13/14	Floor	Gymnasium	ND
11/13/14	Floor	Gymnasium	ND
11/13/14	Floor	Gymnasium	ND
11/13/14	Floor	Gymnasium	ND
11/13/14	Floor	Gymnasium	ND
11/13/14	Door frame CMU	Gymnasium	2.26
11/13/14	Door frame CMU	Gymnasium	1.42
11/13/14	**Door frame CMUM**	**Gymnasium**	**10.1**
11/13/14	Expansion joint CMU	Gymnasium	1.89
11/13/14	Expansion joint CMU	Gymnasium	3.4
11/13/14	Expansion joint CMU	Gymnasium	3.3
11/13/14	Expansion joint CMUM	Gymnasium	2.7
11/13/14	Expansion joint CMUM	Gymnasium	9.9
11/13/14	Expansion joint CMUM	Gymnasium	2.5

The clean-up standard for PCB remediation waste that will remain in place is <1 PPM as approved by the EPA. However if the <1 PPM standard is not achieved, materials containing <50 PPM may remaining in place and shall be encapsulated as approved by the EPA.

Based on the results of the chip sample results from the CMU walls and the concrete slab, these surfaces were encapsulated. This allowance was approved by EPA in the remediation plan.

Wipe Samples

PCB wipe samples were obtained from the encapsulated floors and walls as well as the poly sheeting on the walls within the Gymnasium. Wipe samples were obtained to verify the effectiveness of the encapsulant and no PCB containing dust was present prior to removing the containment (See Table 2 for PCB wipe sample results).

Wipe samples were analyzed using EPA Method 8082 with extraction performed by EPA Method 3540C and were submitted to Con-Test Analytical Laboratories in East Longmeadow, MA.

Table 3 – PCB Wipe Samples

Date	Surface	Location	Results μg/100cm^2
Gymnasium			
10/20/14	Encapsulated wall	Gymnasium Office	ND
10/20/14	Encapsulated wall	Gymnasium Office	ND
10/20/14	Encapsulated wall	Gymnasium Office	ND
10/20/14	Encapsulated wall	Gymnasium Office	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
10/20/14	Encapsulated wall	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND

Table 3 – PCB Wipe Samples (cont'd)

Date	Surface	Location	Results µg/100cm^2
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
12/8/14	Encapsulated floor	Gymnasium	ND
1/19/15	Wall-window side B	Gymnasium	ND
1/19/15	Wall-window side B	Gymnasium	ND
1/19/15	Wall-window side B	Gymnasium	ND
1/19/15	Wall-window side C	Gymnasium	ND
1/19/15	Wall-window side C	Gymnasium	ND
1/19/15	Wall-window side C	Gymnasium	ND
1/19/15	Wall-window side C	Gymnasium	ND
1/19/15	Wall-window side C	Gymnasium	ND
1/19/15	Wall-window side C	Gymnasium	ND
1/19/15	Wall-window side D	Gymnasium	ND
1/19/15	Wall-window side D	Gymnasium	ND
1/19/15	Wall-window side D	Gymnasium	ND
1/19/15	Exposed joint Side A	Gymnasium	ND
1/19/15	Exposed joint Side A	Gymnasium	ND
1/19/15	Exposed joint Side A	Gymnasium	ND
1/19/15	Exposed joint Side B	Gymnasium	ND
1/19/15	Exposed joint Side B	Gymnasium	ND
1/19/15	Exposed joint Side B	Gymnasium	ND
1/19/15	Door frame side C	Gymnasium	ND
1/19/15	Exposed joint Side C	Gymnasium	ND
1/19/15	Exposed joint Side C	Gymnasium	ND
1/19/15	Exposed joint Side D	Gymnasium	ND
1/19/15	Exposed joint Side D	Gymnasium	ND
1/19/15	Exposed joint Side D	Gymnasium	ND

1 µg/100 cm^2 is the recommended limit for surfaces within dermal contact set forth by the EPA and the CT DEEP

CONCLUSION

Based on the final visual inspection and analytical results from the samples obtained during the final clearance sampling in the Gymnasium, the criteria for reoccupancy have been achieved. The air, chip and surface dust samples document acceptable levels of PCB concentrations within the Gymnasium that are in compliance with the EPA approved remediation plan.

Please note, O & M periodic monitoring will be required in the Gymnasium due to the PCBs that remain in the encapsulated CMU walls and concrete floor.

Very truly yours,

Jason Pringle
Principal

ENVIRONMENTAL, LLC

October 6, 2015

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P.O Box 423
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Mr. Sal Morabito
Fairfield Public Schools
501 Kings Highway East
Fairfield, CT 06824

RE: PCB Interim Clearance Report at Osborne Hill Elementary School in Fairfield, CT Phase 2 Windows Remediation Summer 2015

Dear Mr. Morabito:

INTRODUCTION

AMC Environmental, LLC was retained by Fairfield Public Schools to conduct project monitoring at Osborn Hill School in Fairfield, Connecticut during Phase 2 of the PCB Remediation performed by Environmental Consulting and Contracting (ENCO). ENCO is a licensed abatement firm that is trained to handle Hazardous materials. ENCO was contracted to remove Federally Regulated PCB containing window caulking/glazing and adjacent porous masonry materials as well as the State of CT regulated PCB containing window caulking/glazing within Osborn Hill School. These materials were previously identified by AMC Environmental. AMC provided continuous monitoring to ensure the work areas were properly isolated from non-work areas and that no breeches in the containments occurred during abatement. Additionally, AMC obtained continuous particulate air monitoring data around the work areas both prior to and during abatement.

BACKGROUND

The removal of PCB containing materials were separated into 2 sections: window removal and soil removal. The window removal and soil removal commenced on June 26, 2015 and continued through until July 13, 2015.

REMEDIATION AND CONTROLS

In the areas that required containment, all easily moveable items were removed from the work areas prior to the beginning of the abatement and negative pressure air scrubbers were installed inside each work area. All other work areas were segregated from non-work areas by the means of critical barriers consisting of poly sheeting. The work areas for the windows in the Gymnasium hallway were segregated from the non- work areas by a containment consisting of multi-layers of poly sheeting.

Following the removal of the windows, and contaminated adjacent masonry materials (Gymnasium Hallway only), ENCO proceeded to final cleaning all surfaces within each of the work areas. Upon successful cleaning of the work area, AMC Environmental performed a post abatement visual inspection within each work area. This included the window openings,

exposed surfaces, polyethylene sheeting associated with the containment, tools and equipment. After, passing the visual inspection process, AMC Environmental collected air, chip and dust wipe samples from within representative work areas for clearance requirements. The results of the sampling are explained below. Please note, that the CT regulated PCBs did not require reoccupancy sampling. However, representative sampling was performed in random locations.

SAMPLING AND RESULTS

Air Samples

Air samples were obtained from within the representative containment upon completion of abatement work and cleaning. The windows and surround PCB contaminated substrates (CMU block, CMU mortar, brick and brick mortar) were removed from the West and East window in the hallway directly adjacent to the interior Gym entrance. The following are the results of the air samples obtained following the remediation activities in the above mentioned area (See Table 1 for PCB Air sample results). The results did not document airborne PCBs; therefore the results are considered acceptable for reoccupancy.

All air samples were analyzed using EPA Method TO-10A for PCB Homolog Analysis and were submitted to Con-Test Analytical Laboratories in East Longmeadow, MA.

Table 1 – PCB Air Samples

Date	Sample ID	Location	Results ng/m^3
Window Removal			
06/23/15	15F1351-01	Hallway North Containment	0.0
06/23/15	15F1351-02	Hallway South Containment	0.0

The EPA recommended limit for air samples is 100 ng/m^3

Chip Samples

Following remediation, chip samples were obtained to verify that all building materials (brick/mortar) that were in contact with PCB containing materials were removed. The chip samples were obtained from brick and mortar in the representative areas where window and surrounding substrate were removed. (See Table 2 for PCB chip sample results).

Chip samples were analyzed using EPA Method 8082 with extraction performed by EPA Method 3540C and were submitted to Con-Test Analytical Laboratories in East Longmeadow, MA.

Table 2 – PCB Chip Samples

Date	Sample ID	Substrate	Location	Results PPM
Window Removal				
06/26/15	15F1349-01	Brick	Room 106	ND
06/26/15	15F1349-02	Mortar	Room 106	ND
06/26/15	15F1349-03	Brick	Room 105	ND

Table 2 – PCB Chip Samples (Cont'd)

Date	Sample ID	Substrate	Location	Results PPM
Window Removal				
06/26/15	15F1349-04	Mortar	Room 105	ND
06/26/15	15F1349-05	Brick	Hallway near gym N. Window	ND
06/26/15	15F1349-06	Mortar	Hallway near gym N. Window	ND
06/26/15	15F1349-07	Brick	Hallway near gym S. Window	ND
06/26/15	15F1349-08	Mortar	Hallway near gym S. Window	ND
06/26/15	15F1353-01	Brick	Media Center	ND
06/26/15	15F1353-02	Mortar	Media Center	ND
06/26/15	15F1353-03	Brick	Media Center	ND
06/26/15	15F1353-04	Mortar	Media Center	ND
06/26/15	15F1353-05	Brick	Media Center	ND
06/26/15	15F1353-06	Mortar	Media Center	ND
06/26/15	15F1353-07	Brick	Special Ed Room	ND
06/26/15	15F1353-08	Mortar	Special Ed Room	ND
06/26/15	15F1353-09	Brick	Special Ed Room	ND
06/26/15	15F1353-10	Mortar	Special Ed Room	ND
06/26/15	15F1353-11	Brick	Special Ed Room	ND
06/26/15	15F1353-12	Mortar	Special Ed Room	ND
06/26/15	15F1353-13	Brick	Room 108	ND
06/26/15	15F1353-14	Mortar	Room 108	ND
06/26/15	15F1353-15	Brick	Room 107	ND
06/26/15	15F1353-16	Mortar	Room 107	ND
(12 samples in total, obtained between Room 106, 105, 143N, 143S, 148, 146, 108 and 107 window (Brick) documented ND)				
(12 samples in total, obtained between Room 106, 105, 143N, 143S, 148, 146, 108 and 107 window (Mortar) documented ND)				

1 PPM is the recommended limit for surfaces within dermal contact set forth by the EPA and the CT DEEP

Soil Samples

PCB soil samples were obtained from outside of rooms 116, 117, 118, 119, 120, 121, 122, 123, and 124. The final set of soil samples document acceptable levels of PCBS within the remaining soil. Please note that the initial post remediation soil sample results from outside rooms 119, 120 and 121 were unacceptable. Additional soil was remediated from these areas and follow samples were obtained. The results of the follow samples were documented to be acceptable.

Table 3 – PCB Soil Samples

Date	Sample ID	Substrate	Location	Results PPM
Window Removal				
06/26/15	15F1347-01	Soil	Outside Room 116	0.94
06/26/15	15F1347-02	Soil	Outside Room 116	0.81
06/26/15	15F1347-03	Soil	Outside Room 116	0.80
06/26/15	15F1347-04	Soil	Outside Room 117	1.0
06/26/15	15F1347-05	Soil	Outside Room 117	0.59
06/26/15	15F1347-06	Soil	Outside Room 117	0.48
06/26/15	15F1347-07	Soil	Outside Room 118	0.44
06/26/15	15F1347-08	Soil	Outside Room 118	0.56
06/26/15	15F1347-09	Soil	Outside Room 118	0.80
06/26/15	15F1347-10	Soil	Outside Room 119	0.50
06/26/15	15F1347-11	Soil	Outside Room 119	4.1
06/26/15	15F1347-12	Soil	Outside Room 119	3.8
06/26/15	15F1347-13	Soil	Outside Room 120	3.93
06/26/15	15F1347-14	Soil	Outside Room 120	3.36
06/26/15	15F1347-15	Soil	Outside Room 120	1.86
06/26/15	15F1347-16	Soil	Outside Room 121	1.1
06/26/15	15F1347-17	Soil	Outside Room 121	1.5
06/26/15	15F1347-18	Soil	Outside Room 121	1.2
06/26/15	15F1354-01	Soil	Outside Room 122	0.20
06/26/15	15F1354-02	Soil	Outside Room 122	0.20
06/26/15	15F1354-03	Soil	Outside Room 122	0.18
06/26/15	15F1354-04	Soil	Outside Room 122	0.23
06/26/15	15F1354-05	Soil	Outside Room 122	0.20
06/26/15	15F1354-06	Soil	Outside Room 122	0.27
06/26/15	15F1354-07	Soil	Outside Room 122	0.17
06/26/15	15F1354-08	Soil	Outside Room 123	ND
06/26/15	15F1354-09	Soil	Outside Room 123	ND
06/26/15	15F1354-10	Soil	Outside Room 123	ND
06/26/15	15F1354-11	Soil	Outside Room 123	ND
06/26/15	15F1354-12	Soil	Outside Room 123	ND
06/26/15	15F1354-13	Soil	Outside Room 123	ND
06/26/15	15F1354-14	Soil	Outside Room 123	ND
06/26/15	15F1354-15	Soil	Outside Room 124	0.21
06/26/15	15F1354-16	Soil	Outside Room 124	0.21
06/26/15	15F1354-17	Soil	Outside Room 124	0.33
06/26/15	15F1354-18	Soil	Outside Room 124	0.19
06/26/15	15F1354-19	Soil	Outside Room 124	0.25
06/26/15	15F1354-20	Soil	Outside Room 124	0.26
06/26/15	15F1354-21	Soil	Outside Room 124	0.24
07/13/15	15G0552-01	Soil	Outside Room 119	0.40
07/13/15	15G0552-02	Soil	Outside Room 119	0.27
07/13/15	15G0552-03	Soil	Outside Room 119	0.72
07/13/15	15G0552-04	Soil	Outside Room 119	0.36
07/13/15	15G0552-05	Soil	Outside Room 120	ND

Table 3 – PCB Soil Samples (Cont'd)

Date	Sample ID	Substrate	Location	Results PPM
Window Removal				
07/13/15	15G0552-07	Soil	Outside Room 120	ND
07/13/15	15G0552-08	Soil	Outside Room 121	ND
07/13/15	15G0552-09	Soil	Outside Room 121	0.33
07/13/15	15G0552-10	Soil	Outside Room 121	0.16
07/13/15	15G0552-11	Soil	Outside Room 121	ND

1 µg/100 cm^2 is the recommended limit for surfaces within dermal contact set forth by the EPA and the CT DEEP

CONCLUSION

Base on the analytical results the samples obtained during the final clearance sampling document acceptable results following the window and substrate removal. The samples (air, chip and dust wipes) document acceptable levels of PCB concentrations within the school and therefore are in compliance with the EPA approved remediation plans.

Based on sample results, all portions of Phase 2 removal were remediated and documented to have acceptable air, chip and dust PCB levels.

Very truly yours,

Jason Pringle
Principal