

**REMOVAL PROGRAM
PRELIMINARY ASSESSMENT/
SITE INVESTIGATION REPORT
FOR THE
RIVERSIDE SQUARE PCB SITE
HYDE PARK (BOSTON), SUFFOLK COUNTY,
MASSACHUSETTS
9 JUNE 2011 AND 19 - 21 JULY 2011**

Prepared For:

U.S. Environmental Protection Agency
Region I
Emergency Planning and Response Branch
5 Post Office Square, Suite 100
Boston, MA 02109-3912

CONTRACT NO. EP-W-05-042

TDD NO. 01-11-06-0001

TASK NO. 0733

SITE ID NO.: 01HG

DC NO. R-6805

Submitted By:

Weston Solutions, Inc.
Region I
Superfund Technical Assessment and Response Team III (START)
3 Riverside Drive
Andover, MA 01810

November 2011

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I. Preliminary Assessment/Site Investigation Forms

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**EPA REGION I
REMOVAL PRELIMINARY ASSESSMENT**

Site Name and Location

Name: Riverside Square PCB
Town: Hyde Park (Boston)

Location: [REDACTED]
County: Suffolk **State:** Massachusetts (MA)

Site Status: ☐ NPL ☐ NON-NPL ☐ RCRA ☐ TSCA
 ☐ ACTIVE ☐ ABANDONED ☒ OTHER

☒ **Attached USGS Map of Location** ☒ **Site I.D. No.:** 01HG

Latitude: 42° 15' 35.16" North¹ **Longitude:** 71° 06' 51.72" West¹

¹ Geographical coordinates of the approximate mid-point along the center of Riverside Square.

Referral

☐ **Citizen** ☐ **City/Town** ☒ **State** ☐ **Preremedial**
☐ **RCRA** ☐ **Other:**

Name of referring party: Mr. Chris Pyott, Massachusetts Department of Environmental Protection (MassDEP)

Telephone: (978) 694-3353

Address: 205B Lowell Street
Wilmington, MA 01887

Contacts Identified

1) None	Telephone: ()
2)	Telephone: ()
3)	Telephone: ()

Source of Information

☒ **Verbal:** Verbal communication between EPA On-Scene Coordinator (OSC) and Mr. Chris Pyott, (MassDEP).

☐ **Report:**

☐ **Other:**

REMOVAL PRELIMINARY ASSESSMENT

Potential Responsible Parties

Owner: **Telephone:**
Address:

Operator: **Telephone:**
Address:

Operator: **Telephone:**
Address:

Site Access

Authorizing Person:

Date: ☒ Obtained ☐ Verbal
Telephone: ☐ Not Obtained ☒ Written

Historical Preservation

☐ Site is Historically Significant or Eligible for Historic Preservation

Contacts Identified

1) State Historical Preservation Officer (SHPO)

Name: Ms. Brona Simon **Telephone:** (617) 727-8470

2) Tribal Historical Preservation Officer (THPO)

Name: **Telephone:** ()

Comments:

Physical Site Characterization

Background Information: The Riverside Square PCB Site is located at [REDACTED] (Properties B, C, D, E, F, H, G, and I) in Hyde Park (Boston), Suffolk County, Massachusetts (see Appendix A, Figure 1) [1, 2]. The geographical coordinates of the approximate midpoint along the center of Riverside Square are 42° 15' 35.16" north and 71° 06' 51.72" west. The site consists of eight residential properties located along the northern bank of the Neponset River. The backyards of the residences are located on the south side of Riverside Square, and slope down approximately 20 to 45 feet toward the Neponset River (see Appendix A, Figure 2) [3].

REMOVAL PRELIMINARY ASSESSMENT

Physical Site Characterization (Concluded)

From the 1930s through the 1970s, several industries using polychlorinated biphenyls (PCBs) were located in the Neponset River Basin. In 1955, major flooding occurred within the river basin and across southern New England. In 1962 and 1964, in an effort to control flooding and increase recreational use of the basin, the Metropolitan District Commission (MDC) [now merged with the Department of Environmental Management to form the Department of Conservation and Recreation (DCR)] conducted repair work on dams and instituted flood control measures, including dredging of the Neponset River to deepen the channel [4, 5]. Dredge spoils from the Neponset River were subsequently placed in several locations along the banks adjacent to the river. It was suspected that these spoils may contain elevated concentrations of PCBs. The area containing the dredged spoils is highlighted (in yellow) in Figure 2, Site Diagram located in Appendix A of this report.

MassDEP has identified eight actively used areas where the dredged spoils were placed along the banks of the Neponset River. The Riverside Square PCB Site is one of these areas and is identified as the *1964, C-296 Spoil Area "C"*. It is estimated that approximately 17,800 cubic yards of dredged spoils were placed along this section of the river [5].

Sediment samples collected during investigations in 2002 and 2003 by the U.S. Army Corps of Engineers (US ACOE) and the U.S. Geological Survey (USGS) from the Tileston and Hollingsworth, and Walter Baker Impoundments, located approximately 0.15 and 2.45 miles northeast of the site, respectively, and were found to contain elevated levels of PCBs. Surface and subsurface soil samples collected on residential properties at the site by the MassDEP and their contractor MACTEC Engineering and Consulting, Inc. (MACTEC) in June 2010 indicated elevated concentrations of PCBs, exceeding the Massachusetts Contingency Plan (MCP) Method 1 S-1/GW-1 standards [6].

Background Description of Substances Possibly Present, Known or Alleged: Based on analytical results from soil samples collected by MACTEC, elevated levels of PCBs are known to exist in surface soil on the residential properties comprising the site.

Existing Analytical Data

() **Real-Time Monitoring Data:** None

(✓) **Sampling Data:** MACTEC Engineering & Consulting, Inc. Maps and Analytical Summary Tables of Polychlorinated Biphenyl Results. Neponset River Dredge Spoils, Boston, Massachusetts. Prepared for MassDEP. January 10, 2011 [6].

REMOVAL PRELIMINARY ASSESSMENT

Potential Threat

Evaluation of the following criteria, as identified in 40 CFR 300.415 [The National Oil and Hazardous Substances Pollution Contingency Plan (NCP)], is typically performed during a preliminary assessment/site investigation for the purpose of conducting a removal action.

- i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants.
- ii. Actual or potential contamination of drinking water supplies or sensitive ecosystems.
- iii. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release.
- iv. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.
- v. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.
- vi. Threat of fire or explosion.
- vii. The availability of other appropriate federal or state response mechanisms to respond to the release.
- viii. Other situations or factors that may pose threats to public health or welfare or the environment.

Prior Response Activities

☐ PRP ☐ STATE ☐ FEDERAL ☐ OTHER
Brief Description: None.

Priority for Site Investigation

☒ High ☐ Medium ☐ Low ☐ None
Comments:

Report Generation

Originator:	George Mavris	Date:	7 November 2011
Affiliation:	Weston Solutions, Inc. (START)	Telephone:	(978) 552-2117
TDD No.:	01-11-06-0001	Task No.:	0733.00



**EPA REGION I
REMOVAL SITE INVESTIGATION**

Inspection Information

Site Name: Riverside Square PCB Site **Address:** [REDACTED]

Town: Hyde Park (Boston) **County:** Suffolk **State:** Massachusetts (MA)

Date of Inspection: 9 June 2011 **Time of Inspection:** 0945 hours (hrs) - 1045 hrs
Date of Inspection: 19 July 2011 **Time of Inspection:** 0840 hrs - 1600 hrs
Date of Inspection: 20 July 2011 **Time of Inspection:** 0845 hrs - 1245 hrs
Date of Inspection: 21 July 2011 **Time of Inspection:** 0940 hrs - 1100 hrs

Weather Conditions: 9 June 2011 -- Sunny, 70° Fahrenheit (° F)
19 July 2011 -- Sunny, very hot, 95° F
20 July 2011 -- Sunny, very hot, 99° F
21 July 2011 -- Sunny, very hot, 90° F

Site Status at Time of Inspection: ☒ **ACTIVE** ☐ **INACTIVE**
Comments: The site is comprised of eight residential properties located along the northern banks of the Neponset River.

Agencies/Personnel Performing Inspection

	<u>Names</u>	<u>Program</u>
(✓) EPA:	Alex Sherrin	U.S. Environmental Protection Agency (EPA) Region I Emergency Planning and Response Branch (EPRB) On-Scene Coordinator (OSC).
(✓) EPA Contractor:	George Mavris Rob Sharp Greg Parrish Carolyn Imbres	Weston Solutions, Inc. (Weston), Superfund Technical Assessment and Response Team III (START).
(✓) State:	Christopher Pyott	Massachusetts Department of Environmental Protection (MassDEP).
(✓) Other:	Pat Magillicutty	General Chemical Corp. (START Licensed Hazardous Waste Disposal Subcontractor).

REMOVAL SITE INVESTIGATION

Agencies/Personnel Performing Inspection (concluded)

Current Owners Based on Field Interviews:

Property Address	Property Owners
	Private Citizen
	Private Citizen
	Private Citizen
	Private Citizen
	Private Citizen
	Private Citizen
	Private Citizen
	Private Citizen

Physical Site Characteristics

Parameter	Quantities/Extent
<input type="checkbox"/> Cylinders:	
<input type="checkbox"/> Drums:	
<input type="checkbox"/> Lagoons:	
<input type="checkbox"/> Tanks: <input type="checkbox"/> Above:	
<input type="checkbox"/> Below:	
<input type="checkbox"/> Asbestos:	
<input type="checkbox"/> Piles:	
<input type="checkbox"/> Stained Soil:	
<input type="checkbox"/> Stressed Vegetation:	
<input type="checkbox"/> Landfill:	
<input checked="" type="checkbox"/> Population in Vicinity:	The site consists of eight residential properties. Several residences are located north, east, and west of the site. A few apartment buildings are located on the north side of Riverside Square. The population within a 0.25 and 1-mile radius of the site has been estimated at 2,600 and 29,000, respectively [17].
<input checked="" type="checkbox"/> Wells: <input checked="" type="checkbox"/> Drinking:	The Massachusetts Water Resource Authority (MWRA) provides drinking water to the residents of Hyde Park [16]. It has not been determined if any private drinking water wells are located in the vicinity of the site. There are no monitoring wells on site.
<input checked="" type="checkbox"/> Monitoring:	
<input checked="" type="checkbox"/> Other:	

REMOVAL SITE INVESTIGATION

Physical Site Observations

The site consists of eight residential properties located along the northern bank of the Neponset River. The backyards of the residences are located on the south side of Riverside Square, and slope down approximately 20 to 45 feet toward the Neponset River (see Appendix A, Figure 2) [3]. On-site features include the residences, garages, paved driveways, sheds, swimming pools, maintained and unmaintained lawns, and wooded areas. Access is restricted to the residences by the Neponset River and fences enclosing the properties (see Appendix A, Figure 2).

Field Sampling and Analysis

Matrix/Analytical Parameter	Field Instrumentation				
	CGI/O ₂	RAD	PID/VOC	FID	Other
Background Readings:	0.0%/20.9 %	9 - 12 μ R/hr ¹	0.0 ppm ²	NA	0/0 ³
Air:	0.0%/20.9 %	9 - 12 μ R/hr	0.0 ppm	NA	0/0
Soil:	0.0%/20.9 %	9 - 12 μ R/hr	0.0 ppm	NA	0/0
Surface:					
Water:					
Tanks:					
Drums:					
Vats:					
Lagoons:					
Spillage:					
Sediments:					
Groundwater:					
Other (Headspace on Samples):	0.0%/20.9 %	9 - 12 μ R/hr	0 ppm	0 ppm	0/0 ³

- ¹ μ R/hr = microRoentgens per hour
² ppm = parts per million
³ Carbon monoxide (CO)/hydrogen sulfide (H₂S)

Field Quality Control Procedures

(✓) SOP Followed

() Deviation From SOP

Comments: START followed the protocol outlined in the document entitled, *Sampling and Analysis Plan for the Riverside Square PCB Site, Hyde Park (Boston), Suffolk County, Massachusetts*, dated July 2011 [12].

REMOVAL SITE INVESTIGATION

Description of Sampling Conducted

On 19 and 20 July 2011, START collected 30 grab subsurface soil samples from the six of the eight residential properties comprising the site. Written access agreements for two of the properties () were not provided in time for the sampling event. Two of the 30 soil samples were duplicate samples collected for quality control. START personnel collected six surface soil samples from Property B (including one field duplicate), nine surface soil samples from Property C, one surface soil sample from Property D, four surface soil samples from Property F, nine surface soil samples from Property H (including one field duplicate), and one surface soil sample from Property I. Samples were submitted to the EPA Office of Environmental Measurement and Evaluation (OEME) laboratory for PCB screening analysis. In addition, the three samples with the highest PCB screening results were selected for confirmatory PCB analysis. Surface soil descriptions for the surface soil samples collected during the 19 - 20 July 2011 sampling event may be found in Appendix B, Table 1; and an analytical summary table may be found in Appendix B, Table 2. OEME analytical data results may be found in Appendix C [13, 14, 15]. Chain-of-custody documentation is included in Appendix D.

Analyses

Analytical Parameter	Media	Laboratory
() VOC	() AIR	(✓) NERL (OEME) ¹
(✓) PCB	() WATER	() CLP
() PESTICIDE	(✓) SOIL	() PRIVATE
() METALS	() SOURCE	() SAS
() CYANIDE	() SEDIMENT	() SOW
() SVOC		() FIELD
() TOXICITY		
() DIOXIN		
() ASBESTOS		
() OTHER		

¹ Surface soil samples were submitted to the U.S. Environmental Protection Agency Office of Environmental Measurement and Evaluation (OEME) for screening using EPA Region I SOP, FLDPB2.SOP (PCBs in Soil Field Method, Fixed Lab) [13, 14, 15].

REMOVAL SITE INVESTIGATION

Receptors

Comments

(✓) Drinking Water

(✓) Private:

It has not been determined if any private drinking water wells are located in the vicinity of the site.

(✓) Municipal:

The MWRA provides drinking water to the residents of Hyde Park [16].

(✓) Groundwater:

Groundwater was not encountered during soil sampling activities; however, groundwater was encountered at depths of approximately 4.5 - 8 feet below ground surface (bgs) during the June 2010 MACTEC sampling activities [6].

(✓) Unrestricted Access:

Vehicular and pedestrian access to the site is restricted along the street and Neponset River by chain-link fences and locked gates.

(✓) Population in Proximity:

The site consists of eight residential properties, with a population of approximately 2,600 people living within a 0.25-mile radius of the site [17].

(✓) Sensitive Ecosystem:

The site is located along the banks of the Neponset River.

() Other:

Additional Procedures for Site Determination

() Biological Evaluation

() ATSDR

To be determined by On-Scene Coordinator (OSC).

REMOVAL SITE INVESTIGATION

Site Determination

Evaluation of the following criteria, as identified in 40 CFR 300.415 [The National Oil and Hazardous Substances Pollution Contingency Plan (NCP)], is typically performed during a Preliminary Assessment/Site Investigation for the purpose of conducting a Removal Action.

Site Determination (Concluded)

Conditions at the site met the NCP Section 300.415 (b) (2) i, iv, and v criteria.

- i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants.
- iv. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.
- v. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

Report Generation

Originator:	George Mavris	Date:	7 November 2011
Affiliation:	Weston Solutions, Inc. (START)	Telephone:	(978) 552-2117
TDD No.:	01-11-06-0001	Task No.:	0733.00

II. Narrative Chronology

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Narrative Chronology

Site Description and History

The Riverside Square PCB Site is located [REDACTED] in Hyde Park (Boston), Suffolk County, Massachusetts (see Appendix A, Figure 1) [1, 2]. The geographical coordinates of the approximate midpoint along the center of Riverside Square are 42° 15' 35.16" north and 71° 06' 51.72" west.

The site consists of eight residential properties located along the northern bank of the Neponset River. The backyards of the residences are located on the south side of Riverside Square, and slope down approximately 20 to 45 feet toward the Neponset River (see Appendix A, Figure 2) [3].

The Neponset River Basin has been one of the most industrialized basins in the United States since the mid-1770s. From the 1930s through the 1970s, several industries using polychlorinated biphenyls (PCBs) were located in the Neponset River Basin. In 1955, major flooding occurred within the river basin and across southern New England. In 1962 and 1964, in an effort to control flooding and increase recreational use of the basin, the Metropolitan District Commission (MDC) [now merged with the Department of Environmental Management to form the Department of Conservation and Recreation (DCR)] conducted repair work on dams and instituted flood control measures, including dredging of the Neponset River to deepen the channel [4, 5]. Dredge spoils from the Neponset River were subsequently placed in several locations along the banks adjacent to the river. It was suspected that these spoils may contain elevated concentrations of PCBs.

Massachusetts Department of Environmental Protection (MassDEP) has identified eight actively used areas where the dredged spoils were placed along the banks of the Neponset River. The Riverside Square PCB Site is one of these areas and is identified as the *1964, C-296 Spoil Area "C"*. It is estimated that approximately 17,800 cubic yards of dredged spoils were placed along this section of the river [5].

In 2002, the U.S. Army Corps of Engineers (U.S. ACOE) conducted a study in an effort to restore fish passage, habitat, and recreational use of the Neponset River. As part of this study, two sediment cores were collected and analyzed. Analytical results indicated that the bottom sediments contained elevated concentrations of PCBs [5]. The efforts to restore fish passage, habitat, and recreational use raised concerns about sediment, water, and biota quality of the Neponset River; and in 2002 and 2003, the U.S. Geological Survey (USGS), in cooperation with the Massachusetts Executive Office of Environmental Affairs Riverways Program and the U.S. Environmental Protection Agency (EPA), conducted a study of the lower Neponset River in Boston and Milton. As part of this study, 20 sediment grab (0 - 4 inches below the sediment/water interface), 31 sediment core (5 - 50 inches below the sediment/water interface), and 12 surface water samples were collected and submitted for inorganics (metals), polyaromatic hydrocarbons (PAHs), organochlorine pesticides, and PCB analyses [4].

According to the USGS, although enriched relative to background, most constituent concentrations were equal to or less than those found in other urban rivers, with the notable exception of PCBs [4]. Concentrations of PCBs detected in the grab sediment samples ranged from less than 1.4 parts per million (ppm) to 11 ppm, and from less than 1 ppm to 225 ppm in the

sediment core samples [5]. The PCBs were detected in such high concentrations in the sediment samples that they pose a threat to benthic organisms and may potentially cause human health risks if humans come into contact with the sediment [4].

Surface (0 - 1 feet) and subsurface (1 - 12 feet) soil samples were collected by MassDEP and their contractor MACTEC Engineering and Consulting, Inc. (MACTEC) in June 2010 from several residential properties comprising the Riverside Square PCB site. Analytical results from these surface and subsurface soil samples indicated that concentrations of PCBs exceeded Massachusetts Contingency Plan (MCP) Method 1 S-1/GW-1 standards [6]. Maximum concentrations of total PCBs detected in these surface and subsurface soil samples were 11.2 milligrams per kilogram (mg/Kg) and 98 mg/Kg, respectively [6]. Based on the results of these soil samples, EPA initiated a Preliminary Assessment/Site Investigation (PA/SI) to make a determination if a Removal Action was warranted at the site, and if so, whether the response should be classified as an emergency, time-critical, or non-time critical removal action.

On 9 June 2011, START, EPA, and MassDEP personnel conducted an on-site reconnaissance; and on 19 - 21 July 2011, START and EPA personnel collected surface soil samples from six of the eight residential properties comprising the site.

9 June 2011 (Thursday)

Weather: Sunny, 70°F

On-Scene Coordinator (OSC) Alex Sherrin, START member George Mavris, and MassDEP representative Christopher Pyott met on site and conducted an on-site reconnaissance. Site history and previous sampling results were discussed during the reconnaissance. The objective of the proposed soil sampling during the Removal Program Preliminary Assessment/Site Investigation (PA/SI) was to verify previous surface soil sampling analytical results obtained during MassDEP's sampling event of June 2010. Surface soil sampling locations showing elevated concentrations [approximately 7 to 11 milligrams per kilogram (mg/Kg)] of total PCBs would be re-sampled. Due to the heterogeneity of the soil matrix and manner in which the dredged spoils were placed and spread out along the river banks, three additional soil samples would be collected from a distance of approximately 6 feet around each of the re-located sample points.

G. Mavris conducted perimeter air monitoring with a Multi-RAE [having carbon monoxide (CO), volatile organic compound (VOC), hydrogen sulfide (H₂S), oxygen (O₂), and lower explosive limit (LEL) detectors] and Micro-R (radiation) meter [7, 8]. No readings were detected above background levels on either instrument. G. Mavris proceeded to pre-mark the site for DigSafe [REDACTED] and contacted DigSafe to mark underground utilities prior to sampling.

19 July 2011 (Tuesday)

Weather: Sunny, very hot, 95°F

START members G. Mavris, Rob Sharp, Greg Parrish, and Carolyn Imbres mobilized to the site to collect surface soil samples from six residential properties comprising the site. The residential properties and number of samples collected from each property are shown in the following table.

PROPERTIES SAMPLED

Property Address	Property Designation	Number of Samples Collected
	B	6
	C	9
	D	1
	E	0
	F	4
	G	0
	H	9
	I	1

- 1 Written access agreements for two of the properties () were not provided in time for this sampling event.

OSC Alex Sherrin arrived on site and met with START to discuss the sampling event.

START personnel established a support zone and calibrated air monitoring instruments including two MultiRAEs and a Rad meter [7, 8]. START member Mavris conducted a safety and operations meeting, and on-site personnel reviewed and signed the health and safety plan (HASP). The HASP was prepared as a separate document, entitled *Weston Solutions, Inc., Region I START Site Health and Safety Plan (HASP) for the Riverside Square PCB Site, Hyde Park (Boston), Suffolk County, Massachusetts* [9].

A decontamination area was established in an open grassy area in the central portion of the residence located on , and START personnel decontaminated all of the steel augers to be used for collecting surface soil samples. Decontamination procedures were performed in accordance with the HASP and consisted of the following:

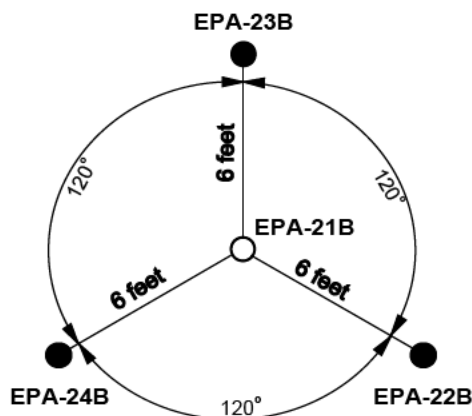
Tap water wash → Soap and tap water wash → Tap water rinse → Isopropanol rinse → Hexane rinse → Isopropanol rinse → Deionized water rinse → Air drying

A global positioning system (GPS) unit was used to locate previous sampling locations where MassDEP and its contractor, MACTEC, collected soil samples in June 2010 [10]. Sample locations having an “SS” or “SB” prefix are previous sampling locations established by MACTEC during the June 2010 sampling event. Soil samples collected during the EPA PA/SI have an “EPA” prefix.

Due to the heavy tree cover along the center of Property B, the number of satellites required for an adequate reading on the GPS unit fluctuated continuously, making it difficult to precisely relocate previous sample locations on the property. Sample location SB-21 (where 11.2 mg/Kg of total PCBs were previously detected) was located and a wooden stake was used to mark its location. This sample location was designated as EPA-21B.

Christopher Pyott (MassDEP) arrived on site and discussed sampling activities with OSC Sherrin and START.

Three additional sample locations (EPA-22B, EPA-23B, and EPA-24B) were marked with pin flags around sample EPA-21B. These three sample locations were measured at a 6-foot radius from EPA-21B and were situated approximately 120 degrees around EPA-21B (see diagram below).



This procedure was used throughout the sampling event to re-locate previous sampling locations where elevated concentrations of PCBs were detected. An additional soil sample location (EPA-25B) was marked in the central portion of the property (see Appendix A, Figure 3B) and a duplicate sample (EPA-26B) was marked at EPA-21B.

All soil samples (including re-located MACTEC samples and the three additional samples placed around them) collected during the PA/SI were designated with the “EPA” prefix. The original MACTEC number assigned in June 2010 was retained during the PA/SI, and a letter indicating the property in which the sample was collected was used. For example, in the diagram above, soil sample SB-21 was collected on Property B by MACTEC in June 2010. During the PA/SI, this re-located sample was assigned number EPA-21B. In cases where three additional soil samples were collected around the re-located sample, a sequential numbering system was used, e.g. the three additional samples collected around EPA-21B were numbered EPA-22B, EPA-23B, and EPA-24B (unless one of these numbers was the same as another re-located sample on the same property). In that case, the next sequential number would be used.

START collected six surface soil grab samples [0 - 12 inches below ground surface (bgs)] from Property B using steel hand augers [11]. Sampling activities on this property, as well as on the other five properties, were performed in accordance with the site Sampling and Analysis Plan (SAP), which was prepared as a separate document, entitled *Sampling and Analysis Plan for the Riverside Square PCB Site, Hyde Park (Boston), Suffolk County, Massachusetts* [12].

A shovel was used on manicured lawns to carefully remove the sod, and a steel auger was used to collect soil from each location. The soil was removed from the borehole, placed on polyethylene (poly) sheeting, and homogenized into a pile. One 4-ounce amber glass jar was filled by taking small aliquots of soil from different sections of the pile using plastic scoops until the sample jar was filled. All excess soil was placed back into the borehole from which it came. Any excess soil remaining on the augers and/or poly was scrapped off using the plastic scoops and placed into the borehole also. The sod was then placed back over the borehole. If necessary, the plastic scoops were run through a tap water rinse and wash. These procedures were used

throughout the sampling event, unless otherwise specified. The soil samples were collected for PCB screening analysis at the U.S. EPA Office of Environmental Evaluation and Measurement (OEME), North Chelmsford, MA. Soil descriptions of surface soil samples collected during the PA/SI are shown in Appendix B, Table 1.

Sampling activities were completed on Property B, and START proceeded to locate previous sample locations on Properties C, D, and F.

Sample locations SB-23 and SB-24 (where 9.0 and 9.9 mg/Kg of total PCBs were previously detected, respectively), located on Property C, were located and wooden stakes were used to mark their locations. These sample locations were designated as EPA-23C and EPA-24C, respectively. Three additional sample locations were marked with pin flags around EPA-23C (EPA-25C, EPA-26C, and EPA-27C) and EPA-24C (EPA-28C, EPA-29C, and EPA-30C) following the same procedures described previously (see Appendix A, Figure 3C). An additional soil sample location (EPA-31C) was added in the southern portion of the property. START collected nine surface soil grab samples from Property C.

Sample location SB-27 (where 3.1 mg/Kg of total PCBs were previously detected), located on Property D, was located and a wooden stake was used to mark its location (see Appendix A, Figure 3D). One sample, designated as EPA-27D, was collected from this location.

START proceeded to Property F and located SB-26 (where 8.5 mg/Kg of total PCBs were previously detected). This sample location was designated as EPA-26F, and a wooden stake was used to mark its location. Three additional sample locations (EPA-27F, EPA-28F, and EPA-29F) were marked with pin flags around this sample following the same procedures described previously (see Appendix A, Figure 3F). Four surface soil grab samples were collected from Property F.

One rinsate (equipment blank) sample (RB-01) was collected following equipment decontamination. All investigation-derived waste (IDW) (decontamination liquids) generated during the day (approximately 7 gallons) were containerized in two 5-gallon metal pails. Pail covers (containing gaskets) were placed on the two pails, labels were placed on the pails, and the pails were placed in a hidden area behind the shed on Property B, pending off-site disposal by a licensed hazardous waste company. START photo-documented the location of these pails.

A GPS unit was used to record the locations of all samples collected by START, and the wooden stakes and pin flags used to mark sample locations were removed from the properties. START completed field activities, and all on-site personnel departed for the day.

Samples collected during the day were placed on ice in a sample cooler prior to departing the site, chain-of-custody tape was placed over the lid of the cooler, and the cooler was secured at the START office.

20 July 2011 (Wednesday)

Weather: Sunny, very hot, 99°F

START members G. Mavris, R. Sharp, Greg Parrish, and Carolyn Imbres mobilized to the site to finish collecting surface soil samples from residential properties H and I.

OSC Ted Bzenas replaced OSC Alex Sherrin for the day. START personnel calibrated air monitoring instruments including one MultirAE unit and a Rad meter. START member Mavris conducted a safety and operations meeting and discussed the safety issues and the proposed scope of work.

START proceeded to re-locate one sample location on Property I. The property owner accompanied the sampling team and OSC to the southern portion of the property. Sample location SS-23 (where 2.8 mg/Kg of total PCBs were previously detected) was located, and a wooden stake was used to mark its location. One sample, designated as EPA-23I, was collected from this location (see Appendix A, Figure 3I). Sampling activities were completed on Property I, and the sampling team proceeded to Property H.

The sampling team arrived at Property H, and OSC Bzenas spoke with the property owner regarding the collection of samples from the property and restraining the owner's three dogs until sampling activities were completed.

A support zone was established, and START members R. Sharp and G. Parrish set up a decontamination area on a grassy portion of the property. Decontamination procedures were performed in accordance with the HASP and consisted of the same procedures as described for 19 July 2011. START members G. Mavris and C. Imbres, and EPA OSC Bzenas were accompanied by the property owner to the southern portion of the property where soil samples were collected during the June 2010 MACTEC sampling event.

Previous sampling locations SS-27 and SS-28 (where 6.1 and 7.5 mg/Kg of total PCBs were previously detected, respectively) could not be located using a GPS unit due to the inadequate satellite signals resulting from the dense tree cover on the property. START estimated the locations of SS-27 and SS-28 based on the aerial maps and ground features; however, the property owner disputed the location of SS-28. OSC Bzenas discussed this issue with the property owner and an agreement was reached to place SS-28 at a different location. Since the GPS unit could not be used to record the locations of SS-27 and SS-28, a tape measure was used to measure their approximate locations along the fence lines on both sides of the property. Sample location SS-27 was located approximately 30 feet north of the southeast corner of the fence and 5 feet west of the fence; and SS-28 was located approximately 70 feet north of the southwest corner of the fence and approximately 12 feet east of the fence (see Appendix A, Figure 3H). Wooden stakes were used to mark the locations of SS-27 and SS-28, and these sample locations were designated as EPA-27H and EPA-28H, respectively.

Three additional sample locations (EPA-29H, EPA-30H, and EPA-31H) were marked with pin flags around sample EPA-27H; and three additional sample locations (EPA-32H, EPA-33H, and EPA-34H) were marked with pin flags around sample EPA-28H following the same procedures described previously (see Appendix A, Figure 3H). A duplicate sample, EPA-35H, was marked at EPA-28H. Nine surface soil grab samples were collected from Property H.

A rinsate (equipment blank) sample (RB-02) was collected following equipment decontamination. All IDW (decontamination liquids) generated during the day (approximately 5 gallons) were containerized in two additional 5-gallon metal pails. Pail covers (containing gaskets) were placed on the two pails, labels were placed on the pails, and the pails were placed in the same area on Property B as the two pails of IDW generated on 19 July 2011. START photo-documented the location of these pails. The wooden stakes and pin flags used to mark

sample locations were removed from the property. Site features were photographed (see Appendix E, Photo-documentation Log), and sampling activities were completed. All personnel departed the site.

Samples collected during the day were placed on ice in a sample cooler prior to departing the site, chain-of-custody tape was placed over the lid of the cooler, and the cooler was secured at the START office.

21 July 2011 (Thursday)

Weather: Sunny, very hot, 90°F

START personnel completed chain-of-custody procedures and prepared the soil samples for delivery. START member G. Parrish delivered the samples to the U.S. EPA OEME in North Chelmsford, MA for PCB field screening analysis (see Appendix D, Chain-of-Custody Records).

START members G. Mavris and R. Sharp arrived on site and met with OSC Sherrin to discuss the off-site disposal of the IDW. The IDW contained in the four 5-gallon pails located on Property B were poured into a 55-gallon drum located on the street in front [REDACTED]. Tap water was poured into each 5-gallon pail and swished around to rinse the pails. The tap water was poured into the 55-gallon drum, and the pails were then rinsed with a tap water sprayer over the 55-gallon drum. Approximately 20 gallons of liquids were contained in the drum. The drum lid was placed on the drum and secured.

General Chemical Corp. arrived on site to pick up the drum for off-site disposal at the Cycle Chem Inc. Facility in Elizabeth, New Jersey. The drum was labeled by General Chemical Corp. and placed in a truck. OSC Sherrin signed the hazardous waste manifest and Land Ban Restriction form. START photo-documented site activities. The General Chemical Corp. truck departed the site. START members G. Mavris and R. Sharp departed the site, concluding site activities for the PA/SI.

Analytical Data Summaries

Polychlorinated Biphenyls

On 18 August 2011, START received the screening analytical results from OEME for the 30 soil samples (including two duplicate samples) collected on 19 and 20 July 2011 [13, 14]. The data are summarized in Appendix B, Table 2. Complete analytical results may be found in Appendix C.

Analytical results received from OEME indicated that PCBs were detected in all the soil samples except one (EPA-33H). Aroclor-1248 and Aroclor-1254 were detected in 27 soil samples (Appendix B, see Table 2). Concentrations of Aroclor-1248 ranged from non-detect (ND) to 580 mg/Kg (EPA-24C); and concentrations of Aroclor-1254 ranged from ND to 13 mg/Kg (EPA-25C). Total concentrations of PCBs exceeded the Massachusetts Contingency Plan (MCP) Method 1 S-1/GW-1 standard of 2 mg/Kg in 25 of the soil samples.

On 23 September 2011, START received the confirmation data for three soil samples (EPA-24C, EPA-25C, and EPA-30C) collected on 19 July 2011 [15]. The three samples with the highest concentrations of PCBs detected during screening analysis were selected for confirmation

analysis. The data are summarized in Appendix B, Table 2, in a column next to the screening data for aroclor 1248. Complete analytical results may be found in Appendix C. Concentrations of Aroclor-1248 in the confirmation samples ranged from 13 mg/Kg (EPA-30C) to 730 mg/Kg (EPA-24C). The concentrations of PCB aroclor 1248 in all three confirmation samples exceeded the MCP Method 1 S-1/GW-1 standard of 2 mg/Kg.

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- [13] U.S. Environmental Protection Agency, New England Regional Laboratory, Office of Environmental Measurement and Evaluation. August 2, 2011. *Laboratory Report, Project Number 11070043, Riverside Square PCB – Boston, MA, PCBs in Soil Field Method (Fixed Lab)*.
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III. Appendices

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Appendix A

Figures

- Figure 1 - Site Location Map
- Figure 2 - Site Diagram
- Figure 3-B - Surface Soil Sample Results Map, Property B
- Figure 3-C - Surface Soil Sample Results Map, Property C
- Figure 3-D - Surface Soil Sample Results Map, Property D
- Figure 3-F - Surface Soil Sample Results Map, Property F
- Figure 3-H - Surface Soil Sample Results Map, Property H
- Figure 3-I - Surface Soil Sample Results Map, Property I

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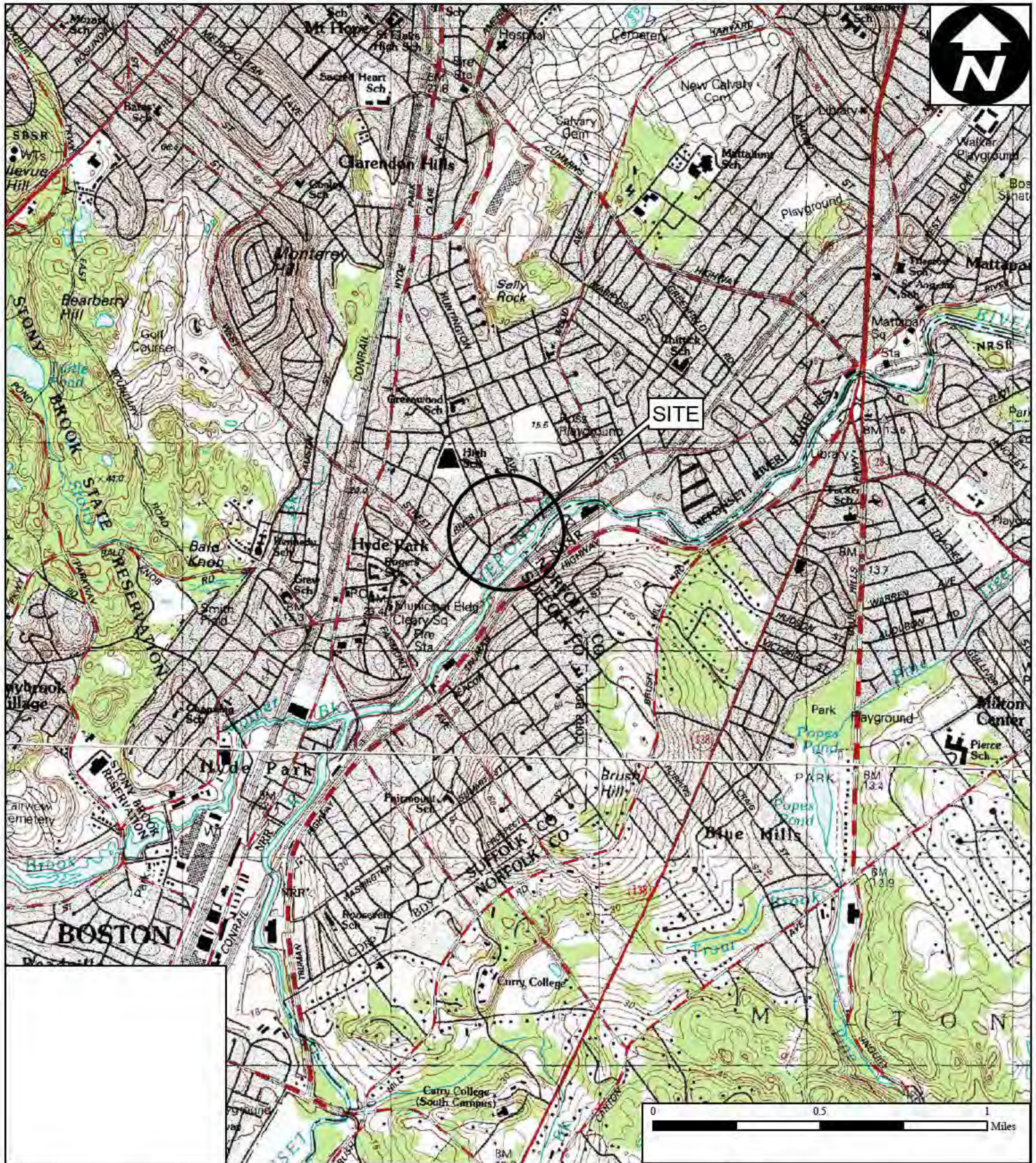


Figure 1

Site Location Map

Riverside Square PCB Site
Boston, MA

**EPA Region I
 Superfund Technical Assessment and
 Response Team (START) III
 Contract No. EP-W-05-042**

TDD Number: 11-06-0001
Created by: B. Mace
Created on: 23 June 2011
Modified by:
Modified on:

Data Sources:

Topos: MicroPath/USGS
 Quadrangle Name(s): Boston South, Blue Hills, MA
 All other data: START



Figure 2

Site Diagram

Riverside Square PCB Site

Boston, MA

EPA Region I
Superfund Technical Assessment and
Response Team (START) III
Contract No. EP-W-05-042

TDD Number: 11-06-0001

Created by: B. Mace

Created on: 23 June 2011

Modified by:

Modified on: **LEGEND**

[---] Parcel Boundary

— Dredged Spoil Area

- - - Inferred Dredged Spoil Area

● Soil_Sam

[X] Property ID



0 100 200
Feet

Data Sources:

Imagery: Massachusetts Geographic
Information System (MassGIS)

Image Nos. 23128900 and 23278900

Topos: MicroPath

All other data: START/MACTEC



Data Sources:

Imagery: Massachusetts Geographic Information System (MassGIS)
Image Nos. 23128900 and 23278900
Topos: MicroPath
All other data: START/MACTEC







Figure 3-D
Property D
Surface Soil Sample Results Map
Total Polychlorinated Biphenyls
Riverside Square PCB Site
Boston, MA

EPA Region I
Superfund Technical Assessment and
Response Team (START) III
Contract No. EP-W-05-042
TDD Number: 11-06-0001
Created by: B. Mace
Created on: 23 June 2011
Modified by: G. Mavris
Modified on: 18 August 2011

LEGEND

- Parcel Boundary
- Dredged Spoil Area
- Inferred Dredged Spoil Area
- Soil Sample Location - July 2011

Results reported in parts per million (ppm)

Bolded sample locations and results indicate re-located MACTEC sampling locations

Property ID



0 25 50
Feet

Data Sources:

Imagery: Massachusetts Geographic Information System (MassGIS)
Image Nos. 23128900 and 23278900
Topos: MicroPath
All other data: START/MACTEC



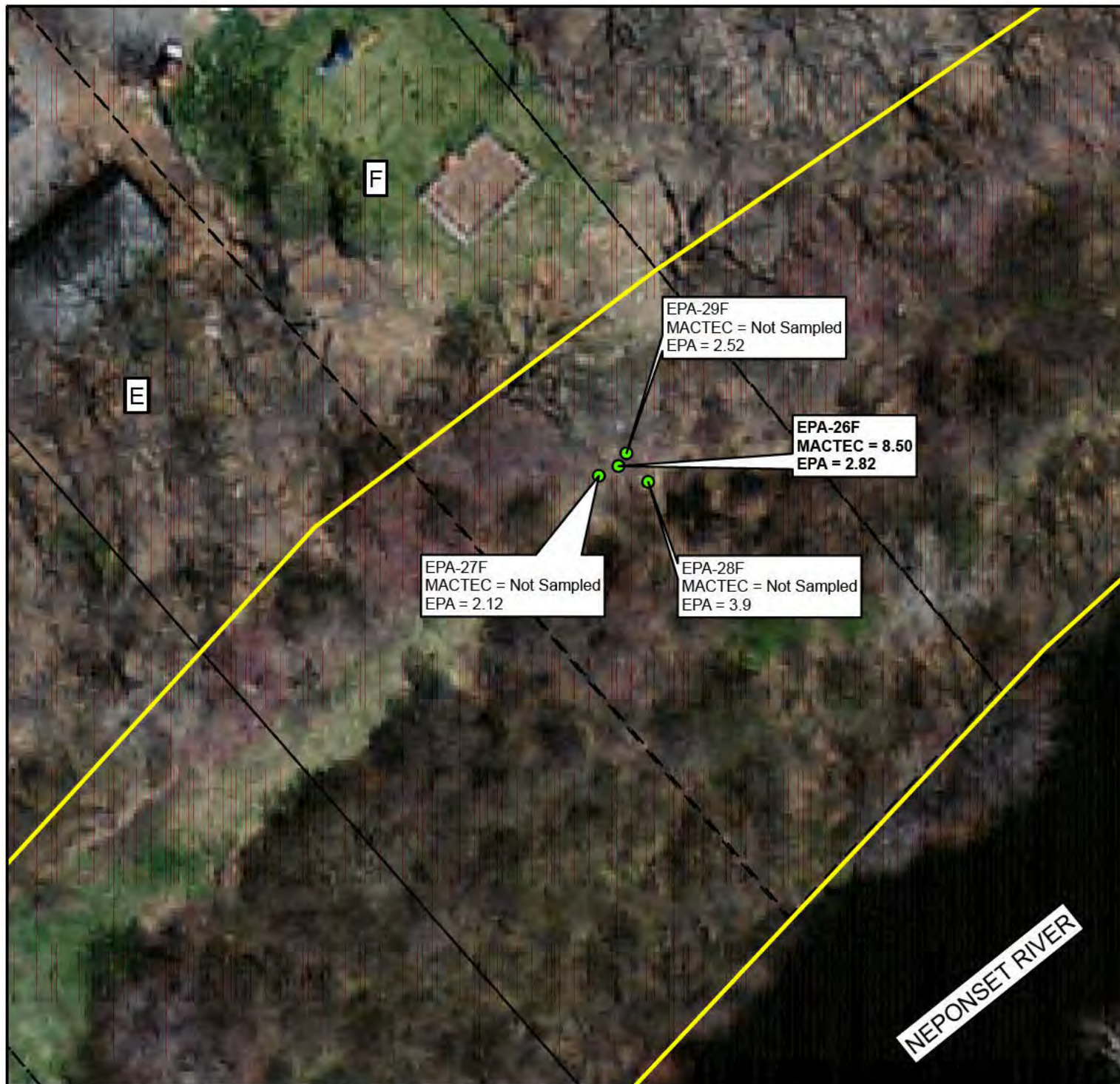


Figure 3-F
Property F
Surface Soil Sample Results Map
Total Polychlorinated Biphenyls

Riverside Square PCB Site

Boston, MA

EPA Region I

**Superfund Technical Assessment and
Response Team (START) III**
Contract No. EP-W-05-042

TDD Number: 11-06-0001
Created by: B. Mace
Created on: 23 June 2011
Modified by: G. Mavris
Modified on: 18 August 2011

LEGEND

- Parcel Boundary
- Dredged Spoil Area
- Inferred Dredged Spoil Area
- Soil Sample Location - July 2011

Results reported in parts per million (ppm)

Bolded sample locations and results indicate re-located MACTEC sampling locations

Property ID



0 25 50
Feet

Data Sources:

Imagery: Massachusetts Geographic Information System (MassGIS)
Image Nos. 23128900 and 23278900
Topos: MicroPath
All other data: START/MACTEC



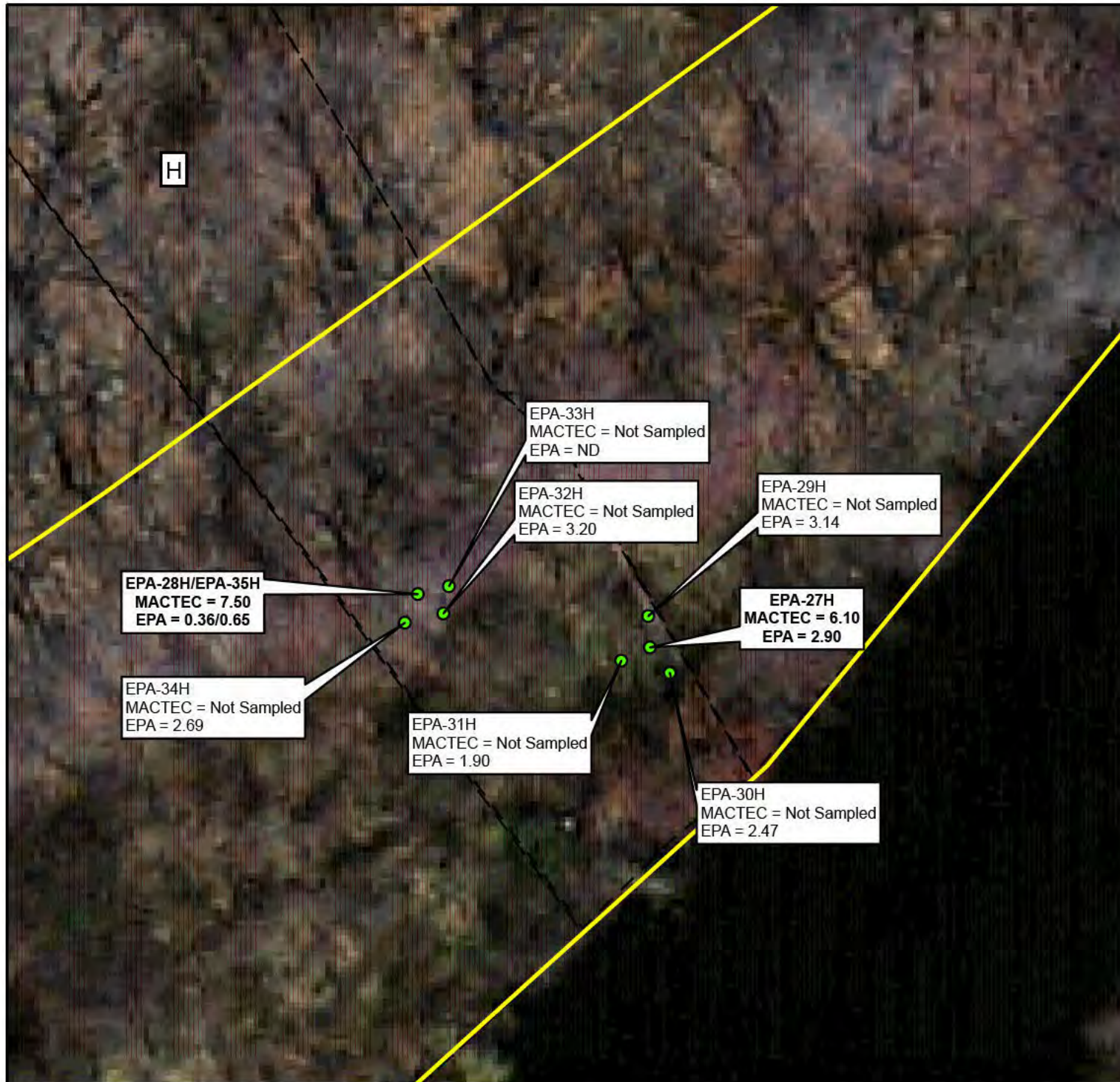




Figure 3-I
Property I
Surface Soil Sample Results Map
Total Polychlorinated Biphenyls
Riverside Square PCB Site
Boston, MA

EPA Region I
Superfund Technical Assessment and
Response Team (START) III
Contract No. EP-W-05-042
TDD Number: 11-06-0001
Created by: B. Mace
Created on: 23 June 2011
Modified by: G. Mavris
Modified on: 18 August 2011

LEGEND

- Parcel Boundary
- Dredged Spoil Area
- Inferred Dredged Spoil Area
- Soil Sample Location - July 2011

Results reported in parts per million (ppm)

Bolded sample locations and results indicate re-located MACTEC sampling locations

☒ Property ID



0 25 50
 Feet

Data Sources:

Imagery: Massachusetts Geographic Information System (MassGIS)
 Image Nos. 23128900 and 23278900
 Topos: MicroPath
 All other data: START/MACTEC



Appendix B

Tables and Spreadsheets

Table 1 - Surface Soil Sample Descriptions

Table 2 - Summary of Polychlorinated Biphenyl Field Screening Data

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TABLE 1

**SURFACE SOIL SAMPLE DESCRIPTIONS
RIVERSIDE SQUARE PCB SITE
HYDE PARK (BOSTON), MASSACHUSETTS**

Sample Location	Depth (inches)	Collection Date	Sample Type	Sample Description	Comments
EPA-21-B	0 - 12	19-Jul-11	Grab	Brown, fine-to-coarse SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-22-B	0 - 12	19-Jul-11	Grab	Brown, fine-to-medium SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-23-B	0 - 12	19-Jul-11	Grab	Brown, fine-to-medium SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-24-B	0 - 12	19-Jul-11	Grab	Brown, fine-to-medium SAND, some silt, little fine-to-coarse gravel, trace roots.	-----
EPA-25-B	0 - 12	19-Jul-11	Grab	Brown, fine-to-medium SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-26-B	0 - 12	19-Jul-11	Grab	Brown, fine-to-coarse SAND and SILT, little fine-to-coarse gravel, trace roots.	Duplicate of EPA-21B
EPA-23-C	0 - 12	19-Jul-11	Grab	Light brown, fine-to-coarse SAND, little coarse gravel (> 2 inches), trace roots.	-----
EPA-24-C	0 - 12	19-Jul-11	Grab	Brown, fine SAND and SILT, little fine-to-coarse gravel, trace silt and roots.	-----
EPA-25-C	0 - 12	19-Jul-11	Grab	Brown, fine-to-coarse SAND, some silt, little fine-to-coarse gravel, trace roots.	-----
EPA-26-C	0 - 12	19-Jul-11	Grab	Light brown-to-brown, fine-to-coarse SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-27-C	0 - 12	19-Jul-11	Grab	Light brown-to-brown, fine-to-coarse SAND, little fine-to-coarse gravel (glass) (> 3 inches), trace roots.	-----
EPA-28-C	0 - 12	19-Jul-11	Grab	Light brown, fine-to-coarse SAND, little silt and fine-to-coarse gravel (> 2 inches), trace roots.	-----
EPA-29-C	0 - 12	19-Jul-11	Grab	Brown, fine SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-30-C	0 - 12	19-Jul-11	Grab	Brown, fine SAND and SILT, little fine-to-coarse gravel, trace silt and roots.	-----
EPA-31-C	0 - 12	19-Jul-11	Grab	Brown-to-dark brown, fine-to-medium SAND and SILT, little fine-to-coarse gravel, trace clay and roots.	-----
EPA-27-D	0 - 12	19-Jul-11	Grab	Brown, fine-to-coarse SAND, some silt, little fine-to-coarse gravel, trace roots.	-----
EPA-26-F	0 - 12	19-Jul-11	Grab	Grayish-brown, fine SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-27-F	0 - 12	19-Jul-11	Grab	Brown, fine-to-coarse SAND, some silt, little fine-to-coarse gravel, trace roots.	-----
EPA-28-F	0 - 12	19-Jul-11	Grab	Brown, fine-to-coarse SAND, some silt, little fine-to-coarse gravel, trace roots.	-----
EPA-29-F	0 - 12	19-Jul-11	Grab	Dark brown, SILT, little fine-to-coarse gravel (< 2 inches), trace fine sand and roots.	-----
EPA-27-H	0 - 12	20-Jul-11	Grab	Light-to-dark brown, fine SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-28-H	0 - 12	20-Jul-11	Grab	Dark brown, fine SAND and SILT (organics), trace fine gravel and roots.	-----
EPA-29-H	0 - 12	20-Jul-11	Grab	Light-to-dark brown, fine SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-30-H	0 - 12	20-Jul-11	Grab	Brown, fine SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-31-H	0 - 12	20-Jul-11	Grab	Light-to-dark brown, fine SAND and SILT, little fine-to-coarse gravel, trace roots.	-----
EPA-32-H	0 - 12	20-Jul-11	Grab	Dark brown, fine SAND and SILT, trace fine gravel and roots.	-----
EPA-33-H	0 - 12	20-Jul-11	Grab	Dark brown, fine SAND and SILT, trace fine gravel and roots.	-----
EPA-34-H	0 - 12	20-Jul-11	Grab	Dark brown, fine SAND and SILT, trace fine-to-coarse gravel and roots.	-----
EPA-35-H	0 - 12	20-Jul-11	Grab	Dark brown, fine SAND and SILT (organics), trace fine gravel and roots.	Duplicate of EPA-28H
EPA-23-I	0 - 12	20-Jul-11	Grab	Light brown, fine-to-medium SAND and SILT, some fine-to-coarse gravel, trace roots.	-----

TABLE 2

**SUMMARY OF POLYCHLORINATED BIPHENYL
FIELD SCREENING AND CONFIRMATION DATA
RIVERSIDE SQUARE PCB SITE
HYDE PARK (BOSTON), MASSACHUSETTS**

Sample Number	Laboratory Number	Screening Data		Confirmation	Screening Data				Total PCBs
		Aroclor-1242	Aroclor-1248	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	
EPA-21B	AB19731	ND (0.18)	3.0 (0.18)	NA	0.89 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	3.89
EPA-22B	AB19733	ND (0.20)	4.2 (0.20)	NA	0.87 (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	5.07
EPA-23B	AB19734	ND (0.18)	6.5 (0.18)	NA	1.3 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	7.8
EPA-24B	AB19735	ND (0.18)	2.8 (0.18)	NA	0.43 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	3.23
EPA-25B	AB19736	ND (0.18)	12 (0.18)	NA	2.3 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	14.3
EPA-26B	AB19732	ND (0.20)	3.7 (0.20)	NA	1.1 (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	4.8
EPA-23C	AB19737	ND (0.18)	3.5 (0.18)	NA	0.75 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	4.25
EPA-24C	AB19741	ND (22)	580 (22)	730 (50)	ND (22)	ND (22)	ND (22)	ND (22)	580
EPA-25C	AB19738	ND (9.0)	110 (9.0)	170 (24)	13 (0.18)	ND (9.0)	ND (9.0)	ND (9.0)	123
EPA-26C	AB19739	ND (0.16)	3.2 (0.16)	NA	0.94 (0.16)	ND (0.16)	ND (0.16)	ND (0.16)	4.14
EPA-27C	AB19740	ND (0.18)	4.7 (0.18)	NA	1.2 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	5.9
EPA-28C	AB19742	ND (0.80)	12 (0.80)	NA	1.7 (0.16)	ND (0.80)	ND (0.80)	ND (0.80)	13.7
EPA-29C	AB19743	ND (0.80)	14 (0.80)	NA	2.8 (0.16)	ND (0.80)	ND (0.80)	ND (0.80)	16.8
EPA-30C	AB19744	ND (2.0)	14 (2.0)	13 P (2.20)	6.5 (0.20)	ND (2.0)	ND (2.0)	ND (2.0)	20.5
EPA-31C	AB19745	ND (0.20)	1.0 (0.20)	NA	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	1.0
EPA-27D	AB19746	ND (0.20)	3.8 (0.20)	NA	0.95 (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	4.75
EPA-26F	AB19747	ND (0.20)	2.3 (0.20)	NA	0.52 (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	2.82
EPA-27F	AB19748	ND (0.18)	1.7 (0.18)	NA	0.42 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	2.12
EPA-28F	AB19749	ND (0.18)	2.9 (0.18)	NA	1.0 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	3.9
EPA-29F	AB19750	ND (0.22)	1.9 (0.22)	NA	0.62 (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	2.52
EPA-27H	AB19751	ND (0.20)	2.1 (0.20)	NA	0.80 (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	2.9
EPA-28H	AB19755	ND (0.24)	ND (0.24)	NA	0.36 (0.24)	ND (0.24)	ND (0.24)	ND (0.24)	0.36
EPA-29H	AB19752	ND (0.18)	2.3 (0.18)	NA	0.84 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	3.14
EPA-30H	AB19753	ND (0.18)	1.8 (0.18)	NA	0.67 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	2.47
EPA-31H	AB19754	ND (0.18)	1.4 (0.18)	NA	0.50 (0.18)	ND (0.18)	ND (0.18)	ND (0.18)	1.9
EPA-32H	AB19757	ND (0.20)	2.2 (0.20)	NA	1.0 (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	3.2
EPA-33H	AB19758	ND (0.22)	ND (0.22)	NA	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	0
EPA-34H	AB19759	ND (0.20)	1.7 (0.20)	NA	0.99 (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	2.69
EPA-35H	AB19756	ND (0.26)	ND (0.26)	NA	0.65 (0.26)	ND (0.26)	ND (0.26)	ND (0.26)	0.65
EPA-23I	AB19760	ND (0.20)	4.5 (0.20)	NA	0.92 (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	5.42
Average =									28.2

NOTES:

- 1) Samples analyzed by U.S. EPA Office of Environmental Measurement and Evaluation (OEME) using EPA Region I SOP, FLDPCB2.SOP (PCBs in Soil Field method, Fixed Lab); and EPA Region I SOP, PESTSOIL3.SOP.
- 2) All Results in Milligrams per Kilogram (mg/Kg).
- 3) Bolded and shaded results exceed the Massachusetts Contingency Plan (MCP) Method 1 Soil Category S-1 Standards for total PCBs of 2.0 mg/Kg.
- 5) ND = Not Detected with Reporting Limit (RL) shown in parentheses.
- 6) NA = Not Analyzed.
- 7) The confirmation value exceeded 35% difference and is less than 100%. The lower value is reported [15].

Appendix C

Laboratory Analytical Data

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United States Environmental Protection Agency
Office of Environmental Measurement & Evaluation
11 Technology Drive
North Chelmsford, MA 01863

Laboratory Report

August 02, 2011

Alex Sherrin - Mail Code OSRR02-2
US EPA New England R1

Project Number: 11070043
Project: Riverside Square PCB - Boston, MA
Analysis: PCB's in Soil Field Method (Fixed Lab)
Analyst: Paul Carroll

Paul Carroll
8.2.11

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, FLDPCB2.SOP.

Concentrations of PCBs in soil were calculated using an external standard technique.

Analysis for PCB's performed by this field analytical technique is used for tentative identification and semi-quantitation of PCB's in soil, oil, and sediment samples.

Date Samples Received by the Laboratory: 7/21/11

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

Results for soil samples are reported on a dry weight basis.

If you have any questions please call me at 617-918-8340.

Sincerely,

Daniel Boudreau 8/4/11
Daniel Boudreau

Project # 11070043

PCB's in Soil Field Method (Fixed Lab)

		US ENVIRONMENTAL PROTECTION AGENCY NEW ENGLAND LABORATORY Riverside Square PCB - Boston, MA					
Client Sample ID	Lab Sample ID	Date of Collection	Date of Extraction	Date of Analysis	Matrix	Conc. (RL) mg/Kg	
	R01-110719AS-0001	AB19731	7/19/2011	7/25/2011	7/25/2011	Soil	
	R01-110719AS-0002	AB19732	7/19/2011	7/25/2011	7/25/2011	Soil	
	R01-110719AS-0003	AB19733	7/19/2011	7/25/2011	7/25/2011	Soil	
	R01-110719AS-0004	AB19734	7/19/2011	7/25/2011	7/25/2011	Soil	
	R01-110719AS-0005	AB19735	7/19/2011	7/25/2011	7/25/2011	Soil	
	R01-110719AS-0006	AB19736	7/19/2011	7/25/2011	7/25/2011	Soil	
Compound						Conc. (RL) mg/Kg	
Aroclor-1242		ND (0.18)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.18)	ND (0.18)
Aroclor-1248		3.0 (0.18)	3.7 (0.20)	4.2 (0.20)	6.5 (0.18)	2.8 (0.18)	12 (0.18)
Aroclor-1254		0.89 (0.18)	1.1 (0.20)	0.87 (0.20)	1.3 (0.18)	0.43 (0.18)	2.3 (0.18)
Aroclor-1260		ND (0.18)	ND (0.20)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.18)
Aroclor-1262		ND (0.18)	ND (0.20)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.18)
Aroclor-1268		ND (0.18)	ND (0.20)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.18)

US ENVIRONMENTAL PROTECTION AGENCY NEW ENGLAND LABORATORY Riverside Square PCB - Boston, MA						
	R01-110719AS-0007 AB19737 7/19/2011 7/25/2011 7/25/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0008 AB19738 7/19/2011 7/25/2011 7/25/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0009 AB19739 7/19/2011 7/25/2011 7/25/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0010 AB19740 7/19/2011 7/25/2011 7/25/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0011 AB19741 7/19/2011 7/25/2011 7/27/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0012 AB19742 7/19/2011 7/25/2011 7/25/2011 Soil Conc. (RL) mg/Kg
Aroclor-1242	ND (0.18)	ND (9.0)	ND (0.16)	ND (0.18)	ND (22)	ND (0.8)
Aroclor-1248	3.5 (0.18)	110 (9.0)	3.2 (0.16)	4.7 (0.18)	580 (22)	12 (0.8)
Aroclor-1254	0.75 (0.18)	13 (0.18)	0.94 (0.16)	1.2 (0.18)	ND (22)	1.7 (0.16)
Aroclor-1260	ND (0.18)	ND (9.0)	ND (0.16)	ND (0.18)	ND (22)	ND (0.8)
Aroclor-1262	ND (0.18)	ND (9.0)	ND (0.16)	ND (0.18)	ND (22)	ND (0.8)
Aroclor-1268	ND (0.18)	ND (9.0)	ND (0.16)	ND (0.18)	ND (22)	ND (0.8)

US ENVIRONMENTAL PROTECTION AGENCY NEW ENGLAND LABORATORY Riverside Square PCB - Boston, MA						
	R01-110719AS-0013 AB19743 7/19/2011 7/25/2011 7/26/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0014 AB19744 7/19/2011 7/25/2011 7/26/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0015 AB19745 7/19/2011 7/25/2011 7/26/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0016 AB19746 7/19/2011 7/25/2011 7/26/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0017 AB19747 7/19/2011 7/25/2011 7/26/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0018 AB19748 7/19/2011 7/25/2011 7/26/2011 Soil Conc. (RL) mg/Kg
Aroclor-1242	ND (0.8)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.18)
Aroclor-1248	14 (0.8)	14 (2.0)	1.0 (0.20)	3.8 (0.20)	2.3 (0.20)	1.7 (0.18)
Aroclor-1254	2.8 (0.16)	6.5 (0.2)	ND (0.20)	0.95 (0.20)	0.52 (0.20)	0.42 (0.18)
Aroclor-1260	ND (0.8)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.18)
Aroclor-1262	ND (0.8)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.18)
Aroclor-1268	ND (0.8)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.18)

US ENVIRONMENTAL PROTECTION AGENCY NEW ENGLAND LABORATORY Riverside Square PCB - Boston, MA						
	R01-110719AS-0019 AB19749 7/19/2011 7/25/2011 7/26/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0020 AB19750 7/19/2011 7/25/2011 7/26/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0021 AB19751 7/20/2011 7/26/2011 7/28/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0022 AB19752 7/20/2011 7/26/2011 7/28/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0023 AB19753 7/20/2011 7/26/2011 7/28/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0024 AB19754 7/20/2011 7/26/2011 7/28/2011 Soil Conc. (RL) mg/Kg
Aroclor-1242	ND (0.18)	ND (0.22)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.18)
Aroclor-1248	2.9 (0.18)	1.9 (0.22)	2.1 (0.20)	2.3 (0.18)	1.8 (0.18)	1.4 (0.18)
Aroclor-1254	1.0 (0.18)	0.62 (0.22)	0.80 (0.20)	0.84 (0.18)	0.67 (0.18)	0.50 (0.18)
Aroclor-1260	ND (0.18)	ND (0.22)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.18)
Aroclor-1262	ND (0.18)	ND (0.22)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.18)
Aroclor-1268	ND (0.18)	ND (0.22)	ND (0.20)	ND (0.18)	ND (0.18)	ND (0.18)

US ENVIRONMENTAL PROTECTION AGENCY NEW ENGLAND LABORATORY Riverside Square PCB - Boston, MA						
	R01-110719AS-0025 AB19755 7/20/2011 7/26/2011 7/28/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0026 AB19756 7/20/2011 7/26/2011 7/28/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0027 AB19757 7/20/2011 7/26/2011 7/28/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0028 AB19758 7/20/2011 7/26/2011 7/28/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0029 AB19759 7/20/2011 7/26/2011 7/28/2011 Soil Conc. (RL) mg/Kg	R01-110719AS-0030 AB19760 7/20/2011 7/26/2011 7/28/2011 Soil Conc. (RL) mg/Kg
Aroclor-1242	ND (0.24)	ND (0.26)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.20)
Aroclor-1248	ND (0.24)	ND (0.26)	2.2 (0.20)	ND (0.22)	1.7 (0.20)	4.5 (0.20)
Aroclor-1254	0.36 (0.24)	0.65 (0.26)	1.0 (0.20)	ND (0.22)	0.99 (0.20)	0.92 (0.20)
Aroclor-1260	ND (0.24)	ND (0.26)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.20)
Aroclor-1262	ND (0.24)	ND (0.26)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.20)
Aroclor-1268	ND (0.24)	ND (0.26)	ND (0.20)	ND (0.22)	ND (0.20)	ND (0.20)

US ENVIRONMENTAL PROTECTION AGENCY NEW ENGLAND LABORATORY		
	R01-110719AS-0033 AB19763 7/21/2011 7/26/2011 7/28/2011 PE Soil Conc. (RL) mg/Kg	R01-110719AS-0034 AB19764 7/21/2011 7/26/2011 7/28/2011 PE Soil Conc. (RL) mg/Kg
Aroclor-1242	ND (2.0)	ND (0.22)
Aroclor-1248	14 (2.0)	0.58 (0.22)
Aroclor-1254	ND (2.0)	ND (0.22)
Aroclor-1260	ND (2.0)	ND (0.22)
Aroclor-1262	ND (2.0)	ND (0.22)
Aroclor-1268	ND (2.0)	ND (0.22)

Qualifiers: RL = Reporting limit
ND = Not Detected above Reporting limit
NA = Not Applicable due to high sample dilutions or sample interferences
J = Estimated value
E = Estimated value exceeds the calibration range
L = Estimated value is below the calibration range
B = Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 10 times the concentration in the blank.
P = The confirmation value exceeded 35% difference and is less than 100%. The lower value is reported.
C = The identification has been confirmed by GC/MS.
A = Suspected Aldol condensation product.
N = Tentatively identified compound.



United States Environmental Protection Agency
Office of Environmental Measurement & Evaluation
11 Technology Drive
North Chelmsford, MA 01863-2431

Laboratory Report

August 09, 2011

Alex Sherrin - Mail Code OSRR02-2
US EPA New England R1

Project Number: 11070043

Project: Riverside Square PCB - Boston, MA

Analysis: PCBs in Water Low Level

Analyst: Paul Carroll

PCarroll
8-9-11

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIASOP-PESWALL6.

The SOP is based on "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, Method 608 - Organochlorine Pesticides and PCBS".

The analysis was carried out using high resolution capillary column chromatography. The 30 meter dual capillary system consists of J&W DB-5 and J&W DB-1701 columns both with a 0.25 mm ID.

Date Samples Received by the Laboratory: 07/21/2011

Data were reviewed in accordance with the internal verification procedures described in the EPA New England OEME Chemistry QA Plan.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

Report may contain multiple sections and each section will be numbered independently.

If you have any questions please call me at 617-918-8340 .

Sincerely,

Daniel N. Boudreau 8/9/11

Daniel N. Boudreau
Chemistry Team Leader

Qualifiers:

- RL = Reporting limit
- ND = Not Detected above Reporting limit
- NA = Not Applicable due to high sample dilutions or sample interferences
- J = Estimated value
- E = Estimated value exceeds the calibration range
- L = Estimated value is below the calibration range
- B = Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 10 times the concentration in the blank.
- P = The confirmation value exceeded 35% difference and is less than 100%. The lower value is reported.
- C = The identification has been confirmed by GC/MS.
- R = No recovery was calculated since the analyte concentration is greater than four times the spike level.

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Riverside Square PCB - Boston, MA

PCBs in Water Low Level

Client Sample ID: R01-110719AS-0031
Date of Collection: 7/20/2011
Date of Extraction: 7/22/11
Date of Analysis: 8/3/11
Dry Weight Extracted: N/A
Wet Weight Extracted: N/A
Volume Extracted: 1000 mL

Lab Sample ID: AB19761
Matrix: Water
Final Volume: 5 mL
Percent Solids: N/A
Extract Dilution: 1
pH: 7.0
GPC Factor: N/A

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
12674-11-2	Aroclor-1016	ND	0.50	
11104-28-2	Aroclor-1221	ND	0.50	
11141-16-5	Aroclor-1232	ND	0.50	
53469-21-9	Aroclor-1242	ND	0.50	
12672-29-6	Aroclor-1248	ND	0.50	
11097-69-1	Aroclor-1254	ND	0.50	
11096-82-5	Aroclor-1260	ND	0.50	
11100-14-4	Aroclor-1262	ND	0.50	
37324-23-5	Aroclor-1268	ND	0.50	

Surrogate Compounds	Recoveries (%)	QC Ranges
2,4,5,6-Tetrachloro-m-xylene	66	40 - 106
Decachlorobiphenyl	61	27 - 128

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Riverside Square PCB - Boston, MA

PCBs in Water Low Level

Client Sample ID: R01-110719AS-0032
Date of Collection: 7/20/2011
Date of Extraction: 7/22/11
Date of Analysis: 8/3/11
Dry Weight Extracted: N/A
Wet Weight Extracted: N/A
Volume Extracted: 1000 mL

Lab Sample ID: AB19762
Matrix: Water
Final Volume: 5 mL
Percent Solids: N/A
Extract Dilution: 1
pH: 6.5
GPC Factor: N/A

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
12674-11-2	Aroclor-1016	ND	0.50	
11104-28-2	Aroclor-1221	ND	0.50	
11141-16-5	Aroclor-1232	ND	0.50	
53469-21-9	Aroclor-1242	ND	0.50	
12672-29-6	Aroclor-1248	ND	0.50	
11097-69-1	Aroclor-1254	ND	0.50	
11096-82-5	Aroclor-1260	ND	0.50	
11100-14-4	Aroclor-1262	ND	0.50	
37324-23-5	Aroclor-1268	ND	0.50	

Surrogate Compounds	Recoveries (%)	QC Ranges
2,4,5,6-Tetrachloro-m-xylene	84	40 - 106
Decachlorobiphenyl	86	27 - 128

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Riverside Square PCB - Boston, MA

Blank for PCBs Water

Client Sample ID: N/A
Date of Collection: N/A
Date of Extraction: 7/22/11
Date of Analysis: 8/3/11
Dry Weight Extracted: N/A
Wet Weight Extracted: N/A
Volume Extracted: 1000 mL

Lab Sample ID: N/A
Matrix: Water
Final Volume: 5 mL
Percent Solids: N/A
Extract Dilution: 1
pH: 5.9
GPC Factor: N/A

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
12674-11-2	Aroclor-1016	ND	0.50	
11104-28-2	Aroclor-1221	ND	0.50	
11141-16-5	Aroclor-1232	ND	0.50	
53469-21-9	Aroclor-1242	ND	0.50	
12672-29-6	Aroclor-1248	ND	0.50	
11097-69-1	Aroclor-1254	ND	0.50	
11096-82-5	Aroclor-1260	ND	0.50	
11100-14-4	Aroclor-1262	ND	0.50	
37324-23-5	Aroclor-1268	ND	0.50	

Surrogate Compounds	Recoveries (%)	QC Ranges
2,4,5,6-Tetrachloro-m-xylene	56	25 - 123
Decachlorobiphenyl	37	32 - 145

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

PCB MATRIX SPIKE (MS) RECOVERY

Riverside Square PCB - Boston, MA

Sample ID: AB19762

PARAMETER	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC	QC LIMITS (% REC)
Aroclor-1254	3.09	ND	2.98	96.44	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

LABORATORY DUPLICATE RESULTS

Riverside Square PCB - Boston, MA

Sample ID: AB19761

PARAMETER	SAMPLE RESULT ug/L	SAMPLE DUPLICATE RESULT ug/L	PRECISION RPD %	QC LIMITS
Aroclor-1016	ND	ND		50
Aroclor-1221	ND	ND		50
Aroclor-1232	ND	ND		50
Aroclor-1242	ND	ND		50
Aroclor-1248	ND	ND		50
Aroclor-1254	ND	ND		50
Aroclor-1260	ND	ND		50
Aroclor-1262	ND	ND		50
Aroclor-1268	ND	ND		50

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United States Environmental Protection Agency
Office of Environmental Measurement & Evaluation
11 Technology Drive
North Chelmsford, MA 01863-2431

Laboratory Report

September 16, 2011

Alex Sherrin - Mail Code OSRR02-2
US EPA New England R1

Project Number: 11070043
Project: Riverside Square PCB - Boston, MA
Analysis: PCBs Medium Level in Soils and Sediments
Analyst: Paul Carroll

Handwritten signature
9.16.11

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, PESTSOILS SOP.

The SOP is based on EPA SW-846 Method 8082

The analysis was performed using high resolution capillary column chromatography on an Agilent 6890 Series gas chromatograph equipped with dual electron capture detectors. The 30 meter dual capillary column system consists of a J&W DB-5 and J&W DB-1701, both with 0.25mm ID and 0.25 micron film thickness.

The results are reported on a dry weight basis.

Date Samples Received by the Laboratory: 07/21/2011

Data were reviewed in accordance with the internal verification procedures described in the EPA New England OEME Chemistry QA Plan.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

Report may contain multiple sections and each section will be numbered independently.

If you have any questions please call me at 617-918-8340.

Sincerely,

Handwritten signature of Daniel N. Boudreau 9/19/11

Daniel N. Boudreau
Chemistry Team Leader

Qualifiers:	RL	Reporting limit
	ND	Not Detected above Reporting limit
	NA	Not Applicable due to high sample dilutions or sample interferences
	J	Estimated value
	E	Estimated value exceeds the calibration range
	L	Estimated value is below the calibration range
	B	Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 10 times the concentration in the blank.
	P	The confirmation value exceeded 35% difference and is less than 100%. The lower value is reported.
	C	The identification has been confirmed by GC/MS.
	R	No recovery was calculated since the analyte concentration is greater than four times the spike level.

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Riverside Square PCB - Boston, MA

PCBs Medium Level in Soils and Sediments

Client Sample ID: R01-110719AS-0011

Lab Sample ID: AB19741

Date of Collection: 7/19/2011

Matrix: Soil

Date of Extraction: 9/1/11

Final Volume: 5 mL

Date of Analysis: 9/15/11

Percent Solids: 78%

Dry Weight Extracted: 3.97 grams

Extract Dilution: 400

Wet Weight Extracted: 5.08 grams

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
12674-11-2	Aroclor-1016	ND	50.00	
11104-28-2	Aroclor-1221	ND	50.00	
11141-16-5	Aroclor-1232	ND	50.00	
53469-21-9	Aroclor-1242	ND	50.00	
12672-29-6	Aroclor-1248	730	50.00	
11097-69-1	Aroclor-1254	ND	50.00	
11096-82-5	Aroclor-1260	ND	50.00	
11100-14-4	Aroclor-1262	ND	50.00	
37324-23-5	Aroclor-1268	ND	50.00	

Surrogate Compounds	Recoveries (%)	QC Ranges
2,4,5,6-Tetrachloro-m-xylene	NA	36 - 131
Decachlorobiphenyl	NA	30 - 165

Comments: NA - Surrogate recoveries were not determine due to the dilution required to quantitate target analytes.

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Riverside Square PCB - Boston, MA

PCBs Medium Level in Soils and Sediments

Client Sample ID: R01-110719AS-0008

Date of Collection: 7/19/2011

Date of Extraction: 9/1/11

Date of Analysis: 9/15/11

Dry Weight Extracted: 4.22 grams

Wet Weight Extracted: 5.11 grams

Lab Sample ID: AB19738

Matrix: Soil

Final Volume: 5 mL

Percent Solids: 83%

Extract Dilution: 200

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
12674-11-2	Aroclor-1016	ND	24.00	
11104-28-2	Aroclor-1221	ND	24.00	
11141-16-5	Aroclor-1232	ND	24.00	
53469-21-9	Aroclor-1242	ND	24.00	
12672-29-6	Aroclor-1248	170	24.00	
11097-69-1	Aroclor-1254	ND	24.00	
11096-82-5	Aroclor-1260	ND	24.00	
11100-14-4	Aroclor-1262	ND	24.00	
37324-23-5	Aroclor-1268	ND	24.00	

Surrogate Compounds

Recoveries (%)

QC Ranges

2,4,5,6-Tetrachloro-m-xylene

NA

36 - 131

Decachlorobiphenyl

NA

30 - 165

Comments: NA - Surrogate recoveries were not determine due to the dilution required to quantitate target analytes.

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Riverside Square PCB - Boston, MA

PCBs Medium Level in Soils and Sediments

Client Sample ID: R01-110719AS-0014

Lab Sample ID: AB19744

Date of Collection: 7/19/2011

Matrix: Soil

Date of Extraction: 9/1/11

Final Volume: 5 mL

Date of Analysis: 9/15/11

Percent Solids: 88%

Dry Weight Extracted: 4.60 grams

Extract Dilution: 20

Wet Weight Extracted: 5.23 grams

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
12674-11-2	Aroclor-1016	ND	2.20	
11104-28-2	Aroclor-1221	ND	2.20	
11141-16-5	Aroclor-1232	ND	2.20	
53469-21-9	Aroclor-1242	ND	2.20	
12672-29-6	Aroclor-1248	13	2.20	P
11097-69-1	Aroclor-1254	ND	2.20	
11096-82-5	Aroclor-1260	ND	2.20	
11100-14-4	Aroclor-1262	ND	2.20	
37324-23-5	Aroclor-1268	ND	2.20	

Surrogate Compounds	Recoveries (%)	QC Ranges
2,4,5,6-Tetrachloro-m-xylene	100	36 - 131
Decachlorobiphenyl	80	30 - 165

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Riverside Square PCB - Boston, MA

Laboratory Blank

Client Sample ID: N/A
Date of Collection: N/A
Date of Extraction: 9/1/11
Date of Analysis: 9/14/11
Dry Weight Extracted: 5.49 grams
Wet Weight Extracted: 5.50 grams

Lab Sample ID: N/A
Matrix: Soil
Final Volume: 5 mL
Percent Solids: 100%
Extract Dilution: 1

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
12674-11-2	Aroclor-1016	ND	0.09	
11104-28-2	Aroclor-1221	ND	0.09	
11141-16-5	Aroclor-1232	ND	0.09	
53469-21-9	Aroclor-1242	ND	0.09	
12672-29-6	Aroclor-1248	ND	0.09	
11097-69-1	Aroclor-1254	ND	0.09	
11096-82-5	Aroclor-1260	ND	0.09	
11100-14-4	Aroclor-1262	ND	0.09	
37324-23-5	Aroclor-1268	ND	0.09	

Surrogate Compounds	Recoveries (%)	QC Ranges
2,4,5,6-Tetrachloro-m-xylene	86	36 - 131
Decachlorobiphenyl	100	30 - 165

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

LABORATORY FORTIFIED BLANK (LFB) AND DUPLICATE (LFB Dup) RECOVERY

COMPOUND	SPIKE ADDED	LFB CONCENTRATION	LFB RECOVERY %	QC LIMITS (% REC)
Aroclor-1254	0.58	0.57	98	70 - 130

COMPOUND	LFB Dup CONCENTRATION	LFB Dup RECOVERY %	RPD %	QC LIMITS RPD
Aroclor-1254	0.58	100	2	

Samples in Batch: AB19738, AB19741, AB19744

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Laboratory Duplicate Results

Sample ID: AB19744

PARAMETER	SAMPLE RESULT mg/Kg	SAMPLE DUPLICATE RESULT mg/Kg	PRECISION RPD %	QC LIMITS
Aroclor-1016	ND	ND	ND	50
Aroclor-1221	ND	ND	ND	50
Aroclor-1232	ND	ND	ND	50
Aroclor-1242	ND	ND	ND	50
Aroclor-1248	13	17	27	50
Aroclor-1254	ND	ND	ND	50
Aroclor-1260	ND	ND	ND	50
Aroclor-1262	ND	ND	ND	50
Aroclor-1268	ND	ND	ND	50

Comments: The sample/sample duplicate pair are both qualified with a P indicating that the second column confirmation value exceeded 35% relative percent difference. This is attributed to matrix interference.

Project Notes
PN11070043
Riverside Square PCBs
PCBMS
16Sep11

Three soil samples were submitted for mid level PCB analysis according to procedures outlined in PESSOIL3.sop. The soils are confirmation samples of FLFPCB samples submitted to the lab from the Riverside site.

The QC package included a blank, LFB, LFBDUP and a sample dup. The samples all appear to require large dilutions, based upon the FLFPCB data. We extracted the LFB/LFBDUP pair instead of a MS?MSD pair. All QC results are within specification.

One sample, AB19744 was qualified with a P. There were two outliers in the 6 peak quant for the B column data that skewed this result. The same was true of the sample dup. RPD for these qualified results was 27%.

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Appendix D

Chain-of-Custody Record

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CHAIN OF CUSTODY RECORD

Contact Phone: 617-223-1368

N. Chelmsford, MA

Lab #	Sample #	Location	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	R01-110719AS-0001	EPA-21B	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	11:30	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0002	EPA-26B	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	11:30	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0003	EPA-22B	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	11:05	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0004	EPA-23B	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	11:10	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0005	EPA-24B	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	11:30	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0006	EPA-25B	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	12:00	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0007	EPA-23C	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	12:45	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0008	EPA-25C	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	12:35	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0009	EPA-26C	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	12:15	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0010	EPA-27C	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	12:15	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0011	EPA-24C	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	13:15	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0012	EPA-28C	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	13:15	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0013	EPA-29C	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	13:20	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0014	EPA-30C	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	13:10	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0015	EPA-31C	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	12:35	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0016	EPA-27D	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	13:30	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0017	EPA-26F	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	14:15	1	4 oz. jar	Ice, 4 C	Y
	R01-110719AS-0018	EPA-27F	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	14:30	1	4 oz. jar	Ice, 4 C	N
	R01-110719AS-0019	EPA-28F	PCBs in Soil-Field (\$FPCB)	Soil	7/19/2011	14:15	1	4 oz. jar	Ice, 4 C	N

Special Instructions: Please select three samples with highest PCB concentration for confirmatory laboratory analysis. Please email results to sherrin.alex@epa.gov

SAMPLES TRANSFERRED FROM	CHAIN OF CUSTODY #

[illegible]

CHAIN OF CUSTODY RECORD

Site #: R01-110719A.S

Contact Name: Alex Sherrin

Contact Phone: 617-223-1368

No: 1-072111-085422-0001

Lab: OEME

Lab Address: 11 Technology Drive

N. Chelmsford, MA

[illegible]

Special Instructions: Please select three samples with highest PCB concentration for confirmatory laboratory analysis. Please email results to sherrin.alex@epa.gov

**SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #**

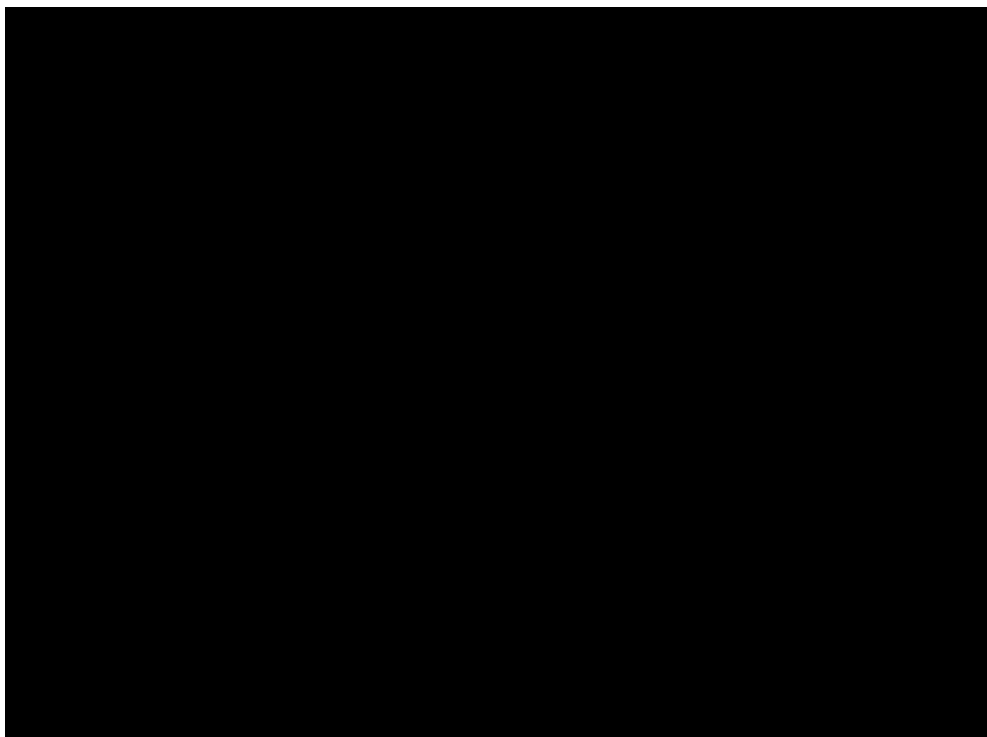
[illegible]

Appendix E

Photo-Documentation Log

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PHOTODOCUMENTATION LOG SHEET
Riverside Drive PCB Site • Hyde Park (Boston), Massachusetts



SCENE: View of the side yard and shed of Property B. Photograph taken facing northwest.

DATE: 9 June 2011

PHOTOGRAPHER: George Mavris

TIME: 1209 hours

CAMERA: Nikon Coolpix E5600



SCENE: View of the backyards of Properties B and C where samples were collected. Photograph taken facing west.

DATE: 19 July 2011

PHOTOGRAPHER: George Mavris

TIME: 1506 hours

CAMERA: Nikon Coolpix E5600

PHOTODOCUMENTATION LOG SHEET
Riverside Drive PCB Site • Hyde Park (Boston), Massachusetts



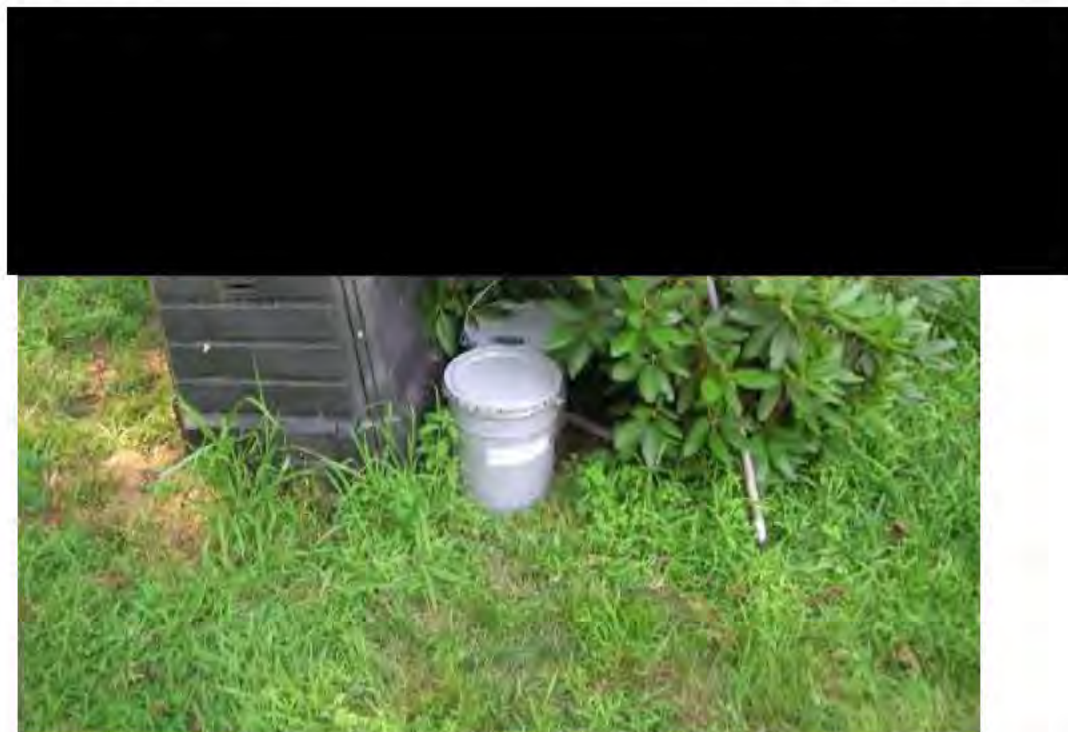
SCENE: View of the backyards of Properties B, C, and D where samples were collected. Photograph taken facing west.

DATE: 19 July 2011

PHOTOGRAPHER: George Mavris

TIME: 1506 hours

CAMERA: Nikon Coolpix E5600



SCENE: View two 5-gallon metal pails containing investigation-derived wastes (IDW) generated on 19 July 2011. Pails are located on the northwestern side of the shed on Property B. Photograph taken facing southeast.

DATE: 19 July 2011

PHOTOGRAPHER: George Mavris

TIME: 1506 hours

CAMERA: Nikon Coolpix E5600

PHOTODOCUMENTATION LOG SHEET
Riverside Drive PCB Site • Hyde Park (Boston), Massachusetts



SCENE: Close-up view of the label placed on 5-gallon pails containing IDW and stored on the northwestern side of the shed on Property B. Photograph taken facing southeast.

DATE: 19 July 2011

PHOTOGRAPHER: George Mavris

TIME: 1506 hours

CAMERA: Nikon Coolpix E5600



SCENE: View of four 5-gallon metal pails containing IDW generated on 19 and 20 July 2011. Pails are located on the northwestern side of the shed on Property B. Photograph taken facing southeast.

DATE: 20 July 2011

PHOTOGRAPHER: George Mavris

TIME: 1351 hours

CAMERA: Nikon Coolpix E5600

PHOTODOCUMENTATION LOG SHEET
Riverside Drive PCB Site • Hyde Park (Boston), Massachusetts



SCENE: View of the driveway and entrance to Property H. Photograph taken facing southwest.

DATE: 9 June 2011

PHOTOGRAPHER: George Mavris

TIME: 1206 hours

CAMERA: Nikon Coolpix E4600



SCENE: View of sample location EPA-29H located along the southeastern section of Property H. Photograph taken facing northwest.

DATE: 20 July 2011

PHOTOGRAPHER: Greg Parrish

TIME: 1237 hours

CAMERA: Nikon Fine Pix XP20

PHOTODOCUMENTATION LOG SHEET
Riverside Drive PCB Site • Hyde Park (Boston), Massachusetts



SCENE: View of sample location EPA-28H located along the southwestern section of Property H. Photograph taken facing southwest.

DATE: 20 July 2011

PHOTOGRAPHER: Greg Parrish

TIME: 1238 hours

CAMERA: Nikon Fine Pix XP20



SCENE: View of IDW liquids transferred from the four 5-gallon pails and into one 55-gallon drum for off-site disposal.

DATE: 21 July 2011

PHOTOGRAPHER: George Mavris

TIME: 1039 hours

CAMERA: Nikon Coolpix E5600

PHOTODOCUMENTATION LOG SHEET
Riverside Drive PCB Site • Hyde Park (Boston), Massachusetts



SCENE: View of 55-gallon drum with lid secured and awaiting pick up for off-site disposal. Photograph taken facing northwest.

DATE: 21 July 2011

PHOTOGRAPHER: George Mavris

TIME: 1043 hours

CAMERA: Nikon Coolpix E5600



SCENE: View of labeled 55-gallon drum on tailgate of truck to be transported off-site for disposal.

DATE: 21 July 2011

PHOTOGRAPHER: George Mavris

TIME: 1114 hours

CAMERA: Nikon Coolpix E5600

PHOTODOCUMENTATION LOG SHEET
Riverside Drive PCB Site • Hyde Park (Boston), Massachusetts



SCENE: View of 55-gallon drum secured in back of truck for off-site disposal.

DATE: 21 July 2011

PHOTOGRAPHER: George Mavris

TIME: 1115 hours

CAMERA: Nikon Coolpix E5600