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August 14, 2012
ECS Project # 03-216630.00

Ms. Kimberly Tisa, PCB Coordinator – (OSRR07-2)
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, Massachusetts, 02109-3912

Re: MODIFICATION - Risk Based Site Cleanup and Disposal Plan
Thomas Prince School
170 Sterling Road
Princeton, MA 01541

Dear Ms. Tisa:

On behalf of the Town of Princeton, enclosed please find a Modification to the Risk Based Site Cleanup and Disposal Plan required to address PCB impacted materials for the Thomas Prince School. The notification and certification information required by 40 CFR 761.61(c) and 40 CFR 761.61(a)(3) was included within the original document.

It is the desire of the Town of Princeton to initiate and complete the work prior to the start of school on August 28, 2012.

Thank you for your prompt attention to this matter. If you have any questions related to the information presented herein, please contact me.

Sincerely,

ENVIRONMENTAL COMPLIANCE SERVICES, INC.

Charles Klingler
Worcester Branch Manager

cc: Town of Princeton, John Lebeaux, Town Administrator
Wachusett Regional School District, Thomas Pandiscio, Supperintendent

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WHERE BUSINESS AND THE ENVIRONMENT CONVERGE

MODIFICATION OF:
RISK BASED SITE CLEANUP AND DISPOSAL PLAN

THOMAS PRINCE SCHOOL
TOWN OF PRINCETON, MA

Prepared for:

Town of Princeton
6 Town Hall Drive
Princeton, MA 01541

Project No. 03-216630
Document No.
August 14, 2012

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EXECUTIVE SUMMARY

The purpose of this report is to propose a modification of the Risk Based Site Cleanup and Disposal Plan previously submitted in February, 2012 for the Thomas Prince School in Princeton, Massachusetts (the Site). This modification proposes the removal and off-site disposal of polychlorinated biphenyls (PCB) - containing caulking materials associated with interior and exterior areas of the 100-Wing classrooms and exterior vertical joint caulking associated the 200-Wing classrooms. This report also presents information, in text and tables, on the delineation of PCB's in caulk and substrate materials in the 100-Wing classrooms at the Thomas Prince School in Princeton, Massachusetts to support the proposed remediation. It is also proposed to identify, remove, and replace PCB-containing capacitors associated with motors in unit ventilators in the 100-Wing classrooms. PCB's

1.0 INTRODUCTION

1.1 BACKGROUND

The Thomas Prince School is a public elementary school located in the Town of Princeton, Massachusetts. The school is operated by the Wachusett Regional School District (WRSD). The building and property are owned by the Town of Princeton. The school serves approximately 380 students in the grades of kindergarten through 8 and has a staff of approximately 60. The school is occupied by students from late August through June between the hours of 8 AM to 3 PM on weekdays. A locus map, showing the location of the school is presented as **Figure 1**. A plan showing the building and locations of rooms within the building is presented as **Figure 2**.

In April 2011, during preparation for a window replacement project being performed as part of Green Repair Program administered under the Massachusetts School Building authority (MSBA), analysis of samples of window caulking and glazing material collected from the school indicated the presence of asbestos and PCB's. Additional sampling, conducted in June 2011, confirmed the presence of PCB's in window caulking and indicated the presence of PCB's in joint caulking.

Use of PCB's in building materials is regulated under the Toxic Substances Control Act (TSCA, 40 CFR, Part 761). Use of PCB's in building materials is an unauthorized use under this act.

Multiple rounds of indoor air sampling and analysis for PCB's, as well as wipe sampling and caulk sampling, adjacent building materials sampling and associated analyses for PCB's, have been performed at the school. Much of this data has been presented in the report titled Risk Based Site Cleanup and Disposal Plan - Revision 1, submitted to the United States Environmental Protection Agency (USEPA) in February 2012. Based on conditional approvals by USEPA, PCB abatement activities including the removal and/or disposal of PCB fluorescent light ballasts and stained fixtures, *PCB Capacitors*, *PCB Bulk Product Waste* (window and joint caulking), and *PCB Remediation Waste* (building substrate materials and soil) were performed.

This modification to that plan requests approval for additional abatement activities to address the remaining identified *PCB Bulk Product Waste* (window and joint caulking), *PCB Remediation Waste* (building substrate materials) and potential *PCB Capacitors*. This modification specifically addresses interior and exterior window and joint caulking present in the 100-Wing of the school building and the remaining exterior joint caulking present in the 200-Wing of the building, This modification also proposes to identify, remove, and replace as necessary PCB-containing capacitors associated with motors in unit ventilators in the 100-Wing classrooms

This report also briefly presents and summarizes the results of the most recent round of indoor air sampling, conducted in March, 2012. The results of the March, 2012 indoor air sampling round provide no indication of the presence of concentrations of PCB's in indoor air at levels in excess of USEPA guidance levels for schools where students are six years of age or older (300 ng/m^3). The next indoor air sampling event is scheduled for November, 2012.

1.2 SCHOOL DESCRIPTION

The Thomas Prince School building is a slab-on-grade concrete block building with a footprint of approximately 76,000 square feet (Figure 2). The northeast portion of the existing building, comprising approximately 32,000 square feet, was constructed in 1962. Classrooms 100 through 110, 201 through 211, the boiler and utility rooms, the kitchen and cafeteria/auditorium, computer room, library/media center, administrative offices, and various smaller storage rooms, bathrooms, and other rooms are present in this portion of the building (Figure 2).

A large addition, comprising approximately 44,000 square feet, was constructed in 1991 west and south of the original structure. Classrooms 300 through 313, the 400-series classrooms, the gymnasium, and various smaller rooms are present in this portion of the building. Interior courtyards are present between the original structure and the 300-Wing classrooms.

In 1991, at the time the addition was constructed, the library/media center, computer laboratory (Room 111), Room 113, and Classroom 112 were renovated. Ceilings in the hallways and in the administrative office area and the exterior façade at the administrative office area and Room 112 were also renovated at this time.

1.3 SUMMARY OF ABATEMENT ACTIVITIES COMPLETED

A formal completion report has not yet been filed to detail the remedial actions that have been performed at the school. A report which details the completed activities will be submitted following completion of the activities proposed in this report. The following summarizes the remedial response/abatement activities that have been completed:

- **Light Fixture/Ballast Removal:** Fluorescent light fixtures were inspected. Fluorescent light ballasts not labeled as "Non-PCB," showing any indication of leakage or damage, or otherwise suspected of containing PCB's were removed and replaced. Metal light housings or plastic light covers which appeared to be impacted by releases of oil from ballasts were removed and replaced. A total of 57 ballasts, 74 light fixtures, and 20 plastic covers were removed and replaced.

- **Room Cleaning:** Classrooms and common area rooms, furniture, and equipment within these rooms were thoroughly cleaned to remove potential PCB-contaminated dust. Teaching materials were cleaned to the extent possible. Consumable materials were largely disposed of. Horizontal and certain vertical surfaces in the rooms were cleaned using HEPA vacuum and/or wet wipe methods, as applicable. Cleaning progressed from the ceiling to the floor and included accessible interior and exterior portions of the HVAC systems. Furniture and equipment in the rooms was moved to a staging area, cleaned using wet wipe methods, and moved to the newer part of the building for storage and reuse.

- **Rooms 106 and 209: Mitigation Pilot Test:** Rooms 106 and 209 were the subject of a pilot test to evaluate alternative mitigation protocols. The pilot test consisted of the removal of all interior and exterior window caulking, all exterior joint caulking around the pre-cast concrete window frame columns, and caulking around the exterior air intake

vents for the unit ventilators. Attempts were made to remove window glazing as part of this pilot test. Removal of window glazing proved impractical and was not completed at this time. Following removal of interior/exterior window caulking, horizontal surfaces within the pilot test rooms were cleaned using HEPA vacuum and wet wipe methods. Portions of the unit ventilators inside and outside the test rooms were cleaned at this time. Following removal of caulking and surface cleaning, substrate materials previously in contact with the removed caulking material, and the surrounding area within approximately one inch of the former caulking, were encapsulated with two coats of epoxy sealant. The efficiency of the mitigation measures applied as part of the pilot test were evaluated by subsequent wipe testing and indoor air testing.

- **Characterization and Excavation of Impacted Soil:** Evaluation of potential impacts to soil adjacent to the exterior windows of the 100-Wing and 200-Wing classrooms included the collection and analysis of 16 soil samples, representing soil between the surface and approximately 9 inches below grade in the vicinity of exterior caulked joints in the 100-Wing and 200-Wing classrooms. One of the 16 soil samples collected (representing material between the surface and 3 inches below grade at the base of the vertical exterior window frame joint at Room 106 contained concentrations of PCB's in excess of clean up criteria for high occupancy areas. Additional assessment, performed to further define PCB impacts to soil in this area, included the collection and analysis of 14 soil samples representing materials present between the surface and 3 inches below grade and between 6 and 9 inches below grade in the vicinity of the eastern exterior wall of the 100-Wing classrooms. Detectable concentrations of PCB's were present in 12 of the 14 samples collected: however, only one of the 14 samples collected contained concentrations of PCB's in excess of clean up criteria for high occupancy areas. Soils present in the immediate vicinity of the exterior wall of the building at the 100-Wing classrooms was excavated and disposed of off-site. Analysis of post-excavation soil samples indicate no residual concentrations of PCB's in excess of clean up criteria for high occupancy areas.

- **200 Wing Classroom PCB Abatement and Mitigation:**

    - **Window Removal and Caulking Removal – 200-Wing Classrooms, Cafeteria & Kitchen:** Twelve windows located in classrooms 201, 203, 205, 207, 209 and 211, the two banks of clerestory windows in the cafeteria, and the single bank of clerestory windows in the kitchen were removed. Interior and exterior caulking associated with these windows was removed using manual means until no visible indication of remaining residual caulk was present. Caulking associated with the exterior louvered vent covers associated with classrooms 201, 203, 205, 207, 209 and 211 was removed.

    - **Encapsulation: Interior, 200 Wing Classrooms:** Following removal of the windows, associated window caulking compound, and cleaning of the areas, masonry materials in contact with the former caulk and located adjacent to the former caulk were encapsulated with two coats of a high build, protective epoxy resin coating. The entire inner face of the concrete block window frame previously in contact with or adjacent to the metal window frame and window caulking, the entire center column of the interior concrete block structure between

the windows, and the interior concrete block walls to either side of the window frame and above window were encapsulated in this manner.

- **Encapsulation: Exterior 200 Wing Classrooms:** The entire surface of the exterior precast concrete columns on either side of each window unit and the concrete surfaces between the windows were coated with two layers of epoxy resin. The horizontal faces of the decorative pebbled concrete units above and below the windows, and the adjacent vertical faces of these units within four inches of the sealed horizontal faces were encapsulated with two coats of the epoxy resin.

- **Encapsulation: Exterior 200 Wing Classrooms Vertical Joint Caulking:** Vertical caulked joints located between the building structure and the pre-cast concrete window columns and between the center columns (between the windows) were encapsulated with two coats of epoxy resin. Prior to encapsulation of these joints, they were inspected for the presence of any loose or friable caulking material and any such material observed was removed. The vertical joint caulking along the building facing side of the precast concrete columns and the adjacent brick (to a distance of six inches from the caulking) was sealed with two coats of the epoxy coating. As part of this current modification, it is proposed to remove and properly dispose of this caulking.

- **Unit Ventilator Cleaning:** Unit ventilators in each of the 100-Wing and 200-Wing classrooms were cleaned as indicated in previous reports, i.e. interior accessible portions of the ventilators were cleaned with a HEPA vacuum, followed by a wet wipe. The motor and blower of each unit at the 200-Wing rooms were removed and cleaned and capacitors replaced as required due to PCB content (five of six were replaced).

- **Final Room Cleaning:** Following removal of the windows and window caulking, encapsulation of the substrate, replacement of the windows and cleaning of the unit ventilators and accessible ducting, each of the 200-Wing classrooms was thoroughly cleaned following established protocols (HEPA vacuum cleaning and wet wipe as applicable, for all horizontal and vertical surfaces, starting at the ceiling and working progressively downwards, concluding with the floor of the classroom). Confirmatory wipe sampling and analysis was performed following cleaning. Similar cleaning was completed in the 100-Wing rooms.

- **Cafeteria/Kitchen Roof Top Windows – Exterior:** – Upper clerestory windows present in the kitchen (one bank) and cafeteria/auditorium (two banks) were removed. Residual caulking material was removed from the masonry building structure until no visible indication of the former presence of caulk in the area was observed. The masonry building structure within and in the immediate vicinity of the former location of the caulking was encapsulated with two coats of epoxy encapsulate.

2.0 WINDOW CAULKING AND MASONRY CHARACTERIZATION

As part of assessment work required for extent delineation of the 100-Wing classrooms, sampling of caulking (PCB Bulk Product Waste) and masonry materials (adjacent materials, PCB Remediation Waste) was performed to:

- determine the PCB concentrations within the interior and exterior caulking compounds associated with exterior windows located in the older building classrooms; and,

- evaluate PCB concentrations within porous building materials, i.e. interior concrete block, exterior precast concrete window columns and exterior brick, located adjacent to the aforementioned caulking compounds.

On September 23 and October 5, 2011 and January 6, 2012, following the initial sampling performed by others, ECS collected samples of interior/exterior caulking and masonry products to further delineate the extent of PCB's in these materials[1]. Sample analytical results for PCB's from the caulking and masonry building materials are summarized in **Table 1.** The laboratory certificates are presented in **Appendix A**. Photos showing general locations from which the samples were collected are presented in **Figure 3.**

2.1 CHARACTERIZATION OF PCB BULK PRODUCT WASTE

Materials to be addressed under this proposed modification include caulking and PCB impacted building materials around windows, exterior caulked joints associated with the windows, and exterior air vents associated with classrooms 100, 102, 104, 108 and 110 and PCB containing caulking around exterior vertical building joints associated with rooms 201, 203, 205, 207 and 211.

[1] The samples were collected from interior and exterior locations of the older portion of the building in accordance with procedures as presented in EPA Region 1 Standard Operating Procedure for Sampling Porous Surfaces for PCBs, May 2011. The samples were extracted via EPA Method 3540C and analyzed for PCBs via EPA Method 8082 and the results were reported on a dry weight basis.

Analytical data representing the materials addressed in this modification are summarized in **Table 1** and discussed below.

PCB Bulk Product Waste (Caulk)			
Location	Interior / Exterior	Concentration (mg/Kg)	Description of Material
Room 104	Interior	70.8	Window caulk, two layers (white/gray)
		127	Window caulk, white surface layer
		200	Window caulk, gray sub layer
Room 108	Interior	91.6	Window caulk, two layers (white/gray)
		267	Window caulk, white surface layer
		106	Window caulk, gray sub layer
Room 110	Exterior	98.3	Window caulk one layer (white)
Room 201	Exterior	22,800	Middle joint between window columns, (tan)
Room 211	Exterior	29,800	Vertical joint between brick and concrete window frame.
Room 207	Exterior	2.64	Air intake vent (light gray) (removed)
Notes: Concentrations in milligrams per kilogram (mg/Kg)			

Interior window caulking, located between the metal window frame and the masonry products will be removed in rooms 100 through 110 (except room 106, where interior window caulking was previously removed as part of the initial pilot test). Interior window caulk in rooms 100 to 110 is represented by the results of analysis of six samples collected at three locations in room 104 and three locations in room 108. Window caulk in these rooms consists of two layers of material: a white surface layer and a gray sub layer. The white surface layer is suspected of being a more recent caulk installed when the windows were replaced circa 1991. The gray caulk is suspected as being residual caulk which was left in place following the removal of the original windows circa 1991. Both materials contain concentrations of PCB's. It is suspected that the presence of PCB's in the white caulk is the result of migration of PCB from the original gray caulk. Concentrations of PCB's in the six samples of these materials collected and submitted for quantitative analysis range from 70.8 mg/Kg to 267 mg/Kg.

Analysis of a sample of window caulking material present on the outside of the building at room 110 indicated the presence of 98.3 mg/Kg PCB's.

As part of the proposed abatement work as part of this modification, exterior vertical joint caulking, present between pre-cast concrete window columns and between the pre-cast concrete window columns and the building structure (masonry brick) will be removed and disposed off-site. This will occur in the following areas:

- Those vertical caulked joints associated with the exterior precast concrete window columns of classrooms 201, 203, 205, 207 and 211 (note that this type vertical joint caulking compound was previously removed from classroom 209 as part of a pilot test as

reported in the initial Plan). In the EPA approval of the February 2012 Risk Based Cleanup and Disposal Plan, temporary encapsulation of these areas was conditionally approved. However, the Town of Princeton has reconsidered this approach and based on their desire to remove the caulking and on current available funding to perform this task, the town has determined that removal and off-site disposal of this caulking material is prudent at this time; and,

- Those vertical caulked joints associated with the exterior precast concrete window columns of classrooms 100, 102, 108 and 110 (note that this type vertical joint caulking compound was previously removed from the exterior precast concrete window frame associated with classrooms 104 and 106 as part of the pilot test as presented in the initial Plan.

  As the exterior vertical joint caulking associated with the 100-wing classrooms appeared identical to that of the 200-wing classrooms and PCB were detected in the concrete and brick masonry adjacent to the 100-wing exterior caulking, it is assumed that the 100-wing exterior joint caulking contains PCB. Thus, vertical exterior joint caulking is represented by the results of analysis of two samples from exterior vertical joints detected in the vicinity of rooms 201 and 211, 22,800 and 29,800 mg/kg, respectively.

This proposed modification also addresses caulk and PCB-contaminated building materials in the vicinity of the air intake vents associated with rooms 100, 102, 104, 108 and 110 (note that caulking associated with the air intake vent for classroom 106 was removed as part of the previous pilot test). The exterior vent caulking is represented by analysis of one sample of caulking material collected from the air intake vent for room 207 which indicated the presence of 2.64 mg/Kg PCB's.

2.2 CHARACTERIZATION OF PCB REMEDIATION WASTE

Interior Concrete Block Rooms 100, 102, 104, 108 and 110

Interior concrete block adjacent to the window caulking in rooms 100, 102, 104, 108 and 110 are represented by the results of analysis of 10 bulk materials samples collected at 9 locations in classrooms 104 and 108. All samples were collected from the interior concrete block adjacent to the window opening and perpendicular to the plane of the window. Samples consist of material collected from between the surface and 1 inch below the surface at specified distances from the caulked joint. Analysis of material from between the surface and 0.5 inches depth at approximately 0.5 inches and 2 inches from the caulked joint indicated the presence of less than 1 mg/Kg PCB's (0.956 and 0.889 mg/Kg, respectively). Material from the same locations relative to the caulked joint at depths of between 0.5 and 1 inch below the surface contained 1.33 mg/Kg PCB's (at 0.5 inches from the joint) and 1.03 mg/Kg (at approximately 2 inches from the joint). Material from the 0-1 inch depth interval at approximately 4 inches from the caulked joint contained a lower concentration of PCB's, less than 1 ppm (i.e., 0232 mg/Kg).

Interior Concrete Block Samples (Porous Surfaces)					
			Distance from Source (inches)		
Location	Material	Depth (inches)	0.5	2	4
Room 104	Concrete Block	0 - 0.5	0.956	0.889	0.232
		0.5 – 1	1.33	1.03	
Room 108	Concrete Block	0 - 0.5	1.03/1.3	0.356	
		0.5 – 1	0.558	0.246	
Notes: Concentrations in milligrams per kilogram (mg/Kg)					

Exterior porous adjacent surfaces, i.e. pre-cast concrete columns and brick masonry, for classrooms 100, 102, 108 and 110 are represented by the results of analysis of 25 samples, including three duplicates. The results of these analyses are summarized in **Table 1.**

Exterior Brick Rooms 100, 102, 104, 108 and 110

Exterior brick facing adjacent to vertical caulked joints between the pre-cast concrete window columns and building structure was sampled at classrooms 100 and 108 (11 samples, 2 duplicates from 9 locations). Analysis of samples of material collected from between the surface of the brick facing and 0.5 inches below the surface and approximately 0.5 inches away from the caulked joint indicated the presence of between 15.9 mg/kg and 133 mg/Kg PCB's. Materials present between 0.5 and 1.0 inch below the brick surface at approximately 0.5 inches away from the caulked joint contained between 20.4 and 22.4 mg/Kg PCB's. At a distance of approximately 1 inch from the caulked joint, a concentration of 1.39 mg/Kg PCB's was detected in brick between the surface and 0.5 inches depth and 1.23 mg/kg PCB's was detected between 0.5 and 1 inch below the surface. At distances of 3 and 4 inches from the caulked joint, PCB concentrations ranging from 0.056 mg/Kg to 0.775 mg/kg were detected in materials between the surface and approximately 1 inch below the surface.

Exterior Adjacent Materials Samples								
			Distance from Source (inches)					
Location	Material	Depth (inches)	0.5	1	2	2.5	3	4
Room 100	Brick	0 - 0.5	15.9/16	1.39				0.056
		0.5 – 1	22.4	1.23				
Room 108	Brick	0 - 0.5	96.6/133				0.658	
		0.5 – 1	20.8				0.775	
Notes: Concentrations in milligrams per kilogram (mg/Kg)								

Exterior Pre-Cast Concrete Rooms 100, 102, 104, 108 and 110

Samples of the pre-cast concrete window columns were collected at classrooms 100 and 108. Eight samples were collected at eight locations. Analysis of samples of the concrete window column material collected approximately 0.5 inches away from the caulked joint at classroom 100 indicated the presence of 21.7 mg/Kg PCB's in material between the surface and 0.5 inches depth, and 0.986 mg/kg PCB's in material from between 0.5 and 1 inch below the surface. Analysis of material located approximately 3 inches from the caulked joint at this location indicated the presence of 0.281 mg/Kg PCB's at the surface (between 0 and 0.5 inches depth) and no detectable concentrations of PCB's between 0.5 and 1 inch below the surface.

Samples of the same pre-cast concrete window frame material from classroom 108, at approximately 1 inch from the caulked joint, indicated the presence of 1.61 mg/Kg PCB's in surface material and 0.644 mg/Kg PCB's in material from between 0.5 and 1 inch below the surface. Lower concentrations of PCB's (less than 1 ppm) were present at these depth intervals at a distance of approximately 2.5 inches from the caulked joint (0.45 and 0.096 mg/Kg, respectively).

Exterior Adjacent Materials Samples

			Distance from Source (inches)					
Location	Material	Depth (inches)	0.5	1	2	2.5	3	4
Room 100	Concrete Pillar	0 - 0.5	21.7				0.281	
		0.5 - 1	0.986				<0.0653	
Room 108	Concrete Pillar	0 - 0.5		1.61		0.45		
		0.5 - 1		0.644		0.096		

Notes: Concentrations in milligrams per kilogram (mg/Kg)

Exterior Decorative Concrete Sills and Headers Rooms 100, 102, 104, 108 and 110

The concrete window column structures include decorative pebbled concrete panels above and below the windows (**Figure 3**). The pebbled concrete parts which form sills beneath the window casing were sampled at classrooms 102 and 108 (seven samples, including one duplicate, at six locations). Samples were collected from the horizontal, sill-like portion, of these structures beneath the windows. No concentrations of PCB's in excess of 1 mg/Kg were detected in the seven samples of material collected from these structures. Concentrations of PCB's ranging from 0.16 mg/Kg to 0.086 mg/Kg were detected at three of the six locations sampled. No detectable concentrations of PCB's (at laboratory reporting limits of 0.0673 mg/kg or less) were present at three locations.

Exterior Adjacent Materials Samples								
			Distance from Source (inches)					
Location	Material	Depth (inches)	0.5	1	2	2.5	3	4
Room 102	Pebbled Concrete under Window	0 - 0.5		0.16	<0.0657			
		0.5 – 1		<0.0673	<0.0658			
Room 108	Pebbled Concrete Sill under Window	0 - 0.5		0.09/0.134				
		0.5 – 1		0.086				
Notes: Concentrations in milligrams per kilogram (mg/Kg)								

Additional samples of the pebbled concrete decorative material were collected outside of room 108. No detectable concentrations of PCB's were present in a sample of this material collected from between the surface and 0.5 inches at a location on the vertical face approximately 1 inch below the ledge or sill beneath the window (laboratory reporting limit 0.0645 mg/Kg). No detectable concentrations of PCB's were present in a sample of this material collected from the 0.5 to 1 inch depth interval approximately 4 inches below the window sill.

Exterior Brick Adjacent to Vents Rooms 205 and 207

Samples of brick facing adjacent to the metal vent louvers were collected outside of rooms 205 and 207. Samples were collected from between the surface and 1 inch below the surface of the brick facing at distances of 2 inches and 8 inches from caulking around the perimeter of metal louver. At room 205, samples collected from the 0- to 1-inch depth interval at distances of 2 and 8 inches from the vent in a direction toward the vertical caulked joint of the concrete column contained trace levels of PCB's (0.147 mg/Kg and 0.038 mg/Kg, respectively). Samples from the same depth interval in the brick facing outside of room 207, at 2 inches and 8 inches from the vent in a direction toward the adjacent concrete column, indicated the presence of 1.56 mg/Kg and 3.9 mg/Kg PCB's. Analysis of a sample of the brick facing from the 0- to 1-inch depth interval, 8 inches from the vent in a vertical direction opposite the window, indicated the presence of no detectable concentrations of PCB's (reporting limits of 0.19 mg/Kg and 0.2 mg/Kg, respectively).

Exterior Adjacent Materials Samples					
			Distance from Source (inches)		Notes
Location	Material	Depth (inches)	2.0	8	
Room 205	Brick	0 – 1	0.147	0.038	Located between vent and caulked joint of concrete window column
Room 207	Brick	0 – 1	1.56	3.9	Located between vent and caulked joint of concrete window column
		0 – 1		<0.19	Located on opposite side of vent, away from window
		0 – 1		<0.2	Located on opposite side of vent, vertical distance from top of vent
Notes: Concentrations in milligrams per kilogram (mg/Kg)					

Status of Administrative Area and Room 112

According to information provided by school personnel and other school department officials, and based on visual inspection and review of photo-documentation by ECS, the administrative offices (Rooms 10, 11, 12, 13, 14, and 15) and the adjacent classroom 112 underwent extensive renovation in 1991. At that time, extensive modifications to the exterior façade of the building in this area were made. The extensive modifications to the façade of the building resulted in the removal of all pre-existing windows and window frames. On this basis, neither PCB Bulk Product Waste nor PCB Remedial Waste is presumed to be present in this section of the building. As such, no remediation is proposed to occur in this area. Refer to Figure 7 for a picture of the existing façade.

3.0 MODIFICATION TO ORIGINAL SITE CLEANUP AND RISK BASED DISPOSAL PLAN (40 CFR 761.61(C)

The purpose of this Risk Based Plan **Modification** is to further reduce the potential for exposure to PCB-containing/contaminated building materials in the older section of the Thomas Prince School by:

1) complete removal of PCB-containing interior/exterior window caulking associated with classrooms 100, 102, 104, 108 and 110 (window caulking in Room 106 was previously removed as part of the pilot test);
2) complete removal of exterior vertical joint caulking associated with pre-cast concrete columns for classrooms 100, 102, 104, 108, 110, 201, 203, 205, 207 & 211 (caulking in the exterior vertical building joints associated with classrooms 104, 106, and 209 has been previously removed);
3) complete removal of exterior caulking associated with the air vent intakes for classrooms, 100, 102, 104, 108 and 110 (caulking around the vents for Room 104 and for all of the 200-wing classrooms has been previously removed);
4) isolation by double layer epoxy coating of PCB-contaminated adjacent masonry porous materials following caulking removal associated with the 100-wing classrooms (interior/exterior of rooms 100, 102, 104, 108 and 110);
5) isolation by double layer epoxy coating of PCB-contaminated adjacent masonry porous materials following removal of caulking from the exterior vertical caulked joints at the 200-wing classrooms (rooms 201, 203, 205, 207 and 211);
6) Inspection of the capacitors on the motors associated with the fans for the unit ventilators in classrooms 100, 102, 104, 106, 108, & 110 to determine if they contain PCB. If found to contain PCB or if it cannot be determined, the capacitors will be changed out with new, non-PCB containing capacitors

3.1 NATURE OF CONTAMINATION

PCB *Bulk Product Waste* and *PCB Remediation Waste* to be addressed as part of this cleanup and disposal plan modification is associated with the following:

- window caulking and associated adjacent interior/exterior masonry porous materials, exterior joint caulking and associated adjacent masonry porous materials associated with classrooms 100, 102, 104, 106, 108, and 110; and,

- exterior vertical joint caulking and associated adjacent masonry porous materials associated with classrooms 201, 203, 205, 207, 209 and 211.

3.2 SUMMARY OF PROCEDURES USED TO SAMPLE CONTAMINATED AND ADJACENT AREAS

Methodologies used to sample and analyze building materials and environmental media at the locations in question have been described in detail in previous submittals.

3.3 LOCATION AND EXTENT OF THE IDENTIFIED CONTAMINATED AREA ASSOCIATED WITH THIS MODIFICATION

The areas found to be contaminated with PCB's that are applicable to this modification include:

1) interior/exterior window caulking, exterior vertical joint and air vent caulking and the interior and exterior adjacent masonry porous surfaces associated with classrooms 100, 102, 104, 106, 108, 110; and,

2) the exterior vertical joint caulking and adjacent masonry porous surfaces associated with classrooms 201, 203, 205, 207, 209 and 211.

The extent of PCB's in the adjacent masonry porous surfaces have been defined to <1 ppm within several inches of the source material caulking in all interior/exterior areas associated with the 100-wing and 200-wing classrooms. The extent delineation is further described in section 2.0 of this report.

In summary, the delineation distances subject to this plan modification include:

100-Wing Rooms:

- Interior Porous Surfaces – limited to the face(s) of the vertical concrete block that are adjacent to and perpendicular to the plane of the window, including those areas currently beneath the metal window frames;
- Exterior Porous Surfaces - limited to a distance of 3-inches from the caulked joints on the pre-cast concrete vertical columns, to a distance of 4-inches from the caulked joints on the brick face adjacent to the pre-cast concrete columns, and to a distance of 8-inches from the caulked joints at the air intake vents.

200-Wing Rooms:

- Exterior Porous Surfaces – Limited to the masonry surfaces that will be exposed following removal of caulking associated with the vertical joints. Note that the surfaces located adjacent to these joints were previously coated with epoxy under the previously approved Risk Based Plan.

Table 1 presents a summary of the data and the laboratory certificates are provided in **Appendix A**. Refer to the **Photos** for visual depictions of sample collection locations and PCB concentrations.

3.4 CLEANUP AND DISPOSAL PLAN

This plan modification follows the original Risk Based Plan (February, 2012) with respect to procedures for addressing PCB-containing caulk (i.e. *PCB Bulk Product Waste*) and adjacent PCB-contaminated masonry building materials (i.e. *PCB Remediation Waste*).

Window Removal and Window Caulking Removal – 100-Wing Classrooms

Five windows and associated metal frames, one located in each of classrooms 100, 102, 104, 108, and 110, will be removed. Associated window caulk will be removed from each window frame and from the adjacent masonry porous material as described in the contractor work plan (**Appendix B**) until no visible caulk is present. The surfaces of the window frames, building structure porous surfaces previously in contact with the caulking material, and the immediately adjacent areas, will be cleaned with a HEPA vacuum and chemically cleaned with organic solvent. Prior to reinstallation of the windows, one wipe sample per window frame area previously in contact with caulking material will be collected and submitted for extraction by EPA Method 3540C and analysis of PCB's via USEPA Method 8082. If an analytical result for the wipe sampling of a window frame exceeds 1 ug/100 cm^2, the window frame will be re-cleaned and re-sampled and not re-installed until an analytical result of < 1 ug/100 cm^2 is achieved.

Exterior Vertical Joint Caulking Removal – 100-Wing and 200 Wing Classrooms

Vertical joints between the concrete window columns that separate the windows and the vertical joints at the outer edges of the pre-cast concrete columns adjacent to the brick façade of the building contain caulking contaminated with PCB's. Caulking present in these joints will be removed by manual means until no visible caulking material remains. The cleared joints will then be cleaned using a HEPA vacuum followed by organic solvent wash.

Exterior Air Vent Caulking Removal – 100-Wing Classrooms

- Exterior caulking around the air intake vents for unit ventilators for Rooms 100, 102, 104, 108, and 110 will be removed (caulking around the vents for Room 106 has been previously removed). The building surface in the vicinity of the caulk removal area will cleaned with a HEPA vacuum, followed by a wash with organic solvent. The building surface materials around the vent will be encapsulated with two layers of an epoxy coating to a minimum distance of eight inches from the edge of the vent).

Masonry Encapsulation – Adjacent Porous Surfaces – 100 Wing Classrooms

- Interior Porous Surfaces: Following removal of the windows and associated window caulking and surface cleaning, the masonry materials located adjacent to the window and window caulking will be encapsulated with two coats of a high build, protective epoxy

resin coating[2]. At each classroom location, the concrete block that was previously in contact with the metal window frame and window caulking, and the entire surface of the adjacent concrete block that is perpendicular to the window opening will receive two coats of the epoxy resin prior to re-installation of the window.

- Exterior Porous Surfaces: The exterior adjacent building materials (the pre-cast concrete columns on either side of a window, and the masonry brick present on the outer sides of the outer-most concrete columns) will be coated with two layers of an epoxy resin. Epoxy encapsulation will be extended to a minimum of 3 inches from the joint onto the surface of the adjacent pre-cast concrete column and a minimum of 4 inches from the joint onto the adjacent brick facing surface. The surface of the pre-cast concrete column in between the windows will be fully coated with epoxy.

Masonry Encapsulation – Exterior Adjacent Porous Surfaces – 200 Wing Classrooms

- Exterior Porous Surfaces: The exterior adjacent building materials at this location were previously coated with two layers of epoxy resin. However, due to the proposed removal of the caulking from these exterior vertical joints, the previously applied epoxy at the locations of these vertical joints will be disturbed. Thus, following removal of the caulking, the exposed joints and any disturbed epoxy coating will be re-coated with two layers of an epoxy resin.

Waste Disposal – All *PCB Bulk Product Waste* and other removed PCB containing materials will be properly containerized, temporarily stored, labeled and disposed of by the contractor at an approved facility per the requirements set forth in 40 CFR 761.40, 761.62 and other applicable sections of the TSCA regulations. It is assumed that all waste contains >50 ppm PCB. The waste will be stored within the appropriate sized and quantity of covered roll-off containers. The containers will be staged on the exterior of the school in an area set away from children's activities. Protective barriers will be placed around the roll-off containers to restrict access by children.

Post Abatement Sampling – Post Abatement wipe samples will be collected from the interior and exterior newly epoxy coated surfaces of the 100-Wing classrooms (6 total) and from the exterior of the newly coated surfaces of the 200-Wing classrooms (3). The results will be presented in the completion report.

[2] Sikagard®-62 or equivalent.

4.0 CONTINUED MONITORING, MAINTENANCE AND IMPLEMENTATION PLAN (MMIP)

MMIP activities associated with this modification will be combined with the previously proposed MMIP. The only additions to the MMIP will be the additional encapsulate monitoring and wipe sampling required for the 100-Wing rooms as the previous plan contains requirements for indoor air sampling. The two wipe samples required to evaluate the previously approved temporary encapsulation of caulk at the exterior of the 200-Wing classrooms will be applied to the 100-Wing classrooms. Thus, the proposed MMIP addition is to include:

- Three wipe samples from the epoxy coating on the exterior masonry products are to be collected on an annual basis;
- Three wipe samples from the epoxy coating on the interior masonry products from the 100-wing classrooms are to be collected on an annual basis, one from each classroom;

TABLES

Town of Princeton
Thomas Prince School
170 Sterling Road
Princeton, Massachusetts

Table 2
Building Materials Analytical Results Summary - PCBs

EPA Methods 3540C 8082
Caulk and Masonry

Sample ID	Sample Date	Distance from Source (inches)	Depth below Surface (inches)	Concentration (mg/Kg) (Aroclor 1254)	Sample Description
Building Materials Samples					
PCB-0125	9/23/2011			**98.3**	Room 110; Exterior window caulk; 1 layer of caulk (white)
PCB-0126	9/23/2011			**22,800**	Room 201: Exterior caulk; 1 layer (tan): middle building seam between window units
Vent Caulk PCB-09	2/14/2012			**2.64**	Room 207, Exterior caulk around air intake vent for unit ventilator (light gray)
PCB-0128	9/23/2011			**29,800**	Room 211: Exterior brick to Concrete seam caulk; 1 layer (tan)
PCB-0123	9/23/2011			**70.8**	Room 104: Interior window caulk; 2 layers (white/gray)
PCB-107	2/29/2012			**127**	Room 104: Interior window caulk; surface layer (white)
PCB-112	2/29/2012			**200**	Room 104: Interior window caulk; sub layer (gray)
PCB-0124	9/23/2011			**91.6**	Room 108: Interior window caulk; 2 layers (white/gray)
PCB-108	2/29/2012			**267**	Room 108: Interior window caulk; surface layer (white)
PCB-113	2/29/2012			**106**	Room 108: Interior window caulk; sub layer (gray)
Room 100					
PCB-21	9/23/2011	0.5	0-0.5	**15.9**	Room 100: Exterior Brick
PCB-DUP5	9/23/2011	0.5	0-0.5	**16.0**	Room 100: Exterior - Duplicate of PCB-21
PCB-22	9/23/2011	0.5	0.5-1	**22.4**	Room 100: Exterior Brick
PCB-23	9/23/2011	2	0-0.5	**1.39**	Room 100: Exterior Brick
PCB-24	9/23/2011	2**	0.5-1	**1.23**	Room 100: Exterior Brick
PCB-109	2/29/2012	4	0-1	0.056	Room 100: Exterior Brick
PCB-25	9/23/2011	0.5	0-0.5	**21.7**	Room 100; Exterior Concrete Pillar
PCB-26	9/23/2011	0.5	0.5-1	0.986	Room 100; Exterior Concrete Pillar
PCB-27	9/23/2011	3	0-0.5	0.281	Room 100; Exterior Concrete Pillar
PCB-28	9/23/2011	3	0-0.5	<0.0653	Room 100; Exterior Concrete Pillar

Notes; Conc. in milligrams per kilogram (mg/Kg).
TP=Thomas Prince, FF=First Floor, EWC=Exterior Window Caulk, IWC= Interior Window Caulk, CC=Concrete, BC=Brick
* samples by Woodard and Curran
** Requires further delineation

Town of Princeton
Thomas Prince School
170 Sterling Road
Princeton, Massachusetts

Table 2
Building Materials Analytical Results Summary - PCBs

EPA Methods 3540C 8082
Caulk and Masonry

Sample ID	Sample Date	Distance from Source (inches)	Depth below Surface (inches)	Concentration (mg/Kg) (Aroclor 1254)	Sample Description
Room 102					
PCB-29	9/23/2011	1	0-0.5	0.16	Room 102; Exterior Pebbled Concrete Horizonatl Sill Section under Window
PCB-30	9/23/2011	1	0.5-1	<0.0673	Room 102; Exterior Pebbled Concrete Horizontal Sill Section under Window
PCB-31	9/23/2011	2	0-0.5	<0.0657	Room 102; Exterior Pebbled Concrete Vertical Section under Window
PCB-32	9/23/2011	2	0.5-1	<0.0658	Room 102; Exterior Pebbled Concrete Vertical Section under Window
Room 104					
PCB-01	9/23/2011	0.5	0-0.5	0.956	Room 104; Interior Block wall, adjacent to source, perpendicular to window
PCB-02	9/23/2011	0.5	0.5-1	**1.33**	Room 104; Interior Block wall, adjacent to source, perpendicular to window
PCB-03	9/23/2011	2	0-0.5	0.889	Room 104; Interior Block wall, adjacent to source, perpendicular to window
PCB-04	9/23/2011	2	0.5-1	**1.03**	Room 104; Interior Block wall, adjacent to source, perpendicular to window
PCB-111	2/29/2012	4	0-1	0.232	Room 104; Interior Block wall, adjacent to source, perpendicular to window
Room 108					
PCB-09	9/23/2011	0.5	0-0.5	**96.6**	Room 108; Exterior Brick
PCB-DUP2	9/23/2011	0.5	0-0.5	**133.0**	Room 108; Exterior Brick, Duplicate of PCB-09
PCB-10	9/23/2011	0.5	0.5-1	**20.8**	Room 108; Exterior Brick
PCB-11	9/23/2011	3	0-0.5	0.658	Room 108; Exterior Brick
PCB-12	9/23/2011	3	0.5-1	0.775	Room 108; Exterior Brick
PCB-13	9/23/2011	1	0-0.5	**1.61**	Room 108; Exterior Concrete Pillar
PCB-14	9/23/2011	1	0.5-1	0.644	Room 108; Exterior Concrete Pillar
PCB-15	9/23/2011	2.5	0-0.5	0.45	Room 108; Exterior Concrete Pillar
PCB-16	9/23/2011	2.5	0.5-1	0.096	Room 108; Exterior Concrete Pillar
PCB-17	9/23/2011	1	0-0.5	0.09	Room 108; Exterior Pebbled Concrete Horizontal Sill Section under Window
PCB-DUP4	9/23/2011	1	0-0.5	0.134	Room 108; Exterior Pebbled Concrete Horizontal Sill Section under Window, Duplicate of PCB-17
PCB-18	9/23/2011	1	0.5-1	0.086	Room 108; Exterior Pebbled Concrete Horizontal Sill Section under Window
PCB-19	9/23/2011	1"down from ledge	0-0.5	<0.0645	Room 108; Exterior Pebbled Concrete Vertical Section under Window
PCB-20	9/23/2011	26" up from ground	0.5-1	<0.0644	Room 108; Exterior Pebbled Concrete Vertical Section under Window
PCB-05	9/23/2011	0.5	0-0.5	**1.02**	Room 108; Interior Block wall, adjacent to source, perpendicular to window
PCB-DUP1	9/23/2011	0.5	0-0.5	**1.3**	Room 108; Interior Block wall, Duplicate of PCB-05
PCB-06	9/23/2011	0.5	0.5-1	0.558	Room 108; Interior Block wall, adjacent to source, perpendicular to window
PCB-07	9/23/2011	2	0-0.5	0.356	Room 108; Interior Block wall, adjacent to source, perpendicular to window
PCB-08	9/23/2011	2	0.5-1	0.246	Room 108; Interior Block wall, adjacent to source, perpendicular to window

Notes; Conc. in milligrams per kilogram (mg/Kg).
TP=Thomas Prince, FF=First Floor, EWC=Exterior Window Caulk, IWC= Interior Window Caulk, CC=Concrete, BC=Brick
* samples by Woodard and Curran
** Requires further delineation

Town of Princeton
Thomas Prince School
170 Sterling Road
Princeton, Massachusetts

Table 2
Building Materials Analytical Results Summary - PCBs

EPA Methods 3540C 8082
Caulk and Masonry

Sample ID	Sample Date	Distance from Source (inches)	Depth below Surface (inches)	Concentration (mg/Kg) (Aroclor 1254)	Sample Description
Room 205					
21412-PCB-07	2/14/2012	2	0-1	0.147	Room 205: Exterior brick, 2" from side of vent towards window
21412-PCB-08	2/14/2012	8	0-1	0.038	Room 205: Exterior brick, 8" from side of vent towards window
21412-PCB-01	2/14/2012	6	0-1	0.701	Room 205: Interior CMU Block, 6" from corner on block surface parallel to window
Room 207					
21412-PCB-05	2/14/2012	2	0-1	**1.56**	Room 207: Exterior brick, 2" from side of vent towards window
21412-PCB-06	2/14/2012	8	0-1	**3.90**	Room 207: Exterior brick, 8" from side of vent towards window
PCB-101	2/29/2012	8	0-1	<0.19	Room 207: Exterior brick, 8" from side of vent opposite window
PCB-103	2/29/2012	8	0-1	<0.2	Room 207: Exterior brick, 8" from top of vent

Material removed

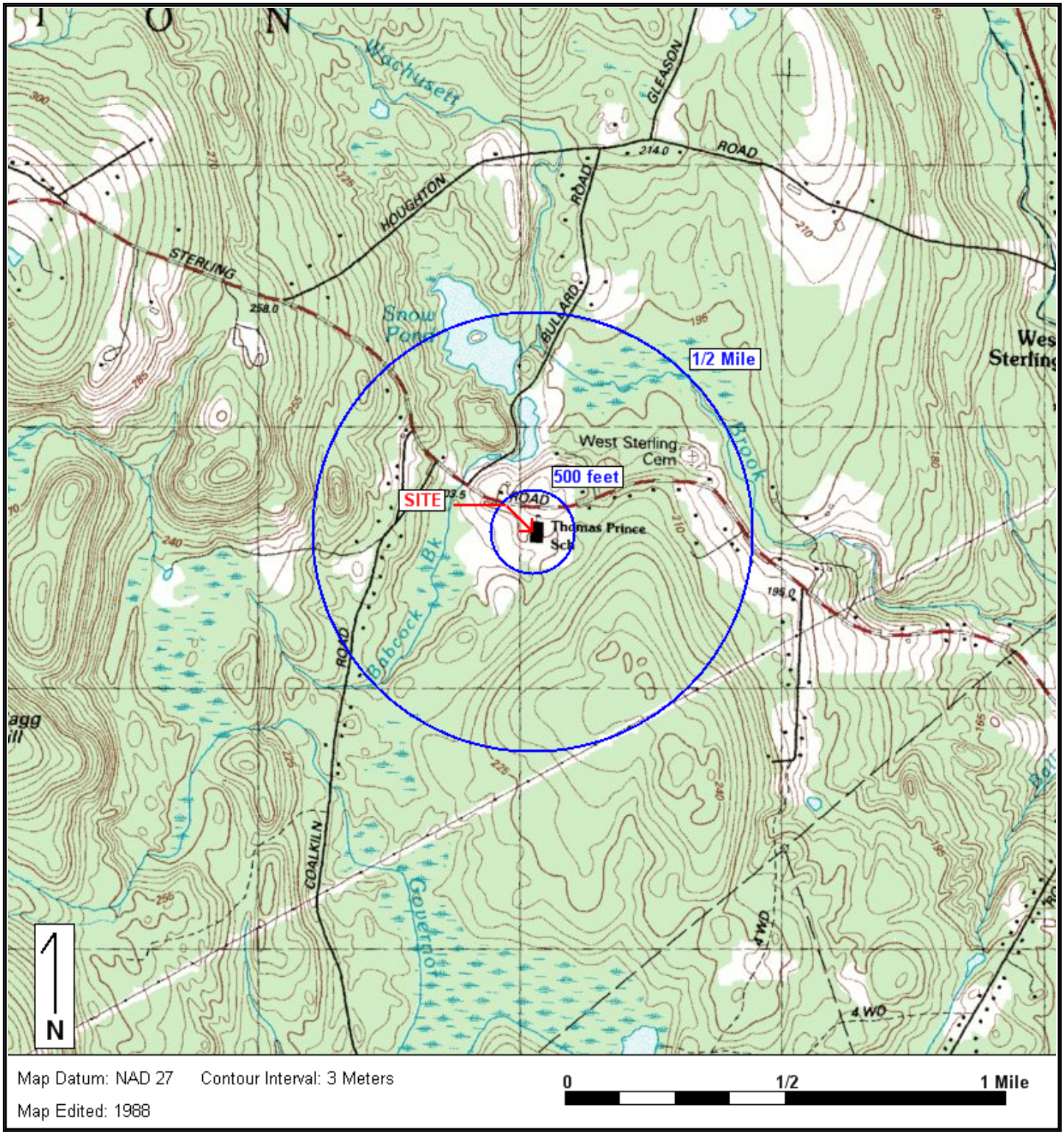
Notes; Conc. in milligrams per kilogram (mg/Kg).
TP=Thomas Prince, FF=First Floor, EWC=Exterior Window Caulk, IWC= Interior Window Caulk, CC=Concrete, BC=Brick
* samples by Woodard and Curran
** Requires further delineation

FIGURES

Environmental Compliance Services, Inc.
997 Millbury Street, Unit G
Worcester, MA 01607
Phone 508.756.0151 Fax 508.757.7063
www.ecsconsult.com

Thomas Prince School
170 Sterling Street
Princeton, MA

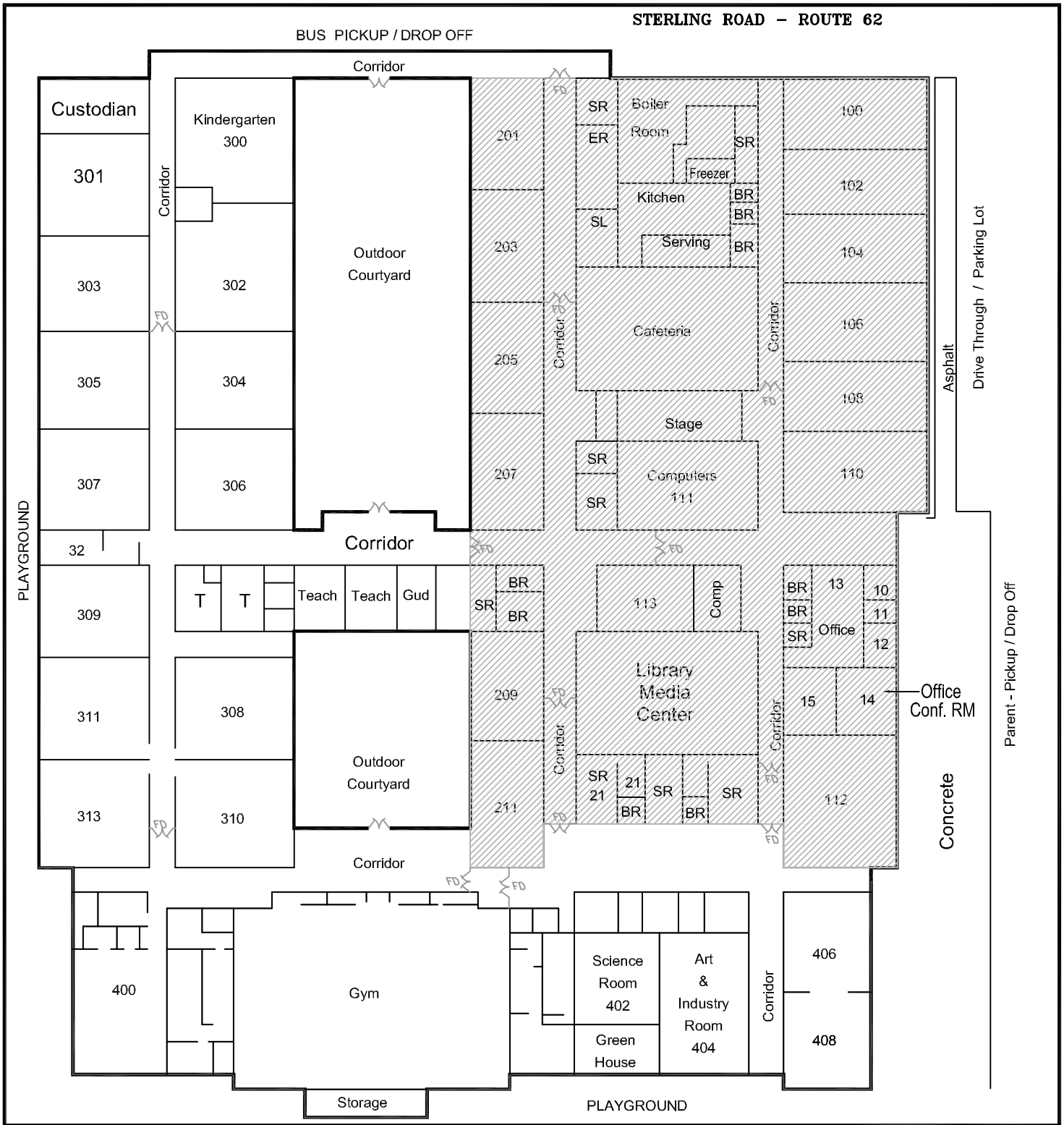
Figure 1: SITE LOCUS



Base Map: U.S. Geological Survey; Quadrangle Location: Sterling, MA

Lat/Lon: 42° 26' 33" NORTH, 71° 50' 38" WEST - UTM Coordinates: 19 266094.53 EAST / 4702820.5 NORTH

Generated By: Rick Starodoj



Legend

BR - Bathroom
SR - Storage Room
ER - Electrical Room
SL - Staff Lounge
FD - Fire Door

Building Constructed 1962
Un-hatched sections were constructed in 1991

997 Milbury Street– Unit G * Worcester, MA 01607
Phone: 508-756-0151 Fax: 508-757-7063
ecsconsult.com

PROJECT:
Thomas Prince School
170 Sterling Road – Route 62
Princeton, Massachusetts

TITLE:
Room ID Plan

COMPUTER CADFILE : 216630e.dwg

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RAS	SPF/CK	SPF/CK	CK
SCALE:	**DATE:**	**JOB NO.:**	**FIGURE NO.:**
NTS	12/14/11	216630	2

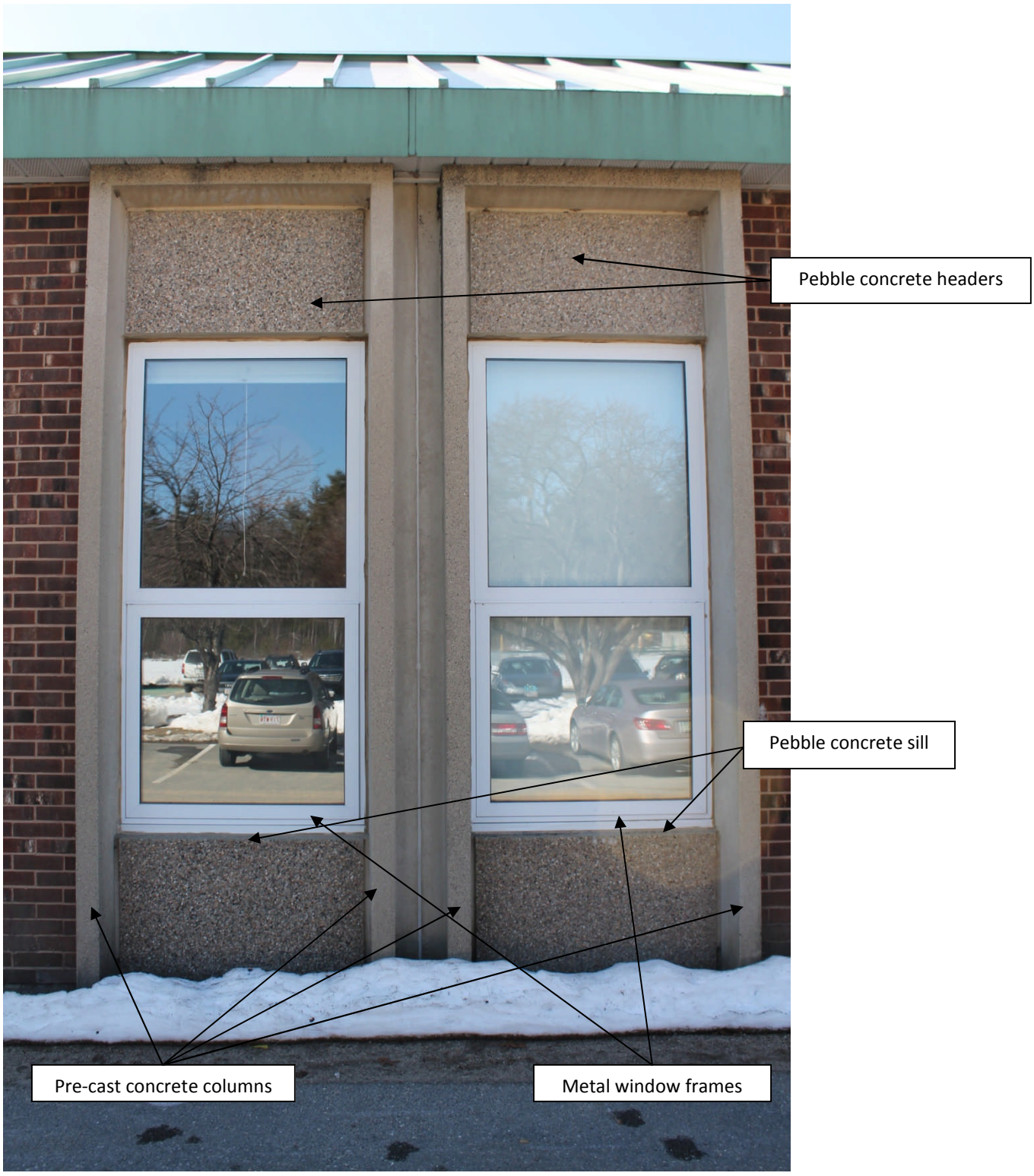


Figure 3: Typical Windows: 100-Wing Classrooms, Exterior View: Structural Elements.

Note: One window per classroom, i.e. this represents two classrooms

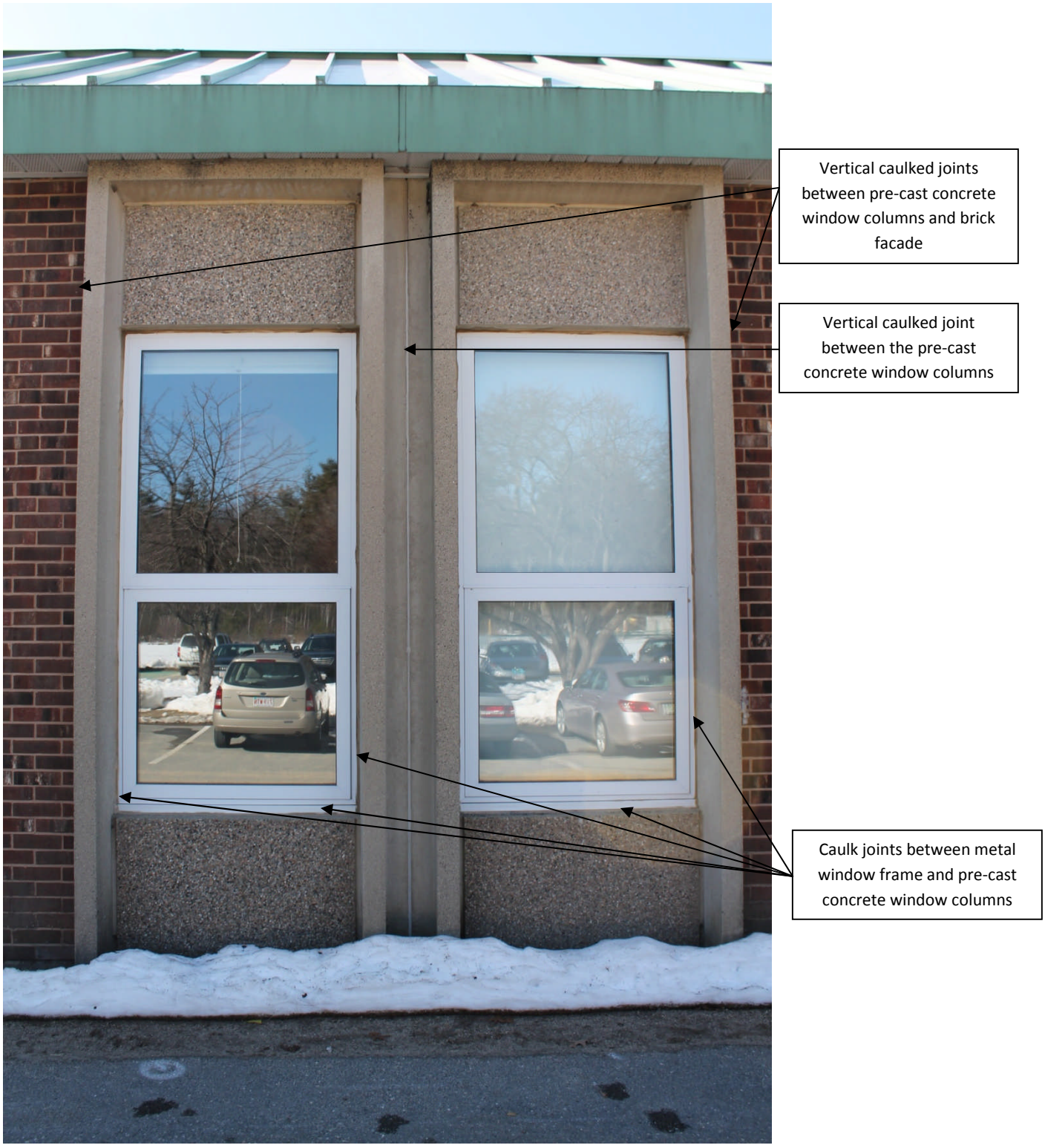


Figure 4: Typical Window: 100-Wing Classrooms, Exterior View: Caulk Locations

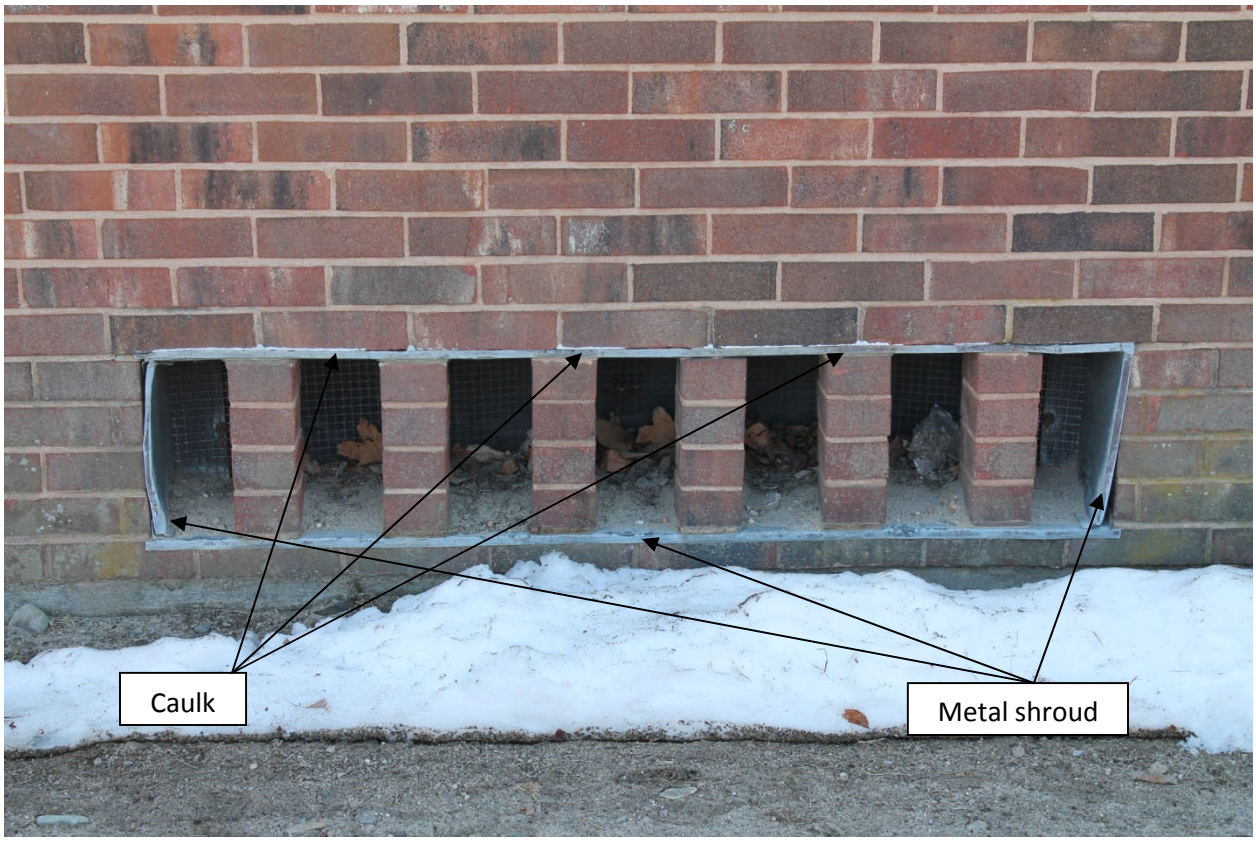


Figure 5: Typical Exterior Vent Structure: 100 Wing Classrooms.

Figure 6: Typical Window 200-Wing Room: Exterior View: Post Window Caulk and Louver Vent Caulk Removal – Shows Epoxy Coating. Vertical caulked joints to be removed.

Figure 7: Main Office Area and Classroom 112 Exterior façade – Remodeled Circa 1991. Windows and window framing totally removed and replaced.

APPENDIX A

Report Date:
28-Feb-12 13:05

☐ Final Report
☐ Re-Issued Report
☑ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
722 Route 3A - Suite 3
Bow, NH 03304
Attn: Ryan Rouillard

Project: Thomas Prince School - Princeton, MA
Project #: 03-216630.00 T.5

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB43858-01	Room 205-Int.Wall (6") 21412-PCB-01	CMU Block	14-Feb-12 13:15	14-Feb-12 17:50
SB43858-02	Room 207-Int.Wall (6") 21412-PCB-02	CMU Block	14-Feb-12 13:45	14-Feb-12 17:50
SB43858-03	Room 203-Int.Wall (8") 21412-PCB-03	CMU Block	14-Feb-12 14:10	14-Feb-12 17:50
SB43858-04	Room 201-Int.Wall (8") 21412-PCB-04	CMU Block	14-Feb-12 14:30	14-Feb-12 17:50
SB43858-05	Exterior Vent adj to (2") Rm 207 21412-PCB-05	Brick	14-Feb-12 14:45	14-Feb-12 17:50
SB43858-06	Exterior Vent adj to Rm 207 (8") 21412-PCB-06	Brick	14-Feb-12 15:00	14-Feb-12 17:50
SB43858-07	Exterior Vent adj to Rm 205 (2") 21412-PCB-07	Brick	14-Feb-12 15:10	14-Feb-12 17:50
SB43858-08	Exterior Vent adj to Rm 205 (8") 21412-PCB-08	Brick	14-Feb-12 15:20	14-Feb-12 17:50
SB43858-09	Ext Vent Caulk (light gray) Adj to Rm 207-PCB 09	Caulk	14-Feb-12 15:30	14-Feb-12 17:50
SB43858-10	Ext Roof Kitchen Bottom Window Frame Blk Caulk-PCB10	Caulk	14-Feb-12 15:40	14-Feb-12 17:50
SB43858-11	Ext Roof Kitchen Top Window Frame Wht Caulk-PCB11	Caulk	14-Feb-12 15:50	14-Feb-12 17:50
SB43858-12	Ext Roof Kitchen Top (2") Window Frame Wood Nailer-PCB12	Wood	14-Feb-12 15:55	14-Feb-12 17:50

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes.
Please note that this report contains 18 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

MassDEP Analytical Protocol Certification Form

Laboratory Name: Spectrum Analytical, Inc.	**Project #:** 03-216630.00 T.5
Project Location: Thomas Prince School - Princeton, MA	**RTN:**
This form provides certifications for the following data set:	SB43858-01 through SB43858-12

Matrices: Brick
Caulk
CMU Block
Wood

CAM Protocol

8260 VOC CAM II A	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A	6020 Metals CAM III D	✓ 8082 PCB CAM V A	9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	✓ Yes No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?	✓ Yes No

Responses to questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	✓ Yes No

<u>Data User Note:</u> Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ✓ No

All negative responses are addressed in a case narrative on the cover page of this report.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Nicole Leja
Laboratory Director
Date: 2/28/2012

CASE NARRATIVE:

The samples were received 2.4 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

Sample Acceptance Policy Case Narrative:

Spectrum Analytical Sample Acceptance Policy, in conjunction with NELAC Sample Acceptance Policy (5.5.8.3.2.), require that all samples submitted must have labels attached to each container identifying the sample ID, site location, and/or project number and the collection date written in indelible ink. This is necessary in order to ensure identifiable samples and to maintain sample integrity. Containers in this work order were received without sample labels attached to the sample jars (bottles). Please insure that all sample containers are properly labeled with a unique sample ID, site location, and/or project number and collection date.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8082A

Samples:

SB43858-12 *Ext Roof Kitchen Top (2") Window Frame Wood Nailer-PCB12*

The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).

Aroclor-1254 [2C]

SB43858-12RE1 *Ext Roof Kitchen Top (2") Window Frame Wood Nailer-PCB12*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

Decachlorobiphenyl (Sr) [2C]

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Room 205-Int.Wall (6") 21412-PCB-01 SB43858-01	03-216630.00 T.5	CMU Block	14-Feb-12 13:15	14-Feb-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**0.701**		mg/kg dry	0.0525	0.0385	1	SW846 8082A	14-Feb-12	15-Feb-12	BLM	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*49*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*55*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*50*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*112*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.6**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Room 207-Int.Wall (6'') 21412-PCB-02 SB43858-02	03-216630.00 T.5	CMU Block	14-Feb-12 13:45	14-Feb-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**0.568**		mg/kg dry	0.0667	0.0489	1	SW846 8082A	14-Feb-12	15-Feb-12	BLM	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*43*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*63*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*70*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*122*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.4**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Room 203-Int.Wall (8'') 21412-PCB-03 SB43858-03	03-216630.00 T.5	CMU Block	14-Feb-12 14:10	14-Feb-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**0.371**		mg/kg dry	0.0618	0.0453	1	SW846 8082A	14-Feb-12	15-Feb-12	BLM	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*37*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*42*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*50*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*44*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.5**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Room 201-Int.Wall (8'') 21412-PCB-04 SB43858-04	03-216630.00 T.5	CMU Block	14-Feb-12 14:30	14-Feb-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**0.549**		mg/kg dry	0.0504	0.0369	1	SW846 8082A	14-Feb-12	15-Feb-12	BLM	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*33*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*46*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*54*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*57*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.4**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Exterior Vent adj to (2'') Rm 207 21412-PCB-05 SB43858-05	03-216630.00 T.5	Brick	14-Feb-12 14:45	14-Feb-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**1.56**		mg/kg dry	0.0651	0.0276	1	SW846 8082A	14-Feb-12	15-Feb-12	BLM	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*82*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*73*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*83*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*75*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.9**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Exterior Vent adj to Rm 207 (8'') 21412-PCB-06 SB43858-06	03-216630.00 T.5	Brick	14-Feb-12 15:00	14-Feb-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**3.90**		mg/kg dry	0.0653	0.0479	1	SW846 8082A	14-Feb-12	15-Feb-12	BLM	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*64*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*64*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*76*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*66*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.8**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Exterior Vent adj to Rm 205 (2'') 21412-PCB-07 SB43858-07	03-216630.00 T.5	Brick	14-Feb-12 15:10	14-Feb-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**0.147**		mg/kg dry	0.0559	0.0237	1	SW846 8082A	14-Feb-12	15-Feb-12	BLM	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*76*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*73*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*92*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*80*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.9**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Exterior Vent adj to Rm 205 (8'') 21412-PCB-08 SB43858-08	03-216630.00 T.5	Brick	14-Feb-12 15:20	14-Feb-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**0.0384**		mg/kg dry	0.0657	0.0279	1	SW846 8082A	14-Feb-12	15-Feb-12	BLM	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*67*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*66*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*80*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*73*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**100**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Ext Vent Caulk (light gray) Adj to Rm 207-PCB 09 SB43858-09	03-216630.00 T.5	Caulk	14-Feb-12 15:30	14-Feb-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**2.64**		mg/kg dry	0.168	0.0711	1	SW846 8082A	14-Feb-12	15-Feb-12	BLM	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*85*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*78*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*101*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*88*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**98.4**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Ext Roof Kitchen Bottom Window Frame Blk Caulk-P(	03-216630.00 T.5	Caulk	14-Feb-12 15:40	14-Feb-12
SB43858-10				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**18.9**		mg/kg dry	0.152	0.112	1	SW846 8082A	14-Feb-12	16-Feb-12	IMR	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*130*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*102*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*73*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*80*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**97.9**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Ext Roof Kitchen Top Window Frame Wht Caulk-PCB SB43858-11	03-216630.00 T.5	Caulk	14-Feb-12 15:50	14-Feb-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**6.19**		mg/kg dry	0.180	0.132	1	SW846 8082A	14-Feb-12	16-Feb-12	IMR	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*47*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*99*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*110*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*108*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.8**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Ext Roof Kitchen Top (2'') Window Frame Wood Naile SB43858-12	03-216630.00 T.5	Wood	14-Feb-12 15:55	14-Feb-12

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls Prepared by method SW846 3540C													
11097-69-1	Aroclor-1254	**60.7**	E	mg/kg dry	0.205	0.0870	1	SW846 8082A	14-Feb-12	16-Feb-12	IMR	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*101*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*103*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*96*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*128*			*30-150 %*			"	"	"	"	"	
Re-analysis of Polychlorinated Biphenyls Prepared by method SW846 3540C			GS1										
11097-69-1	Aroclor-1254	**66.3**		mg/kg dry	2.05	1.50	10	SW846 8082A	14-Feb-12	16-Feb-12	IMR	1203435	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*130*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*130*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*145*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*155*	S02		*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**93.8**		%			1	SM2540 G Mod.	15-Feb-12	15-Feb-12	DT	1203496	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1203435 - SW846 3540C										
Blank (1203435-BLK1)					Prepared: 14-Feb-12 Analyzed: 15-Feb-12					
Aroclor-1016	< 0.00999		mg/kg wet	0.00999						
Aroclor-1016 [2C]	< 0.00998		mg/kg wet	0.00998						
Aroclor-1221	< 0.0180		mg/kg wet	0.0180						
Aroclor-1221 [2C]	< 0.0131		mg/kg wet	0.0131						
Aroclor-1232	< 0.0128		mg/kg wet	0.0128						
Aroclor-1232 [2C]	< 0.0157		mg/kg wet	0.0157						
Aroclor-1242	< 0.0118		mg/kg wet	0.0118						
Aroclor-1242 [2C]	< 0.00786		mg/kg wet	0.00786						
Aroclor-1248	< 0.00981		mg/kg wet	0.00981						
Aroclor-1248 [2C]	< 0.00811		mg/kg wet	0.00811						
Aroclor-1254	< 0.0147		mg/kg wet	0.0147						
Aroclor-1254 [2C]	< 0.00849		mg/kg wet	0.00849						
Aroclor-1260	< 0.00767		mg/kg wet	0.00767						
Aroclor-1260 [2C]	< 0.00893		mg/kg wet	0.00893						
Aroclor-1262	< 0.0186		mg/kg wet	0.0186						
Aroclor-1262 [2C]	< 0.0192		mg/kg wet	0.0192						
Aroclor-1268	< 0.00628		mg/kg wet	0.00628						
Aroclor-1268 [2C]	< 0.00990		mg/kg wet	0.00990						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.0154*		mg/kg wet		*0.0200*		*77*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.0152*		mg/kg wet		*0.0200*		*76*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.0175*		mg/kg wet		*0.0200*		*88*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.0167*		mg/kg wet		*0.0200*		*84*	*30-150*		
LCS (1203435-BS1)					Prepared: 14-Feb-12 Analyzed: 15-Feb-12					
Aroclor-1016	**0.212**		mg/kg wet	0.00999	0.250		85	50-140		
Aroclor-1016 [2C]	**0.215**		mg/kg wet	0.00998	0.250		86	50-140		
Aroclor-1260	**0.204**		mg/kg wet	0.00767	0.250		82	50-140		
Aroclor-1260 [2C]	**0.206**		mg/kg wet	0.00893	0.250		82	50-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.0146*		mg/kg wet		*0.0200*		*73*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.0147*		mg/kg wet		*0.0200*		*74*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.0166*		mg/kg wet		*0.0200*		*83*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.0154*		mg/kg wet		*0.0200*		*77*	*30-150*		
LCS Dup (1203435-BSD1)					Prepared: 14-Feb-12 Analyzed: 15-Feb-12					
Aroclor-1016	**0.201**		mg/kg wet	0.00999	0.250		80	50-140	5	30
Aroclor-1016 [2C]	**0.223**		mg/kg wet	0.00998	0.250		89	50-140	3	30
Aroclor-1260	**0.195**		mg/kg wet	0.00767	0.250		78	50-140	5	30
Aroclor-1260 [2C]	**0.204**		mg/kg wet	0.00893	0.250		82	50-140	0.7	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.0142*		mg/kg wet		*0.0200*		*71*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.0143*		mg/kg wet		*0.0200*		*72*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.0155*		mg/kg wet		*0.0200*		*78*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.0153*		mg/kg wet		*0.0200*		*76*	*30-150*		

Notes and Definitions

E	The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
S02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
June O'Connor
Nicole Leja

SB43858 Ck

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☑ Rush TAT - Date Needed: 3-DAY
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: RYAN ROUILLARD
Environmental Compliance Services, Inc.
722 Route 3A, Suite 3
Bow, NH 03304
Telephone #: 603-224-8871/Cell: 781-603-5375
Project Mgr. Charles Kingler

Invoice To: Charles Kingler
Environmental Compliance Services
997 Millbury St., Unit G
Worcester, MA 01607
P.O. No.: RQN:

Project No.: 03-216630.00 ~ T.5
Site Name: Thomas Prince School
Location: 170 Sterling Rd, Princeton State: MA
Sampler(s): Ryan Rouillard

1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= Deionized Water 10= PCBs 11=

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= CMU BLOCK X2= BRICK X3= CAULK

G=Grab C=Composite

List preservative code below:

QA/QC Reporting Notes:
* additional charges may apply

MA DEP MCP CAM Report: Yes ☐ No ☐
CT DPH RCP Report: Yes ☐ No ☐

QA/QC Reporting Level
☑ Standard ☐ No QC ☐ DQA*
☐ NY ASP A* ☐ NY ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ TIER II* ☐ TIER V*
☒ Other EPA Protocol

State-specific reporting standards:
Concent. in mg/kg ~ Arochlor 1254

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	8082-PCBs/3540C							
SB43858 01	ROOM 205-Int. WALL (6") 21412-PCB01	02/14/2012	1315	C	X1		1			X							
02	ROOM 207-Int. WALL (6") 21412-PCB02	02/14/2012	1345	C	X1		1			X							
03	ROOM 203-INT. WALL (8") 21412-PCB03	02/14/2012	1410	C	X1		1			X							
04	ROOM 201-Int. WALL (8") 21412-PCB04	02/14/2012	1430	C	X1		1			X							
05	EXTERIOR VENT ADJ. TO (2") RM 207 ~ 21412-PCB05	2/14/2012	1445	C	X1		1			X							
06	EXTERIOR VENT ADJ. TO RM 207 (8") ~ 21412-PCB06	2/14/2012	1500	C	X1		1			X							
07	EXTERIOR VENT ADJ. TO RM 205 (2") ~ 21412-PCB07	2/14/2012	1510	C	X1		1			X							
08	EXTERIOR VENT ADJ. TO RM 205 (8") ~ 21412-PCB08	2/14/2012	1520	C	X1		1			X							
09	EXTERIOR VENT CAULK (LIGHT GRAY) ADJ. TO RM 207-PCB09	2/14/2012	1530	C	X3		1			X							
10	[illegible]																

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	[signature]	2/14/12	1610	
[signature]	[signature]	2-14-12	17:50	2.4

☐ EDD Format
☑ E-mail to rrouillard@ecsconsult.com

☐ Ambient ☑ Iced ☐ Refrigerated ☐ Fridge temp ___ °C ☐ Freezer temp ___ °C

SB43858 CLC

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 2 of 2

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☑ Rush TAT - Date Needed: 3-DAY
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: RYAN ROUILLARD
Environmental Compliance Services
722 Route 3A, Suite 3
Bow, NH 03304
Telephone #: (603) 224-8871 / Cell: (781) 403-5375
Project Mgr. Charles Kingler

Invoice To: Charles Kingler
Environmental Compliance Services
997 Millbury St., Unit G
Worcester, MA 01607
P.O. No.: _____ RQN: _____

Project No.: 03-216630.00 ~ T.5
Site Name: Thomas Prince School
Location: 170 Sterling Rd, Princeton State: MA
Sampler(s): RYAN ROUILLARD

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9= Deionized Water 10= PCBs 11= _____

List preservative code below:

QA/QC Reporting Notes:
* additional charges may apply

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= CMU BLOCK X2= BRICK X3= CAULK X4=WOOD

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: 8082-PCBs/3540C	MA DEP MCP CAM Report: Yes ☐ No ☐ CT DPH RCP Report: Yes ☐ No ☐ QA/QC Reporting Level ☑ Standard ☐ No QC ☐ DQA* ☐ NY ASP A* ☐ NY ASP B* ☐ NJ Reduced* ☐ NJ Full* ☐ TIER II* ☐ TIER V* ☑ Other EPA Protocol State-specific reporting standards:
SB43858-10	Exterior Roof Kitchen-Bottom Window Frame Blk Caulk-PCB10	2/14/12	1540	C	X3		1			X	Concent.: in mg/kg = Aroclor 1254
11	Exterior Roof Kitchen Top Window Frame Wht Caulk-PCB11	2/14/12	1550	C	X3		1			X	
12	Exterior Roof Kitchen Top (2nd) Window Frame Wood Miter-PCB12	2/14/12	1555	C	X4		1			X	

Relinquished by:	Received by:	Date:	Time:	Temp°C
		2/14/12	1610	
		2-14-12	1750	2.4

☐ EDD Format _____
☑ E-mail to rrouillard@ecsconsult.com

☐ Ambient ☑ Iced ☐ Refrigerated ☐ Fridge temp ___ °C ☐ Freezer temp ___ °C

Report Date:
07-Mar-12 16:57

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
997 Millbury Street, Unit G
Worcester, MA 01607
Attn: Charles Klingler

Project: Thomas Prince School - Princeton, MA
Project #: 03-216630.T.5

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB44693-01	PCB 101	Brick	29-Feb-12 13:00	02-Mar-12 15:45
SB44693-03	PCB 103	Brick	29-Feb-12 13:20	02-Mar-12 15:45
SB44693-05	PCB 105	Wood	29-Feb-12 13:50	02-Mar-12 15:45
SB44693-06	PCB 106	CMU Block	29-Feb-12 14:10	02-Mar-12 15:45
SB44693-07	PCB 109	Brick	29-Feb-12 15:00	02-Mar-12 15:45
SB44693-09	PCB 111	CMU Block	29-Feb-12 15:20	02-Mar-12 15:45
SB44693-10	PCB 107	Caulk	29-Feb-12 15:30	02-Mar-12 15:45
SB44693-11	PCB 108	Caulk	29-Feb-12 15:40	02-Mar-12 15:45
SB44693-12	PCB 112	Caulk	29-Feb-12 16:00	02-Mar-12 15:45
SB44693-13	PCB 113	Caulk	29-Feb-12 16:10	02-Mar-12 15:45

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes.
Please note that this report contains 16 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

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CASE NARRATIVE:

The samples were received 1.7 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8082A

Samples:

SB44693-05 *PCB 105*

The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

4,4-DB-Octafluorobiphenyl (Sr) [2C]

SB44693-06 *PCB 106*

The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

4,4-DB-Octafluorobiphenyl (Sr) [2C]

SB44693-07 *PCB 109*

The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

4,4-DB-Octafluorobiphenyl (Sr) [2C]

SB44693-10 *PCB 107*

The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).

Aroclor-1254

SB44693-10RE1 *PCB 107*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.

4,4-DB-Octafluorobiphenyl (Sr)
4,4-DB-Octafluorobiphenyl (Sr) [2C]
Decachlorobiphenyl (Sr)
Decachlorobiphenyl (Sr) [2C]

SB44693-11 *PCB 108*

The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).

Aroclor-1254 [2C]

SB44693-11RE1 *PCB 108*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SW846 8082A

Samples:

SB44693-11RE1 *PCB 108*

The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.

4,4-DB-Octafluorobiphenyl (Sr)
4,4-DB-Octafluorobiphenyl (Sr) [2C]
Decachlorobiphenyl (Sr)
Decachlorobiphenyl (Sr) [2C]

SB44693-12 *PCB 112*

The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).

Aroclor-1254

SB44693-12RE1 *PCB 112*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.

4,4-DB-Octafluorobiphenyl (Sr)
4,4-DB-Octafluorobiphenyl (Sr) [2C]
Decachlorobiphenyl (Sr)
Decachlorobiphenyl (Sr) [2C]

SB44693-13 *PCB 113*

The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).

Aroclor-1254

The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

4,4-DB-Octafluorobiphenyl (Sr) [2C]

SB44693-13RE1 *PCB 113*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

4,4-DB-Octafluorobiphenyl (Sr) [2C]

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PCB 101 SB44693-01	03-216630.T.5	Brick	29-Feb-12 13:00	02-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 19.0		µg/kg dry	19.0	9.52	1	SW846 8082A	02-Mar-12	03-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 19.0		µg/kg dry	19.0	17.2	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 19.0		µg/kg dry	19.0	12.2	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 19.0		µg/kg dry	19.0	11.2	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 19.0		µg/kg dry	19.0	9.34	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 19.0		µg/kg dry	19.0	14.0	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 19.0		µg/kg dry	19.0	7.30	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 19.0		µg/kg dry	19.0	17.7	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 19.0		µg/kg dry	19.0	5.98	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*133*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*148*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*148*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*146*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.4**		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204900	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PCB 103	03-216630.T.5	Brick	29-Feb-12 13:20	02-Mar-12
SB44693-03				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 19.7		µg/kg dry	19.7	9.84	1	SW846 8082A	02-Mar-12	03-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 19.7		µg/kg dry	19.7	17.7	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 19.7		µg/kg dry	19.7	12.6	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 19.7		µg/kg dry	19.7	11.6	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 19.7		µg/kg dry	19.7	9.66	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	< 19.7		µg/kg dry	19.7	14.4	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 19.7		µg/kg dry	19.7	7.55	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 19.7		µg/kg dry	19.7	18.3	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 19.7		µg/kg dry	19.7	6.18	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*86*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*106*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*91*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*98*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.1**		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204900	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PCB 105	03-216630.T.5	Wood	29-Feb-12 13:50	02-Mar-12
SB44693-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 88.1		µg/kg dry	88.1	44.0	1	SW846 8082A	02-Mar-12	03-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 88.1		µg/kg dry	88.1	79.4	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 88.1		µg/kg dry	88.1	56.6	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 88.1		µg/kg dry	88.1	51.9	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 88.1		µg/kg dry	88.1	43.2	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	**2,720**		µg/kg dry	88.1	37.4	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 88.1		µg/kg dry	88.1	33.8	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 88.1		µg/kg dry	88.1	82.1	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 88.1		µg/kg dry	88.1	27.7	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*66*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*47700*	S02		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*134*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*53*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	Sample Prep	**Completed**		N/A			1	SAI SOP	02-Mar-12	02-Mar-12	CAW	1205080	
	% Solids	**94.8**		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204900	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PCB 106	03-216630.T.5	CMU Block	29-Feb-12 14:10	02-Mar-12
SB44693-06				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 70.5		µg/kg dry	70.5	35.2	1	SW846 8082A	02-Mar-12	03-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 70.5		µg/kg dry	70.5	63.5	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 70.5		µg/kg dry	70.5	45.2	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 70.5		µg/kg dry	70.5	41.5	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 70.5		µg/kg dry	70.5	34.6	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	**347**		µg/kg dry	70.5	29.9	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	**126**		µg/kg dry	70.5	27.0	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 70.5		µg/kg dry	70.5	65.6	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 70.5		µg/kg dry	70.5	22.1	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*117*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*201*	S02		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*113*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*129*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**91.3**		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204900	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PCB 109 SB44693-07	03-216630.T.5	Brick	29-Feb-12 15:00	02-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 20.0		µg/kg dry	20.0	9.99	1	SW846 8082A	02-Mar-12	03-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 20.0		µg/kg dry	20.0	18.0	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 20.0		µg/kg dry	20.0	12.8	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 20.0		µg/kg dry	20.0	11.8	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 20.0		µg/kg dry	20.0	9.81	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	**56.2**		µg/kg dry	20.0	14.7	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 20.0		µg/kg dry	20.0	7.67	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 20.0		µg/kg dry	20.0	18.6	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 20.0		µg/kg dry	20.0	6.28	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*86*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*157*	S02		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*91*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*88*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.7**		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204900	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PCB 111 SB44693-09	03-216630.T.5	CMU Block	29-Feb-12 15:20	02-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 64.4		µg/kg dry	64.4	32.2	1	SW846 8082A	02-Mar-12	03-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 64.4		µg/kg dry	64.4	58.0	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 64.4		µg/kg dry	64.4	41.4	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 64.4		µg/kg dry	64.4	37.9	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 64.4		µg/kg dry	64.4	31.6	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	**232**		µg/kg dry	64.4	47.2	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 64.4		µg/kg dry	64.4	24.7	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 64.4		µg/kg dry	64.4	60.0	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 64.4		µg/kg dry	64.4	20.2	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*57*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*112*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*65*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*92*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**99.5**		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204900	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PCB 107 SB44693-10	03-216630.T.5	Caulk	29-Feb-12 15:30	02-Mar-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 179		µg/kg dry	179	89.5	1	SW846 8082A	02-Mar-12	03-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 179		µg/kg dry	179	161	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 179		µg/kg dry	179	115	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 179		µg/kg dry	179	105	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 179		µg/kg dry	179	87.8	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	**105,000**	E	µg/kg dry	179	131	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 179		µg/kg dry	179	68.6	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 179		µg/kg dry	179	167	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 179		µg/kg dry	179	56.2	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*89*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*126*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*94*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*55*			*30-150 %*			"	"	"	"	"	
Re-analysis of Polychlorinated Biphenyls			GS1										
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 8950		µg/kg dry	8950	4470	50	SW846 8082A	02-Mar-12	05-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 8950		µg/kg dry	8950	8070	50	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 8950		µg/kg dry	8950	5750	50	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 8950		µg/kg dry	8950	5270	50	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 8950		µg/kg dry	8950	4390	50	"	"	"	"	"	
11097-69-1	Aroclor-1254	**127,000**		µg/kg dry	8950	6570	50	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 8950		µg/kg dry	8950	3430	50	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 8950		µg/kg dry	8950	8340	50	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 8950		µg/kg dry	8950	2810	50	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*0*	S01		*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*0*	S01		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*0*	S01		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*0*	S01		*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**97.8**		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204900	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PCB 108	03-216630.T.5	Caulk	29-Feb-12 15:40	02-Mar-12
SB44693-11				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 201		µg/kg dry	201	100	1	SW846 8082A	02-Mar-12	03-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 201		µg/kg dry	201	181	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 201		µg/kg dry	201	129	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 201		µg/kg dry	201	118	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 201		µg/kg dry	201	98.6	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	**238,000**	E	µg/kg dry	201	85.3	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 201		µg/kg dry	201	77.0	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 201		µg/kg dry	201	187	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 201		µg/kg dry	201	63.1	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*95*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*135*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*71*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*60*			*30-150 %*			"	"	"	"	"	
Re-analysis of Polychlorinated Biphenyls			GS1										
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 10000		µg/kg dry	10000	5020	50	SW846 8082A	02-Mar-12	05-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 10000		µg/kg dry	10000	9050	50	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 10000		µg/kg dry	10000	6450	50	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 10000		µg/kg dry	10000	5920	50	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 10000		µg/kg dry	10000	4930	50	"	"	"	"	"	
11097-69-1	Aroclor-1254	**267,000**		µg/kg dry	10000	4260	50	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 10000		µg/kg dry	10000	3850	50	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 10000		µg/kg dry	10000	9360	50	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 10000		µg/kg dry	10000	3160	50	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*0*	S01		*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*0*	S01		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*0*	S01		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*0*	S01		*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**95.6**		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204900	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PCB 112	03-216630.T.5	Caulk	29-Feb-12 16:00	02-Mar-12
SB44693-12				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 189		µg/kg dry	189	94.3	1	SW846 8082A	02-Mar-12	03-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 189		µg/kg dry	189	170	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 189		µg/kg dry	189	121	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 189		µg/kg dry	189	111	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 189		µg/kg dry	189	92.6	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	**161,000**	E	µg/kg dry	189	139	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 189		µg/kg dry	189	72.4	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 189		µg/kg dry	189	176	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 189		µg/kg dry	189	59.3	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*102*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*104*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*71*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*61*			*30-150 %*			"	"	"	"	"	
Re-analysis of Polychlorinated Biphenyls			GS1										
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 18900		µg/kg dry	18900	9430	100	SW846 8082A	02-Mar-12	05-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 18900		µg/kg dry	18900	17000	100	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 18900		µg/kg dry	18900	12100	100	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 18900		µg/kg dry	18900	11100	100	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 18900		µg/kg dry	18900	9260	100	"	"	"	"	"	
11097-69-1	Aroclor-1254	**200,000**		µg/kg dry	18900	13900	100	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 18900		µg/kg dry	18900	7240	100	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 18900		µg/kg dry	18900	17600	100	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 18900		µg/kg dry	18900	5930	100	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*0*	S01		*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*0*	S01		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*0*	S01		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*0*	S01		*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**98.4**		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204900	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
PCB 113	03-216630.T.5	Caulk	29-Feb-12 16:10	02-Mar-12
SB44693-13				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 184		µg/kg dry	184	92.1	1	SW846 8082A	02-Mar-12	03-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 184		µg/kg dry	184	166	1	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 184		µg/kg dry	184	118	1	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 184		µg/kg dry	184	109	1	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 184		µg/kg dry	184	90.5	1	"	"	"	"	"	
11097-69-1	Aroclor-1254	**87,300**	E	µg/kg dry	184	135	1	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 184		µg/kg dry	184	70.7	1	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 184		µg/kg dry	184	172	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 184		µg/kg dry	184	57.9	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*93*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*3090*	S02		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*70*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*76*			*30-150 %*			"	"	"	"	"	
Re-analysis of Polychlorinated Biphenyls			GS1										
Prepared by method SW846 3540C													
12674-11-2	Aroclor-1016	< 3690		µg/kg dry	3690	1840	20	SW846 8082A	02-Mar-12	05-Mar-12	IMR	1204760	
11104-28-2	Aroclor-1221	< 3690		µg/kg dry	3690	3320	20	"	"	"	"	"	
11141-16-5	Aroclor-1232	< 3690		µg/kg dry	3690	2370	20	"	"	"	"	"	
53469-21-9	Aroclor-1242	< 3690		µg/kg dry	3690	2170	20	"	"	"	"	"	
12672-29-6	Aroclor-1248	< 3690		µg/kg dry	3690	1810	20	"	"	"	"	"	
11097-69-1	Aroclor-1254	**106,000**		µg/kg dry	3690	1560	20	"	"	"	"	"	
11096-82-5	Aroclor-1260	< 3690		µg/kg dry	3690	1410	20	"	"	"	"	"	
37324-23-5	Aroclor-1262	< 3690		µg/kg dry	3690	3440	20	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 3690		µg/kg dry	3690	1160	20	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*110*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*2690*	S02		*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*140*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*110*			*30-150 %*			"	"	"	"	"	
General Chemistry Parameters													
	% Solids	**98.3**		%			1	SM2540 G Mod.	06-Mar-12	06-Mar-12	DT	1204900	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204760 - SW846 3540C										
Blank (1204760-BLK1)					Prepared: 02-Mar-12 Analyzed: 03-Mar-12					
Aroclor-1016	< 20.0		µg/kg wet	20.0						
Aroclor-1016 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1221	< 20.0		µg/kg wet	20.0						
Aroclor-1221 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1232	< 20.0		µg/kg wet	20.0						
Aroclor-1232 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1242	< 20.0		µg/kg wet	20.0						
Aroclor-1242 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1248	< 20.0		µg/kg wet	20.0						
Aroclor-1248 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1254	< 20.0		µg/kg wet	20.0						
Aroclor-1254 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1260	< 20.0		µg/kg wet	20.0						
Aroclor-1260 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1262	< 20.0		µg/kg wet	20.0						
Aroclor-1262 [2C]	< 20.0		µg/kg wet	20.0						
Aroclor-1268	< 20.0		µg/kg wet	20.0						
Aroclor-1268 [2C]	< 20.0		µg/kg wet	20.0						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*16.3*		µg/kg wet		*20.0*		*82*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*20.1*		µg/kg wet		*20.0*		*101*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*18.6*		µg/kg wet		*20.0*		*93*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*21.0*		µg/kg wet		*20.0*		*105*	*30-150*		
LCS (1204760-BS1)					Prepared: 02-Mar-12 Analyzed: 03-Mar-12					
Aroclor-1016	**263**		µg/kg wet	20.0	250		105	50-140		
Aroclor-1016 [2C]	**262**		µg/kg wet	20.0	250		105	50-140		
Aroclor-1260	**257**		µg/kg wet	20.0	250		103	50-140		
Aroclor-1260 [2C]	**277**		µg/kg wet	20.0	250		111	50-140		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*19.0*		µg/kg wet		*20.0*		*95*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*21.2*		µg/kg wet		*20.0*		*106*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*19.9*		µg/kg wet		*20.0*		*100*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*23.5*		µg/kg wet		*20.0*		*118*	*30-150*		
LCS Dup (1204760-BSD1)					Prepared: 02-Mar-12 Analyzed: 03-Mar-12					
Aroclor-1016	**222**		µg/kg wet	20.0	250		89	50-140	17	30
Aroclor-1016 [2C]	**244**		µg/kg wet	20.0	250		98	50-140	7	30
Aroclor-1260	**225**		µg/kg wet	20.0	250		90	50-140	13	30
Aroclor-1260 [2C]	**253**		µg/kg wet	20.0	250		101	50-140	9	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*18.1*		µg/kg wet		*20.0*		*90*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*20.1*		µg/kg wet		*20.0*		*101*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*20.2*		µg/kg wet		*20.0*		*101*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*22.7*		µg/kg wet		*20.0*		*114*	*30-150*		
Duplicate (1204760-DUP1)			**Source: SB44693-09**		Prepared: 02-Mar-12 Analyzed: 03-Mar-12					
Aroclor-1016	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1016 [2C]	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1221	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1221 [2C]	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1232	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1232 [2C]	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1242	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1242 [2C]	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1248	< 64.1		µg/kg dry	64.1		BRL				40

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1204760 - SW846 3540C										
Duplicate (1204760-DUP1)			**Source: SB44693-09**			Prepared: 02-Mar-12 Analyzed: 03-Mar-12				
Aroclor-1248 [2C]	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1254	**251**		µg/kg dry	64.1		232			8	40
Aroclor-1254 [2C]	**245**		µg/kg dry	64.1		213			14	40
Aroclor-1260	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1260 [2C]	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1262	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1262 [2C]	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1268	< 64.1		µg/kg dry	64.1		BRL				40
Aroclor-1268 [2C]	< 64.1		µg/kg dry	64.1		BRL				40
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*36.8*		µg/kg dry		*64.1*		*58*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*80.1*		µg/kg dry		*64.1*		*125*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*40.7*		µg/kg dry		*64.1*		*64*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*53.2*		µg/kg dry		*64.1*		*83*	*30-150*		
Matrix Spike (1204760-MS1)			**Source: SB44693-09**			Prepared: 02-Mar-12 Analyzed: 03-Mar-12				
Aroclor-1016	**760**		µg/kg dry	65.6	821	BRL	93	40-135		
Aroclor-1016 [2C]	**626**		µg/kg dry	65.6	821	BRL	76	40-135		
Aroclor-1260	**696**		µg/kg dry	65.6	821	BRL	85	40-135		
Aroclor-1260 [2C]	**775**		µg/kg dry	65.6	821	BRL	94	40-135		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*60.1*		µg/kg dry		*65.6*		*92*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*71.2*		µg/kg dry		*65.6*		*109*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*58.8*		µg/kg dry		*65.6*		*89*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*67.3*		µg/kg dry		*65.6*		*103*	*30-150*		
Matrix Spike Dup (1204760-MSD1)			**Source: SB44693-09**			Prepared: 02-Mar-12 Analyzed: 03-Mar-12				
Aroclor-1016	**789**		µg/kg dry	63.7	797	BRL	99	40-135	7	30
Aroclor-1016 [2C]	**666**		µg/kg dry	63.7	797	BRL	84	40-135	9	30
Aroclor-1260	**688**		µg/kg dry	63.7	797	BRL	86	40-135	2	30
Aroclor-1260 [2C]	**663**		µg/kg dry	63.7	797	BRL	83	40-135	13	30
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*79.4*		µg/kg dry		*63.7*		*125*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*80.0*		µg/kg dry		*63.7*		*126*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*88.0*		µg/kg dry		*63.7*		*138*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*77.1*		µg/kg dry		*63.7*		*121*	*30-150*		

Notes and Definitions

E	The concentration indicated for this analyte is an estimated value. This value is considered an estimate (CLP E-flag).
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
S01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
S02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
June O'Connor

*. Please do not read unless closer substrate samples exceed 1 ppm. SB 44693

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CHAIN OF CUSTODY RECORD

Page 1 of 2

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: 3-DAY
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Charles Kingler
Environmental Compliance Services
997 Millbury Street, Unit G
Worcester, MA 01607
Telephone #: 774-272-2212
Project Mgr. Charles Kingler

Invoice To: Charles Kingler
Environmental Compliance Services
997 Millbury Street, Unit G
Worcester, MA 01607
P.O. No.: _____ RQN: 0277 CSD

Project No.: 03-2166230 - T.5
Site Name: Thomas Prince School
Location: 170 Sterling Rd, Princeton State: MA
Sampler(s): Ryan Rouillard

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9= Deionized Water 10= PCBs 11= _____

List preservative code below:

QA/QC Reporting Notes:
* additional charges may apply

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= CMU Block X2= Brick X3= wood

G=Grab C=Composite ½-inch depths

Containers: # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | 8082 PCB/SVOC

Analyses:

MA DEP MCP CAM Report: Yes ☐ No ☐
CT DPH RCP Report: Yes ☐ No ☐

QA/QC Reporting Level
☑ Standard ☐ No QC ☐ DQA*
☐ NY ASP A* ☐ NY ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ TIER II* ☐ TIER V*
☒ Other EPA Protocol (PI)

State-specific reporting standards: Concent. in mg/kg or Aroclor 1254

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	8082 PCB/SVOC	
44693-01	PCB101; Rm 207 Ext. Vent (Brick at 8") Side	2/29/12	1300	C	X2		1			X	102
* -02	PCB102; Rm 207 Ext. Vent (Brick at 12") Side	2/29/12	1310	C	X2		1			X	* 103
-03	PCB103; Rm 207 Ext. Vent (Brick at 8") TOP	2/29/12	1320	C	X2		1			X	104
* -04	PCB104; Rm 207 Ext. Vent (Brick at 12") TOP	2/29/12	1330	C	X2		1			X	* 105
-05	PCB105; Roof Kitchen Ext. Window Wood Sash Frame	2/29/12	1350	C	X3		1			X	Needs to be pulverized. Prep'd
-06	PCB106; Roof Kitchen Ext. Window Frame Basement	2/29/12	1410	C	X1		1			X	106 May need some additional
-07	PCB107; Roof Kitchen Ext. Brick Wall (8") Side	2/29/12	1420	C	X1		1			X	CLK 3/1/12 107 pulverization
* -08	PCB108; Roof Kitchen Ext. Brick Wall (12") Side	2/29/12	1440	C	X1		1			X	CLK 3/1/12 * 108
-09	PCB109; 100-wing (Rm 100) Ext. (4") WALL	2/29/12	1500	C	X2		1			X	109
* -10	PCB110; 100-wing (Rm 100) Ext. (6") WALL	2/29/12	1510	C	X2		1			X	* 110

Relinquished by:	Received by:	Date:	Time:	Temp°C
	T. Mahoney	2/29/12	1545	
T. Bender	T. Bender	3/2/12	1:00	-
T. Bender		3/2/12	3:45	1.7

☐ EDD Format _____
☑ E-mail to ckingler@ecsconsult.com

☐ Ambient ☑ Iced ☒ Refrigerated ☐ Fridge temp ___ °C ☐ Freezer temp ___ °C

44693

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Page 2 of 2

Special Handling:
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- ☑ Rush TAT - Date Needed: 3-DAY
- All TATs subject to laboratory approval.
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Project Mgr. Charles Kingler

Invoice To: Charles Kingler
Environmental Compliance Services
997 Millbury Street, Unit G
Worcester, MA 01607
P.O. No.: RQN: 6277

Project No.: 03-216630 ~ T.5
Site Name: Thomas Prince School
Location: 170 Sterling Rd, Princeton State: MA
Sampler(s): Ryan Rouillard

1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= Deionized Water 10= PCBs 11=

List preservative code below:

QA/QC Reporting Notes:
* additional charges may apply

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= CMU BLOCK X2= BRICK X3= WOOD X4 Caulk

G=Grab C=Composite (1/2 INCH DEPTH)

MA DEP MCP CAM Report: Yes ☐ No ☐
CT DPH RCP Report: Yes ☐ No ☐

QA/QC Reporting Level
☑ Standard ☐ No QC ☐ DQA*
☐ NY ASP A* ☐ NY ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ TIER II* ☐ TIER V*
☑ Other EPA Protocol

State-specific reporting standards:

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	8082 PCB/3540C								State-specific reporting standards
44693-09	PCB-11- 100 Wing (RM 104) Int. (4") Wall	2/29/12	1520	C	X1		1			X								Concent. in mg/kg ~ Arochlor 1254
-10	PCB-107	2/29/12	1530	C	X4		1			X								← 111
-11	PCB-108	2/29/12	1540	C	X4		1			X								
-12	PCB-112	2/29/12	1600	C	X4		1			X								
-13	PCB-113	2/29/12	1610	C	X4		1			X								

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	[signature]	2/29/12	1545	
[signature]	T. Bender	3/2/12	1:00	—
T. Bender	[signature]	3/2/12	3:45	1.7

☐ EDD Format
☑ E-mail to ckingler@ecsconsult.com

☐ Ambient ☑ Iced ☒ Refrigerated ☐ Fridge temp ___ °C ☐ Freezer temp ___ °C

APPENDIX B

Work Plan for Caulking Removal and Remediation
Rooms: 100 Wing classrooms (interior/exterior), 200 Wing classrooms (exterior)
Thomas Prince School
Princeton, Massachusetts

1) Introduction

Triumvirate Environmental Inc. (TEI) shall perform the remediation of the specified PCB and Asbestos containing materials in accordance with this "Work Plan for Caulking Removal and Remediation – Rooms: 100 Wing classrooms and 200 Wing classrooms" as prepared by TEI for Thomas Prince School in Princeton, MA in accordance with all applicable local, state, and federal regulations governing PCB's.

2) Summary of Scope of work

A. Caulking Removal

i. ***100-wing & 200-wing classrooms.*** An internal critical barrier will be built inside the classrooms on the opening. Partial containment will be built outside to protect adjacent surfaces and extreme care will be used to prevent dust generation and release to the environment. The removal of windows and caulking will be executed from the outside of the building. External air intakes will be sealed with polyethylene during operation.

B. Encapsulation

i. After removing the caulking, workers will clean the surfaces that were in contact with the caulking, encapsulate the surfaces that were in contact with the caulking plus additional offset distance (as specified in the modification plan) in both directions to ensure full coverage of any potential remaining impacted material.

C. Temporary Window Opening Cover

i. As may be required, the generated opening will be close using plywood and wood framing. Insulation will be utilized to seal the gap between the temporary cap and the frame.

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3) Work Area Preparation

A. General

i. ***100-wing & 200-wing classrooms.*** In order to prevent debris from escaping the work zone, and to protect existing facilities and the environment, ground cover will be placed along the perimeter of where work will take place. A critical barrier consisting in 6 mil polyethylene sheeting will be placed inside the building to seal the opening. The barrier will be sealed against the inside wall utilizing duct tape to ensure that no dust or impacted material is able to enter the interior of the school. The barrier will be protected to prevent puncture with tools during window removal and will be inspected during the work to ensure its integrity is maintained. In addition, a partial containment will be built outside the building to ensure no release of dust or impacted material outside the working area.

ii. External air intake vents will be sealed with polyethylene in areas that work is performed.

iii. All workers will be equipped with the appropriate PPE.

iv. A critical barrier will be placed on the interior of the univent air intake prior to caulking removal.

v. Disposal of collected debris will be performed in accordance with the provisions of this plan. All PCB containing waste will be sealed prior to transport to the PCB waste container. Chutes or other transport methods that may generate fugitive dust may not be used during the remedial work.

4) Containment Control

- ***100-wing & 200-wing classrooms.*** A critical barrier will be built inside the building. Partial containment will be built outside. The use of mechanical means will be restricted to operations intended to accomplish the extraction of the window and will not be conduct on PCB's containing materials. The removal of caulking will be conducted using hand tools. A detail for the proposed partial containment is provided in Appendix 5.

5) Standard Operating Procedures

A. Window Removal

The window and all window caulking, caulking associated with the metal shroud of the exterior intake air vent and the exterior caulking located

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between the brick and concrete window casing/jamb will be thoroughly removed following an approved procedures and methodologies.

a. Cutting/ Grinding Operations for Window Removal

i. There were found welded and/or bolted connections between the window frame and the opening. These connections are not impacted with PCB's containing materials. Cutting/grinding operations will be performed in mentioned connections in order to extract the window frame.

ii. Workers may have to be saw cutting around window frame with a concrete tool with no interaction with the contaminated caulking.

iii. Workers will pull out the window with appropriate tools.

iv. The removed windows from the 100-wing rooms will be cleaned of all visible caulk and cleaned from any caulking using procedures established on 40 CFR 761 subpart S (Double Wash/Rinse Method). Each window will be wipe sampled by the consultant and not re-installed until advised to do so based on acceptable sampling results.

v. Work surfaces will be misted to minimize dust during cutting operations using hand sprayers if necessary.

b. Caulking Removal Operations:

i. All the caulking will be removed to the maximum extent practicable, with hand held caulking cutters, while minimizing dust or other airborne particulates generated from the caulking or adjacent building materials. This will not include mechanical grinding/saw cutting.

ii. Work surfaces will be misted to minimize dust removal operations using hand sprayers.

iii. All removed caulking and debris will be placed in a 5 gallon container or goose-necked plastic bags sealed with duct tape during the cutting operation and managed as PCB waste ≥ 50 ppm. Once filled, or at the end of each work shift, 5 gallon containers or/and bags will be carried to the roll-off container set up on site.

iv. Upon the completion of the removal activities, the opening will be visually inspected for the presence of any residual caulking. If residual caulking is observed, it will be removed

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from the adjacent material with a glass scraper to the maximum extent possible.

v. Workers will wear appropriate Tyvek garments, (suits with hoods, booties, etc.), nitrile gloves, and negative pressure, air-purifying, full-face respiratory protection equipped with HEPA filters during all phases of the removal process. All openings in protective garments will be taped closed using duct-tape or equivalent.

vi. Upon completion of the removal activities, employees shall HEPA-vacuum and wet wipe the surfaces within the work area enclosure and clean to the point of no visible dust or debris.

vii. At the end of each work day, any debris collected within the ground cover sheeting will be gathered and placed in a 5 gallon container, covered with a sealable lid or goose-necked plastic bags sealed with duct tape, and managed as PCB waste ≥ 50 ppm. The 5 gallon containers or goose necked plastic bags sealed with duct tape will then be carried to the roll off set up on site.

viii. Disposable PPE removed for breaks or at the end of the workday and used polyethylene sheeting will be placed in a goose-necked plastic bag sealed with duct tape and then will be carried to the roll off set up on site.

ix. Any additional materials used in the aforementioned procedures will be collected and properly disposed of at the end of each day.

c. Cleaning of Openings

i. All surfaces in former contact with caulking will be scraped with a glass scraper or equivalent to remove caulking residue. No mechanical scraping or abrasives will be allowed. Following the scraping, the surfaces in the opening will be wet wiped with Capsur® (See Appendix 2). Decontaminated surfaces will be visually inspected and verified following the EPA Approved plan requirements.

ii. Any materials used in the aforementioned procedures will be collected and properly disposed of at the end of each day.

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d. Encapsulation Methods

i. Concrete surfaces in the opening and additional surfaces specified in the Cleanup and Disposal plan will be encapsulated with Sikagard 62 (See Appendix 1) epoxy, or equivalent. The product will be stored, mixed, and applied according to the product specifications.

ii. After residual caulking has been removed to the maximum extent possible and the opening has been inspected, the concrete in direct contact with the former caulking and additional surfaces specified in the Cleanup and Disposal Plan will be encapsulated with the first coat of Sikagard 62 (See Appendix 1). The material will be applied with a thin brush to reach irregular surfaces. The coated joint will be inspected to ensure adequate coverage (i.e., the coating has been uniformly applied, and no concrete is visible beneath the epoxy).

iii. Following the cure time recommended by the product specifications, a second coat of Sikagard 62 epoxy will be applied over the first coat. The coated joint will be inspected to ensure adequate coverage.

iv. In order to maintain the integrity of the epoxy coating around the opening, no additional surface preparation may be performed before applying caulking (i.e., abrading the epoxy surface is not permitted).

e. Tools and equipment decontamination

i. All the tools employed during the work journey will be HEPA vacuumed and wiped down using an organic solvent such as Diesel Fuel.

ii. Equipment and/or tools that cannot be decontaminated will be disposed according with regulations.

iii. Non-porous tools and/or equipment will be decontaminated using the Double Wash/Rinse Method described on 40 CFR 761 subpart S. All the debris produced will be placed in a double polyethylene bag and disposed as PCB's containing materials.

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B. Temporary Window Cover

a. As may be required, workers will place tied framing into the opening in order to avoid concrete drilling operations. A piece of plywood will be screwed to the temporary framing. The gap between the temporary cap and the opening will be filled using insulation foam.

6) PCB Waste Management and Disposal

a. Approved PCB waste containers will be set up onsite in secure waste management areas during the entire duration of the project. The PCB waste containers shall be clearly marked in accordance with 40 CFR 761.40, as such to avoid confusion with ordinary waste containers. A detail of the location for mentioned container is provided in Appendix 4

b. Waste containers will be removed from the waste management areas and transported by a licensed Hazardous Waste Disposal Contractor to Chemical Waste Management's Chemical Service Facility located in Model City, New York, or the EQ-Wayne Disposal Facility located in Belleville, Michigan. These facilities are approved to accept this type of PCB contaminated waste for disposal in accordance with 40 CFR 761.40, 761.62 and other applicable sections.

c. Appropriate copies of all waste manifests, waste shipment records and certificates of disposal will be collected and managed by Thomas Prince School, as part of the final report to the EPA. Triumvirate will help to prepare and coordinate these documents as necessary throughout the project.

7) Contractor Qualification

The removal contractor, Triumvirate Environmental, Inc. possesses over twenty years of experience in the environmental industry. They have routinely performed similarly hazardous work operations where occupational exposures to lead, asbestos, PCB's and silica were possible, and have developed comprehensive exposure plans for operating under similar conditions.

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8) Training and Certification

Foreman and workers assigned to this project have completed the OSHA 40 hour, Hazardous Waste Operations/Emergency Response (HAZWOPER) training course and eight-hour annual refresher as required. Occupational exposure to PCB's and the unique hazards associated with this operation will be an ongoing topic of daily toolbox talks and jobsite safety meetings throughout the course of this project.

9) Health and Safety Plan

Triumvirate Environmental, Inc. will construct a site-specific Health and Safety Plan for this project and it will be kept on-site and reviewed daily throughout the duration of the project.

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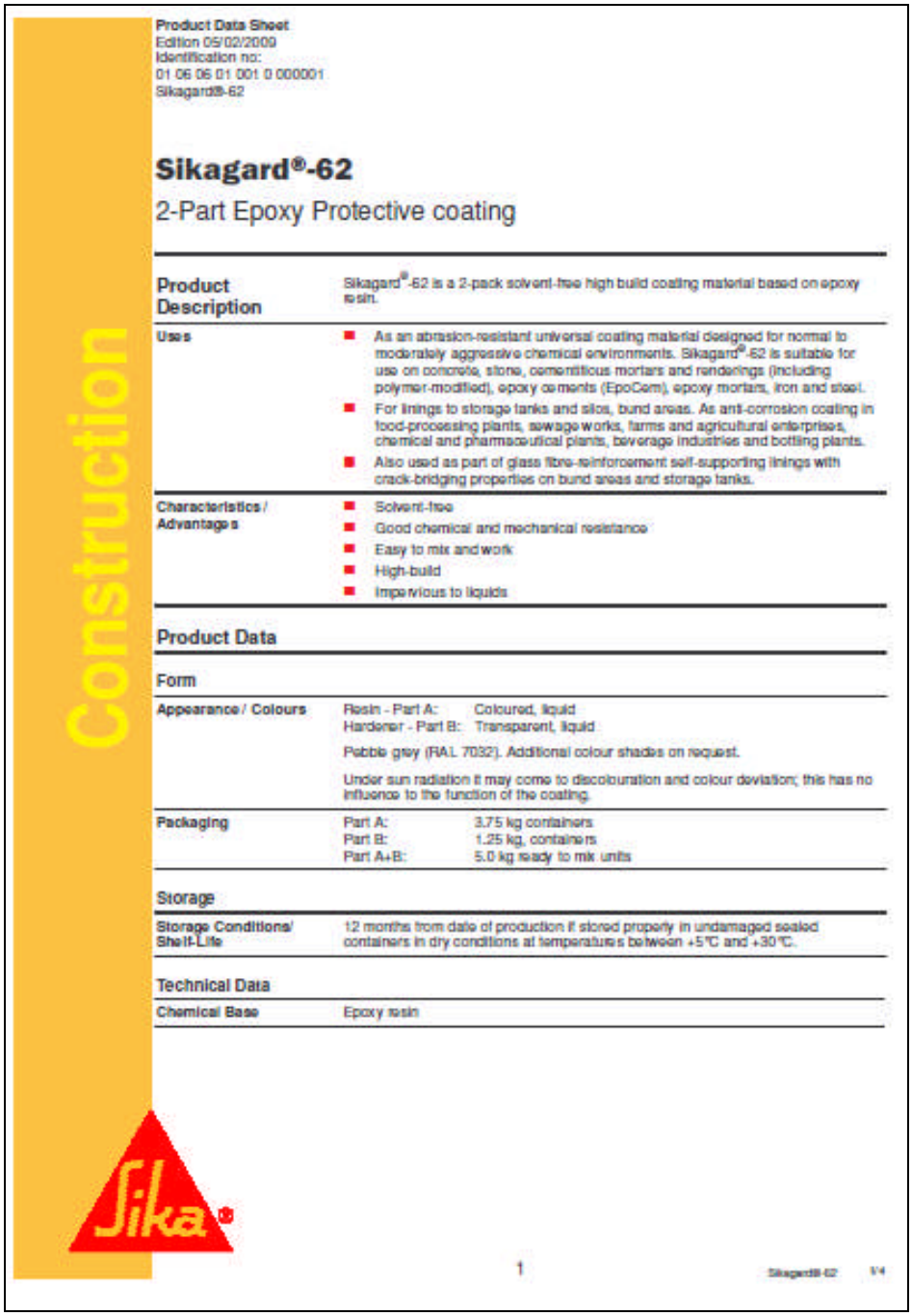
Appendix 1
Technical specifications for Sikagard® 62



Construction

Product Data Sheet
Edition 05/02/2009
Identification no:
01 06 06 01 001 0 000001
Sikagard®-62

Sikagard®-62

2-Part Epoxy Protective coating

Product Description

Sikagard®-62 is a 2-pack solvent-free high build coating material based on epoxy resin.

Uses

- As an abrasion-resistant universal coating material designed for normal to moderately aggressive chemical environments. Sikagard®-62 is suitable for use on concrete, stone, cementitious mortars and renderings (including polymer-modified), epoxy cements (EpoCem), epoxy mortars, iron and steel.
- For linings to storage tanks and silos, bund areas. As anti-corrosion coating in food-processing plants, sewage works, farms and agricultural enterprises, chemical and pharmaceutical plants, beverage industries and bottling plants.
- Also used as part of glass fibre-reinforcement self-supporting linings with crack-bridging properties on bund areas and storage tanks.

Characteristics / Advantages

- Solvent-free
- Good chemical and mechanical resistance
- Easy to mix and work
- High-build
- Impervious to liquids

Product Data

Form

Appearance / Colours

Resin - Part A: Coloured, liquid
Hardener - Part B: Transparent, liquid

Pebble grey (RAL 7032). Additional colour shades on request.

Under sun radiation it may come to discolouration and colour deviation; this has no influence to the function of the coating.

Packaging

Part A:	3.75 kg containers
Part B:	1.25 kg, containers
Part A+B:	5.0 kg ready to mix units

Storage

Storage Conditions/ Shelf-Life

12 months from date of production if stored properly in undamaged sealed containers in dry conditions at temperatures between +5°C and +30°C.

Technical Data

Chemical Base

Epoxy resin

Sika®

1

Sikagard®-62 1/4

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Density	Part A: ~ 1.45 kg/litre Part B: ~ 1.02 kg/litre Mixed resin: ~ 1.37 kg/litre All density values at +23°C
Solid Content	~ 100% (by volume), ~ 100% (by weight)

Mechanical / Physical Properties

Bond Strength	> 1.5 N/mm² (failure in concrete)	ISO 4624

Resistance

Chemical Resistance	See separate chemical resistance list
Thermal Resistance	

Exposure*	Dry heat
Permanent	+50°C
Short-term max. 7 d	+80°C
Short-term max. 12 h	+100°C

Short-term humid heat* up to +80 °C where exposure is only occasional (steam cleaning etc.).

*No simultaneous chemical load.

System Information

System Structure

Roller coating:
Primer: 1 x Sikagard®-62
Coating: 2 - 3 x Sikagard®-62

Glass fabric reinforced system:
Primer: 1 x Sikagard®-62
Coating: 1 x Sikagard®-62 imbedding of glass fabric
2 - 3 x Sikagard®-62

Application Details

Consumption / Dosage

Coating System	Product	Consumption
Roller coating		
Priming	Sikagard®-62	0.3 - 0.5 kg/m²
Roller coating	Sikagard®-62	0.4 - 1.0 kg/m² per coat, depending on substrate condition and coating thickness required
Glass fabric reinforced system		
Priming	Sikagard®-62	0.3 - 0.5 kg/m²
1st coat	Sikagard®-62	0.8 - 1.0 kg/m²
Imbedding	Glass fabric	Approx. 0.3 kg/m²
2nd coat	Sikagard®-62	0.5 - 0.8 kg/m²
3rd coat	Sikagard®-62	0.3 - 0.5 kg/m²

For a theoretical dry film thickness of 100 microns (0.1 mm) approx. 0.14 kg/m². These figures are theoretical and do not include for any additional material required due to surface porosity, surface profile, variations in level or wastage etc.

Substrate Quality

The concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum pull off strength of 1.5 N/mm².

The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc.

If in doubt apply a test area first.

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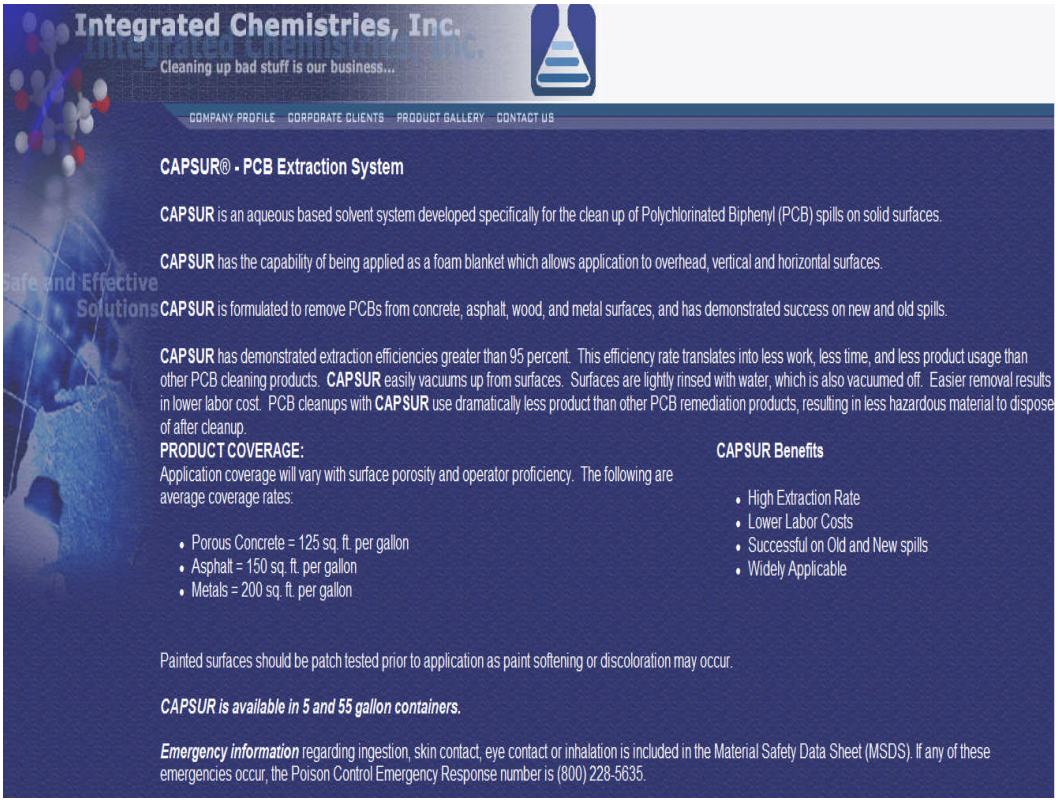
Appendix 2
Technical Specification for CAPSUR®



Integrated Chemistries, Inc.

Cleaning up bad stuff is our business...

COMPANY PROFILE CORPORATE CLIENTS PRODUCT GALLERY CONTACT US

Safe and Effective Solutions

CAPSUR® - PCB Extraction System

CAPSUR is an aqueous based solvent system developed specifically for the clean up of Polychlorinated Biphenyl (PCB) spills on solid surfaces.

CAPSUR has the capability of being applied as a foam blanket which allows application to overhead, vertical and horizontal surfaces.

CAPSUR is formulated to remove PCBs from concrete, asphalt, wood, and metal surfaces, and has demonstrated success on new and old spills.

CAPSUR has demonstrated extraction efficiencies greater than 95 percent. This efficiency rate translates into less work, less time, and less product usage than other PCB cleaning products. **CAPSUR** easily vacuums up from surfaces. Surfaces are lightly rinsed with water, which is also vacuumed off. Easier removal results in lower labor cost. PCB cleanups with **CAPSUR** use dramatically less product than other PCB remediation products, resulting in less hazardous material to dispose of after cleanup.

PRODUCT COVERAGE:

Application coverage will vary with surface porosity and operator proficiency. The following are average coverage rates:

- Porous Concrete = 125 sq. ft. per gallon
- Asphalt = 150 sq. ft. per gallon
- Metals = 200 sq. ft. per gallon

CAPSUR Benefits

- High Extraction Rate
- Lower Labor Costs
- Successful on Old and New spills
- Widely Applicable

Painted surfaces should be patch tested prior to application as paint softening or discoloration may occur.

CAPSUR is available in 5 and 55 gallon containers.

Emergency information regarding ingestion, skin contact, eye contact or inhalation is included in the Material Safety Data Sheet (MSDS). If any of these emergencies occur, the Poison Control Emergency Response number is (800) 228-5635.

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Appendix 3
Technical specifications for All Purpose Cleaner Simple Green

Material Safety Data Sheet: Simple Green® All-Purpose Cleaner and Simple Green® Scrubbing Pad
Version No. 13005-12B Date of Issue: February 2012 *ANSI-Z400.1-2003 Format*

Section 1: PRODUCT & COMPANY IDENTIFICATION

Product Name: Simple Green® All-Purpose Cleaner
Additional Names: Simple Green® Concentrated Cleaner Degreaser Deodorizer
Simple Green® Scrubbing Pad (Fluid in pad only)

Manufacturer's Part Number: **Please refer to page 4*

Company: Sunshine Makers, Inc.
15922 Pacific Coast Highway
Huntington Beach, CA 92649 USA
Telephone: 800-228-0709 • 562-795-6000 Fax: 562-592-3830
Emergency Phone: Chem-Tel 24-Hour Emergency Service: 800-255-3924

Section 2: HAZARDS IDENTIFICATION

Emergency Overview: **CAUTION. Irritant. This is a Green colored liquid with a sassafras added odor. Scrubbing pad is a green fibrous rectangle infused with Simple Green Cleaner.**

NFPA/HMIS Rating:
Health = 1 = slight
Fire, Reactivity, and Special = 0 = minimal

Potential Health Effects
Eye Contact: Mildly irritating.
Skin Contact: No adverse effects expected under typical use conditions. Prolonged exposure may cause dryness. Chemically sensitive individuals may experience mild irritation.
Ingestion: May cause stomach or intestinal irritation if swallowed.
Inhalation: No adverse effects expected under typical use conditions. Adequate ventilation should be present for prolonged usage in small enclosed areas.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percent Range
Water	7732-18-5	≥ 78%
2-butoxyethanol	111-76-2	≤ 5%
Ethoxylated Alcohol	68439-46-3	≤ 5%
Tetrapotassium Pyrophosphate	7320-34-5	≤ 5%
Sodium Citrate	68-04-2	≤ 5%
Fragrance	Proprietary Mixture	≤ 1%
Colorant	Proprietary Mixture	≤ 1%

Section 4: FIRST AID MEASURES

If Inhaled: If adverse effect occurs, move to fresh air.
If on skin: If adverse effect occurs, rinse skin with water.
If in eyes: Flush with plenty of water. After 5 minutes of flushing, remove contact lenses, if present. Continue flushing for at least 10 more minutes. If irritation persists seek medical attention.
If ingested: Drink plenty of water to dilute.

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Material Safety Data Sheet: Simple Green® All-Purpose Cleaner and Simple Green® Scrubbing Pad
Version No. 13005-12B Date of Issue: February 2012 *ANSI-Z400.1-2003 Format*

Section 5: FIRE FIGHTING MEASURES

This formula is stable, non-flammable, and will not burn. No special procedures necessary

Flammability: Non-flammable
Flash Point: Non-flammable

Suitable Extinguishing Media: Use Dry chemical, CO_2, water spray or "alcohol" foam.
Extinguishing Media to Avoid High volume jet water.
Special Exposure Hazards: In event of fire created carbon oxides, oxides of phosphorus may be formed.
Special Protective Equipment: Wear positive pressure self-contained breathing apparatus; Wear full protective clothing.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: See section 8 – personal protection.

Environmental Precautions: Do not allow into open waterways and ground water systems.

Method for Clean Up: Dilute with water and rinse into sanitary sewer system or soak up with inert absorbent material.

Section 7: HANDLING AND STORAGE

Handling: Keep container tightly closed. Ensure adequate ventilation. Keep out of reach of children.

Storage: Keep in cool dry area.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values:	OSHA PEL	ACGIH TLV
2-butoxyethanol	TWA 50 ppm (240 mg/m^3)	20 ppm (97 mg/m^3)
Tetrapotassium Pyrophosphate		5 mg/m^3

Exposure Controls:
Eye Contact: Use protective glasses if splashing or spray-back is likely.
Respiratory: Use in well ventilated areas.
Skin Contact: Prolonged exposure or dermal sensitive individuals should use protective gloves.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Green Liquid	**Vapor Pressure:**	18 mmHg @20°C; 23.5 mmHg @26°C	
Odor:	Added Sassafras odor	**Density:**	8.5 lb/gal;	
Specific Gravity:	1.010 ± 0.010	**Water Solubility:**	100%	
pH:	9.5 ± 0.5	**VOC composite Partial Pressure:**		TBD
Boiling Point:	~210°F (98 °C)	**VOC:**	CARB Method 310	3.8%
Freezing Point:	~ 32°F (0 °C)		SCAQMD Method 313	2.8%
Nutrient Content:	Phosphorous: 0.28%	Sulfur: ~180 ppm		
	Chloride: ~110 ppm	Fluorine: ~90 ppm		

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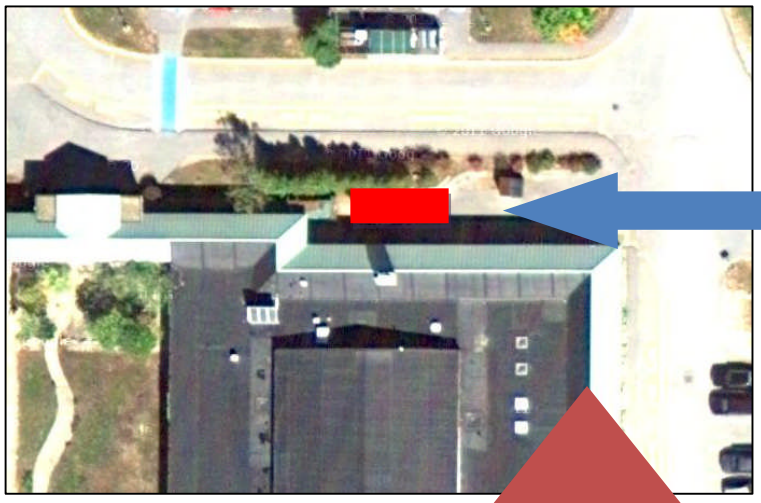
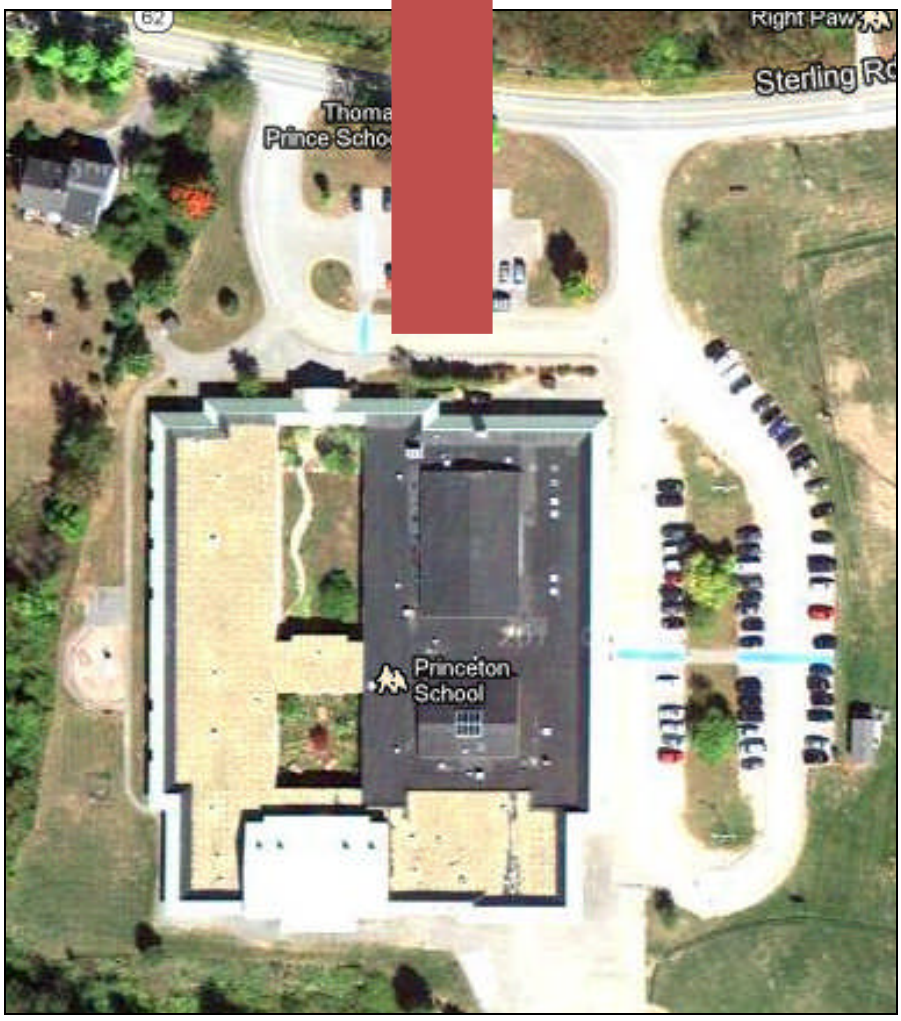
Appendix 4
PCB's storage location



Staging are for CY boxes



Appendix 5
Partial containment

Notes:

- Partial containment will be built using wood frames, PVC tubes, 6 mil polyethylene sheeting, and duct tape.
- The Partial containment will be attached to the building with the best of our means to provide a sealed barrier.

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