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TRC Project Number: 115058

April 3, 2009

Massachusetts Department of Environmental Protection
Southeast Regional Office
20 Riverside Drive
Lakeville, Massachusetts 02347

RE: Immediate Response Action Plan (IRA) Status Report and Imminent Hazard Evaluation – PCB Contaminated Wetland Sediments
Wetland to Rear of Keith Middle School
225 Hathaway Boulevard, New Bedford, Massachusetts
Release Tracking Number (RTN) 4-21300

To Whom It May Concern:

Consistent with the requirements of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000), specifically 310 CMR 40.0425, attached please find an Immediate Response Action (IRA) Status Report for the above-referenced IRA condition in New Bedford, Massachusetts. This submittal also includes Massachusetts Department of Environmental Protection (MassDEP) transmittal form BWSC-105 as an attachment to the IRA Status Report.

If you have any questions concerning the IRA Status Report or transmittal forms, please do not hesitate to contact me at 978-656-3565 or via e-mail at dsullivan@trcsolutions.com.

Sincerely,

David M. Sullivan, LSP, CHMM
Senior Project Manager

Attachment

cc. D. Fredette, S. Alfonse; Department of Environmental Stewardship
M. Cote, G. Martin; MassDEP Southeast Regional Office

IMMEDIATE RESPONSE ACTION STATUS REPORT

PCB Contaminated Wetland Sediments

Release Tracking Number (RTN) 4-21300

Wetland to Rear of Keith Middle School

225 Hathaway Boulevard

New Bedford, Massachusetts



Prepared for:

Department of Environmental Stewardship

City of New Bedford

133 William Street

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April 2009

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A – MassDEP Transmittal Forms

B – TRC Correspondence with EPA Regarding PCB Delineation Sampling

C – TRC Correspondence with EPA Regarding Environmental Risk Characterization and Associated Sampling

D – Calculated Guidelines for Proposed Fencing

E – Select Laboratory Report Excerpts from Recent Sediment PCB Analysis

Immediate Response Action Status Report

PCB Contaminated Wetland Sediments

Wetland to Rear of Keith Middle School
225 Hathaway Boulevard
New Bedford, Massachusetts

Release Tracking Number (RTN) 4-21300

TRC Project Number: 115058

April 3, 2009

TRC Environmental Corporation (TRC) is submitting this Immediate Response Action Status Report (IRA Status Report) to the Massachusetts Department of Environmental Protection (MassDEP) on behalf of the City of New Bedford (City). This IRA Status Report addresses the detection of polychlorinated biphenyl (PCB) contamination in shallow wetland sediment in excess of a concentration indicating a condition that could pose an Imminent Hazard (IH) as defined in the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) in accordance with 310 CMR 40.0321(2)(b). The potential IH condition is associated with the sample's concentration, depth below surface, proximity to a school or residential dwelling, and accessibility. The potential IH condition triggered a 2-hour regulatory reporting obligation to the MassDEP in accordance with 310 CMR 40.0321(2) and 310 CMR 40.0311(7), and was reported to MassDEP via telephone on June 9, 2008. MassDEP orally approved IRA assessment activities and assigned Release Tracking Number (RTN) 4-21300.

This IRA Status Report is organized as follows: Section I (Background) briefly summarizes information on TRC's involvement with the Site, the circumstances of the release, the initial response actions conducted at the Site under MassDEP oral approval, and the objectives of this IRA Status Report. Section II (IRA Status Report) provides the information required for an IRA Status Report under the MCP, specifically 310 CMR 40.0425. Section III (References) lists information sources relied upon in the preparation of this IRA Status Report. Attachment A contains relevant MassDEP transmittal forms. Attachment B contains recent correspondence with the United States Environmental Protection Agency (EPA) concerning PCB contamination delineation and Attachment C contains correspondence with EPA concerning Environmental Risk Characterization and associated sampling. Attachment D contains supporting calculations for fencing. Attachment E contains select laboratory report excerpts from recent PCB sediment analysis.

I. BACKGROUND

Under the direction of a prior consultant (BETA Group, Incorporated [BETA]) and following the approval by the EPA, the remedy for the PCB-contaminated wetland sediments at the McCoy Field/Keith Middle School Site (RTN 4-15685) included the removal of up to 6 inches of impacted sediments with residual PCB concentrations greater than 1 mg/kg at locations within

the Site wetlands. The 1 mg/kg concentration represents a self-implementing clean-up level for *Bulk Polychlorinated Biphenyl (PCB) Remediation Waste in High Occupancy Areas* under 40 CFR Part 761.61(a)(4)(i)(A) without further conditions, such as capping. EPA approval for the wetland and other site-related remedial activities was contingent, in part, upon the preparation and implementation of a Long-Term Monitoring and Maintenance Implementation Plan (LTMMIP) describing the activities that will be conducted for the monitoring and maintenance of the remedy.

In accordance with provisions for wetland sediment monitoring at the KMS wetland site as set forth in the BETA-prepared and EPA-approved LTMMIP (dated October 20, 2006), TRC performed sampling of sediment in the wetland to the rear of the KMS Site located at 225 Hathaway Boulevard in New Bedford, Massachusetts (see Figure 1).

A TRC field scientist conducted the LTMMIP-required sediment sampling on May 27, 2008. For the annual sediment monitoring the LTMMIP requires the collection of four randomly selected samples from locations abutting the slope consistent with the sediment sampling protocol in Appendix G of the LTMMIP. TRC used the 44 numbered wetland flag locations documented along the wetland/embankment edge on the 12/11/06 As-Built Plan of Land prepared on behalf of BETA by Land Planning, Incorporated (Land Planning) from the BETA-prepared December 2006 *Final Completion and Inspection Report* as approximate sampling station location identifiers for the random sample selection process.

TRC randomly selected three of the four locations for sampling. TRC departed from the LTMMIP by collecting one of the four sediment samples from a biased sample location at the bottom of the slope beneath the KMS Site cap slope failure along the southern half of the wetland. The biased sample was collected to check on the potential for a contaminant release associated with the 2007 slope failure¹. All samples were collected using a hand auger and were collected from a depth of 0 to 6 inches below the top of the sediment surface. All samples were analyzed for PCB Aroclors via SW-846 Method 8082. The sampling locations are illustrated on Figure 2 and the samples were designated as follows (with approximate wetland flag or biased sample locations shown in parentheses):

- SD-01 (Biased sample from toe of slope below slope failure – collected in duplicate)
- SD-02 (Wetland Flag W-8)
- SD-03 (Wetland Flag W-19)
- SD-04 (Wetland Flag W-38)

TRC received the preliminary results of analysis on June 9, 2008. Three (3) out of four (4) samples were non-detect (see Table 1). Sediment sample SD-03 contained total PCBs at a concentration of 16.56 milligrams per kilogram (mg/kg).

¹ In the spring of 2007, a slope failure occurred on the steep slope above the wetland near the southwestern corner of the Site. The area measures approximately 7 feet by 8 feet where the topsoil has slumped to the bottom of the slope. The black separation fabric that demarcates the underlying contaminated fill from the clean imported fill was not exposed; however, a small (approximately 3 to 4 inch) piece of the orange warning layer was visible in the top left quadrant of the damaged area (when viewed from the wetland). TRC oversaw final repair of the failed slope on October 30, 2008. The repair consisted of lining the damaged area with a 8-ounce non-woven geotextile fabric and covering the fabric with stone (rip-rap) up to local grade to restore the protective cap thickness and allow flow of storm water through the slope in this area without pressure buildup. The rip-rap is intended to allow free drainage of water and be more resistant to the erosive force of storm water overland run off.

The 16.56 mg/kg total PCB concentration exceeds a 10 mg/kg total PCB concentration under the MCP that could pose an IH in accordance with 310 CMR 40.0321(2)(b) due to the sample's concentration, depth below ground surface, proximity to a school or residential dwelling, and accessibility. The potential IH condition triggered a 2-hour regulatory reporting obligation to MassDEP in accordance with 310 CMR 40.0321(2) and 310 CMR 40.0311(7). TRC immediately consulted with the laboratory (Northeast Analytical [NEA] Laboratories of Schenectady, New York) to confirm the validity of the result. Robert Wagner, NEA's laboratory director, reviewed the work conducted by the laboratory and confirmed the result. TRC notified the City's Department of Environmental Stewardship and facilitated regulatory reporting of the potential IH condition to MassDEP via telephone within the regulatory reporting timeframe at approximately 3:15 P.M. on Monday June 9, 2008. MassDEP orally approved an "assessment only" Immediate Response Action (IRA) and assigned Release Tracking Number (RTN) 4-21300.

Further assessment initially implemented by TRC consisted of the following:

- Re-extraction and re-analysis of sample SD-03 by the laboratory to verify the original result.
- Collection of six (6) additional sediment samples on June 10, 2008, which were submitted to the laboratory for analysis on a rush turn-around basis to verify the original result and to help evaluate the extent of contamination.

The six (6) additional samples were collected as follows:

- SD-3R – A repeat sample from the approximate location of SD-03 (sediment).
- SD-3-1.5 – A sample collected at a depth of 1.5 feet at SD-3R/SD-03 (sediment).
- SD-3A – A sample collected 5 feet to the north of SD-03 (sediment).
- SD-3B – A sample collected 5 feet to the east of SD-03 (soil from the adjacent KMS cap).
- SD-3C – A sample collected 5 feet to the south of SD-03 (sediment).
- SD-3D – A sample collected 5 feet to the west of SD-03 (sediment).

All samples, with the exception of SD-3-1.5, were collected from a depth of 0 to 6 inches below the sediment surface (sediment sample SD-3-1.5 was collected from a depth of 1.5 feet below surface). All sediment sample locations were under approximately 4 to 6 inches of water with the exception of SD-3C, which was wet, but not under water. Sample SD-3B is a soil sample collected from the adjacent KMS cap. As noted above, SD-3R was collected in duplicate for quality control (QC) purposes. This follow-up sampling was conducted consistent with the LTMMIP except that 1) one additional sample (i.e., SD-3-1.5) was collected at the approximate location of sediment sample SD-03 at a depth of 1.5 feet below the sediment surface to evaluate the depth of contamination and 2) a duplicate sample was collected from SD-3R for QC purposes.

The results of the analysis of the follow-up sediment and soil samples collected on June 10, 2008 are also presented in Table 1 and the locations are illustrated in Figure 2. The results indicate that a sediment sample collected 5 feet to the south of SD-03 (i.e., SD-3C) contained total PCBs at a concentration below the LTMMIP documented 1.0 mg/kg action level for PCBs in sediment. In addition, no PCBs were detected in cap soil sample SD-3B. However, the samples collected 5

feet to the north and west of SD-03 (samples SD-3A and SD-3D, respectively) each contain total PCBs at concentrations greater than the 1.0 mg/kg action level set forth in the LTMMIP and at concentrations greater than the MassDEP 10 mg/kg potential IH reporting concentration under the MCP. Also, the analytical results from sediment sample SD-3-1.5 indicate that contamination is also present deeper than the 0 to 6 inch monitoring depth suggested by the LTMMIP and at a concentration greater than the LTMMIP 1.0 mg/kg action level.

Supplemental assessment sampling planned in coordination with the City's Department of Environmental Stewardship and performed by TRC on June 19, 2008 consisted of the collection of additional sediment samples at additional 5-foot to 10-foot increments to the north and west of previous samples SD-3A and SD-3D, respectively (see Figure 2), with the laboratory directed to analyze the first 5-foot increment and to keep remaining incremental sediment samples on hold pending the results of the first increment analyses. All sediment samples were collected at a depth of 0 to 6 inches below sediment surface. The following summarizes the June 19, 2008 sediment sampling:

- SD-3E – A sample collected 10 feet to the north of SD-03 (sediment).
- SD-3F – A sample collected 15 feet to the north of SD-03 (sediment).
- SD-3G – A sample collected 25 feet to the north of SD-03 (sediment).
- SD-3H – A sample collected 10 feet to the west of SD-03 (sediment).
- SD-3I – A sample collected 15 feet to the west of SD-03 (sediment).
- SD-3J – A sample collected 20 feet to the west of SD-03 (sediment).

The results of the analysis of the next increment of sediment delineation sampling collected on June 19, 2008 are also presented in Table 1 and the locations are illustrated in Figure 2. The results indicate that all sediment samples collected on June 19, 2008 contain total PCBs at concentrations above the LTMMIP documented 1.0 mg/kg action level for PCBs in sediment. Two samples (SD-3F to the north and SD-3H to the west) also contain total PCBs at concentrations greater than the MassDEP 10 mg/kg potential IH reporting concentration under the MCP (no further IRA-related reporting is required since the contamination appears to be consistent with that reported to MassDEP on June 9, 2008). The results indicated that further sampling was required to delineate the extent of the PCB sediment contamination.

On behalf of the City TRC submitted an IRA Plan to MassDEP on August 7, 2008. The IRA Plan included an IH Evaluation and outlined supplemental assessment sampling planned in coordination with the City's Department of Environmental Stewardship that consisted of the following:

- Evaluate the areal extent of shallow sediment (0 to 6 inches below the sediment surface) incrementally.
- Develop an efficient sampling plan to evaluate the depth of impacted sediment as the areal extent of PCB-impacted sediment is delineated.
- Adjust the incremental sampling plan as necessary based on sediment sampling results.

II. IMMEDIATE RESPONSE ACTION STATUS REPORT (310 CMR 40.0425)

This IRA Status Report is organized according to the minimum information needs set forth under 310 CMR 40.0425(3)(a) through (e) of the MCP.

(a) The Status of Assessment and/or Remedial Actions

The results of TRC's June 19, 2008 sediment sampling indicated that the extent of PCB-contaminated sediments proximate to SD-3 had not yet been found to the north and west of SD-3. In order to complete goals of TRC's August 7, 2008 IRA Plan, TRC conducted several iterative rounds of sediment sampling based on laboratory analytical results that continued to indicate concentrations of PCBs above the LTMMIP action level. All sediment samples were submitted for laboratory analysis for PCB Aroclors via SW-846 Method 8082. The following summarizes the samples collected during each effort. All TRC sampling locations were marked with a pin flag in the field and later surveyed in by Land Planning of Hanson, Massachusetts (Land Planning). Analytical results are contained in Table 1 and the progression and location of sediment sampling are indicated on Figure 2. Figures 3, 4, and 5 present total PCB concentrations for each sampling location.

On July 30, 2008 TRC collected 12 additional sediment samples from six locations (SD-3K, 3L, 3M, 3N, 3P, and 3Q). The July 30, 2008 sediment samples included the following:

July 30, 2008 KMS Wetland Sediment Sampling		
Sample I. D.	Depth (feet)	Approximate Location
SD-3K-0-0.5	0-0.5	35 feet to the north of SD-3 (toe of slope)
SD-3K-1.5	1.5	35 feet to the north of SD-3 (toe of slope)
SD-3L-0-0.5	0-0.5	50 feet to the north of SD-3 (toe of slope)
SD-3L-1.5	1.5	50 feet to the north of SD-3 (toe of slope)
SD-3M-0-0.5	0-0.5	80 feet to the north of SD-3 (toe of slope)
SD-3M-1.5	1.5	80 feet to the north of SD-2 (toe of slope)
SD-3N-0-0.5	0-0.5	25 feet to the west of SD-3
SD-3N-1.5	1.5	25 feet to the west of SD-3
SD-3P-0-0.5	0-0.5	30 feet to the west of SD-3
SD-3P-1.2	1.2	30 feet to the west of SD-3
SD-3Q-0-0.5	0-0.5	40 feet to the west of SD-3
SD-3Q-1.3	1.3	40 feet to the west of SD-3

TRC's July 30, 2008 sampling indicated that PCB-contaminated sediments (i.e., above the EPA unrestricted use standard of 1 mg/kg) were bounded to the north by SD-3M and to the west by SD-3Q. TRC collected 12 additional sediment sample from the wetland area to the northwest of SD-3 on August 19, 2008 to refine potential remedial volumes. Samples were collected from six locations, SD-3R through 3W, as summarized in the following table.

August 19, 2008 KMS Wetland Sediment Sampling

Sample I. D.	Depth (feet)	Approximate Location
SD-3R-0.5	0.5	25 feet north of SD-03, 25 feet west
SD-3R-2	2	25 feet north of SD-03, 25 feet west
SD-3S-0.5	0.5	25 feet north of SD-03, 40 feet west
SD-3S-2	2	25 feet north of SD-03, 40 feet west
SD-3T-0.5	0.5	50 feet north of SD-03, 25 feet west
SD-3T-2	2	50 feet north of SD-03, 25 feet west
SD-3U-0.5	0.5	50 feet north of SD-03, 35 feet west
SD-3U-2	2	50 feet north of SD-03, 35 feet west
SD-3V-0.5	0.5	75 feet north of SD-03, 25 feet west
SD-3V-2	2	75 feet north of SD-03, 25 feet west
SD-3W-0.5	0.5	75 feet north of SD-03, 30 feet west
SD-3W-2	2	75 feet north of SD-03, 30 feet west

TRC's August 19, 2008 sampling results indicated that additional sampling was needed to assess lateral extent of PCB contamination in the wetlands and vertical extent in some locations (i.e., PCB contamination extended down to 1.5 or 2 feet in 3 locations). TRC collected 28 additional sediment samples on September 17 and 18, 2008. These samples included the following:

September 17 and 18, 2008 KMS wetland Sediment Sampling

Sample I. D.	Depth (feet)	Approximate Location
SD-4-0.5	0.5	40 feet north of SD-03, 55 feet west
SD-4-2	2	40 feet north of SD-03, 55 feet west
SD-4-2.5	2.5	40 feet north of SD-03, 55 feet west
SD-5-0.5	0.5	60 feet north of SD-03, 55 feet west
SD-5-2	2	60 feet north of SD-03, 55 feet west
SD-5-2.5	2.5	60 feet north of SD-03, 55 feet west
SD-6-0.5	0.5	105 feet north of SD-03 (toe of slope)
SD-6-1.5	1.5	105 feet north of SD-03 (toe of slope)
SD-6-3	3	105 feet north of SD-03 (toe of slope)
SD-7-0.5	0.5	100 feet north of SD-03, 35 feet west
SD-7-2	2	100 feet north of SD-03, 35 feet west
SD-7-3	3	100 feet north of SD-03, 35 feet west
SD-8-0.5	0.5	90 feet north of SD-03, 65 feet west
SD-8-2	2	90 feet north of SD-03, 65 feet west
SD-9-0.5	0.5	130 feet north of SD-03 (toe of slope)
SD-9-2	2	130 feet north of SD-03 (toe of slope)

September 17 and 18, 2008 KMS wetland Sediment Sampling		
Sample I. D.	Depth (feet)	Approximate Location
SD-9-3	3	130 feet north of SD-03 (toe of slope)
SD-10-0.5	0.5	125 feet north of SD-03, 40 feet west
SD-10-2	2	125 feet north of SD-03, 40 feet west
SD-10-3	3	125 feet north of SD-03, 40 feet west
SD-11-0.5	0.5	125 feet north of SD-03, 75 feet west
SD-11-2	2	125 feet north of SD-03, 75 feet west
SD-11-3	3	125 feet north of SD-03, 75 feet west
SD-12-0.5	0.5	55 feet west of SD-03
SD-12-2	2	55 feet west of SD-03
SD-3-2	2	At SD-03
SD-3K-3	3	35 feet to the north of SD-3 (toe of slope)
SD-3V-3	3	75 feet north of SD-03, 25 feet west

The above described sampling program improved the delineation of contamination to the west (all westernmost sample results were below 1 mg/kg, with a maximum of 0.984 mg/kg from SD-08-0.5, as shown on Figures 3 and 4). However, results to the north required further delineation, with two of the three northernmost sample points (SD-09-3 [2.09 mg/kg] and SD-10-0.5 [1.23 mg/kg]) containing total PCBs greater than 1 mg/kg.

TRC mobilized to the Site on October 3, 2008 to collect additional samples to the west to confirm the delineation boundary and to the north to attempt to locate the northern boundary of PCB contamination and to investigate the vertical extent of PCB contamination at SD-9. TRC collected 30 additional sediment samples on October 3 and 6, 2008. These samples included the following:

October 3 and 6, 2008 KMS Wetland Sediment Sampling		
Sample I. D.	Depth (feet)	Approximate Location
SD-9A-2.5-3	2.5-3	130 feet north of SD-03 (toe of slope)
SD-13-0-0.5	0-0.5	150 feet north of SD-03 (toe of slope)
SD-13-1.5-2	1.5-2	150 feet north of SD-03 (toe of slope)
SD-13-2.5-3	2.5-3	150 feet north of SD-03 (toe of slope)
SD-14-0-0.5	0-0.5	145 feet north of SD-03, 50 feet west
SD-14-1.5-2	1.5-2	145 feet north of SD-03, 50 feet west
SD-14-2.5-3	2.5-3	145 feet north of SD-03, 50 feet west
SD-15-0-0.5	0-0.5	145 feet north of SD-03, 80 feet west
SD-15-1.5-2	1.5-2	145 feet north of SD-03, 80 feet west
SD-15-2.5-3	2.5-3	145 feet north of SD-03, 80 feet west
SD-16-0-0.5	0-0.5	170 feet north of SD-03 (toe of slope)

October 3 and 6, 2008 KMS Wetland Sediment Sampling		
Sample I. D.	Depth (feet)	Approximate Location
SD-16-1.5-2	1.5-2	170 feet north of SD-03 (toe of slope)
SD-16-2.5-3	2.5-3	170 feet north of SD-03 (toe of slope)
SD-17-0-0.5	0-0.5	170 feet north of SD-03, 65 feet west
SD-17-1.5-2	1.5-2	170 feet north of SD-03, 65 feet west
SD-17-2.5-3	2.5-3	170 feet north of SD-03, 65 feet west
SD-18-0-0.5	0-0.5	165 feet north of SD-03, 95 feet west
SD-18-1.5-2	1.5-2	165 feet north of SD-03, 95 feet west
SD-18-2.5-3	2.5-3	165 feet north of SD-03, 95 feet west
SD-19-0-0.5	0-0.5	200 feet north of SD-03 (toe of slope)
SD-19-1.5-2	1.5-2	200 feet north of SD-03 (toe of slope)
SD-19-2.5-3	2.5-3	200 feet north of SD-03 (toe of slope)
SD-20-0-0.5	0-0.5	195 feet north of SD-03, 70 feet west
SD-20-1.5-2	1.5-2	195 feet north of SD-03, 70 feet west
SD-20-2.5-3	2.5-3	195 feet north of SD-03, 70 feet west
SD-21-0-0.5	0-0.5	185 feet north of SD-03, 100 feet west
SD-21-1.5-2	1.5-2	185 feet north of SD-03, 100 feet west
SD-21-2.5-3	2.5-3	185 feet north of SD-03, 100 feet west
SD-22-0-0.5	0-0.5	120 feet north of SD-03, 100 feet west
SD-23-0-0.5	0-0.5	60 feet north of SD-03, 85 feet west

TRC's October 3 and 6, 2008 sampling program indicated that the northern extent of total PCB concentrations in excess of the EPA cleanup level had not yet been fully assessed.

TRC mobilized to the site to collect 36 additional sediment samples on October 22 and 23, 2008 in order to assess the extent of contamination in the vicinity of detected concentrations of total PCBs at SD-16-0-0.5 (4.872 mg/kg), SD-17-0-0.5 (1.55 mg/kg), SD-18-0-0.5 (1.38 mg/kg), SD-19-0-0.5 (2.69 mg/kg), and SD-21-0-0.5 (1.63 mg/kg). These samples included the following:

October 22 and 23, 2008 KMS Wetland Sediment Sampling		
Sample I. D.	Depth (feet)	Approximate Location
SD-13A-2.5-3	2.5-3	150 feet north of SD-03 (toe of slope)
SD-24-0-0.5	0-0.5	225 feet north of SD-03 (toe of slope)
SD-24-1.5-2	1.5-2	225 feet north of SD-03 (toe of slope)
SD-24-2.5-3	2.5-3	225 feet north of SD-03 (toe of slope)
SD-25-0-0.5	0-0.5	220 feet north of SD-03, 70 feet west
SD-25-1.5-2	1.5-2	220 feet north of SD-03, 70 feet west
SD-25-2.5-3	2.5-3	220 feet north of SD-03, 70 feet west

October 22 and 23, 2008 KMS Wetland Sediment Sampling		
Sample I. D.	Depth (feet)	Approximate Location
SD-26-0-0.5	0-0.5	220 feet north of SD-03, 105 feet west
SD-26-1.5-2	1.5-2	220 feet north of SD-03, 105 feet west
SD-26-2.5-3	2.5-3	220 feet north of SD-03, 105 feet west
SD-27-0-0.5	0-0.5	250 feet north of SD-03 (toe of slope)
SD-27-1.5-2	1.5-2	250 feet north of SD-03 (toe of slope)
SD-27-2.5-3	2.5-3	250 feet north of SD-03 (toe of slope)
SD-28-0-0.5	0-0.5	235 feet north of SD-03, 105 feet west
SD-28-1.5-2	1.5-2	235 feet north of SD-03, 105 feet west
SD-28-2.5-3	2.5-3	235 feet north of SD-03, 105 feet west
SD-29-0-0.5	0-0.5	245 feet north of SD-03, 75 feet west
SD-29-1.5-2	1.5-2	245 feet north of SD-03, 75 feet west
SD-29-2.5-3	2.5-3	245 feet north of SD-03, 75 feet west
SD-30-0-0.5	0-0.5	275 feet north of SD-03 (toe of slope)
SD-30-1.5-2	1.5-2	275 feet north of SD-03 (toe of slope)
SD-30-2.5-3	2.5-3	275 feet north of SD-03 (toe of slope)
SD-31-0-0.5	0-0.5	270 feet north of SD-03, 90 feet west
SD-31-1.5-2	1.5-2	270 feet north of SD-03, 90 feet west
SD-31-2.5-3	2.5-3	270 feet north of SD-03, 90 feet west
SD-32-0-0.5	0-0.5	260 feet north of SD-03, 105 feet west
SD-32-1.5-2	1.5-2	260 feet north of SD-03, 105 feet west
SD-32-2.5-3	2.5-3	260 feet north of SD-03, 105 feet west
SD-33-0-0.5	0-0.5	340 feet north of SD-03 (toe of slope)
SD-33-1.5-2	1.5-2	340 feet north of SD-03 (toe of slope)
SD-33-2.5-3	2.5-3	340 feet north of SD-03 (toe of slope)
SD-34-0-0.5	0-0.5	295 feet north of SD-03 (toe of slope)
SD-34-1.5-2	1.5-2	295 feet north of SD-03 (toe of slope)
SD-34-2.5-3	2.5-3	295 feet north of SD-03 (toe of slope)
SD-35-0-0.5	0-0.5	160 feet north of SD-03, 115 feet west
SD-36-0-0.5	0-0.5	195 feet north of SD-03, 135 feet west

Following TRC's October 22 and 23, 2008 sampling program, TRC's Licensed Site Professional (LSP), in consultation with the City and EPA, re-evaluated the iterative approach to delineating PCB sediment contamination employed to date. TRC initially proposed the additional sampling approach to EPA via electronic mail on November 26, 2008 (see Attachment B). EPA approved of TRC's approach, which included the sampling of other media to identify potential sources of PCB sediment contamination.

TRC mobilized to the Site on December 3, 2008 to collect 84 additional sediment samples, five (5) samples of material accumulated within stormwater drain pipes (SDR-1 through SDR-5), four (4) samples of soils immediately adjacent to the discharges of stormwater drain pipes (OF-1 through OF-4), and ten (10) soil samples from the slope adjacent to the wetland (SLP-1 through SLP-10). Sediment samples were collected north of previously-collected samples to assess the entire northern extent of the wetland and to the south of the land bridge at the request of EPA to improve characterization of sediment in this portion of the Site. Samples of soil from adjacent to the end of stormwater drain pipes, samples of accumulated materials within the stormwater drain pipes, and soil samples collected from the slope adjacent to the wetland were also collected to evaluate potential lines of evidence for sources of PCB sediment contamination. Samples collected during this sampling event included:

December 3-10, 2008 KMS Wetland-Related Sampling		
Sample I. D.	Depth (feet)	Description (see Figure 2)
SD-37-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-37-2-2.5	2-2.5	Sediment sample from the northern area of wetland
SD-38-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-38-2-2.5	2-2.5	Sediment sample from the northern area of wetland
SD-39-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-39-3-3.5	3-3.5	Sediment sample from the northern area of wetland
SD-40-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-40-3-3.5	3-3.5	Sediment sample from the northern area of wetland
SD-41-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-41-3-3.5	3-3.5	Sediment sample from the northern area of wetland
SD-42-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-42-2.5-3	2.5-3	Sediment sample from the northern area of wetland
SD-43-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-43-2.5-3	2.5-3	Sediment sample from the northern area of wetland
SD-44-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-44-2.5-3	2.5-3	Sediment sample from the northern area of wetland
SD-45-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-45-1.5-2	1.5-2	Sediment sample from the northern area of wetland
SD-46-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-46-2.5-3	2.5-3	Sediment sample from the northern area of wetland
SD-47-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-47-4-4.5	4-4.5	Sediment sample from the northern area of wetland
SD-48-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-48-3-3.5	3-3.5	Sediment sample from the northern area of wetland
SD-49-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-49-2.5-3	2.5-3	Sediment sample from the northern area of wetland
SD-50-0-0.5	0-0.5	Sediment sample from the northern area of wetland

December 3-10, 2008 KMS Wetland-Related Sampling

Sample I. D.	Depth (feet)	Description (see Figure 2)
SD-50-3.5-4	3.5-4	Sediment sample from the northern area of wetland
SD-51-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-51-3-3.5	3-3.5	Sediment sample from the northern area of wetland
SD-52-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-52-3-3.5	3-3.5	Sediment sample from the northern area of wetland
SD-53-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-53-3-3.5	3-3.5	Sediment sample from the northern area of wetland
SD-54-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-54-3.5-4	3.5-4	Sediment sample from the northern area of wetland
SD-55-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-55-1.5-2	1.5-2	Sediment sample from the northern area of wetland
SD-56-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-56-3.5-4	3.5-4	Sediment sample from the northern area of wetland
SD-57-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-57-2-2.5	2-2.5	Sediment sample from the northern area of wetland
SD-58-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-58-2.5-3	2.5-3	Sediment sample from the northern area of wetland
SD-59-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-59-2.5-3	2.5-3	Sediment sample from the northern area of wetland
SD-60-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-60-1.5-2	1.5-2	Sediment sample from the northern area of wetland
SD-61-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-61-2.5-3	2.5-3	Sediment sample from the northern area of wetland
SD-62-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-62-1-1.5	1-1.5	Sediment sample from the northern area of wetland
SD-63-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-63-1.5-2	1.5-2	Sediment sample from the northern area of wetland
SD-64-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-64-2-2.5	2-2.5	Sediment sample from the northern area of wetland
SD-65-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-65-1-1.5	1-1.5	Sediment sample from the northern area of wetland
SD-66-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-66-2-2.5	2-2.5	Sediment sample from the northern area of wetland
SD-67-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-67-2.5-3	2.5-3	Sediment sample from the northern area of wetland
SD-68-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-68-4-4.5	4-4.5	Sediment sample from the northern area of wetland

December 3-10, 2008 KMS Wetland-Related Sampling

Sample I. D.	Depth (feet)	Description (see Figure 2)
SD-69-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-69-4-4.5	4-4.5	Sediment sample from the northern area of wetland
SD-70-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-70-1.5-2	1.5-2	Sediment sample from the northern area of wetland
SD-71-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-71-3-3.5	3-3.5	Sediment sample from the northern area of wetland
SD-72-0-0.5	0-0.5	Sediment sample from the northern area of wetland
SD-72-1.5-2	1.5-2	Sediment sample from the northern area of wetland
SD-73-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-74-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-75-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-76-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-77-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-78-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-79-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-80-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-81-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-82-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-83-0-0.5	0-0.5	Sediment sample from the area south of land bridge
SD-84-0-0.5	0-0.5	Sediment sample from the area south of land bridge
OF-1	0-0.5	Sample collected of soil near outfall of storm drain
OF-2	0-0.5	Sample collected of soil near outfall of storm drain
OF-3	0-0.5	Sample collected of soil near outfall of storm drain
OF-4	0-0.5	Sample collected of soil near outfall of storm drain
SLP-01	0-0.5	Soil sample from slope on the east side of wetland
SLP-02	0-0.5	Soil sample from slope on the east side of wetland
SLP-03	0-0.5	Soil sample from slope on the east side of wetland
SLP-04	0-0.5	Soil sample from slope on the east side of wetland
SLP-05	0-0.5	Soil sample from slope on the east side of wetland
SLP-06	0-0.5	Soil sample from slope on the east side of wetland
SLP-07	0-0.5	Soil sample from slope on the east side of wetland
SLP-08	0-0.5	Soil sample from slope on the east side of wetland
SLP-09	0-0.5	Soil sample from slope on the east side of wetland
SLP-10	0-0.5	Soil sample from slope on the east side of wetland
SDR-01	0-0.2	Sample of material accumulated in storm drain
SDR-02	0-0.2	Sample of material accumulated in storm drain
SDR-03	0-0.2	Sample of material accumulated in storm drain

December 3-10, 2008 KMS Wetland-Related Sampling		
Sample I. D.	Depth (feet)	Description (see Figure 2)
SDR-04	0-0.2	Sample of material accumulated in storm drain
SDR-05	0-0.2	Sample of material accumulated in storm drain

Analytical results of samples collected in December 2008 indicate that concentrations of PCBs generally tended to be lower further north into the wetland, but also that total PCBs above the EPA cleanup level are present at various locations throughout the northern portion of the wetland (e.g., SD-34-0-0.5[4.47 mg/kg], SD-40-0-0.5[5.23 mg/kg], SD-42-0-0.5 [1.34 mg/kg], SD-45-0-0.5[1.06 mg/kg], SD-48-0-0.5[1.36 mg/kg], SD-50-0-0.5[1.21 mg/kg], SD-58-0-0.5[1.77 mg/kg], SD-59-0-0.5[1.02 mg/kg], SD-57-0-0.5[1.36 mg/kg], SD-70-1.5-2[7.99 mg/kg], and SD-71-0-0.5[1.15 mg/kg]). Sediment samples collected from the portion of the wetland south of the land bridge did not contain PCBs in excess of the EPA cleanup level. One of the outfall soil samples contained a concentration of total PCBs in excess 1 mg/kg (OF-05 [1.07 mg/kg]).

Table 1 summarizes analytical sampling results. Total PCB concentrations are also summarized on Figures 3, 4, and 5. As described in II.a. sample data collected to date indicate that PCB concentrations in wetland sediment samples in excess of the EPA cleanup level of 1 mg/kg are present in the wetland to the north of the land bridge. Samples collected to the south of the land bridge indicate that total PCB concentrations in this area are below 1 mg/kg. Samples of slope soils, soils adjacent to storm drain outfalls, and material accumulated in storm drain pipes do not indicate runoff from these areas as likely sources of PCB sediment contamination, although one soil sample at an outfall contained PCBs at a concentration of 1.07 mg/kg (OF-05).

The sediment sampling has been conducted to date to assess the extent of total PCB contamination in the KMS wetland indicates that additional measures are required to mitigate the IH condition in the near-term.

(b) New Site Information and Data

For new Site information and data, the following presents 1) TRC’s analysis to support fence installation to mitigate the IH condition identified near SD-03, 2) a description of new sampling undertaken to support an Ecological Risk Characterization (ERC), and 3) notable PCB data recently obtained from the ERC sampling effort (the complete ERC sampling data set is not in receipt at this time).

Fencing as an IH Mitigation Measure. TRC recommended that the City erect a fence to mitigate areas of PCB sediment contamination that present an IH in the vicinity of SB-03 near the land bridge as generally outlined in Figure 6. However, due to the recently received PCB sediment results obtained as part of the ERC sampling effort (66.9 mg/kg and 434 mg/kg, as noted below) additional fencing may be required to mitigate this additional area of elevated PCB concentrations. The City is also evaluating the cost for fencing the entire northern portion of the wetland until a permanent remedy can be implemented.

Nonetheless, to advise the City on the minimum extent of wetland area requiring fencing, TRC performed an evaluation to identify a sediment total PCB concentration associated with risk and hazard below the IH thresholds (Excess Lifetime Cancer Risk [ELCR] of 1E-05 and Hazard Quotient [HQ] of 10). Sediments with total PCB concentrations and associated risk/hazard above the IH thresholds may be fenced while sediments with total PCB concentrations and associated risk/hazard less than the IH thresholds may be left outside the fence boundary. These guidelines would be used if the City opted to fence individual areas in excess of IH thresholds, rather than the entire northern area as is currently under discussion with the City.

In TRC's August 2008 IH evaluation (included with the August 2008 IRA Plan), a youth (age 8 to 13) was selected for evaluation. This age group conservatively represents school age children likely to be present at the middle school and younger children who may access the wetland from the residential areas located to the north and west. Because the wetland area is a wooded swamp, characterized by the presence of standing water, young children (less than 8 years of age) are unlikely to be taken to this area by their parents or caretakers for recreational activities. However, children older than 8 years of age may be attracted to this area for wildlife exploration (e.g., catching frogs and bugs) as part of their recreational activities. Exposure pathways included in the 2008 IH evaluation were incidental ingestion of and dermal contact with sediment. Fugitive dust exposures were not evaluated because the sediments are covered with water and would not likely generate airborne dusts during recreational contact.

The exposure pathways and assumptions used for the August 2008 IH evaluation were used for the determination of a total PCB concentration associated with risk/hazard below the IH thresholds. Exposure assumptions applicable to the youth are provided on the risk calculation spreadsheets (see tables in Attachment D). Exposure assumptions presented are consistent with those used by MassDEP in the 2008 trespasser short-form, adjusted to be applicable to the 8 to 13 youth age group. A sediment adherence factor of 1 milligram per square centimeter (mg/cm^2) was used, consistent with MassDEP guidance. The exposure frequency of 2 days per week for 30 weeks is a conservative selection considering the partial fencing around and standing water within the PCB-impacted sediment area. The evaluation of a slightly younger youth than used by MassDEP for the trespasser short-form (i.e., an 11-16 year old) provides a more health-protective evaluation.

As shown on the tables provided in Attachment D, a total PCB concentration of 8 mg/kg results in a short-term (5 year) ELCR of 2E-06 and a total receptor HQ of 1. The ELCR and HQ calculated are below the IH thresholds (ELCR of 1E-05 and HQ of 10) and, therefore, the 8 mg/kg guideline eliminates the IH condition. The 8 mg/kg guideline would also be associated with a chronic risk of less than 1E-05, even if exposures were to occur for longer than five years. Therefore, the fencing of sediments with total PCB concentrations greater than 8 mg/kg would be protective of an IH condition and a chronic risk level of concern. However, the 8 mg/kg guideline was intended for use to determine the extent of fencing required to mitigate the IH conditions, and not as a final sediment remediation guideline.

Installation of the fence will be described in a future IRA Status or Completion Report.

ERC-Related Sampling. TRC proposed to EPA an approach to evaluating ecological risks within the KMS wetland consistent with MCP ERC guidance with the exception that Exposure

Point Concentrations (EPCs) for receptor species will be represented by the 95-percent Upper Concentration Limit (UCL) of the mean. Rick Sugat, an ecological risk specialist with EPA, concurred with the approach based on discussions with TRC's Ecological Risk Specialist, Scott Heim. The use of the 95-percent UCL was requested by EPA.

Consistent with MassDEP guidance the ERC has two components: a Stage I (Screening) ERC and a Stage II ERC. Initially, the ERC sampling proposed by TRC will address the requirements for conducting the Stage I ERC. Depending upon the results of the Stage I ERC, additional sampling/testing may be required to support the Stage II ERC. The additional sampling that may be required is briefly discussed below, but is dependent on the Stage I ERC results, and may be integrated with human health risk assessment needs.

Stage I ERC - The proposed approach is to compare maximum surface water and sediments (SW/SED) concentrations of contaminants to benchmarks protective of aquatic/benthic organisms and to model estimated exposure doses of contaminants to higher trophic level receptors (likely receptors include mallard, great blue heron and raccoon, and potentially others).

- **Supplemental data collection – surface water:** Surface water samples to support the Stage I ERC include PCB homologues (EPA Method 680), the 14 MCP metals (total and dissolved using SW846 Method 6010B/6020/7470A), hardness (SW846 Method 6010B) and polyaromatic hydrocarbons (PAHs; SW846 Method 8270C with Selective Ion Monitoring) analyses. This phase of work includes samples five surface water samples, as detailed on the figure provided in Attachment C.
- **Supplemental data collection – sediment:** TRC collected an additional 12 sediment samples to support the Stage I ERC from the previously excavated northern wetland area. The locations of these proposed samples (0 to 6” in depth) are depicted on the figure provided in Attachment C. These 12 samples are being analyzed for MCP metals (SW846 Method 6010B/7471A) and PAHs (SW846 Method 8270C with Selective Ion Monitoring). In addition, a subset of these samples (4 samples) are being analyzed for PCB congeners (co-planar congeners correlated with dioxin toxicity via EPA Method 1668 [Revision A]) and PCB aroclors (SW846 Method 8082) to obtain congener/aroclor ratios. In addition, 5 sediment samples are being collected from the southern wetland and analyzed for 4,4-DDT (and its derivatives 4,4-DDD and 4,4-DDE) via SW846 Method 8081A because previous sampling by BETA detected this pesticide in the southern wetland. The locations of these 5 samples are depicted on the figure provided in Attachment C.
- **How the data will be used:** If maximum surface water and/or sediment concentrations exceed benchmarks and indicate a potential risk to aquatic invertebrates or modeling estimated exposure doses to higher trophic level indicates a potential risk to these receptors, a Stage II ERC will be conducted.

Stage II ERC - The components of the Stage II ERC are dependent upon the results of the Stage I ERC. Possible sampling/studies to be conducted for the Stage II ERC include toxicity testing (if risk to aquatic invertebrates is predicted) and/or sampling of biota (e.g., frogs, tadpoles, invertebrates) to determine body burdens of contaminants to eliminate uncertainties associated with potential risk predicted by modeling conducted in Stage I ERC. The number of samples for

toxicity testing and/or body burdens would be approximately 4 to 6 each. Chemical analyses would depend on what contaminants were predicted to result in risk in the Stage I ERC.

Integration with human health risk assessment and statistical basis needs – TRC’s human health risk assessors can use much of the data collected for the ERC to support the human health risk assessment. However, some supplemental data needs will also be addressed:

- **Surface water analyses:** Surface water samples collected for the ERC for PCB homologues will also be collected for PCB aroclors to establish as basis for comparability between the surface water data and the sediment data (for which homologue data have not be collected/required).
- **Surface water sample number:** The collection of an additional 3 to 4 surface water samples may be targeted to support UCL calculations.
- **Supplemental southern wetland sampling:** TRC is evaluating the available data from the southern portion of the wetland to determine if compounds other than pesticides and herbicides warrant sampling and analysis.

Note that since the southern wetland is typically dry (no or infrequent standing/flowing surface water), TRC has not targeted surface water data collection from that area.

In addition, the above-proposed sampling approach assumes that BETA will provide all laboratory back-up to allow TRC to evaluate data usability (or in the case of PCBs, perform validation if not already conducted).

Based on a March 4, 2009 telephone discussion, EPA’s PCB Coordinator (Kim Tisa) agreed to go forward with the ERC evaluation, but requested that additional PCB sediment data (for Aroclors) be collected within 1.5 to 2 feet of each proposed location from 0-3 inches and 3 to 6 inches to supplement data proposed to be collected from 0-6 inches to evaluate near surface stratification.

Further updates related to the ERC will be provided in future IRA Status or Completion reports.

Notable PCB Data from ERC Sampling. On March 6, 2009 TRC collected 6 sediment samples to support the above-described ERC-related data collection. Initial analytical results indicate that two of the samples (ERC-SED-11A [0-0.5 feet] and ERC-SED-11B [0-0.25 feet]) contained the highest concentrations of total PCBs detected in the wetland (434 mg/kg and 66.9 mg/kg, respectively). Select laboratory report excerpts from recent sediment PCB Aroclor analysis are included in Appendix E. The samples were collected between SD-40 and SD-43, over 400 feet north of SD-03. Based on these results additional areas of the wetland may require fencing to mitigate exposure to the potential IH condition.

On March 20, 2009, TRC collected 7 additional sediment samples in the vicinity of the above-described high PCB results. Initial results indicate additional sediment in the vicinity of SD-11A contain elevated concentrations of total PCBs (e.g., SED-11A-A [20.6 mg/kg], SED-11A-B [705 mg/kg], SED-11A-BB [805 mg/kg], SED-11A-D [838 mg/kg], and SED-11A-E [31.3 mg/kg]).

Select laboratory reports for these samples are also provided in Appendix E. The locations of these and other sediment samples collected to support the ERC as well as the potential impacts of analytical results on IRA completion alternatives will be included in future IRA reports.

Plans for the Management of Remediation Waste, Remedial Wastewater, and/or Remedial Additives.

IRA activities have included assessment of the presence of PCBs in wetland sediment and other media. Therefore, no remediation waste or remedial wastewater have been generated, and no remedial additives have been employed.

(c) Mass DEP-Required Information

An IH evaluation was performed and submitted with the IRA plan. No additional information has been requested by MassDEP.

(d) LSP Opinion

The objective of this IRA was to assess and delineate sediment contamination as a follow-up to MassDEP orally approved IRA activities initiated June 9, 2008. The areal extent of contaminated sediment has been delineated and temporary barriers and access limitations (e.g. fencing) are planned to mitigate the IH condition, with pending diagnosis, remedy, and closure of the release condition to be incorporated into the comprehensive Special Project remedial actions. Additional sediment sampling and analysis in support of an ERC is on-going and will be discussed in future IRA reports. The pending diagnosis, remedy, and closure release condition will then be addressed as part of the comprehensive response actions for the KMS Site under Special Project status and linked under RTN 4-15685.

This IRA Status Report has been prepared in accordance with 310 CMR 40.0425 as set forth in the MCP.



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4/3/2009
Date



Stamp

III. REFERENCES

- MassGIS 2008 Massachusetts Geographic Information System (MassGIS), On-line
MassDEP Priority Resource Map. Accessed July 28, 2008.
<http://maps.massgis.state.ma.us/21e/viewer.htm>
- TRC 2008 Letter to David Fredette, PE, City of New Bedford Department of
Environmental Stewardship from David M. Sullivan, LSP, CHMM, TRC
Environmental Corporation, Lowell, Massachusetts. Re: Groundwater
Monitoring Results, Keith Middle School, New Bedford, Massachusetts.
June 11, 2008.

TABLES

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:		SD-01		SD-02	SD-03						SD-3A	SD-3B	SD-3C	SD-3D	SD-3E	SD-3F	SD-3G				
		Sample Depth (ft.):		0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	1-1.5	1.5-2	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5			
		Sample Date:		5/27/2008	5/27/2008	5/27/2008	5/27/2008	5/27/2008	6/10/2008	6/10/2008	6/10/2008	6/10/2008	9/18/2008	6/10/2008	6/10/2008	6/10/2008	6/10/2008	6/19/2008	6/19/2008	6/19/2008			
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	Field Dup		Field Dup		Field Dup		Field Dup		Field Dup		Field Dup					
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.275 UJ	0.298 UJ	0.218 UJ	0.485 U	0.302 U	0.424 UJ	0.355 UJ	0.483 UJ	0.0551 U	0.264 U	0.0576 U	0.0588 U	0.761 U	0.0736 U	0.605 UJ	0.311 UJ
	Aroclor 1221	2	2	3	3	2	1	0.275 UJ	0.298 UJ	0.218 UJ	0.485 U	0.302 U	0.424 UJ	0.355 UJ	0.483 UJ	0.0551 U	0.264 U	0.0576 U	0.0588 U	0.761 U	0.0736 U	0.605 UJ	0.311 UJ
	Aroclor 1232	2	2	3	3	2	1	0.275 UJ	0.298 UJ	0.218 UJ	0.485 U	0.302 U	0.424 UJ	0.355 UJ	0.483 UJ	0.0551 U	0.264 U	0.0576 U	0.0588 U	0.761 U	0.0736 U	0.605 UJ	0.311 UJ
	Aroclor 1242	2	2	3	3	2	1	0.275 UJ	0.298 UJ	0.218 UJ	0.485 U	0.302 U	0.424 UJ	0.355 UJ	0.483 UJ	0.0551 U	0.264 U	0.0576 U	0.0588 U	0.761 U	0.0736 U	0.605 UJ	0.311 UJ
	Aroclor 1248	2	2	3	3	2	1	0.275 UJ	0.298 UJ	0.218 UJ	0.485 U	0.302 U	0.424 UJ	0.355 UJ	0.483 UJ	0.0551 U	0.264 U	0.0576 U	0.0588 U	0.761 U	0.0736 U	0.605 UJ	0.311 UJ
	Aroclor 1254	2	2	3	3	2	1	0.275 UJ	0.298 UJ	0.218 UJ	15.0 J	10.6 J	11.8 J	13.9 J	18.0 J	0.933 J	12.9 J	0.0576 U	0.143 J	29.9 J	3.64 J	20.2 J	7.41 J
	Aroclor 1260	2	2	3	3	2	1	0.275 UJ	0.298 UJ	0.218 UJ	1.56 J	1.28 J	1.48 J	1.76 J	2.37 J	0.0551 U	1.68 J	0.0576 U	0.0588 U	3.57 J	0.0736 U	2.57 J	0.951 J
	Total PCBs	2	2	3	3	2	1	0.275 UJ	0.298 UJ	0.218 UJ	16.56 J	11.88 J	13.28 J	15.66 J	20.37 J	0.933 J	14.58 J	0.0576 U	0.143 J	33.47 J	3.64 J	22.77 J	8.361 J

Notes:
All units in mg/kg.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
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Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID: Sample Depth (ft.): Sample Date:						SD-3H	SD-3I	SD-3J	SD-3K			SD-3L			SD-3M		SD-3N		SD-3P	
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	0-0.5 6/19/2008	0-0.5 6/19/2008	0-0.5 6/19/2008	0-0.5 7/30/2008	1-1.5 7/30/2008	2.5-3 9/18/2008	0-0.5 7/30/2008	1-1.5 7/30/2008	1-1.5 7/30/2008 Field Dup	0-0.5 7/30/2008	1-1.5 7/30/2008	0-0.5 7/30/2008	1-1.5 7/30/2008	0-0.5 7/30/2008	0.7-1.2 7/30/2008
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.288 U	0.221 U	0.231 U	0.552 U	0.272 U	0.0652 U	0.172 U	0.161 U	0.165 UJ	0.158 U	0.259 UJ	0.779 U	0.0550 U	0.132 U	0.0627 U
	Aroclor 1221	2	2	3	3	2	1	0.288 U	0.221 U	0.231 U	0.552 U	0.272 U	0.0652 U	0.172 U	0.161 U	0.165 UJ	0.158 U	0.259 UJ	0.779 U	0.0550 U	0.132 U	0.0627 U
	Aroclor 1232	2	2	3	3	2	1	0.288 U	0.221 U	0.231 U	0.552 U	0.272 U	0.0652 U	0.172 U	0.161 U	0.165 UJ	0.158 U	0.259 UJ	0.779 U	0.0550 U	0.132 U	0.0627 U
	Aroclor 1242	2	2	3	3	2	1	0.288 U	0.221 U	0.231 U	0.552 U	0.272 U	0.0652 U	0.172 U	0.161 U	0.165 UJ	0.158 U	0.259 UJ	0.779 U	0.0550 U	0.132 U	0.0627 U
	Aroclor 1248	2	2	3	3	2	1	0.288 U	0.221 U	0.231 U	0.552 U	0.272 U	0.0652 U	0.172 U	0.161 U	0.165 UJ	0.158 U	0.259 UJ	0.779 U	0.0550 U	0.132 U	0.0627 U
	Aroclor 1254	2	2	3	3	2	1	11.7 J	6.12 J	5.05 J	18.3 J	5.84 J	0.0652 U	5.00 J	0.219 J	0.165 UJ	0.812 J	0.765 J	21.5 J	0.430 J	3.17 J	0.329 J
	Aroclor 1260	2	2	3	3	2	1	0.288 U	0.673 J	0.735 J	0.552 U	0.272 U	0.0652 U	0.172 U	0.161 U	0.165 UJ	0.158 U	0.259 UJ	0.779 U	0.0550 U	0.132 U	0.0627 U
	Total PCBs	2	2	3	3	2	1	11.7 J	6.793 J	5.785 J	18.3 J	5.84 J	0.0652 U	5.00 J	0.219 J	0.165 UJ	0.812 J	0.765 J	21.5 J	0.430 J	3.17 J	0.329 J

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Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID: Sample Depth (ft.): Sample Date:						SD-3Q		SD-3R		SD-3S		SD-3T		SD-3U			SD-3V			SD-3W		
		0-0.5		0.8-1.3		0-0.5		1-1.5		0-0.5		1-1.5		0-0.5		0-0.5		1-1.5	0-0.5		1-1.5	2.5-3	0-0.5	1-1.5
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	7/30/2008	7/30/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008	8/19/2008	9/17/2008	8/19/2008	8/19/2008
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0593 U	0.102 U	0.175 UJ	0.192 UJ	0.104 U	0.0530 U	0.0790 U	0.291 UJ	0.216 UJ	0.245 UJ	0.239 UJ	0.116 U	0.148 U	0.0600 U	0.147 U	0.240 UJ	
	Aroclor 1221	2	2	3	3	2	1	0.0593 U	0.102 U	0.175 UJ	0.192 UJ	0.104 U	0.0530 U	0.0790 U	0.291 UJ	0.216 UJ	0.245 UJ	0.239 UJ	0.116 U	0.148 U	0.0600 U	0.147 U	0.240 UJ	
	Aroclor 1232	2	2	3	3	2	1	0.0593 U	0.102 U	0.175 UJ	0.192 UJ	0.104 U	0.0530 U	0.0790 U	0.291 UJ	0.216 UJ	0.245 UJ	0.239 UJ	0.116 U	0.148 U	0.0600 U	0.147 U	0.240 UJ	
	Aroclor 1242	2	2	3	3	2	1	0.0593 U	0.102 U	0.175 UJ	0.192 UJ	0.104 U	0.0530 U	0.0790 U	0.291 UJ	0.216 UJ	0.245 UJ	0.239 UJ	0.116 U	0.148 U	0.0600 U	0.147 U	0.240 UJ	
	Aroclor 1248	2	2	3	3	2	1	0.0593 U	0.102 U	0.175 UJ	0.192 UJ	0.104 U	0.0530 U	0.0790 U	0.291 UJ	0.216 UJ	0.245 UJ	0.239 UJ	0.116 U	0.148 U	0.0600 U	0.147 U	0.240 UJ	
	Aroclor 1254	2	2	3	3	2	1	1.61 J	0.195 J	0.470 J	0.267 J	0.805 J	0.0530 U	0.872 J	0.291 UJ	1.70 J	1.85 J	0.353 J	5.64 J	3.49 J	0.0600 U	1.86 J	0.240 UJ	
	Aroclor 1260	2	2	3	3	2	1	0.0593 U	0.102 U	0.175 UJ	0.192 UJ	0.104 U	0.0530 U	0.0790 U	0.291 UJ	0.216 UJ	0.245 UJ	0.239 UJ	0.116 U	0.148 U	0.0600 U	0.147 U	0.240 UJ	
	Total PCBs	2	2	3	3	2	1	1.61 J	0.195 J	0.470 J	0.267 J	0.805 J	0.0530 U	0.872 J	0.291 UJ	1.70 J	1.85 J	0.353 J	5.64 J	3.49 J	0.0600 U	1.86 J	0.240 UJ	

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PCBs - Polychlorinated Biphenyls.
RC - Reportable Concentration.
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Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SD-04-PRE	SD-04				SD-05			SD-06			SD-07		SD-08		
		Sample Depth (ft.):						0-0.5	0-0.5	0-0.5	1.5-2	2-2.5	0-0.5	1.5-2	2-2.5	0-0.5	1-1.5	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2
		Sample Date:						5/27/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/18/2008	9/18/2008	9/18/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	Field Dup															
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0594 U	0.179 UJ	0.188 UJ	0.0576 U	0.0567 U	0.180 UJ	0.0562 U	0.0581 U	0.152 U	0.271 UJ	0.0529 U	0.237 UJ	0.0702 U	0.0611 U	0.158 UJ	0.183 UJ
	Aroclor 1221	2	2	3	3	2	1	0.0594 U	0.179 UJ	0.188 UJ	0.0576 U	0.0567 U	0.180 UJ	0.0562 U	0.0581 U	0.152 U	0.271 UJ	0.0529 U	0.237 UJ	0.0702 U	0.0611 U	0.158 UJ	0.183 UJ
	Aroclor 1232	2	2	3	3	2	1	0.0594 U	0.179 UJ	0.188 UJ	0.0576 U	0.0567 U	0.180 UJ	0.0562 U	0.0581 U	0.152 U	0.271 UJ	0.0529 U	0.237 UJ	0.0702 U	0.0611 U	0.158 UJ	0.183 UJ
	Aroclor 1242	2	2	3	3	2	1	0.0594 U	0.179 UJ	0.188 UJ	0.0576 U	0.0567 U	0.180 UJ	0.0562 U	0.0581 U	0.152 U	0.271 UJ	0.0529 U	0.237 UJ	0.0702 U	0.0611 U	0.158 UJ	0.183 UJ
	Aroclor 1248	2	2	3	3	2	1	0.0594 U	0.179 UJ	0.188 UJ	0.0576 U	0.0567 U	0.180 UJ	0.0562 U	0.0581 U	0.152 U	0.271 UJ	0.0529 U	0.237 UJ	0.0702 U	0.0611 U	0.158 UJ	0.183 UJ
	Aroclor 1254	2	2	3	3	2	1	0.0594 U	0.552 J	0.730 J	0.0576 U	0.0567 U	0.263 J	0.0562 U	0.0581 U	2.49 J	0.320 J	0.0529 U	1.84 J	0.0702 U	0.0611 U	0.984 J	0.183 UJ
	Aroclor 1260	2	2	3	3	2	1	0.0594 U	0.179 UJ	0.188 UJ	0.0576 U	0.0567 U	0.180 UJ	0.0562 U	0.0581 U	0.152 U	0.271 UJ	0.0529 U	0.237 UJ	0.0702 U	0.0611 U	0.158 UJ	0.183 UJ
	Total PCBs	2	2	3	3	2	1	0.0594 U	0.552 J	0.730 J	0.0576 U	0.0567 U	0.263 J	0.0562 U	0.0581 U	2.49 J	0.320 J	0.0529 U	1.84 J	0.0702 U	0.0611 U	0.984 J	0.183 UJ

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Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:		SD-09			SD-09A	SD-10			SD-11			SD-12		SD-13							
		Sample Depth (ft.):		0-0.5	1.5-2	2.5-3	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	0-0.5	0-0.5	1.5-2	2.5-3				
		Sample Date:		9/18/2008	9/18/2008	9/18/2008	10/6/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	10/6/2008	10/6/2008	10/6/2008	10/6/2008				
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA																
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.134 U	0.0575 U	0.138 U	0.0606 U	0.188 UJ	0.0765 U	0.0630 U	0.238 UJ	0.0598 U	0.0567 U	0.0612 U	0.0924 U	0.125 U	0.112 U	0.0581 U	0.0540 U
	Aroclor 1221	2	2	3	3	2	1	0.134 U	0.0575 U	0.138 U	0.0606 U	0.188 UJ	0.0765 U	0.0630 U	0.238 UJ	0.0598 U	0.0567 U	0.0612 U	0.0924 U	0.125 U	0.112 U	0.0581 U	0.0540 U
	Aroclor 1232	2	2	3	3	2	1	0.134 U	0.0575 U	0.138 U	0.0606 U	0.188 UJ	0.0765 U	0.0630 U	0.238 UJ	0.0598 U	0.0567 U	0.0612 U	0.0924 U	0.125 U	0.112 U	0.0581 U	0.0540 U
	Aroclor 1242	2	2	3	3	2	1	0.134 U	0.0575 U	0.138 U	0.0606 U	0.188 UJ	0.0765 U	0.0630 U	0.238 UJ	0.0598 U	0.0567 U	0.0612 U	0.0924 U	0.125 U	0.112 U	0.0581 U	0.0540 U
	Aroclor 1248	2	2	3	3	2	1	0.134 U	0.0575 U	0.138 U	0.0606 U	0.188 UJ	0.0765 U	0.0630 U	0.238 UJ	0.0598 U	0.0567 U	0.0612 U	0.0924 U	0.125 U	0.112 U	0.0581 U	0.0540 U
	Aroclor 1254	2	2	3	3	2	1	0.236 J	0.0575 U	2.09 J	0.0606 U	1.23 J	0.0765 U	0.0630 U	0.909 J	0.0598 U	0.0567 U	0.0612 U	0.0924 U	3.66 J	0.112 UJ	0.0581 U	1.49 J
	Aroclor 1260	2	2	3	3	2	1	0.134 U	0.0575 U	0.138 U	0.0606 U	0.188 UJ	0.0765 U	0.0630 U	0.238 UJ	0.0598 U	0.0567 U	0.0612 U	0.0924 U	0.453 J	0.112 U	0.0581 U	0.205 J
	Total PCBs	2	2	3	3	2	1	0.236 J	0.0575 U	2.09 J	0.0606 U	1.23 J	0.0765 U	0.0630 U	0.909 J	0.0598 U	0.0567 U	0.0612 U	0.0924 U	4.113 J	0.112 U	0.0581 U	1.695 J

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Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID: SD-13A						SD-14				SD-15			SD-16			SD-17			
		Sample Depth (ft.): 2.5-3						0-0.5	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0603 U	0.277 UJ	0.271 UJ	0.0591 U	0.0573 U	0.225 UJ	0.0589 U	0.0540 U	0.168 U	0.0574 U	0.0568 U	0.212 UJ	0.0547 U	0.0574 U
	Aroclor 1221	2	2	3	3	2	1	0.0603 U	0.277 UJ	0.271 UJ	0.0591 U	0.0573 U	0.225 UJ	0.0589 U	0.0540 U	0.168 U	0.0574 U	0.0568 U	0.212 UJ	0.0547 U	0.0574 U
	Aroclor 1232	2	2	3	3	2	1	0.0603 U	0.277 UJ	0.271 UJ	0.0591 U	0.0573 U	0.225 UJ	0.0589 U	0.0540 U	0.168 U	0.0574 U	0.0568 U	0.212 UJ	0.0547 U	0.0574 U
	Aroclor 1242	2	2	3	3	2	1	0.0603 U	0.277 UJ	0.271 UJ	0.0591 U	0.0573 U	0.225 UJ	0.0589 U	0.0540 U	0.168 U	0.0574 U	0.0568 U	0.212 UJ	0.0547 U	0.0574 U
	Aroclor 1248	2	2	3	3	2	1	0.0603 U	0.277 UJ	0.271 UJ	0.0591 U	0.0573 U	0.225 UJ	0.0589 U	0.0540 U	0.168 U	0.0574 U	0.0568 U	0.212 UJ	0.0547 U	0.0574 U
	Aroclor 1254	2	2	3	3	2	1	0.193 J	1.88 J	1.75 J	0.0591 U	0.0573 U	0.771 J	0.0589 U	0.0540 U	4.30 J	0.0574 U	0.0568 U	1.55 J	0.0547 U	0.0574 U
	Aroclor 1260	2	2	3	3	2	1	0.0603 U	0.277 UJ	0.271 UJ	0.0591 U	0.0573 U	0.225 UJ	0.0589 U	0.0540 U	0.572 J	0.0574 U	0.0568 U	0.212 UJ	0.0547 U	0.0574 U
	Total PCBs	2	2	3	3	2	1	0.193 J	1.88 J	1.75 J	0.0591 U	0.0573 U	0.771 J	0.0589 U	0.0540 U	4.872 J	0.0574 U	0.0568 U	1.55 J	0.0547 U	0.0574 U

Notes:

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Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SD-18			SD-19			SD-20			SD-21			SD-22	SD-23		
		Sample Depth (ft.):						0-0.5	1.5-2	2.5-3	0-0.5	1-1.5	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	0-0.5		
		Sample Date:						10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/6/2008	10/6/2008	
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA																
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.208 UJ	0.0566 U	0.0579 U	0.163 UJ	0.0582 U	0.0577 U	0.221 UJ	0.0583 U	0.0588 U	0.190 UJ	0.117 U	0.0583 U	0.179 UJ	0.0758 U		
	Aroclor 1221	2	2	3	3	2	1	0.208 UJ	0.0566 U	0.0579 U	0.163 UJ	0.0582 U	0.0577 U	0.221 UJ	0.0583 U	0.0588 U	0.190 UJ	0.117 U	0.0583 U	0.179 UJ	0.0758 U		
	Aroclor 1232	2	2	3	3	2	1	0.208 UJ	0.0566 U	0.0579 U	0.163 UJ	0.0582 U	0.0577 U	0.221 UJ	0.0583 U	0.0588 U	0.190 UJ	0.117 U	0.0583 U	0.179 UJ	0.0758 U		
	Aroclor 1242	2	2	3	3	2	1	0.208 UJ	0.0566 U	0.0579 U	0.163 UJ	0.0582 U	0.0577 U	0.221 UJ	0.0583 U	0.0588 U	0.190 UJ	0.117 U	0.0583 U	0.179 UJ	0.0758 U		
	Aroclor 1248	2	2	3	3	2	1	0.208 UJ	0.0566 U	0.0579 U	0.163 UJ	0.0582 U	0.0577 U	0.221 UJ	0.0583 U	0.0588 U	0.190 UJ	0.117 U	0.0583 U	0.179 UJ	0.0758 U		
	Aroclor 1254	2	2	3	3	2	1	1.38 J	0.0566 U	0.0579 U	2.69 J	0.0582 U	0.0577 U	0.331 J	0.0583 U	0.0588 U	1.63 J	0.117 U	0.0583 U	0.633 J	0.0758 U		
	Aroclor 1260	2	2	3	3	2	1	0.208 UJ	0.0566 U	0.0579 U	0.163 UJ	0.0582 U	0.0577 U	0.221 UJ	0.0583 U	0.0588 U	0.190 UJ	0.117 U	0.0583 U	0.179 UJ	0.0758 U		
	Total PCBs	2	2	3	3	2	1	1.38 J	0.0566 U	0.0579 U	2.69 J	0.0582 U	0.0577 U	0.331 J	0.0583 U	0.0588 U	1.63 J	0.117 U	0.0583 U	0.633 J	0.0758 U		

Notes:

All units in mg/kg.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

U - Compound was not detected at specified quantitation limit.

UJ - Estimated non-detect.

Values in **Bold** indicate the compound was detected.

Values shown in **Bold and shaded** type exceed one or more of the listed Method 1 standards.

Values shown in **Bold and outlined** exceed TSCA but are less than the listed Method 1 standards.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

RC S-1 is listed for reference purposes only.

* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.

(a) - The sample was reextracted and reanalyzed to confirm the results

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SD-24				SD-25			SD-26			SD-27			SD-28		
		Sample Depth (ft.):						0-0.5	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3
		Sample Date:						10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	Field Dup															
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.172 UJ	0.182 UJ	0.0588 U	0.0569 U	0.220 UJ	0.0604 U	0.0579 U	0.184 UJ	0.156 U	0.0612 U	0.102 U	0.0620 U	0.0557 U	0.0699 U	0.0592 U	0.0550 U
	Aroclor 1221	2	2	3	3	2	1	0.172 UJ	0.182 UJ	0.0588 U	0.0569 U	0.220 UJ	0.0604 U	0.0579 U	0.184 UJ	0.156 U	0.0612 U	0.102 U	0.0620 U	0.0557 U	0.0699 U	0.0592 U	0.0550 U
	Aroclor 1232	2	2	3	3	2	1	0.172 UJ	0.182 UJ	0.0588 U	0.0569 U	0.220 UJ	0.0604 U	0.0579 U	0.184 UJ	0.156 U	0.0612 U	0.102 U	0.0620 U	0.0557 U	0.0699 U	0.0592 U	0.0550 U
	Aroclor 1242	2	2	3	3	2	1	0.172 UJ	0.182 UJ	0.0588 U	0.0569 U	0.220 UJ	0.0604 U	0.0579 U	0.184 UJ	0.156 U	0.0612 U	0.102 U	0.0620 U	0.0557 U	0.0699 U	0.0592 U	0.0550 U
	Aroclor 1248	2	2	3	3	2	1	0.172 UJ	0.182 UJ	0.0588 U	0.0569 U	0.220 UJ	0.0604 U	0.0579 U	0.184 UJ	0.156 U	0.0612 U	0.102 U	0.0620 U	0.0557 U	0.0699 U	0.0592 U	0.0550 U
	Aroclor 1254	2	2	3	3	2	1	1.60 J	1.30 J	0.0588 U	0.0569 U	0.600 J	0.0604 U	0.0579 U	1.39 J	0.156 U	0.0612 U	0.390 J	0.0620 U	0.0557 U	0.0708 J	0.0592 U	0.0550 U
	Aroclor 1260	2	2	3	3	2	1	0.172 UJ	0.182 UJ	0.0588 U	0.0569 U	0.220 UJ	0.0604 U	0.0579 U	0.184 UJ	0.156 U	0.0612 U	0.102 U	0.0620 U	0.0557 U	0.0699 U	0.0592 U	0.0550 U
	Total PCBs	2	2	3	3	2	1	1.60 J	1.30 J	0.0588 U	0.0569 U	0.600 J	0.0604 U	0.0579 U	1.39 J	0.156 U	0.0612 U	0.390 J	0.0620 U	0.0557 U	0.0708 J	0.0592 U	0.0550 U

Notes:
All units in mg/kg.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
J - Estimated value.
U - Compound was not detected at specified quantitation limit.
UJ - Estimated non-detect.
Values in **Bold** indicate the compound was detected.
Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.
Values shown in Bold and outlined exceed TSCA but are less than the listed Method 1 standards.
PCBs - Polychlorinated Biphenyls.
RC - Reportable Concentration.
TSCA - Toxic Substances Control Act criteria.
RC S-1 is listed for reference purposes only.
* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.
(a) - The sample was reextracted and reanalyzed to confirm the results

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SD-29			SD-30			SD-31			SD-32			SD-33		
		Sample Depth (ft.):						0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3	0-0.5	1.5-2	2.5-3
		Sample Date:						10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/22/2008	10/23/2008
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA															
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.247 UJ	0.0585 U	0.0560 U	0.0845 U	0.285 UJ	0.0627 U	0.254 UJ	0.0750 U	0.0633 U	0.327 UJ	0.0637 U	0.0582 U	0.0787 U	0.288 UJ	0.0620 U
	Aroclor 1221	2	2	3	3	2	1	0.247 UJ	0.0585 U	0.0560 U	0.0845 U	0.285 UJ	0.0627 U	0.254 UJ	0.0750 U	0.0633 U	0.327 UJ	0.0637 U	0.0582 U	0.0787 U	0.288 UJ	0.0620 U
	Aroclor 1232	2	2	3	3	2	1	0.247 UJ	0.0585 U	0.0560 U	0.0845 U	0.285 UJ	0.0627 U	0.254 UJ	0.0750 U	0.0633 U	0.327 UJ	0.0637 U	0.0582 U	0.0787 U	0.288 UJ	0.0620 U
	Aroclor 1242	2	2	3	3	2	1	0.247 UJ	0.0585 U	0.0560 U	0.0845 U	0.285 UJ	0.0627 U	0.254 UJ	0.0750 U	0.0633 U	0.327 UJ	0.0637 U	0.0582 U	0.0787 U	0.288 UJ	0.0620 U
	Aroclor 1248	2	2	3	3	2	1	0.247 UJ	0.0585 U	0.0560 U	0.0845 U	0.285 UJ	0.0627 U	0.254 UJ	0.0750 U	0.0633 U	0.327 UJ	0.0637 U	0.0582 U	0.0787 U	0.288 UJ	0.0620 U
	Aroclor 1254	2	2	3	3	2	1	1.39 J	0.0585 U	0.0560 U	0.0845 U	0.285 UJ	0.0627 U	0.747 J	0.0750 U	0.510 J	0.690 J	0.0637 U	0.0582 U	0.835 J	0.288 UJ	0.0620 U
	Aroclor 1260	2	2	3	3	2	1	0.247 UJ	0.0585 U	0.0560 U	0.0845 U	0.285 UJ	0.0627 U	0.254 UJ	0.0750 U	0.0633 U	0.327 UJ	0.0637 U	0.0582 U	0.0787 U	0.288 UJ	0.0620 U
	Total PCBs	2	2	3	3	2	1	1.39 J	0.0585 U	0.0560 U	0.0845 U	0.285 UJ	0.0627 U	0.747 J	0.0750 U	0.510 J	0.690 J	0.0637 U	0.0582 U	0.835 J	0.288 UJ	0.0620 U

Notes:
All units in mg/kg.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
J - Estimated value.
U - Compound was not detected at specified quantitation limit.
UJ - Estimated non-detect.

Values in **Bold** indicate the compound was detected.

Values shown in **Bold and shaded type** exceed one or more of the listed Method 1 standards.

Values shown in **Bold and outlined** exceed TSCA but are less than the listed Method 1 standards.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

RC S-1 is listed for reference purposes only.

* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.

(a) - The sample was reextracted and reanalyzed to confirm the results

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:		SD-34				SD-35	SD-36	SD-37		SD-38		SD-39		SD-40						
		Sample Depth (ft.):		0-0.5	0-0.5	1.5-2	2.5-3	0-0.5	0-0.5	0-0.5	2-2.5	0-0.5	2-2.5	0-0.5	3-3.5	0-0.5	0-0.5	3-3.5				
		Sample Date:		10/23/2008	10/23/2008	10/23/2008	10/23/2008	10/23/2008	10/23/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008				
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	Field Dup						Field Dup								
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.376 UJ	0.198 UJ	0.276 UJ	0.313 UJ	0.249 UJ	0.0983 U	0.175 UJ	0.0584 U	0.135 U	0.0596 U	0.355 UJ	0.0577 U	0.185 UJ	0.284 U	0.345 UJ
	Aroclor 1221	2	2	3	3	2	1	0.376 UJ	0.198 UJ	0.276 UJ	0.313 UJ	0.249 UJ	0.0983 U	0.175 UJ	0.0584 U	0.135 U	0.0596 U	0.355 UJ	0.0577 U	0.185 UJ	0.284 U	0.345 UJ
	Aroclor 1232	2	2	3	3	2	1	0.376 UJ	0.198 UJ	0.276 UJ	0.313 UJ	0.249 UJ	0.0983 U	0.175 UJ	0.0584 U	0.135 U	0.0596 U	0.355 UJ	0.0577 U	0.185 UJ	0.284 U	0.345 UJ
	Aroclor 1242	2	2	3	3	2	1	0.376 UJ	0.198 UJ	0.276 UJ	0.313 UJ	0.249 UJ	0.0983 U	0.175 UJ	0.0584 U	0.135 U	0.0596 U	0.355 UJ	0.0577 U	0.185 UJ	0.284 U	0.345 UJ
	Aroclor 1248	2	2	3	3	2	1	0.376 UJ	0.198 UJ	0.276 UJ	0.313 UJ	0.249 UJ	0.0983 U	0.175 UJ	0.0584 U	0.135 U	0.0596 U	0.355 UJ	0.0577 U	0.185 UJ	0.284 U	0.345 UJ
	Aroclor 1254	2	2	3	3	2	1	4.47 J	0.198 UJ	0.276 UJ	0.313 UJ	6.81 J	0.152 J	0.593 J	0.0584 U	0.135 U	0.0596 U	0.355 UJ	0.0577 U	4.90 J	5.23 J	0.345 UJ
	Aroclor 1260	2	2	3	3	2	1	0.376 UJ	0.198 UJ	0.276 UJ	0.313 UJ	0.249 UJ	0.0983 U	0.175 UJ	0.0584 U	0.135 U	0.0596 U	0.355 UJ	0.0577 U	0.185 UJ	0.284 U	0.345 UJ
	Total PCBs	2	2	3	3	2	1	4.47 J	0.198 UJ	0.276 UJ	0.313 UJ	6.81 J	0.152 J	0.593 J	0.0584 U	0.135 U	0.0596 U	0.355 UJ	0.0577 U	4.90 J	5.23 J	0.345 UJ

Notes:
All units in mg/kg.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
J - Estimated value.
U - Compound was not detected at specified quantitation limit.
UJ - Estimated non-detect.
Values in **Bold** indicate the compound was detected.

Values shown in **Bold and shaded type** exceed one or more of the listed Method 1 standards.
Values shown in Bold and outlined exceed TSCA but are less than the listed Method 1 standards.

PCBs - Polychlorinated Biphenyls.
RC - Reportable Concentration.
TSCA - Toxic Substances Control Act criteria.
RC S-1 is listed for reference purposes only.
* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.
(a) - The sample was reextracted and reanalyzed to confirm the results

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SD-41		SD-42		SD-43		SD-44		SD-45		SD-46		SD-47	
		Sample Depth (ft.):						0-0.5	3-3.5	0-0.5	2.5-3	0-0.5	2.5-3	0-0.5	2.5-3	0-0.5	1.5-2	0-0.5	2.5-3	0-0.5	4-4.5
		Sample Date:						12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/3/2008	12/4/2008
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA														
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.226 UJ	0.406 UJ	0.263 UJ	0.0588 U	0.155 U	0.297 UJ	0.317 UJ	0.315 UJ	0.283 UJ	0.345 UJ	0.0739 U	0.366 UJ	0.263 UJ	0.347 UJ
	Aroclor 1221	2	2	3	3	2	1	0.226 UJ	0.406 UJ	0.263 UJ	0.0588 U	0.155 U	0.297 UJ	0.317 UJ	0.315 UJ	0.283 UJ	0.345 UJ	0.0739 U	0.366 UJ	0.263 UJ	0.347 UJ
	Aroclor 1232	2	2	3	3	2	1	0.226 UJ	0.406 UJ	0.263 UJ	0.0588 U	0.155 U	0.297 UJ	0.317 UJ	0.315 UJ	0.283 UJ	0.345 UJ	0.0739 U	0.366 UJ	0.263 UJ	0.347 UJ
	Aroclor 1242	2	2	3	3	2	1	0.226 UJ	0.406 UJ	0.263 UJ	0.0588 U	0.155 U	0.297 UJ	0.317 UJ	0.315 UJ	0.283 UJ	0.345 UJ	0.0739 U	0.366 UJ	0.263 UJ	0.347 UJ
	Aroclor 1248	2	2	3	3	2	1	0.226 UJ	0.406 UJ	0.263 UJ	0.0588 U	0.155 U	0.297 UJ	0.317 UJ	0.315 UJ	0.283 UJ	0.345 UJ	0.0739 U	0.366 UJ	0.263 UJ	0.347 UJ
	Aroclor 1254	2	2	3	3	2	1	0.692 J	0.406 UJ	1.34 J	0.0588 U	1.22 J	0.297 UJ	0.317 UJ	0.315 UJ	1.06 J	0.505 J	0.399 J	0.366 UJ	0.381 J	0.347 UJ
	Aroclor 1260	2	2	3	3	2	1	0.226 UJ	0.406 UJ	0.263 UJ	0.0588 U	0.155 U	0.297 UJ	0.317 UJ	0.315 UJ	0.283 UJ	0.345 UJ	0.0739 U	0.366 UJ	0.263 UJ	0.347 UJ
	Total PCBs	2	2	3	3	2	1	0.692 J	0.406 UJ	1.34 J	0.0588 U	1.22 J	0.297 UJ	0.317 UJ	0.315 UJ	1.06 J	0.505 J	0.399 J	0.366 UJ	0.381 J	0.347 UJ

Notes:

All units in mg/kg.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

U - Compound was not detected at specified quantitation limit.

UJ - Estimated non-detect.

Values in **Bold** indicate the compound was detected.

Values shown in **Bold and shaded type** exceed one or more of the listed Method 1 standards.

Values shown in **Bold and outlined** exceed TSCA but are less than the listed Method 1 standards.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

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* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.

(a) - The sample was reextracted and reanalyzed to confirm the results

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SD-48		SD-49		SD-50		SD-51		SD-52		SD-53		SD-54										
		Sample Depth (ft.):						0-0.5	3-3.5	0-0.5	2.5-3	0-0.5	3.5-4	0-0.5	3-3.5	0-0.5	3-3.5	0-0.5	3-3.5	0-0.5	0-0.5	3.5-4								
		Sample Date:						12/4/2008	12/4/2008	12/4/2008	12/4/2008	12/4/2008	12/4/2008	12/4/2008	12/4/2008	12/4/2008	12/4/2008	12/5/2008	12/5/2008	12/4/2008	12/4/2008	12/4/2008								
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA																							
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.156 U	0.0595 U	0.104 U	0.320 UJ	0.209 UJ	0.197 UJ	0.365 UJ	0.385 UJ	0.215 UJ	0.383 UJ	0.0809 U	0.267 UJ	0.245 UJ	0.245 UJ	0.0685 U								
	Aroclor 1221	2	2	3	3	2	1	0.156 U	0.0595 U	0.104 U	0.320 UJ	0.209 UJ	0.197 UJ	0.365 UJ	0.385 UJ	0.215 UJ	0.383 UJ	0.0809 U	0.267 UJ	0.245 UJ	0.245 UJ	0.0685 U								
	Aroclor 1232	2	2	3	3	2	1	0.156 U	0.0595 U	0.104 U	0.320 UJ	0.209 UJ	0.197 UJ	0.365 UJ	0.385 UJ	0.215 UJ	0.383 UJ	0.0809 U	0.267 UJ	0.245 UJ	0.245 UJ	0.0685 U								
	Aroclor 1242	2	2	3	3	2	1	0.156 U	0.0595 U	0.104 U	0.320 UJ	0.209 UJ	0.197 UJ	0.365 UJ	0.385 UJ	0.215 UJ	0.383 UJ	0.0809 U	0.267 UJ	0.245 UJ	0.245 UJ	0.0685 U								
	Aroclor 1248	2	2	3	3	2	1	0.156 U	0.0595 U	0.104 U	0.320 UJ	0.209 UJ	0.197 UJ	0.365 UJ	0.385 UJ	0.215 UJ	0.383 UJ	0.0809 U	0.267 UJ	0.245 UJ	0.245 UJ	0.0685 U								
	Aroclor 1254	2	2	3	3	2	1	1.36 J	0.0595 U	0.837 J	0.341 J	1.21 J	0.197 UJ	0.365 UJ	0.385 UJ	1.0 J	0.383 UJ	0.343 J	0.267 UJ	0.507 J	0.435 J	0.0685 U								
	Aroclor 1260	2	2	3	3	2	1	0.156 U	0.0595 U	0.104 U	0.320 UJ	0.209 UJ	0.197 UJ	0.365 UJ	0.385 UJ	0.215 UJ	0.383 UJ	0.0809 U	0.267 UJ	0.245 UJ	0.245 UJ	0.0685 U								
	Total PCBs	2	2	3	3	2	1	1.36 J	0.0595 U	0.837 J	0.341 J	1.21 J	0.197 UJ	0.365 UJ	0.385 UJ	1.0 J	0.383 UJ	0.343 J	0.267 UJ	0.507 J	0.435 J	0.0685 U								

Notes:
All units in mg/kg.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
J - Estimated value.
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(a) - The sample was reextracted and reanalyzed to confirm the results

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SD-55		SD-56		SD-57		SD-58		SD-59		SD-60		SD-61	
		Sample Depth (ft.):						0-0.5	1.5-2	0-0.5	3.5-4	0-0.5	2-2.5	0-0.5	2.5-3	0-0.5	2.5-3	0-0.5	1.5-2	0-0.5	2.5-3
		Sample Date:						12/4/2008	12/4/2008	12/4/2008	12/4/2008	12/8/2008	12/8/2008	12/4/2008	12/4/2008	12/4/2008	12/4/2008	12/8/2008	12/8/2008	12/4/2008	12/4/2008
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA														
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.235 UJ	0.227 UJ	0.178 UJ	0.0668 U	0.351 UJ	0.0629 U	0.197 UJ	0.0578 U	0.301 UJ	0.0581 U	0.132 U	0.0610 U	0.0626 U	0.0550 U
	Aroclor 1221	2	2	3	3	2	1	0.235 UJ	0.227 UJ	0.178 UJ	0.0668 U	0.351 UJ	0.0629 U	0.197 UJ	0.0578 U	0.301 UJ	0.0581 U	0.132 U	0.0610 U	0.0626 U	0.0550 U
	Aroclor 1232	2	2	3	3	2	1	0.235 UJ	0.227 UJ	0.178 UJ	0.0668 U	0.351 UJ	0.0629 U	0.197 UJ	0.0578 U	0.301 UJ	0.0581 U	0.132 U	0.0610 U	0.0626 U	0.0550 U
	Aroclor 1242	2	2	3	3	2	1	0.235 UJ	0.227 UJ	0.178 UJ	0.0668 U	0.351 UJ	0.0629 U	0.197 UJ	0.0578 U	0.301 UJ	0.0581 U	0.132 U	0.0610 U	0.0626 U	0.0550 U
	Aroclor 1248	2	2	3	3	2	1	0.235 UJ	0.227 UJ	0.178 UJ	0.0668 U	0.351 UJ	0.0629 U	0.197 UJ	0.0578 U	0.301 UJ	0.0581 U	0.132 U	0.0610 U	0.0626 U	0.0550 U
	Aroclor 1254	2	2	3	3	2	1	0.235 UJ	0.227 UJ	0.470 J	0.0668 U	1.36 J	0.0629 U	1.77 J	0.0578 U	1.02 J	0.0581 U	0.820 J	0.0610 U	0.264 J	0.0550 U
	Aroclor 1260	2	2	3	3	2	1	0.235 UJ	0.227 UJ	0.178 UJ	0.0668 U	0.351 UJ	0.0629 U	0.197 UJ	0.0578 U	0.301 UJ	0.0581 U	0.132 U	0.0610 U	0.0626 U	0.0550 U
	Total PCBs	2	2	3	3	2	1	0.235 UJ	0.227 UJ	0.470 J	0.0668 U	1.36 J	0.0629 U	1.77 J	0.0578 U	1.02 J	0.0581 U	0.820 J	0.0610 U	0.264 J	0.0550 U

Notes:

All units in mg/kg.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

U - Compound was not detected at specified quantitation limit.

UJ - Estimated non-detect.

Values in **Bold** indicate the compound was detected.

Values shown in **Bold and shaded type** exceed one or more of the listed Method 1 standards.

Values shown in **Bold and outlined** exceed TSCA but are less than the listed Method 1 standards.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

RC S-1 is listed for reference purposes only.

* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.

(a) - The sample was reextracted and reanalyzed to confirm the results

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SD-62		SD-63		SD-64		SD-65		SD-66		SD-67		SD-68	
		Sample Depth (ft.):						0-0.5	1-1.5	0-0.5	1.5-2	0-0.5	2-2.5	0-0.5	1-1.5	0-0.5	2-2.5	0-0.5	2.5-3	0-0.5	4-4.5
		Sample Date:						12/8/2008	12/8/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA														
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0605 U	0.0615 U	0.0598 U	0.0624 U	0.340 UJ	0.359 UJ	0.454 UJ	0.477 UJ	0.129 U	0.0700 U	0.209 UJ	0.436 UJ	0.279 UJ	0.387 UJ
	Aroclor 1221	2	2	3	3	2	1	0.0605 U	0.0615 U	0.0598 U	0.0624 U	0.340 UJ	0.359 UJ	0.454 UJ	0.477 UJ	0.129 U	0.0700 U	0.209 UJ	0.436 UJ	0.279 UJ	0.387 UJ
	Aroclor 1232	2	2	3	3	2	1	0.0605 U	0.0615 U	0.0598 U	0.0624 U	0.340 UJ	0.359 UJ	0.454 UJ	0.477 UJ	0.129 U	0.0700 U	0.209 UJ	0.436 UJ	0.279 UJ	0.387 UJ
	Aroclor 1242	2	2	3	3	2	1	0.0605 U	0.0615 U	0.0598 U	0.0624 U	0.340 UJ	0.359 UJ	0.454 UJ	0.477 UJ	0.129 U	0.0700 U	0.209 UJ	0.436 UJ	0.279 UJ	0.387 UJ
	Aroclor 1248	2	2	3	3	2	1	0.0605 U	0.0615 U	0.0598 U	0.0624 U	0.340 UJ	0.359 UJ	0.454 UJ	0.477 UJ	0.129 U	0.0700 U	0.209 UJ	0.436 UJ	0.279 UJ	0.387 UJ
	Aroclor 1254	2	2	3	3	2	1	0.0605 U	0.0615 U	0.0598 U	0.332 J	0.340 UJ	0.359 UJ	0.454 UJ	0.477 UJ	0.244 J	0.236 J	0.982 J	0.436 UJ	0.961 J	0.387 UJ
	Aroclor 1260	2	2	3	3	2	1	0.0605 U	0.0615 U	0.0598 U	0.0624 U	0.340 UJ	0.359 UJ	0.454 UJ	0.477 UJ	0.129 U	0.0700 U	0.209 UJ	0.436 UJ	0.279 UJ	0.387 UJ
	Total PCBs	2	2	3	3	2	1	0.0605 U	0.0615 U	0.0598 U	0.332 J	0.340 UJ	0.359 UJ	0.454 UJ	0.477 UJ	0.244 J	0.236 J	0.982 J	0.436 UJ	0.961 J	0.387 UJ

Notes:

All units in mg/kg.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

U - Compound was not detected at specified quantitation limit.

UJ - Estimated non-detect.

Values in **Bold** indicate the compound was detected.

Values shown in **Bold** and shaded type exceed one or more of the listed Method 1 standards.

Values shown in **Bold** and outlined exceed TSCA but are less than the listed Method 1 standards.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

RC S-1 is listed for reference purposes only.

* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.

(a) - The sample was reextracted and reanalyzed to confirm the results

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SD-69		SD-70			SD-71		SD-72		SD-73		SD-74	SD-75	SD-76	SD-77
		Sample Depth (ft.):						0-0.5	4-4.5	0-0.5	0-0.5	1.5-2	0-0.5	3-3.5	0-0.5	1.5-2	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
		Sample Date:						12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/5/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008	12/8/2008
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA															
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.165 UJ	0.397 UJ	0.0759 U	0.0675 U	0.349 UJ	0.359 UJ	0.336 UJ	0.416 UJ	0.151 U	0.213 UJ	0.210 UJ	0.253 UJ	0.107 U	0.260 UJ	0.0685 U
	Aroclor 1221	2	2	3	3	2	1	0.165 UJ	0.397 UJ	0.0759 U	0.0675 U	0.349 UJ	0.359 UJ	0.336 UJ	0.416 UJ	0.151 U	0.213 UJ	0.210 UJ	0.253 UJ	0.107 U	0.260 UJ	0.0685 U
	Aroclor 1232	2	2	3	3	2	1	0.165 UJ	0.397 UJ	0.0759 U	0.0675 U	0.349 UJ	0.359 UJ	0.336 UJ	0.416 UJ	0.151 U	0.213 UJ	0.210 UJ	0.253 UJ	0.107 U	0.260 UJ	0.0685 U
	Aroclor 1242	2	2	3	3	2	1	0.165 UJ	0.397 UJ	0.0759 U	0.0675 U	0.349 UJ	0.359 UJ	0.336 UJ	0.416 UJ	0.151 U	0.213 UJ	0.210 UJ	0.253 UJ	0.107 U	0.260 UJ	0.0685 U
	Aroclor 1248	2	2	3	3	2	1	0.165 UJ	0.397 UJ	0.0759 U	0.0675 U	0.349 UJ	0.359 UJ	0.336 UJ	0.416 UJ	0.151 U	0.213 UJ	0.210 UJ	0.253 UJ	0.107 U	0.260 UJ	0.0685 U
	Aroclor 1254	2	2	3	3	2	1	0.368 J	0.397 UJ	0.0759 U	0.0899 J	7.99 J	1.15 J	0.336 UJ	0.526 J	0.151 U	0.213 UJ	0.210 UJ	0.253 UJ	0.612 J	0.260 UJ	0.386 J
	Aroclor 1260	2	2	3	3	2	1	0.165 UJ	0.397 UJ	0.0759 U	0.0675 U	0.349 UJ	0.359 UJ	0.336 UJ	0.416 UJ	0.151 U	0.213 UJ	0.210 UJ	0.253 UJ	0.204 J	0.260 UJ	0.134 J
	Total PCBs	2	2	3	3	2	1	0.368 J	0.397 UJ	0.0759 U	0.0899 J	7.99 J	1.15 J	0.336 UJ	0.526 J	0.151 U	0.213 UJ	0.210 UJ	0.253 UJ	0.816 J	0.260 UJ	0.520 J

Notes:
All units in mg/kg.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
J - Estimated value.
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UJ - Estimated non-detect.
Values in **Bold** indicate the compound was detected.
Values shown in **Bold and shaded type** exceed one or more of the listed Method 1 standards.
Values shown in **Bold and outlined** exceed TSCA but are less than the listed Method 1 standards.
PCBs - Polychlorinated Biphenyls.
RC - Reportable Concentration.
TSCA - Toxic Substances Control Act criteria.
RC S-1 is listed for reference purposes only.
* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.
(a) - The sample was reextracted and reanalyzed to confirm the results

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SD-78	SD-79	SD-80	SD-81	SD-82	SD-83	SD-84	OF-1	OF-2	OF-3	OF-4	OF-5			
		Sample Depth (ft.):						0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5		
		Sample Date:						12/8/2008	12/8/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/10/2008	12/10/2008	12/10/2008	Field Dup	
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA															
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.238 UJ	0.206 UJ	0.297 UJ	0.167 UJ	0.369 UJ	0.232 UJ	0.324 UJ	0.0558 U	0.0638 U	0.0666 U	0.0553 U	0.0595 U	0.0641 U		
	Aroclor 1221	2	2	3	3	2	1	0.238 UJ	0.206 UJ	0.297 UJ	0.167 UJ	0.369 UJ	0.232 UJ	0.324 UJ	0.0558 U	0.0638 U	0.0666 U	0.0553 U	0.0595 U	0.0641 U		
	Aroclor 1232	2	2	3	3	2	1	0.238 UJ	0.206 UJ	0.297 UJ	0.167 UJ	0.369 UJ	0.232 UJ	0.324 UJ	0.0558 U	0.0638 U	0.0666 U	0.0553 U	0.0595 U	0.0641 U		
	Aroclor 1242	2	2	3	3	2	1	0.238 UJ	0.206 UJ	0.297 UJ	0.167 UJ	0.369 UJ	0.232 UJ	0.324 UJ	0.0558 U	0.0638 U	0.0666 U	0.0553 U	0.0595 U	0.0641 U		
	Aroclor 1248	2	2	3	3	2	1	0.238 UJ	0.206 UJ	0.297 UJ	0.167 UJ	0.369 UJ	0.232 UJ	0.324 UJ	0.0558 U	0.0638 U	0.0666 U	0.0553 U	0.0595 U	0.0641 U		
	Aroclor 1254	2	2	3	3	2	1	0.238 UJ	0.206 UJ	0.297 UJ	0.183 J	0.369 UJ	0.232 UJ	0.324 UJ	0.0558 U	0.0819 J	0.117 J	0.0553 U	1.07 J	0.963 J		
	Aroclor 1260	2	2	3	3	2	1	0.238 UJ	0.206 UJ	0.297 UJ	0.167 UJ	0.369 UJ	0.232 UJ	0.324 UJ	0.0558 U	0.0638 U	0.0666 U	0.0553 U	0.0595 U	0.0641 U		
	Total PCBs	2	2	3	3	2	1	0.238 UJ	0.206 UJ	0.297 UJ	0.183 J	0.369 UJ	0.232 UJ	0.324 UJ	0.0558 U	0.0819 J	0.117 J	0.0553 U	1.07 J	0.963 J		

Notes:

All units in mg/kg.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

U - Compound was not detected at specified quantitation limit.

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Values in **Bold** indicate the compound was detected.

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Values shown in **Bold and outlined** exceed TSCA but are less than the listed Method 1 standards.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

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* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.

(a) - The sample was reextracted and reanalyzed to confirm the results

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:						SB-01		SB-02		SB-03		SB-04		SB-05		SB-06		SB-07		SB-08	
		Sample Depth (ft.):						0-0.5	5.5-6	0.5-1	9.5-10	0.5-1	9.5-10	0.5-1	4.5-5	0.5-1	7.5-8	0.5-1	8.5-9	0.5-1	8.5-9	0.5-1	9.5-10
		Sample Date:						11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007	11/7/2007
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA																
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0561 U	0.0560 U	0.0543 U	0.0561 U	0.0519 U	0.0516 U	0.0514 U	0.0538 U	0.0562 U	0.0557 U	0.0591 U	0.0500 U	0.0538 U	0.0516 U	0.0564 U	0.0539 U
	Aroclor 1221	2	2	3	3	2	1	0.0561 U	0.0560 U	0.0543 U	0.0561 U	0.0519 U	0.0516 U	0.0514 U	0.0538 U	0.0562 U	0.0557 U	0.0591 U	0.0500 U	0.0538 U	0.0516 U	0.0564 U	0.0539 U
	Aroclor 1232	2	2	3	3	2	1	0.0561 U	0.0560 U	0.0543 U	0.0561 U	0.0519 U	0.0516 U	0.0514 U	0.0538 U	0.0562 U	0.0557 U	0.0591 U	0.0500 U	0.0538 U	0.0516 U	0.0564 U	0.0539 U
	Aroclor 1242	2	2	3	3	2	1	0.0561 U	0.0560 U	0.0543 U	0.0561 U	0.0519 U	0.0516 U	0.0514 U	0.0538 U	0.0562 U	0.0557 U	0.0591 U	0.0500 U	0.0538 U	0.0516 U	0.0564 U	0.0539 U
	Aroclor 1248	2	2	3	3	2	1	0.0561 U	0.0560 U	0.0543 U	0.0561 U	0.0519 U	0.0516 U	0.0514 U	0.0538 U	0.0562 U	0.0557 U	0.0591 U	0.0500 U	0.0538 U	0.0516 U	0.0564 U	0.0539 U
	Aroclor 1254	2	2	3	3	2	1	0.177 *	0.0560 U	0.0543 U	0.0561 U	0.0519 U	0.0516 U	0.0514 U	0.0538 U	0.0562 U	0.0557 U	0.149 *	0.0500 U	0.0538 U	0.0516 U	0.0564 U	0.0539 U
	Aroclor 1260	2	2	3	3	2	1	0.0561 U	0.0560 U	0.0543 U	0.0561 U	0.0519 U	0.0516 U	0.0514 U	0.0538 U	0.0562 U	0.0557 U	0.109 *	0.0500 U	0.0538 U	0.0516 U	0.0564 U	0.0539 U
	Total PCBs	2	2	3	3	2	1	0.177	0.0560 U	0.0543 U	0.0561 U	0.0519 U	0.0516 U	0.0514 U	0.0538 U	0.0562 U	0.0557 U	0.258	0.0500 U	0.0538 U	0.0516 U	0.0564 U	0.0539 U

Notes:
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J - Estimated value.
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PCBs - Polychlorinated Biphenyls.
RC - Reportable Concentration.
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RC S-1 is listed for reference purposes only.
* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.
(a) - The sample was reextracted and reanalyzed to confirm the results
(b) - The sample was collected at the same location as the sample SDR-4.

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:		Sample Depth (ft.):		Sample Date:		SB-09		SB-10		SB-11		SB-12		SB-13		SB-14		SB-15		SDR-1	
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA	0.5-1	6.5-7	0.5-1	8.5-9	0.5-1	6.5-7	0.5-1	5.5-6	0.5-1	9.5-10	0.5-1	9-9.5	12.5-13	0.5-1	7.5-8	0-0.2
		11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	12/9/2008
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0602 U	0.0500 U	0.0553 U	0.0583 U	0.0527 U	0.0550 U	0.0591 U	0.0501 U	0.0520 U	0.0565 U	0.0503 U	0.0505 U	0.0519 U	0.0512 U	0.0553 U	0.0801 U
	Aroclor 1221	2	2	3	3	2	1	0.0602 U	0.0500 U	0.0553 U	0.0583 U	0.0527 U	0.0550 U	0.0591 U	0.0501 U	0.0520 U	0.0565 U	0.0503 U	0.0505 U	0.0519 U	0.0512 U	0.0553 U	0.0801 U
	Aroclor 1232	2	2	3	3	2	1	0.0602 U	0.0500 U	0.0553 U	0.0583 U	0.0527 U	0.0550 U	0.0591 U	0.0501 U	0.0520 U	0.0565 U	0.0503 U	0.0505 U	0.0519 U	0.0512 U	0.0553 U	0.0801 U
	Aroclor 1242	2	2	3	3	2	1	0.0602 U	0.0500 U	0.0553 U	0.0583 U	0.0527 U	0.0550 U	0.0591 U	0.0501 U	0.0520 U	0.0565 U	0.0503 U	0.0505 U	0.0519 U	0.0512 U	0.0553 U	0.0801 U
	Aroclor 1248	2	2	3	3	2	1	0.0602 U	0.0500 U	0.0553 U	0.0583 U	0.0527 U	0.0550 U	0.0591 U	0.0501 U	0.0520 U	0.0565 U	0.0503 U	0.0505 U	0.0519 U	0.0512 U	0.0553 U	0.0801 U
	Aroclor 1254	2	2	3	3	2	1	0.0602 U	0.0500 U	0.0553 U	0.0583 U	0.0527 U	0.0550 U	0.0591 U	0.0501 U	0.782 *	0.0565 U	0.557 *	0.112 *	0.0519 U	0.0512 U	0.0553 U	0.0801 U
	Aroclor 1260	2	2	3	3	2	1	0.0602 U	0.0500 U	0.0553 U	0.0583 U	0.0527 U	0.0550 U	0.0591 U	0.0501 U	0.0520 U	0.0565 U	0.0503 U	0.238 *	0.0519 U	0.137 *	0.0553 U	0.0801 U
	Total PCBs	2	2	3	3	2	1	0.0602 U	0.0500 U	0.0553 U	0.0583 U	0.0527 U	0.0550 U	0.0591 U	0.0501 U	0.782	0.0565 U	0.557	0.350	0.0519 U	0.137	0.0553 U	0.0801 U

Notes:

All units in mg/kg.

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

U - Compound was not detected at specified quantitation limit.

UJ - Estimated non-detect.

Values in **Bold** indicate the compound was detected.

Values shown in **Bold and shaded type** exceed one or more of the listed Method 1 standards.

Values shown in **Bold and outlined** exceed TSCA but are less than the listed Method 1 standards.

PCBs - Polychlorinated Biphenyls.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

RC S-1 is listed for reference purposes only.

* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.

(a) - The sample was reextracted and reanalyzed to confirm the results

(b) - The sample was collected at the same location as the sample SDR-4.

Table 1
Summary of Analytical Results for Wetland Sediment and Soil Samples - 2007 and 2008
Keith Middle School
New Bedford, Massachusetts

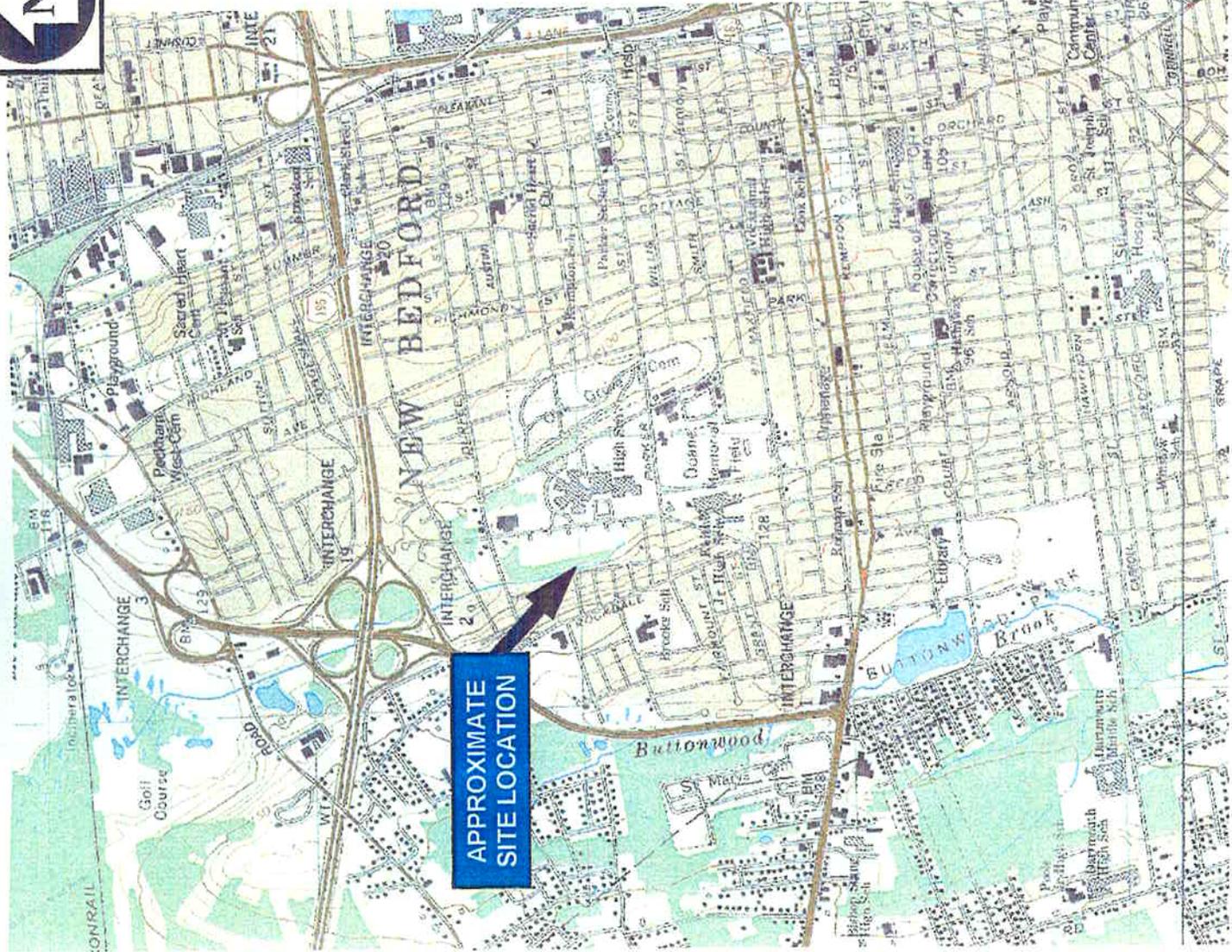
Analysis	Analyte	Sample ID:						SDR-2	SDR-3	SDR-4	OF-DS-1	SDR-5	SLP-01	SLP-02	SLP-03	SLP-04	SLP-05	SLP-06		SLP-07	SLP-08	SLP-09	SLP-10
		Sample Depth (ft.):						0-0.2	0-0.2	0-0.2	0-0.2	0-0.2	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
		Sample Date:						12/9/2008	12/9/2008	12/10/2008	11/25/2008	12/10/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/9/2008	12/10/2008	12/10/2008	12/10/2008
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA																
PCBs (mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0658 U	0.0953 U	0.149 U	0.257 UJ	0.0700 U	0.0568 U	0.0572 U	0.0582 U	0.0576 U	0.0550 U	0.0583 U	0.0591 U	0.0587 U	0.0556 U	0.0575 U	0.0575 U
	Aroclor 1221	2	2	3	3	2	1	0.0658 U	0.0953 U	0.149 U	0.257 UJ	0.0700 U	0.0568 U	0.0572 U	0.0582 U	0.0576 U	0.0550 U	0.0583 U	0.0591 U	0.0587 U	0.0556 U	0.0575 U	0.0575 U
	Aroclor 1232	2	2	3	3	2	1	0.0658 U	0.0953 U	0.149 U	0.257 UJ	0.0700 U	0.0568 U	0.0572 U	0.0582 U	0.0576 U	0.0550 U	0.0583 U	0.0591 U	0.0587 U	0.0556 U	0.0575 U	0.0575 U
	Aroclor 1242	2	2	3	3	2	1	0.0658 U	0.0953 U	0.149 U	0.257 UJ	0.0700 U	0.0568 U	0.0572 U	0.0582 U	0.0576 U	0.0550 U	0.0583 U	0.0591 U	0.0587 U	0.0556 U	0.0575 U	0.0575 U
	Aroclor 1248	2	2	3	3	2	1	0.0658 U	0.0953 U	0.149 U	0.257 UJ	0.0700 U	0.0568 U	0.0572 U	0.0582 U	0.0576 U	0.0550 U	0.0583 U	0.0591 U	0.0587 U	0.0556 U	0.0575 U	0.0575 U
	Aroclor 1254	2	2	3	3	2	1	0.0658 U	0.0953 U	0.149 U	0.257 UJ	0.0700 U	0.0568 U	0.0572 U	0.0582 U	0.0576 U	0.0550 U	0.0583 U	0.0591 U	0.0587 U	0.0556 U	0.0575 U	0.0575 U
	Aroclor 1260	2	2	3	3	2	1	0.0658 U	0.0953 U	0.149 U	0.257 UJ	0.0700 U	0.0568 U	0.0572 U	0.0582 U	0.0576 U	0.0550 U	0.0583 U	0.0591 U	0.0587 U	0.0556 U	0.0575 U	0.0575 U
	Total PCBs	2	2	3	3	2	1	0.0658 U	0.0953 U	0.149 U	0.257 UJ	0.0700 U	0.0568 U	0.0572 U	0.0582 U	0.0576 U	0.0550 U	0.0583 U	0.0591 U	0.0587 U	0.0556 U	0.0575 U	0.0575 U

Notes:
All units in mg/kg.
mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).
J - Estimated value.
U - Compound was not detected at specified quantitation limit.
UJ - Estimated non-detect.
Values in **Bold** indicate the compound was detected.

Values shown in Bold and shaded type exceed one or more of the listed Method 1 standards.
Values shown in Bold and outlined exceed TSCA but are less than the listed Method 1 standards.

PCBs - Polychlorinated Biphenyls.
RC - Reportable Concentration.
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RC S-1 is listed for reference purposes only.
* - The sample exhibits altered PCB pattern; best possible Aroclor match reported.
(a) - The sample was reextracted and reanalyzed to confirm the results
(b) - The sample was collected at the same location as the sample SDR-4.

FIGURES



**APPROXIMATE
SITE LOCATION**

BASE MAP IS A PORTION OF THE FOLLOWING 7.5' X 15' USGS
TOPOGRAPHIC QUADRANGLES: NEW BEDFORD NORTH, MA, 1978;
NEW BEDFORD SOUTH, MA 1977



scale in feet

QUADRANGLE
LOCATION

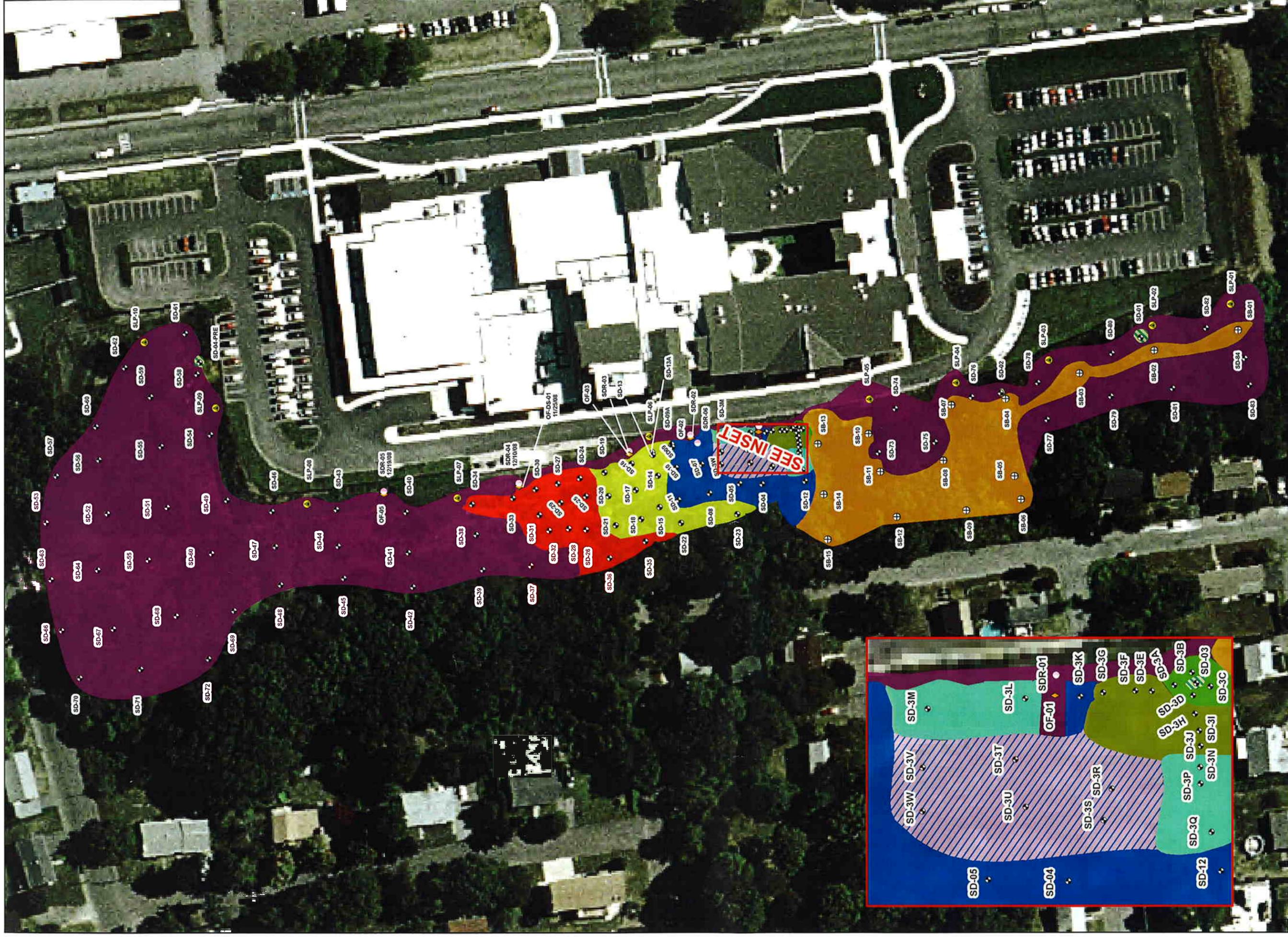
SITE LOCATION MAP



Winnelancott Mills
850 Suffolk Street
Lowell, MA 01854
978-970-5600

**FIGURE
1**

Drawn: HWB SCALE: AS SHOWN
Checked: DS Date: JULY 2008



TRC
650 Suffolk St.
Wannanacott Mills
Lowell, MA 01854

SAMPLING LOCATION PLAN
NEW BEDFORD, MA

FIGURE 2
MARCH 2009

Site Location Massachusetts
New Bedford

Sampling Date Identification Colors

11/0707 - 11/0807	Orange
5/2708	Light Green
6/1008	Green
6/1908	Light Blue
7/3008	Blue
8/1908	Dark Blue
9/1808	Dark Purple
10/3008 - 10/0808	Red
10/2208 - 10/2308	Yellow
12/0308 - 12/1008	Dark Purple

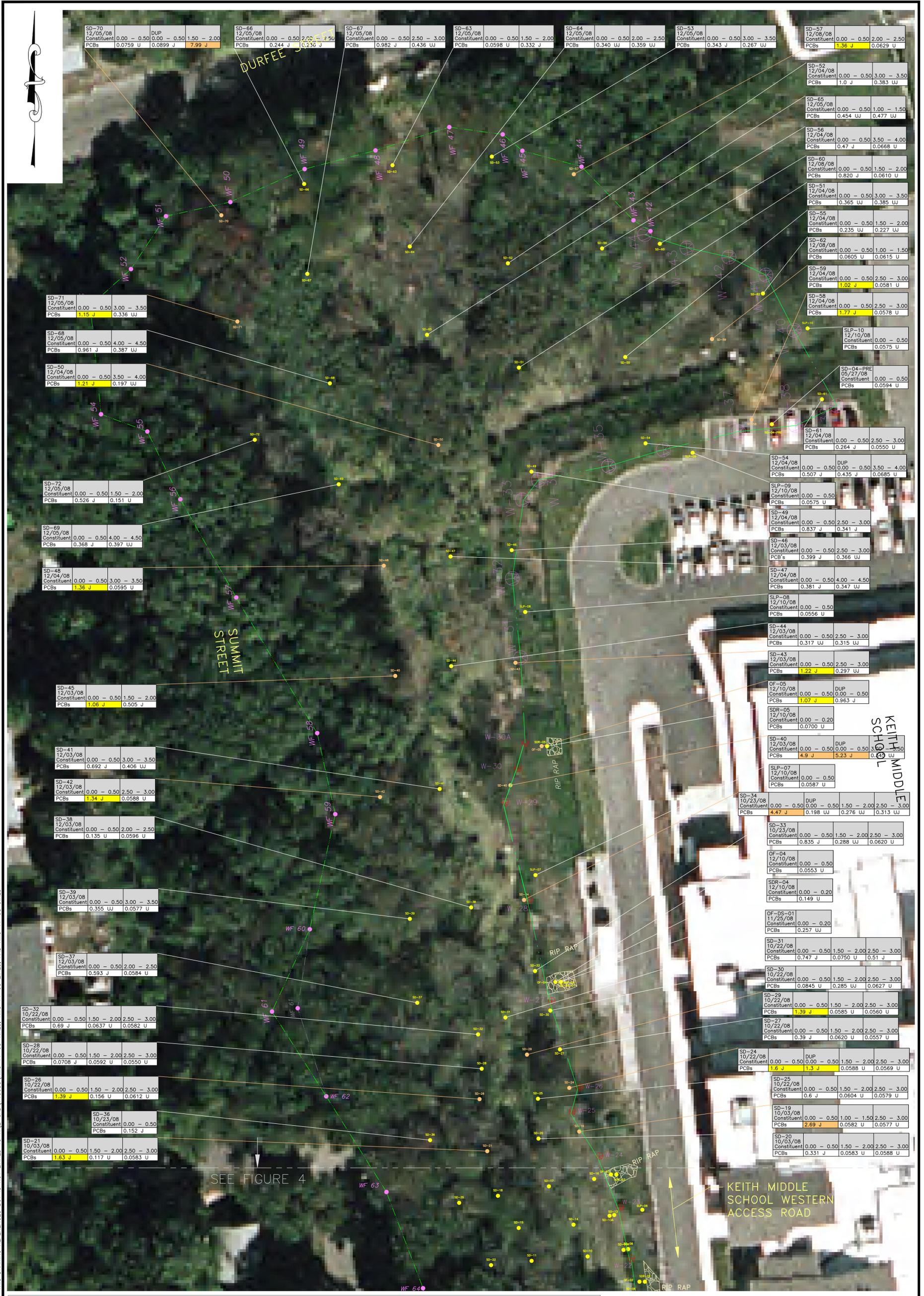
Legend:

- Sediment Sample (circle with cross)
- Soil Borings (circle with plus)
- Soil Sample collected from adjacent slope (triangle with cross)
- Sample collected of soil at outfall of storm drain (square with cross)
- Sample collected of material within storm drain (diamond with cross)

Scale:
0 25 50 75 100 125 150 175 200 Feet
0 12 24 36 48 60 Meters

Basemap: 2007 Aerialphoto
RIPROBATECIS 2007123032 NURTHMINNIXONS PRESENTATION 012100DATE:LOGGING-BORING.mxd

FILE: D:\VERSO\GIS\Projects\NewBedford\PCBs_KMS_11-08_2.XLS, AND KMS 11-08 3.XLS THIS DRAWING REFERENCES BUT IS NOT LINKED TO T:\E-CAD\115058\KMS 11-08 1.XLS, KMS 11-08 2.XLS, AND KMS 11-08 3.XLS



NOTES:
 ALL UNITS IN MG/KG UNLESS OTHERWISE SPECIFIED.
 MG/KG - MILLIGRAMS PER KILOGRAM (DRY WEIGHT).
 DUP - FIELD DUPLICATE SAMPLE.
 J - ESTIMATED VALUE.
 NA - NOT APPLICABLE.
 PCBs - POLYCHLORINATED BIPHENYLS.
 RCs - REPORTABLE CONCENTRATIONS.
 TSCA - TOXIC SUBSTANCES CONTROL ACT.
 U - COMPOUND WAS NOT DETECTED AT SPECIFIED QUANTITATION LIMIT.
 W - ESTIMATED NON-DETECT.

SAMPLE LOCATION
 SAMPLE DATE
 SAMPLE DEPTH DEPTH IN FEET

VALUES SHOWN IN PEACH BACKGROUND EXCEED ONE OR MORE OF THE LISTED MASSDEP METHOD 1 STANDARDS

VALUES SHOWN IN YELLOW BACKGROUND EXCEED TSCA BUT ARE LESS THAN THE LISTED MASSDEP METHOD 1 STANDARDS

Summary of Regulatory Comparison Criteria for Soil (mg/kg)						
Contaminant	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA
Total PCBs	2	2	3	3	2	1



**KEITH MIDDLE SCHOOL
 NEW BEDFORD, MASSACHUSETTS**

**ANALYTICAL RESULTS SUMMARY MAP
 TRC DATA**

**Wannalancit Mills
 650 Suffolk Street
 Lowell, MA 01854
 (978) 970-5600**

DRAWN BY: **PZ** DATE: **FEB 2009**
 CHECKED BY: **DMS**

**FIGURE
 3**



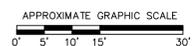
NOTES:
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 DUP - FIELD DUPLICATE SAMPLE.
 J - ESTIMATED VALUE.
 N/A - NOT APPLICABLE.
 PCBs - POLYCHLORINATED BIPHENYLS.
 RCS - REPORTABLE CONCENTRATIONS.
 TSCA - TOXIC SUBSTANCES CONTROL ACT.
 U - COMPOUND WAS NOT DETECTED AT SPECIFIED QUANTITATION LIMIT.
 UJ - ESTIMATED NON-DETECT.

SAMPLE LOCATION
 SAMPLE DATE
 SAMPLE DEPTH IN FEET

VALUES SHOWN IN PEACH BACKGROUND EXCEED ONE OR MORE OF THE LISTED MASSDEP METHOD 1 STANDARDS.

VALUES SHOWN IN YELLOW BACKGROUND EXCEED TSCA BUT ARE LESS THAN THE LISTED MASSDEP METHOD 1 STANDARDS.

Summary of Regulatory Comparison Criteria for Soil (mg/kg)						
Contaminant Names	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RCS-1	TSCA
Total PCBs	2	2	3	3	2	1



**KEITH MIDDLE SCHOOL
 NEW BEDFORD, MASSACHUSETTS**

**ANALYTICAL RESULTS SUMMARY MAP
 TRC DATA**

OTRC Wonalancet Mills
 650 Suffolk Street
 Lowell, MA 01854
 (978) 970-5600

FIGURE 4

DRAWN BY: PZ
 CHECKED BY: DMS
 DATE: FEB 2009

SEE FIGURE 4

KEITH MIDDLE SCHOOL

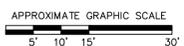


NOTES:
 ALL UNITS IN MG/KG UNLESS OTHERWISE SPECIFIED.
 MG/KG - MILLIGRAMS PER KILOGRAM (DRY WEIGHT).
 DUP - FIELD DUPLICATE SAMPLE
 J - ESTIMATED VALUE.
 N/A - NOT APPLICABLE.
 PCBS - POLYCHLORINATED BIPHENYLS.
 RCS - REPORTABLE CONCENTRATIONS.
 TSCA - TOXIC SUBSTANCES CONTROL ACT.
 U - COMPOUND WAS NOT DETECTED AT SPECIFIED QUANTITATION LIMIT.
 UJ - ESTIMATED NON-DETECT.

● SAMPLE LOCATION

SAMPLE LOCATION	SAMPLE DATE	SAMPLE DEPTH	DEPTH IN FEET
SD-36	10/23/08	Constituent	0.00 - 0.50
		PCBs	0.152

Summary of Regulatory Comparison Criteria for Soil (mg/kg)						
Contaminant	S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1	TSCA
Names						
Total PCBs	2	2	3	3	2	1



**KEITH MIDDLE SCHOOL
 NEW BEDFORD, MASSACHUSETTS**

**ANALYTICAL RESULTS SUMMARY MAP
 TRC DATA**

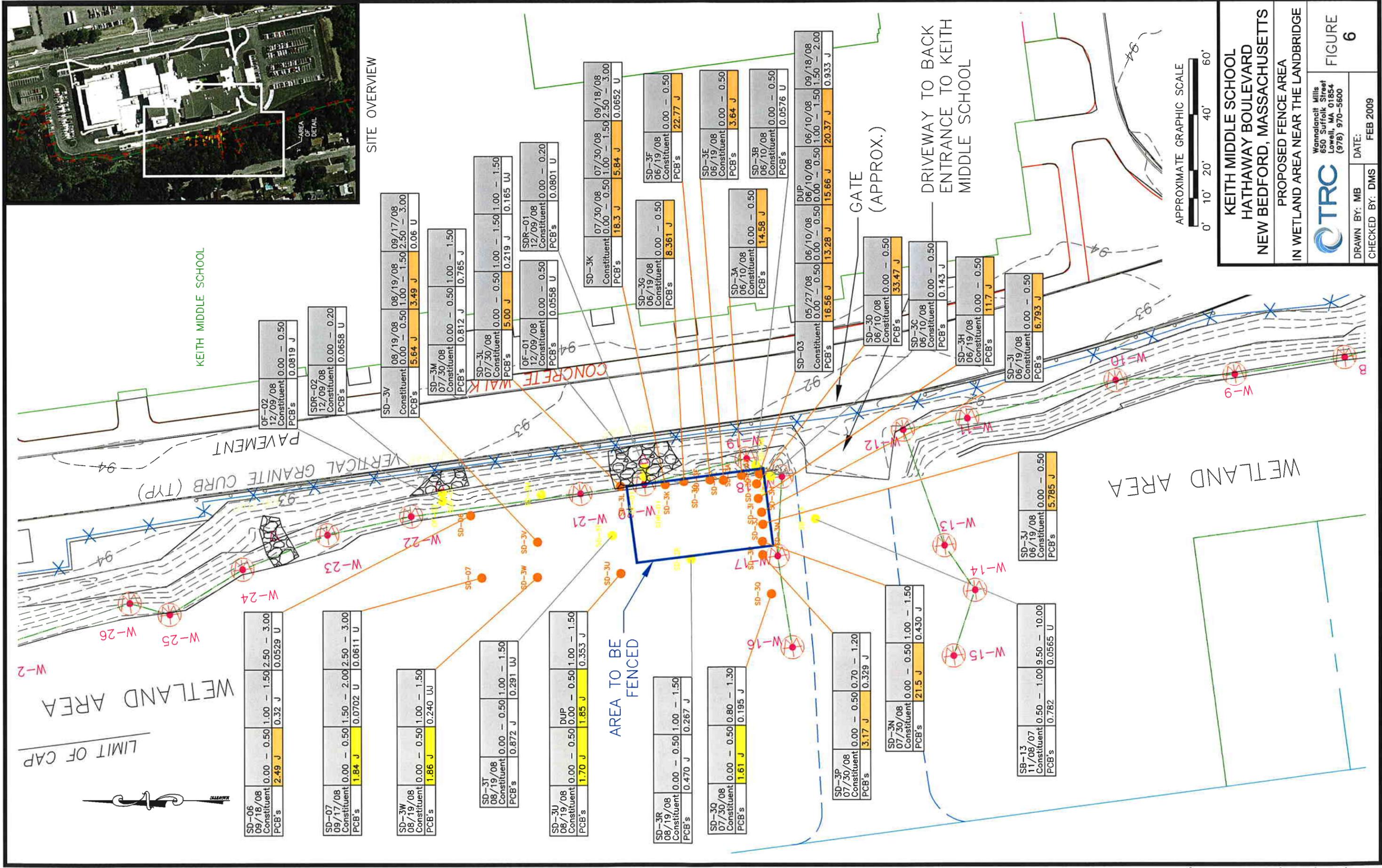
OTRC Wonalancit Mills
 650 Suffolk Street
 Lowell, MA 01854
 (978) 970-5600

FIGURE 5

DRAWN BY: PZ DATE: JAN 2009
 CHECKED BY: DMS



SITE OVERVIEW



SD-06	09/18/08	Constituent	0.00 - 0.50	1.00 - 1.50	2.50 - 3.00
PCB's	2.49 J	0.32 J	0.0529 U		

SD-07	09/17/08	Constituent	0.00 - 0.50	1.50 - 2.00	2.50 - 3.00
PCB's	1.84 J	0.0702 U	0.0611 U		

SD-3W	08/19/08	Constituent	0.00 - 0.50	1.00 - 1.50	
PCB's	1.86 J	0.240 U			

SD-3T	08/19/08	Constituent	0.00 - 0.50	1.00 - 1.50	
PCB's	0.872 J	0.291 U			

SD-3U	08/19/08	Constituent	0.00 - 0.50	1.00 - 1.50	
PCB's	1.70 J	1.85 J	0.353 J		

SD-3R	08/19/08	Constituent	0.00 - 0.50	1.00 - 1.50	
PCB's	0.470 J	0.267 J			

SD-30	07/30/08	Constituent	0.00 - 0.50	0.80 - 1.30	
PCB's	1.61 J	0.195 J			

SD-3P	07/30/08	Constituent	0.00 - 0.50	0.70 - 1.20	
PCB's	3.17 J	0.329 J			

SD-3N	07/30/08	Constituent	0.00 - 0.50	1.00 - 1.50	
PCB's	21.5 J	0.430 J			

SB-13	11/08/07	Constituent	0.50 - 1.00	9.50 - 10.00	
PCB's	0.782	0.0565 U			

SD-3J	06/19/08	Constituent	0.00 - 0.50		
PCB's	5.785 J				

OF-02	12/09/08	Constituent	0.00 - 0.50		
PCB's	0.0819 J				

SDR-02	12/09/08	Constituent	0.00 - 0.20		
PCB's	0.0658 U				

SD-3V	08/19/08	Constituent	0.00 - 0.50	1.00 - 1.50	2.50 - 3.00
PCB's	5.64 J	3.49 J	0.06 U		

SD-3M	07/30/08	Constituent	0.00 - 0.50	1.00 - 1.50	
PCB's	0.812 J	0.765 J			

SD-3L	07/30/08	Constituent	0.00 - 0.50	1.00 - 1.50	1.00 - 1.50
PCB's	5.00 J	0.219 J	0.165 U		

OF-01	12/09/08	Constituent	0.00 - 0.50		
PCB's	0.0558 U				

SDR-01	12/09/08	Constituent	0.00 - 0.20		
PCB's	0.0801 U				

SD-3K	07/30/08	Constituent	0.00 - 0.50	1.00 - 1.50	2.50 - 3.00
PCB's	18.3 J	5.84 J	0.0652 U		

SD-3G	06/19/08	Constituent	0.00 - 0.50		
PCB's	8.361 J				

SD-3E	06/19/08	Constituent	0.00 - 0.50		
PCB's	3.64 J				

SD-3A	06/10/08	Constituent	0.00 - 0.50		
PCB's	14.58 J				

SD-03	05/27/08	Constituent	0.00 - 0.50	0.00 - 0.50	1.00 - 1.50
PCB's	16.56 J	13.28 J	15.66 J	20.37 J	0.933 J

SD-3D	06/10/08	Constituent	0.00 - 0.50		
PCB's	33.47 J				

SD-3C	06/10/08	Constituent	0.00 - 0.50		
PCB's	0.143 J				

SD-3H	06/19/08	Constituent	0.00 - 0.50		
PCB's	11.7 J				

SD-3I	06/19/08	Constituent	0.00 - 0.50		
PCB's	6.793 J				



KEITH MIDDLE SCHOOL
 HATHAWAY BOULEVARD
 NEW BEDFORD, MASSACHUSETTS

PROPOSED FENCE AREA
 IN WETLAND AREA NEAR THE LANDBRIDGE

Wannanett Mills
 650 Suffolk Street
 Lowell, MA 01854
 (978) 970-5600

CTRC

DATE: FEB 2009
 DRAWN BY: MB
 CHECKED BY: DMS

FIGURE 6

ATTACHMENT A

**MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRANSMITTAL FORMS**

BWSC-105 Immediate Response Action (IRA) Transmittal Form



**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

4 - 15685

A. RELEASE OR THREAT OF RELEASE LOCATION:

- 1. Release Name/Location Aid:
- 2. Street Address:
- 3. City/Town: 4. ZIP Code:
- 5. UTM Coordinates: a. UTM N: b. UTM E:
- 6. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.
 - a. Tier IA b. Tier IB c. Tier IC d. Tier II
- 7. Check here if this location is Adequately Regulated, pursuant to 310 CMR 40.0110-0114. Specify Program (check one):
 - a. CERCLA b. HSWA Corrective Action c. Solid Waste Management
 - d. RCRA State Program (21C Facilities)

B. THIS FORM IS BEING USED TO: (check all that apply)

- 1. List Submittal Date of Initial IRA Written Plan (if previously submitted): (mm/dd/yyyy)
- 2. Submit an **Initial IRA Plan**.
- 3. Submit a **Modified IRA Plan** of a previously submitted written IRA Plan.
- 4. Submit an **Imminent Hazard Evaluation**. (check one)
 - a. An Imminent Hazard exists in connection with this Release or Threat of Release.
 - b. An Imminent Hazard does not exist in connection with this Release or Threat of Release.
 - c. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release, and further assessment activities will be undertaken.
 - d. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release. However, response actions will address those conditions that could pose an Imminent Hazard.
- 5. Submit a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard**.
- 6. Submit an **IRA Status Report**.
- 7. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP.)
 - a. Type of Report: (check one) i. Initial Report ii. Interim Report iii. Final Report
 - b. Frequency of Submittal: (check all that apply)
 - i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.
 - ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.
 - iii. A Remedial Monitoring Report(s) submitted concurrent with a IRA Status Report.
 - c. Number of Remedial Systems and/or Monitoring Programs: _____

A separate BWSC105A, IRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.



IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM
Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

-

B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

8. Submit an **IRA Completion Statement**.

a. Check here if future response actions addressing this Release or Threat of Release notification condition will be conducted as part of the Response Actions planned or ongoing at a Site that has already been Tier Classified under a different Release Tracking Number (RTN). When linking RTNs, rescoring via the NRS is required if there is a reasonable likelihood that the addition of the new RTN(s) would change the classification of the site.

b. Provide Release Tracking Number of Tier Classified Site (Primary RTN): -

These additional response actions must occur according to the deadlines applicable to the Primary RTN. Use the Primary RTN when making all future submittals for the site unless specifically relating to this Immediate Response Action.

9. Submit a **Revised IRA Completion Statement**.

(All sections of this transmittal form must be filled out unless otherwise noted above)

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT IRA:

1. Identify Media Impacted and Receptors Affected: (check all that apply)

- a. Air b. Basement c. Critical Exposure Pathway d. Groundwater e. Residence
- f. Paved Surface g. Private Well h. Public Water Supply i. School j. Sediments
- k. Soil l. Storm Drain m. Surface Water n. Unknown o. Wetland p. Zone 2
- q. Others Specify:

2. Identify Oils and Hazardous Materials Released: (check all that apply)

- a. Oils b. Chlorinated Solvents c. Heavy Metals
- d. Others Specify: **POLYCHLORINATED BIPHENYLS (PCBS)**

D. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply, for volumes list cumulative amounts)

- 1. Assessment and/or Monitoring Only
- 2. Temporary Covers or Caps
- 3. Deployment of Absorbent or Containment Materials
- 4. Temporary Water Supplies
- 5. Structure Venting System
- 6. Temporary Evacuation or Relocation of Residents
- 7. Product or NAPL Recovery
- 8. Fencing and Sign Posting
- 9. Groundwater Treatment Systems
- 10. Soil Vapor Extraction
- 11. Bioremediation
- 12. Air Sparging



**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

4 - 15685

D. DESCRIPTION OF RESPONSE ACTIONS (cont.): (check all that apply, for volumes list cumulative amounts)

13. Excavation of Contaminated Soils

a. Re-use, Recycling or Treatment

i. On Site Estimated volume in cubic yards

ii. Off Site Estimated volume in cubic yards

ii.a. Receiving Facility: Town: State:

ii.b. Receiving Facility: Town: State:

iii. Describe:

b. Store

i. On Site Estimated volume in cubic yards

ii. Off Site Estimated volume in cubic yards

ii.a. Receiving Facility: Town: State:

ii.b. Receiving Facility: Town: State:

c. Landfill

i. Cover Estimated volume in cubic yards

Receiving Facility: Town: State:

ii. Disposal Estimated volume in cubic yards

Receiving Facility: Town: State:

14. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount:

b. Receiving Facility: Town: State:

c. Receiving Facility: Town: State:

15. Removal of Other Contaminated Media:

a. Specify Type and Volume:

b. Receiving Facility: Town: State:

c. Receiving Facility: Town: State:

16. Other Response Actions:

Describe:

17. Use of Innovative Technologies:

Describe:



IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM
Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number
4 - 15685

E. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B of this form indicates that an **Immediate Response Action Plan** is being submitted, the response action(s) that is(are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is(are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that an **Imminent Hazard Evaluation** is being submitted, this Imminent Hazard Evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the assessment activity(ies) undertaken to support this Imminent Hazard Evaluation comply(ies) with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

> if Section B of this form indicates that an **Immediate Response Action Status Report** and/or a **Remedial Monitoring Report** is(are) being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that an **Immediate Response Action Completion Statement** or a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard** is being submitted, the response action(s) that is(are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is(are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 1488

2. First Name: DAVID M

3. Last Name: SULLIVAN

4. Telephone: (978) 656-3565

5. Ext.:

6. FAX:

7. Signature:

8. Date: (mm/dd/yyyy)

9. LSP Stamp:



**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

4 - 15685

F. PERSON UNDERTAKING IRA:

1. Check all that apply: a. change in contact name b. change of address c. change in the person undertaking response actions
2. Name of Organization: **CITY OF NEW BEDFORD**
3. Contact First Name: **SCOTT** 4. Last Name: **ALFONSE**
5. Street: **133 WILLIAM STREET** 6. Title: **DIRECTOR, ENVIRONMENTAL STEWARDS**
7. City/Town: **NEW BEDFORD** 8. State: **MA** 9. ZIP Code: **02740-0000**
10. Telephone: **(508) 991-6188** 11. Ext.: 12. FAX: **(508) 961-3045**

G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING IRA:

1. RP or PRP a. Owner b. Operator c. Generator d. Transporter
 e. Other RP or PRP Specify: **MUNICIPALITY**
2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
4. Any Other Person Undertaking IRA Specify Relationship:

H. REQUIRED ATTACHMENT AND SUBMITTALS:

1. Check here if any Remediation Waste, generated as a result of this IRA, will be stored, treated, managed, recycled or reused at the site following submission of the IRA Completion Statement. If this box is checked, you must submit one of the following plans, along with the appropriate transmittal form.
 a. A Release Abatement Measure (RAM) Plan (BWSC106) b. Phase IV Remedy Implementation Plan (BWSC108)
2. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.
3. Check here to certify that the Chief Municipal Officer and the Local Board of Health were notified of the implementation of an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.
4. Check here to certify that the Chief Municipal Officer and the Local Board of Health were notified of the submittal of a Completion Statement for an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.
5. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to the DEP Regional Office.
6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

4 - 15685

I. CERTIFICATION OF PERSON UNDERTAKING IRA:

1. I, , attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: Signature 3. Title: **DIRECTOR**

4. For: **CITY OF NEW BEDFORD** 5. Date:
(Name of person or entity recorded in Section F) (mm/dd/yyyy)

6. Check here if the address of the person providing certification is different from address recorded in Section F.

7. Street:
8. City/Town: 9. State: 10. ZIP Code:
11. Telephone: 12. Ext.: 13. FAX:

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

ATTACHMENT B

**TRC CORRESPONDENCE WITH EPA REGARDING PCB DELINEATION
SAMPLING**

From: Sullivan, Dave (Lowell,MA-US)
Sent: Monday, December 01, 2008 8:54 AM
To: tisa.kimberly@epamail.epa.gov
Cc: David Fredette; Saunders, Jeffry (Lowell,MA-US); Plumb, Mike (Lowell,MA-US); Scott Alfonse
Subject: RE: KMS Wetland Related Sampling

Kim:

Thanks for taking the time to review this proposed sampling plan so quickly, and for the follow up conversation.

With regard to the slope samples, our rationale was to rule out the slope material over and above any documentation that we can find from BETA as to the presumed quality of the slope soil imported to complete the cap. All wetland sampling we propose to the north and the south of the bridge includes samples collected from the toe of the slope, which should gather data to address your concern about this potentially critical location.

With regard to the 0-3" and 3-6" sampling, we understand that this would be a future (follow-up) sampling endeavor to home in on the depth of contamination, perhaps by targeting areas of high concentration. Such a program would be developed in consultation with you after we receive the results and analyze the data.

With those clarifications, I believe we are "on the same page" and will look to schedule this sampling as soon as practicable.

Thanks,

-Dave

David M. Sullivan, LSP, CHMM
Senior Project Manager

TRC
Wannalancit Mills
650 Suffolk Street
Lowell, Massachusetts 01854

978-656-3565 phone
978-453-1995 fax
978-758-2809 cell
dsullivan@trcsolutions.com

-----Original Message-----

From: tisa.kimberly@epamail.epa.gov [mailto:tisa.kimberly@epamail.epa.gov]
Sent: Monday, December 01, 2008 8:19 AM
To: Sullivan, Dave (Lowell,MA-US)
Cc: David Fredette; Saunders, Jeffry (Lowell,MA-US); Plumb, Mike (Lowell,MA-US); Scott Alfonse

Subject: Re: KMS Wetland Related Sampling

See comments below.

Kimberly N. Tisa (CPT)
U.S. Environmental Protection Agency
1 Congress Street, Suite 1100
Boston, MA 02114

617.918.1527 (phone)
617.918.0527 (fax)

"Sullivan, Dave
\(Lowell,MA-US
\)"
<DSullivan@TRCSO
LUTIONS.com>

11/26/2008 03:06
PM

Kimberly Tisa/R1/USEPA/US@EPA
To
cc
"David Fredette"
<David.Fredette@newbedford-ma.gov
>, "Scott Alfonse"
<Scott.Alfonse@newbedford-ma.gov>
, "Plumb, Mike \(Lowell,MA-US\) "
<MPlumb@trcsolutions.com>,
"Saunders, Jeffrey \(Lowell,MA-US
\)" <JSaunders@trcsolutions.com>
Subject
KMS Wetland Related Sampling

Kim:

Thanks for taking the time to visit the KMS site this past Tuesday (November 25, 2008) regarding the PCB sediment contamination issue. Please see below for a proposed sampling approach and other information gathering follow-up that with your concurrence we will initiate as soon as practicable.

§ Roof Material. Since the storm drains discharging to the wetland are primarily roof runoff, we will attempt to collect representative samples of the different roofing materials at KMS. There is a white membrane material and an asphalt shingle material that I am aware of on the roof. We will target these materials. We will work closely with Gary Gomes the Facility Engineer that we do not compromise the roofing. We will plan on two samples (one of each material type). Good. Let's also see what if any information we can get about the manufacturer of these products.

§ Storm Drains. We will inspect for and sample sediment or residues that may have accumulated in the storm water discharge pipes to evaluate the potential for these conduits to convey PCB contamination to the wetland. In addition, TRC will review as-built plans to attempt to verify that the storm drain pipes were installed in "clean corridors." Good.

§ Slope Samples. As we discussed yesterday, we did collect one sample from the slope above the original PCB hit and it was non-detect, but to further rule out the slope as a source we will collect 10 samples from the slope (5 to the south of the bridge and 5 to the north) to help rule this out. We will collect them from 0 to 6 inches unless you specify otherwise. In addition, at the base of each of the storm drain outfalls (i.e., the soil under the rip-rap where the storm water flows out), we will collect one shallow surface soil sample (0-6 inches). There are 5 outfalls total, therefore we will collect 5 samples. Where are the slope are you proposing to collect these samples? I believe we had discussed collecting as close to the bottom of the toe as we could. You may have answered this below for the south side, but not necessarily for the north side.

§ North Side Sampling. To the north of the bridge, we will extend our sampling grid out further (about 36 locations, assuming reasonable accessibility). We will use a wider grid than previously employed to more quickly achieve coverage of the remainder of the northern area. We will collect from 0-6 inches and into the underlying grey sand to get a handle on depth. If we detect anything, we can make decisions based on that date for further sampling, if needed, or for other follow-up actions. If possible, I would really like to do smaller intervals than 0-6". At some point, would it be possible to do 0-3" and then 3-6", etc. just to get a better idea of what we really are seeing surficially? We may want to target select locations for more detailed profiling for future work.

§ South Side Sampling. To the south of the bridge, we will collect approximately 12 samples targeting the toe of slope, the area of remediation (see attached scanned map from BETA's Risk Based Approval document) and the area of the berm near the Bethel AME property. For this effort, we will focus on sediment in the 0-6 inch depth zone. As mentioned above, if we look at the 0-6" depth interval, we really are focussed on the presence of PCBs at this point. As you point out, further eval. may be necessary for future decisionmaking.

§ Land Bridge Area. We are also considering collecting samples at the land bridge where the frac tank was placed during the wetland remediation to rule out the notion that PCB's at the surface could possibly have run off from that area into the north wetlands. Perhaps 3 to 4 surface soil samples in that location would help. Also, if there any chance that contaminated soil was used to backfill at the land bridge area when the stone drainage vein crossing the land bridge was installed, we might consider mobilizing a drill rig to collect samples from depth. If you find it worthwhile, we will schedule this based on driller availability. Let's first see what information we have on the soil that was used as backfill at the site. Hopefully all the "imported soil" information should be readily available.

On the attached scanned figure which shows the BETA proposed remediation areas and TRCs proposed sampling points, you will see TRC soil boring (SB) sample locations from November of 2007. During that sampling event, our field team took an inadvertent turn through the wetland on the southern side of the land bridge. While this caused some measure of consternation with the Conservation Agent (Sarah Porter), it had the collateral benefit of providing us PCB data from the top 0.5 to 1 foot interval that we can share with you. These data are included in the TRC March 2008 City Properties/Rights-of-Way report, of which you have been provided a copy. For your convenience, a scan of the relevant portion of the data table is attached. While PCBs were detected, they are all below 1 mg/kg.

Please also see the scanned BETA post-excavation PCB data. Unfortunately, the BETA "Final Completion and Inspection Report" does not show the post-ex locations. However, the post-ex data are all below 1 mg/kg. I do believe, however, that the final verification sampling grid interval should have been no more than a 20x20 foot grid. I believe I final the Completion Report so can't verify my recollection on this one. The majority of the data was ND and for those detected the PCB concentrations were well below 1 ppm. That's why it's hard for me to believe that we missed anything originally based on the # of verification samples collected and the PCB concentrations. At this point, I would say that we just have to do the work and see what the data tells us. I think what's currently proposed is reasonable and we really have to do this is a systematic approach, which includes full delineation as well as getting sufficient information to document that PCBs are not migrating from the site into the wetlands. Hopefully the slope samples, along with the earlier wetland depth samples, will confirm the later.

I should be available most of the data should you wish to discuss further.

I look forward to speaking with you on Monday on this issue. Please call at your convenience.

Thanks,

-Dave

David M. Sullivan, LSP, CHMM
Senior Project Manager
(Embedded image moved to file: pic23045.gif)TRC ESP

TRC
Wannalancit Mills,
650 Suffolk Street
Lowell, Massachusetts 01854

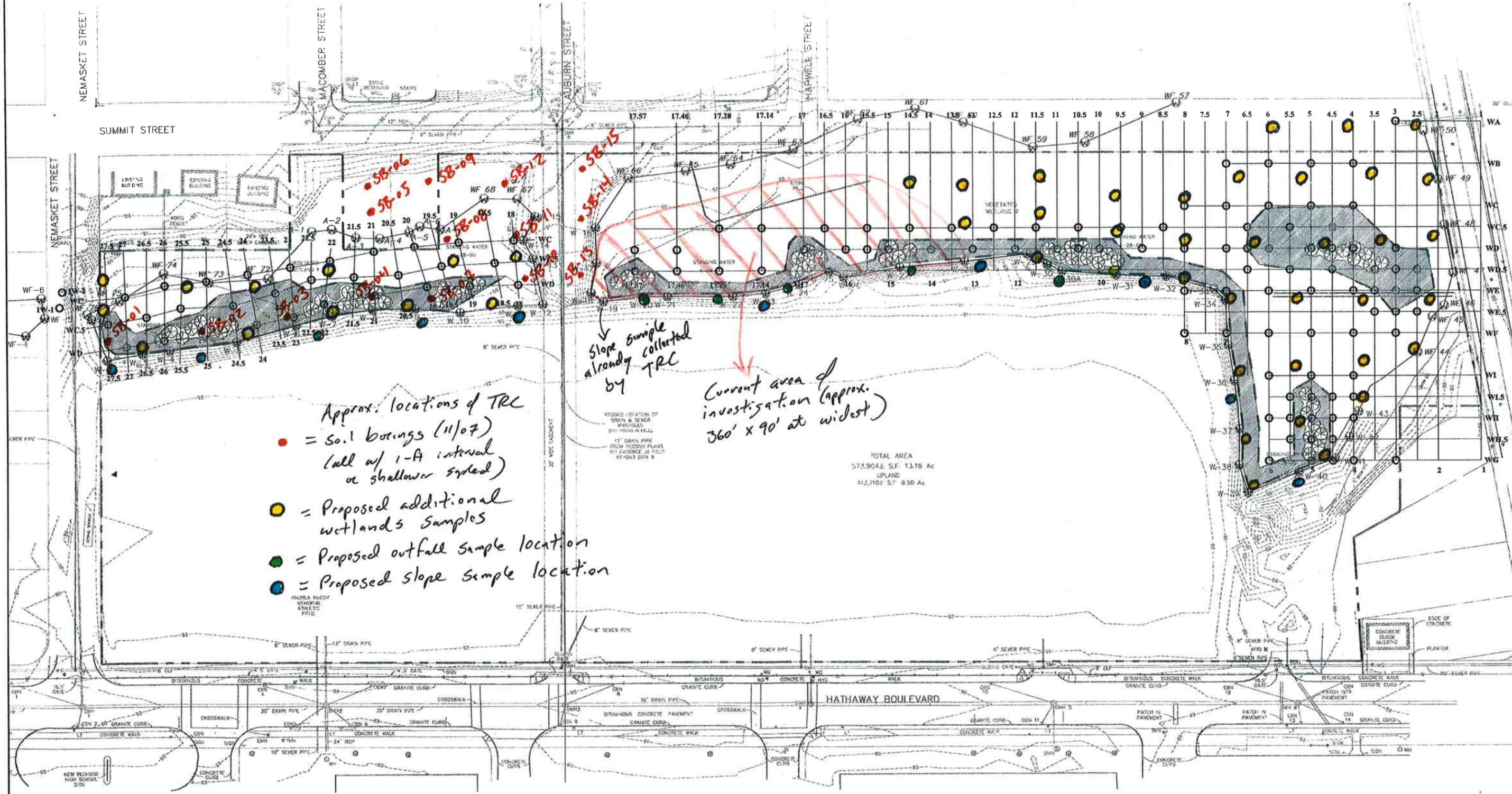
978-656-3565 phone
978-453-1995 fax
978-758-2809 cell
dsullivan@trcsolutions.com

(See attached file: beta wetland post ex.pdf) (See attached file: DRAFT Proposed Supp. KMS Wetland Locations.pdf) (See attached file: TRC PCB sed and soil boring data.pdf)

LEGEND

- PROPERTY LINE
- WETLANDS LINE
- WETLANDS AREA SAMPLE < 1 PPM PCBs
- WETLANDS AREA SAMPLE >= 1 PPM PCBs
- BOUNDARY OF INITIAL WETLANDS SEDIMENT REMOVAL (0-6")

NOTE: Alpha-numeric grid corresponds to wetlands area samples. For example, sample WA3-0-6" coincides with grid intersection (WA, 3).



- Approx. locations of TRC
- = Soil borings (11/07) (all w/ 1-A interval or shallower sited)
 - = Proposed additional wetlands samples
 - = Proposed outfall sample location
 - = Proposed slope sample location

Slope sample already collected by TRC

Current area of investigation (approx. 360' x 90' at widest)

TOTAL AREA
573,904± S.F. 13.18 Ac
UPLAND
413,710± S.F. 9.50 Ac

U:\Projects\25000\2585 - New Bedford Sampling Plan\Misc\Draw Wetlands\Figures 2 thru 3\REVISED.dwg Jun 23, 2005 2:18pm

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
REVISIONS				

DRAWN BY: _____
DEPT. CHECK: _____
PRG. CHECK: _____

**Permitting Plans
Not for Construction**

BETA Group, Inc.
Engineers • Scientists • Planners

315 Norwood Park South
Norwood, MA 02062
ph: 781.250.1962
fax: 781.250.1974
email: BETA@BETAInc.com

SCALE:

UNLESS OTHERWISE NOTED OR OWNED BY REPRODUCTION

**Risk-Based Cleanup Request
Figure 2
Wetlands Remediation Area
McCoy Field
New Bedford, Massachusetts**

JOB # 02685.00
FILE NO. Figures 2 thru 3\REVISED.dwg
PLOT DATE June 2005
SHEET **Figure 2**

ATTACHMENT C

**TRC CORRESPONDENCE WITH EPA REGARDING ENVIRONMENTAL RISK
CHARACTERIZATION AND ASSOCIATED SAMPLING**

From: Sullivan, Dave (Lowell,MA-US)
Sent: Monday, February 23, 2009 1:00 PM
To: 'tisa.kimberly@epamail.epa.gov'
Cc: Heim, Scott (Lowell,MA-US); Silverman, Diane (Lowell,MA-US); Donna J Vorhees; David Fredette; Beeler, Malcolm (Windsor,CT-US)
Subject: KMS Wetland - Risk Based Approach

Kim,

As a follow-up to our recent telephone conference regarding the Keith Middle School (KMS) wetland, TRC's proposed approach to evaluating ecological risks within the Keith Middle School (KMS) wetland is to follow Massachusetts Contingency Plan (MCP) Environmental Risk Characterization (ERC) guidance with the exception that Exposure Point Concentrations (EPCs) for receptor species will be represented by the 95% Upper Concentration Limit (UCL) of the mean. Rick Sugat of EPA is on board with this approach based on a conversation with Scott Heim, our Eco-Risk specialist.

The ERC has two components – a Stage I (Screening) ERC and a Stage II ERC. Initially, the proposed sampling will address the requirements for conducting the Stage I ERC. Depending upon the results of the Stage I ERC, additional sampling/testing may be required to support the Stage II ERC. The additional sampling that may be required is briefly discussed below but is dependent on the Stage I ERC results, and will be integrated with some additional needs noted by our human health risk assessment specialists.

Stage I ERC - The proposed approach is to compare maximum surface water and sediments (SW/SED) concentrations of contaminants to benchmarks protective of aquatic/benthic organisms and to model estimated exposure doses of contaminants to higher trophic level receptors (likely receptors include mallard, great blue heron and raccoon – possibly more).

- **Supplemental data collection – surface water** - The data proposed to be collected from the KMS wetland to support the Stage I ERC include surface water samples that will be analyzed for polychlorinated biphenyl (PCB) homologues (EPA Method 680), the 14 MCP metals (total and dissolved using SW846 Method 6010B/6020/7470A), hardness (SW846 Method 6010B) and polyaromatic hydrocarbons (PAHs; SW846 Method 8270C with Selective Ion Monitoring). A total of five samples are proposed as detailed on the attached figure. Note that to our knowledge no surface water samples have previously been collected from the KMS wetland for these parameters.
- **Supplemental data collection – sediment** - In addition to the over 100 sediment samples collected by TRC from the KMS wetland to date (primarily PCB Aroclor analysis) and the previously collected sediment/soil data from unexcavated areas of the KMS wetland by The BETA Group (BETA), which includes 61 samples with primarily PCB aroclor and PAH analyses with RCRA-8 metals and pesticides also available, an additional 12 sediment samples are proposed to be collected by TRC using either a stainless steel spoon or handheld auger from the northern wetland area that was previously excavated. The locations of these proposed samples (0 to 6" in depth) are depicted on the attached figure. These 12 samples will be analyzed for MCP metals (SW846 Method 6010B/7471A) and PAHs (SW846 Method 8270C with Selective Ion Monitoring). In addition, a subset of these samples (4 samples) will be analyzed for PCB congeners (co-planar congeners correlated with dioxin toxicity via EPA Method 1668 (Revision

A) and PCB aroclors (SW846 Method 8082) to obtain congener/aroclor ratios. In addition, 5 sediment samples will be collected from the southern wetland and analyzed for 4,4-DDT (and its derivatives 4,4-DDD and 4,4-DDE) via SW846 Method 8081A as previous sampling by BETA detected this pesticide in the southern wetland. The locations of these 5 samples are depicted on the attached figure.

- **How the data will be used** - If maximum SW/SED concentrations exceed benchmarks and indicate a potential risk to aquatic invertebrates or modeling estimated exposure doses to higher trophic level indicates a potential risk to these receptors, a Stage II ERC will be conducted.

Stage II ERC - The components of the Stage II ERC are dependent upon the results of the Stage I ERC. Possible sampling/studies to be conducted for the Stage II ERC include toxicity testing (if risk to aquatic invertebrates as predicted) and/or sampling of biota (e.g., frogs, tadpoles, invertebrates) to determine body burdens of contaminants to eliminate uncertainties associated with the modeling conducted in Stage I ERC (if risk was predicted from the modeling). The number of samples for toxicity testing and/or body burdens would be approximately 4 to 6 each. Chemical analyses would depend on what contaminants were predicted to result in risk in the Stage I ERC.

Integration with human health risk assessment (HHRA) and statistical basis needs – TRC’s human health risk assessors can use much of the data collected for the ERC to support the HHRA. However, some supplemental data needs will also be addressed:

- **Surface water analyses** – Surface water samples collected for the ERC for PCB homologues will also be collected for PCB aroclors to establish as basis for comparability between the surface water data and the sediment data (for which homologue data have not be collected/required).
- **Surface water sample number** – The collection of an additional 3 to 4 surface water samples may be targeted to support UCL calculations. Locations are to be determined (TBD).
- **Supplemental southern wetland sampling** – We are currently evaluating the available data from the southern portion of the wetland to determine if compounds other than pesticides and herbicides warrant sampling and analysis. We will keep you apprised of this evaluation and update you with our determination.

Note that since the southern wetland is typically dry (no or infrequent standing/flowing surface water), we have not targeted surface water data collection from that area.

In addition, the above-proposed sampling approach assumes that BETA will provide all laboratory back-up to allow TRC to evaluate data usability (or in the case of PCBs, perform validation).

Let us know what you think.

Thanks again for your time and attention on this complicated project.

-Dave

David M. Sullivan, LSP, CHMM
Senior Project Manager



PARTNER OF THE YEAR

TRC

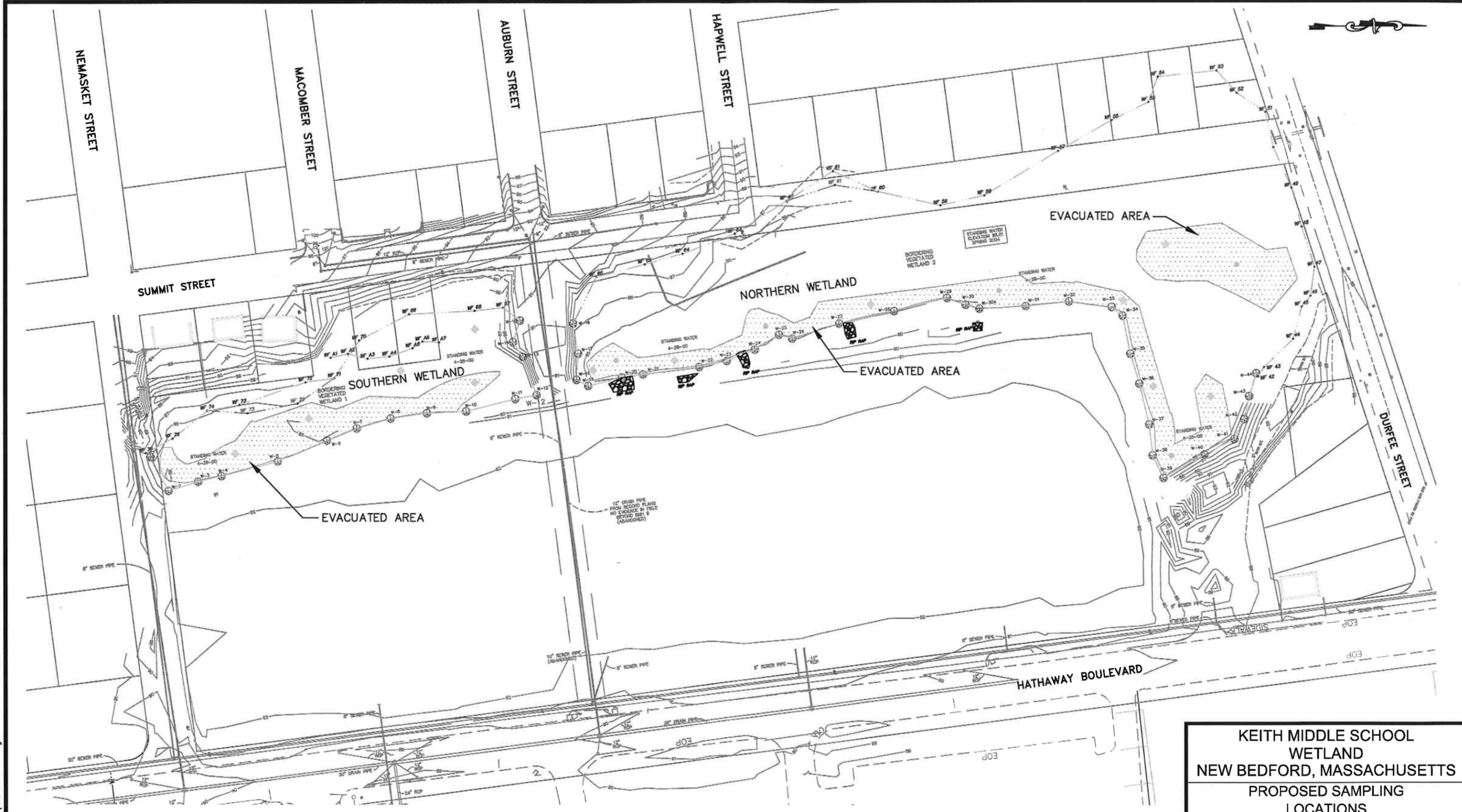
Wannalancit Mills
650 Suffolk Street
Lowell, Massachusetts 01854

978-656-3565 phone

978-453-1995 fax

978-758-2809 cell

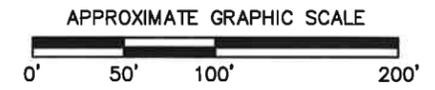
dsullivan@trcsolutions.com



FILE: T:\E_CAD\115058\KMS WETLANDS.dwg

NOTE: DRAWING BASED ON "McCoy FIELD SITE PLAN" FROM BETA GROUP, NORWOOD, MA DATED 6-04 AND "NEW BEDFORD PROGRESS DRAWING" FROM BETA GROUP, NORWOOD, MA DATED 8-06.

- LEGEND**
- ◆ PROPOSED SEDIMENT SAMPLE
 - ⊙ PROPOSED SURFACE WATER AND SEDIMENT SAMPLE



KEITH MIDDLE SCHOOL WETLAND NEW BEDFORD, MASSACHUSETTS PROPOSED SAMPLING LOCATIONS	
Wannalancit Mills 650 Suffolk Street Lowell, MA 01854 (978) 970-5600	
DRAWN BY: HWB CHECKED BY: SH	DATE: 2-13-09
FIGURE 1	

ATTACHMENT D
CALCULATED GUIDELINES FOR PROPOSED FENCING

**Table D-1
Youth Recreational User - Guideline for Fencing
Incidental Ingestion of Sediment
Keith Middle School
New Bedford, MA**

Constituent	EPC	Exposure Estimates				Toxicity Values		Risk Estimates	
	Sediment Concentration (mg/kg)	RAF Ingestion Cancer (-)	LADD Cancer (mg/kg-d)	RAF Ingestion Noncancer (-)	ADD Noncancer (mg/kg-d)	Cancer Slope Factor (Oral) (mg/kg-d) ⁻¹	Subchronic Noncancer Reference Dose (Oral) (mg/kg-d)	Cancer Risk (-)	Hazard Quotient (-)
1336-36-3 Total PCBs	8	0.85	1.1E-07	0.85	3.5E-06	2.0E+00	5.0E-05	2.25E-07	7.06E-02

	Cancer Risk	Hazard Index
TOTAL:	2E-07	7E-02

Where:

$LADD_{cancer} = [\text{Soil Concentration} \times UC \times RAF \times IR \times EF \times ED \times EP] / [BW \times AP_{cancer}]$
 $ADD_{non-cancer} = [\text{Soil Concentration} \times UC \times RAF \times IR \times EF \times ED \times EP] / [BW \times AP_{non-cancer}]$
 Cancer Risk = $LADD_{cancer} \times \text{Slope Factor}$
 Hazard Quotient = $ADD_{non-cancer} / \text{Subchronic Reference Dose}$

Unit Conversion (CF) =	1.0E-06	kg/mg
Relative Absorption Factor (R)	CS	(unitless) [1]
Ingestion Rate (IR) =	50	mg/d [4]
Exposure Duration (ED) =	1	day/event [4]
Exposure Frequency (EF) =	0.164	events/d (2 days per week for 30 weeks per year) [3] - cancer
Exposure Period (EP) =	5	year (ages 8 through 13) [4] - cancer
Body Weight (BW) =	35.5	kg [2] - 8-13 year old - cancer
Averaging Period Cancer (AP)	70	years [4]
Averaging Period Noncancer	0.577	years (30 weeks) [4] - subchronic
Exposure Frequency (EF) =	0.286	events/d (2 days per week) [3] - subchronic noncancer
Body Weight (BW) =	27.5	kg [2] - 8-9 year old - subchronic noncancer
Exposure Period (EP) =	0.577	year (30 weeks) [3] - subchronic noncancer

[1] MADEP, 2008
 [2] 50th percentile, female; EPA 1997
 [3] Best professional judgement
 [4] MassDEP, 2008
 CS - chemical-specific

**Table D-2
Youth Recreational User - Guideline for Fencing
Dermal Contact with Sediment
Keith Middle School
New Bedford, MA**

Constituent	EPC	Exposure Estimates				Toxicity Values		Risk Estimates	
	Sediment Concentration (mg/kg)	RAF Dermal Cancer (-)	LADD Cancer (mg/kg-d)	RAF Dermal Noncancer (-)	ADD Noncancer (mg/kg-d)	Cancer Slope Factor (Oral) (mg/kg-d) ⁻¹	Subchronic Noncancer Reference Dose (Oral) (mg/kg-d)	Cancer Risk (-)	Hazard Quotient (-)
1336-36-3 Total PCBs	8	0.16	1.7E-06	0.16	4.4E-05	2.0E+00	5.0E-05	3.44E-06	8.87E-01

Where:

LADD_{cancer} = Soil Concentration x UC x SA x SAF x RAF x EF x ED x EP / (BW x AP_{cancer})
 ADD_{non-cancer} = Soil Concentration x UC x SA x SAF x RAF x EF x ED x EP / (BW x AP_{non-cancer})
 Cancer Risk = LADD_{cancer} x Slope Factor
 Hazard Quotient = ADD_{non-cancer} / Subchronic Reference Dose

	Cancer Risk	Hazard Index
TOTAL:	3E-06	9E-01

Unit Conversion (UC1) = 1E-06 kg/mg
 Skin Surface Area (SA) = 4067.2 cm²/d [5] - 8-13 year old - cancer
 Sediment Adherence Factor (SAF) = 1 mg/cm² [6]
 Relative Absorption Factor (RAF) = CS (unitless) [2]
 Exposure Duration (ED) = 1 day/event [4]
 Exposure Frequency (EF) = 0.164 events/day (2 day per week for 30 weeks per year) [3] - cancer
 Exposure Period (EP) = 5 year (ages 8 through 13)[4] - cancer
 Body Weight (BW) = 35.5 kg [1] - 8-13 year old - cancer
 Averaging Period Cancer (AP_{cancer}) = 70 years [4]
 Averaging Period Noncancer (AP_{noncancer}) = 0.577 years (30 weeks) [4] - subchronic
 Exposure Frequency (EF) = 0.286 events/d (2 days per week) [3] - subchronic noncancer
 Body Weight (BW) = 27.5 kg [1] - 8-9 year old - subchronic noncancer
 Skin Surface Area (SA) = 3335.7 cm²/d [5] - 8-9 year old - subchronic noncancer
 Exposure Period (EP) = 0.577 year (30 weeks) [3] - subchronic noncancer

[1] 50th percentile, female; EPA 1997

[2] MADEP, 2008

[3] Best Professional Judgement

[4] MassDEP, 2008

[5] Table B-2; face (1/3 of head surface area), forearms, hands, lower legs, feet for females

[6] MADEP, 2002

CS - chemical-specific

Total Receptor Risk/Hazard		
	Cancer Risk	Hazard Index
Total	4E-06	1E+00

Bold = Cancer Risk > 1.0E-05 or Hazard Quotient > 10

ATTACHMENT E

**SELECT LABORATORY REPORT EXCERPTS FROM
RECENT SEDIMENT PCB ANALYSIS**



CERTIFICATE OF ANALYSIS
3/16/2009
TRC ENVIRONMENTAL
WANNALANCIT MILLS
650 SUFFOLK ST
LOWELL, MA 01854
CONTACT: DAVID SULLIVAN

CUSTOMER ID: ERC-SED-11A **NEA ID:** AM02060 **NEA LRF:** 09030037-01
MATRIX: SEDIMENT **DATE SAMPLED:** 03/06/2009 **TIME:** 10:20
DATE RECEIVED: 3/7/2009 **TIME:** 11:02 **PROJECT:** 115058 KEITH MIDDLE SCHOOL
SAMPLED BY: SAUNDERS/RIZZA **LOCATION:** NEW BEDFORD, MA
CUSTOMER PO: N/A **LAB ELAP#:** 11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	20.6	ug/g	03/14/2009	U
Aroclor 1221	ND	20.6	ug/g	03/14/2009	U
Aroclor 1232	ND	20.6	ug/g	03/14/2009	U
Aroclor 1242	ND	20.6	ug/g	03/14/2009	U
Aroclor 1248	ND	20.6	ug/g	03/14/2009	U
Aroclor 1254	434	20.6	ug/g	03/14/2009	AF
Aroclor 1260	ND	20.6	ug/g	03/14/2009	U
Total PCB Amount > Reporting Limit	434				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

AUTHORIZED SIGNATURE:

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CERTIFICATE OF ANALYSIS
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TRC ENVIRONMENTAL
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CONTACT: DAVID SULLIVAN

CUSTOMER ID: ERC-SED-11B (0-0.25) **NEA ID:** AM02061 **NEA LRF:** 09030037-02
MATRIX: SEDIMENT **DATE SAMPLED:** 03/06/2009 **TIME:** 10:45
DATE RECEIVED: 3/7/2009 **TIME:** 11:02 **PROJECT:** 115058 KEITH MIDDLE SCHOOL
SAMPLED BY: SAUNDERS/RIZZA **LOCATION:** NEW BEDFORD, MA
CUSTOMER PO: N/A **LAB ELAP#:** 11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	3.37	ug/g	03/14/2009	U
Aroclor 1221	ND	3.37	ug/g	03/14/2009	U
Aroclor 1232	ND	3.37	ug/g	03/14/2009	U
Aroclor 1242	ND	3.37	ug/g	03/14/2009	U
Aroclor 1248	ND	3.37	ug/g	03/14/2009	U
Aroclor 1254	66.9	3.37	ug/g	03/14/2009	AF
Aroclor 1260	ND	3.37	ug/g	03/14/2009	U
Total PCB Amount > Reporting Limit	66.9				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

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CONTACT: DAVID SULLIVAN

CUSTOMER ID: ERC-SED-11B (0.25-0.5)

MATRIX: SEDIMENT

DATE RECEIVED: 3/7/2009 **TIME:** 11:02

SAMPLED BY: SAUNDERS/RIZZA

CUSTOMER PO: N/A

NEA ID: AM02062 **NEA LRF:** 09030037-03

DATE SAMPLED: 03/06/2009 **TIME:** 10:50

PROJECT: 115058 KEITH MIDDLE SCHOOL

LOCATION: NEW BEDFORD, MA

LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.0812	ug/g	03/14/2009	U
Aroclor 1221	ND	0.0812	ug/g	03/14/2009	U
Aroclor 1232	ND	0.0812	ug/g	03/14/2009	U
Aroclor 1242	ND	0.0812	ug/g	03/14/2009	U
Aroclor 1248	ND	0.0812	ug/g	03/14/2009	U
Aroclor 1254	0.797	0.0812	ug/g	03/14/2009	AF
Aroclor 1260	ND	0.0812	ug/g	03/14/2009	U
Total PCB Amount > Reporting Limit	0.797				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

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CUSTOMER ID: ERC-SED-14 **NEA ID:** AM02063 **NEA LRF:** 09030037-04
MATRIX: SEDIMENT **DATE SAMPLED:** 03/06/2009 **TIME:** 11:45
DATE RECEIVED: 3/7/2009 **TIME:** 11:02 **PROJECT:** 115058 KEITH MIDDLE SCHOOL
SAMPLED BY: SAUNDERS/RIZZA **LOCATION:** NEW BEDFORD, MA
CUSTOMER PO: N/A **LAB ELAP#:** 11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.176	ug/g	03/14/2009	U
Aroclor 1221	ND	0.176	ug/g	03/14/2009	U
Aroclor 1232	ND	0.176	ug/g	03/14/2009	U
Aroclor 1242	ND	0.176	ug/g	03/14/2009	U
Aroclor 1248	ND	0.176	ug/g	03/14/2009	U
Aroclor 1254	0.250	0.176	ug/g	03/14/2009	AF
Aroclor 1260	ND	0.176	ug/g	03/14/2009	U
Total PCB Amount > Reporting Limit	0.250				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

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CUSTOMER ID: ERC-SED-14A (0-0.25) **NEA ID:** AM02064 **NEA LRF:** 09030037-05
MATRIX: SEDIMENT **DATE SAMPLED:** 03/06/2009 **TIME:** 11:55
DATE RECEIVED: 3/7/2009 **TIME:** 11:02 **PROJECT:** 115058 KEITH MIDDLE SCHOOL
SAMPLED BY: SAUNDERS/RIZZA **LOCATION:** NEW BEDFORD, MA
CUSTOMER PO: N/A **LAB ELAP#:** 11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.0603	ug/g	03/14/2009	U
Aroclor 1221	ND	0.0603	ug/g	03/14/2009	U
Aroclor 1232	ND	0.0603	ug/g	03/14/2009	U
Aroclor 1242	ND	0.0603	ug/g	03/14/2009	U
Aroclor 1248	ND	0.0603	ug/g	03/14/2009	U
Aroclor 1254	0.319	0.0603	ug/g	03/14/2009	AF
Aroclor 1260	ND	0.0603	ug/g	03/14/2009	U
Total PCB Amount > Reporting Limit	0.319				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

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CONTACT: DAVID SULLIVAN

CUSTOMER ID: ERC-SED-14A (0.25-0.5)

MATRIX: SEDIMENT

DATE RECEIVED: 3/7/2009 **TIME:** 11:02

SAMPLED BY: SAUNDERS/RIZZA

CUSTOMER PO: N/A

NEA ID: AM02065 **NEA LRF:** 09030037-06

DATE SAMPLED: 03/06/2009 **TIME:** 12:00

PROJECT: 115058 KEITH MIDDLE SCHOOL

LOCATION: NEW BEDFORD, MA

LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.0584	ug/g	03/14/2009	U
Aroclor 1221	ND	0.0584	ug/g	03/14/2009	U
Aroclor 1232	ND	0.0584	ug/g	03/14/2009	U
Aroclor 1242	ND	0.0584	ug/g	03/14/2009	U
Aroclor 1248	ND	0.0584	ug/g	03/14/2009	U
Aroclor 1254	ND	0.0584	ug/g	03/14/2009	U
Aroclor 1260	ND	0.0584	ug/g	03/14/2009	U
Total PCB Amount > Reporting Limit	ND				U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

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CONTACT: DAVID SULLIVAN

CUSTOMER ID: SED-11A-A **NEA ID:** AM02881 **NEA LRF:** 09030128-06
MATRIX: SOIL **DATE SAMPLED:** 03/20/2009 **TIME:** 12:30
DATE RECEIVED: 03/21/2009 **TIME:** 10:28 **PROJECT:** 115058 KEITH MIDDLE SCHOOL
SAMPLED BY: SAUNDERS/POULIN **LOCATION:** NEW BEDFORD, MA
CUSTOMER PO: N/A **LAB ELAP#:** 11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	0.812	ug/g	03/27/2009	U
Aroclor 1221	ND	0.812	ug/g	03/27/2009	U
Aroclor 1232	ND	0.812	ug/g	03/27/2009	U
Aroclor 1242	ND	0.812	ug/g	03/27/2009	U
Aroclor 1248	ND	0.812	ug/g	03/27/2009	U
Aroclor 1254	20.6	0.812	ug/g	03/27/2009	AF
Aroclor 1260	ND	0.812	ug/g	03/27/2009	U
Total PCB Amount > Reporting Limit	20.6				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

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CONTACT: DAVID SULLIVAN

CUSTOMER ID: SED-11A-B

MATRIX: SOIL

DATE RECEIVED: 03/21/2009 **TIME:** 10:28

SAMPLED BY: SAUNDERS/POULIN

CUSTOMER PO: N/A

NEA ID: AM02882 **NEA LRF:** 09030128-07

DATE SAMPLED: 03/20/2009 **TIME:** 12:40

PROJECT: 115058 KEITH MIDDLE SCHOOL

LOCATION: NEW BEDFORD, MA

LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	19.3	ug/g	03/27/2009	U
Aroclor 1221	ND	19.3	ug/g	03/27/2009	U
Aroclor 1232	ND	19.3	ug/g	03/27/2009	U
Aroclor 1242	ND	19.3	ug/g	03/27/2009	U
Aroclor 1248	ND	19.3	ug/g	03/27/2009	U
Aroclor 1254	705	19.3	ug/g	03/27/2009	AF
Aroclor 1260	ND	19.3	ug/g	03/27/2009	U
Total PCB Amount > Reporting Limit	705				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

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CONTACT: DAVID SULLIVAN

CUSTOMER ID: SED-11A-D **NEA ID:** AM02885 **NEA LRF:** 09030128-10
MATRIX: SOIL **DATE SAMPLED:** 03/20/2009 **TIME:** 13:10
DATE RECEIVED: 03/21/2009 **TIME:** 10:28 **PROJECT:** 115058 KEITH MIDDLE SCHOOL
SAMPLED BY: SAUNDERS/POULIN **LOCATION:** NEW BEDFORD, MA
CUSTOMER PO: N/A **LAB ELAP#:** 11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	30.9	ug/g	03/27/2009	U
Aroclor 1221	ND	30.9	ug/g	03/27/2009	U
Aroclor 1232	ND	30.9	ug/g	03/27/2009	U
Aroclor 1242	ND	30.9	ug/g	03/27/2009	U
Aroclor 1248	ND	30.9	ug/g	03/27/2009	U
Aroclor 1254	838	30.9	ug/g	03/27/2009	AF
Aroclor 1260	ND	30.9	ug/g	03/27/2009	U
Total PCB Amount > Reporting Limit	838				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

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CONTACT: DAVID SULLIVAN

CUSTOMER ID: SED-11A-E **NEA ID:** AM02886 **NEA LRF:** 09030128-11
MATRIX: SOIL **DATE SAMPLED:** 03/20/2009 **TIME:** 13:20
DATE RECEIVED: 03/21/2009 **TIME:** 10:28 **PROJECT:** 115058 KEITH MIDDLE SCHOOL
SAMPLED BY: SAUNDERS/POULIN **LOCATION:** NEW BEDFORD, MA
CUSTOMER PO: N/A **LAB ELAP#:** 11078

PARAMETER PERFORMED	RESULTS	PQL	UNITS	DATE ANALYZED	FLAGS
SW-846 8082 (PCB)					
Aroclor 1016	ND	1.70	ug/g	03/27/2009	U
Aroclor 1221	ND	1.70	ug/g	03/27/2009	U
Aroclor 1232	ND	1.70	ug/g	03/27/2009	U
Aroclor 1242	ND	1.70	ug/g	03/27/2009	U
Aroclor 1248	ND	1.70	ug/g	03/27/2009	U
Aroclor 1254	31.3	1.70	ug/g	03/27/2009	AF
Aroclor 1260	ND	1.70	ug/g	03/27/2009	U
Total PCB Amount > Reporting Limit	31.3				

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the PQL.
PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.
AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

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