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FINAL North of Wood St. Monitoring Summary Report 2006 Remedial Dredging



Environmental Monitoring, Sampling, and Analysis

New Bedford Harbor Superfund Site New Bedford Harbor, MA

FINAL REPORT

North of Wood St. Monitoring Summary Report 2006 Remedial Dredging

Environmental Monitoring, Sampling, and Analysis New Bedford Harbor Superfund Site New Bedford Harbor, MA

Submitted to:

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EXECUTIVE SUMMARY

The North of Wood St. (NWS) sampling occurred in November 2006, and was conducted in support of remedial dredging activities in New Bedford Harbor. In 2002-2003 approximately 15,000 cubic yards of material was removed from the NWS area. The NWS site was remediated using methods to eliminate the potential for sediment resuspension and recontamination. However, post-remediation sampling identified elevated PCB concentrations on the eastern shoreline of the NWS area, and in certain sub-tidal locations. The November 2006 sampling was conducted to assess the effectiveness of prior remediation and potential recontamination of this area due to sediment transport from unremediated areas. Additional studies in this area are proposed for 2007.

The NWS includes in-river sediments and marsh soils on the eastern and western shores of the river. A total of 15 push-core samples were collected in this area. Additionally, 7 soil samples were collected via push-core from the shoreline of the Acushnet River north of Wood Street. Surface sediments at each of the in river samples were similar with a thin layer of fine black silt. Below this surface layer most of the stations were characterized by medium to fine sand and clay. However, the soil samples ranged greatly from medium to fine sandy soil to a dry crumbly sand and pebble mixture to decaying vegetation in sandy soils. All samples were analyzed for 18 PCB congeners, and 4 samples were selected to be analyzed for PCB homologue groups.

Total PCB concentrations in river sediment samples ranged from 0.16 mg/kg to 100 mg/kg. Compared to the results obtained from the January 2006 sampling event (ENSR), approximately half of the November 2006 data points showed an increase in PCB concentrations, while the other half showed a decrease. The largest increases in PCB concentrations from previous measurements were found in the mid-channel stations. Total PCB concentrations for the 5 soil samples collected from the remediated areas on the eastern shoreline ranged from 0.082 mg/kg to 0.35 mg/kg. Total PCB concentrations in shoreline soils indicated that the fall 2005 shoreline excavation was effective, and no substantial recontamination occurred between December 2005 (completion of remediation) and November 2006 (Battelle sampling event).













1.0 INTRODUCTION

The New Bedford Harbor Superfund Site (Site), located in Bristol County, Massachusetts, extends from the shallow northern reaches of the Acushnet River estuary south through the commercial harbor of New Bedford and into 17,000 adjacent acres of Buzzards Bay (Figure 1). Industrial and urban development surrounding the harbor has resulted in sediments becoming contaminated with high concentrations of many pollutants, notably polychlorinated biphenyls (PCBs) and heavy metals. At least two manufacturers in the area used PCBs while producing electronic devices from 1940 to the late 1970s, when the use of PCBs was banned by the EPA. Based on human health concerns and ecological risk assessments, the U.S. Environmental Protection Agency (USEPA) added New Bedford Harbor to the National Priorities List in 1983 as a designated Superfund Site. Through an Interagency Agreement between the USEPA and the U.S. Army Corps of Engineers, New England District (USACE NAE), the USACE is responsible for carrying out the design and implementation of the remedial measures at the site. The Site has been divided into three areas – the upper, lower and outer harbors – consistent with geographical features of the area and gradients of contamination (Figure 2).

Aerovox Inc. in New Bedford, MA used PCBs from c. 1940 to c. 1977 in the manufacture of electrical capacitors and transformers. This facility is considered one of the major sources of historic PCB contamination to New Bedford Harbor. The highest concentrations of PCBs were found in sediments in a 5-acre area in the northern portion of the Acushnet River Estuary adjacent to the Aerovox facility. These 'hot spot' sediments, which contained PCBs upwards of 100,000 mg/kg, were removed between 1994 and 1995 as part of USEPA's first clean-up phase. Full scale remediation dredging was initiated in 2004 and continued in 2005 and 2006. To a lesser extent, PCB contamination in New Bedford Harbor is related to activities at the Cornell-Dubilier mill on the western shore of the outer harbor. In 2005 a 15 acre underwater cap pilot project was implemented near Cornell-Dubilier to cap PCB contaminated sediments.

Located at the far northern end of the Upper Harbor are areas which have been prioritized for restoration activities based on their location in residential neighborhoods. The North of Wood Street area (NWS) includes in-river sediments and marsh soils on the eastern and western shores of the river. The area ranges from approximately 250-ft south of the Wood St. Bridge to approximately 0.25 miles north of the bridge. Sediments and soils in the NWS area previously had PCB concentrations as high as 46,000 mg/kg. Per the 1998 Record of Decision (ROD), clean up criteria were set at 1 mg/kg for residential shoreline areas, 10 mg/kg for the sub-tidal sediments, 25 mg/kg for the top foot of shoreline soils in the two shoreline parks, and 50 mg/kg for shoreline soils deeper than the top foot in the two shoreline parks.

In the winter of 2002-2003 approximately 15,000 cubic yards of material was removed from the NWS area. The site was remediated using temporary dams and pumps to divert river water around the site. This allowed excavation activities to be conducted on dry sediments and soils, thus eliminating the potential for sediment resuspension and recontamination. Clean fill was used to restore the river banks, but sub-tidal areas were left at the depth of excavation (i.e., not backfilled). Marsh and upland vegetation was planted above the low water line to stabilize and restore the shoreline. In August of 2004 post-remediation sampling revealed elevated PCB



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concentrations on the eastern shoreline of the NWS area, and in certain sub-tidal locations. Elevated concentrations were found above the high tide line suggesting that incomplete remediation was a more likely cause than recontamination from in-river sources. Additional remediation and restoration efforts were conducted in December of 2005 to remove the remaining contamination. Samples collected before and after this effort showed an improvement in shoreline PCB concentrations (ENSR 2006).

Sampling was conducted to assess the effectiveness of prior remediation and potential recontamination of this area due to sediment transport from unremediated areas. A planning meeting was held on October 26, 2006 with the USACE, EPA, and Battelle to determine the priority locations for the 2006 sampling. Twenty-one (21) sampling locations were selected (Figure 3). These included 14 sediment stations in the river, 5 soil locations in the remediated marsh area on the east side of the river south of River View Park, and 2 shoreline locations on the lumber yard site on the west side of the river.

This report describes sampling activities conducted in November 2006 at the NWS area. A description of survey methods is provided in Section 2. Results of sampling and testing are provided in Section 3. A discussion of the survey results are provided in Section 4.







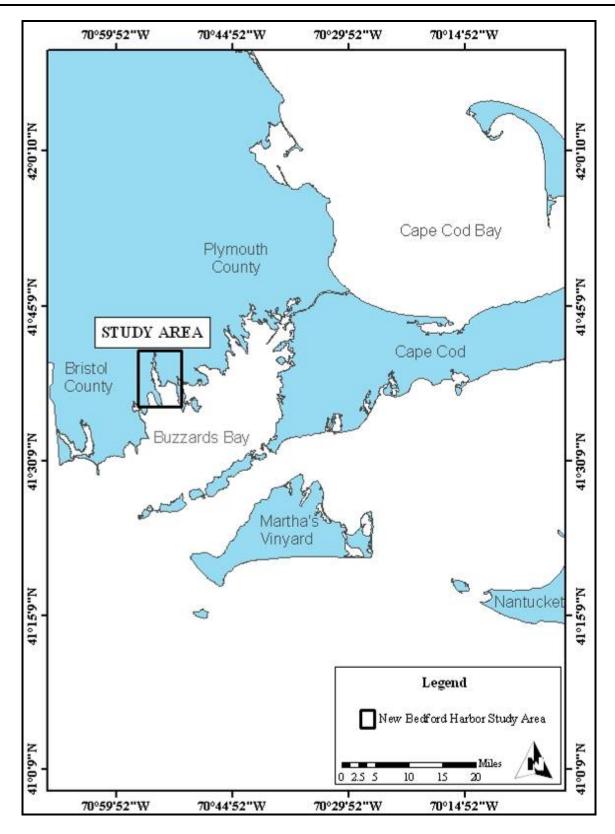


Figure 1. Location of the Site in Southeastern, MA.







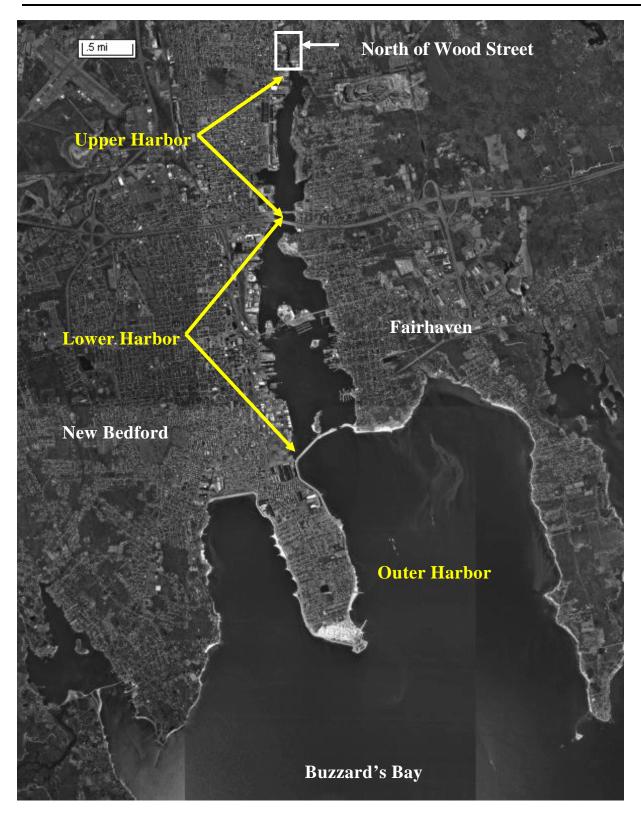


Figure 2. New Bedford Harbor Project Areas.









Figure 3. Locations of 2006 NWS Sampling Stations













2.0 METHODS

The Battelle QAPP (Battelle, June 2006a) and the Sediment Monitoring Field Sampling Plan (FSP) (Battelle, July 2006b) contain additional details on survey/sampling methods.

2.1 Sediment and Soil Collections

In-river sediments were collected in LexanTM core barrels attached to a stainless steel push core sampler. In all cases, a one foot core was targeted. Samples in deeper waters were collected from a boat, while shallow water samples were collected by wading. The push core sampler is designed to securely hold one end of a pre-cut length of core barrel. The stainless steel socket which holds the core liner was attached to a suitable length of push rod based on the water depths for the sampling effort. A piston assembly inside the core barrel was used to create suction during retrieval of the sample so that no sediment was lost from the bottom the barrel. The piston assembly was positioned just inside the leading end of the core liner and the piston line was held loosely on deck. The device was lowered into the water until the leading end of the core bore barrel contacted the sediment surface. The piston attachment line was then tied off securely on the deck, thus fixing the elevation of the piston assembly. In driving the push-core into the sediment, the piston created a syringe effect as the core liner was driven past the fixed elevation of the piston. The sampler was recovered onto the deck. The bottom end of the core barrel was fitted with a plastic cap, after which the sediment on the external body of the sampler was rinsed off. After thoroughly cleaning the sampling device the core liner was removed from the socket assembly, the piston assembly was then removed, and the top of the core liner was fitted with a plastic end cap. Soil samples were collected in LexanTM core barrels inserted into a soil auger.

All cores were kept intact in the liners and returned to the Sawyer St. field trailer for photodocumentation, visual characterization, and subsampling for chemical analysis. Once the core was deemed acceptable, a Sediment Sampling Log sheet was completed. The log form included date and time, sample coordinates, sample ID, sediment characteristics, and any other descriptive information. These log sheets are provided in Appendix A.

2.2 Processing

All cores were documented with digital photographs. Digital photographs of the cores were uploaded to the New Bedford Harbor project database. These photographs are linked in the database to the location information and to the analytical results and can be viewed individually. The file name of each photo taken was recorded on the Sediment Sampling Log forms. Each photograph contains the following elements in the frame:

- The sediment core. Photographing was done through the clear liner.
- *Measurement reference*. A tape measure (or equivalent) marked in decimal feet ran parallel to length of the core.
- Sample identifier. A card, paper, whiteboard, or equivalent was placed next to the core with the following written information:
 - o Sample ID
 - Station location



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- Date
- o Time
- o Indication of the top vs. bottom of the core

Two 6-inch composite samples were taken from each core. The sample from the 0.0-0.5 foot interval was analyzed for PCBs. The sample from the 0.5-1.0-foot interval was frozen and archived until further notice. Samples were collected into 8 oz glass jars with Teflon lined lids. All samples were held on ice while in the field and frozen upon receipt at the laboratory. Holding times for samples were 14 days to extraction and 40 days to analysis.

2.3 Analytical

See the QAPP Addendum *Environmental Monitoring*, *Sampling*, *and Analysis at the New Bedford Harbor Superfund Site*, *New Bedford*, *MA* for detailed analytical requirements (Battelle, 2006a).

The analyses of 18 NOAA PCB congeners and PCB homologue groups in sediment/soil samples were conducted by Battelle Duxbury laboratory. Results are provided in Appendix B. Sediment/soil samples were extracted following modified EPA Method 3545. Samples were airdried overnight to ensure percent solids in the samples were >50%. Approximately 5 g of airdried sample was spiked with surrogates and extracted using Accelerated Solvent Extraction (ASE). The extracts were processed through activated copper and then received disposable Florisil column clean-up. In response to expected high concentrations of PCBs in these samples, most of the sample extracts were pre-diluted prior to analysis. However, some of the extracts still required further dilution in order to resolve concentrations for compounds that exceeded the calibration range during the initial analyses.

The post-Florisil extract was concentrated and fortified with internal standards (IS). All extracts were analyzed for 18 NOAA PCB congeners using gas chromatography/electron capture detector (GC/ECD), following modified EPA Method 8082. Sample data were quantified by the method of internal standards, using the spiked IS compounds. Positive congener results were confirmed by a secondary column confirmation analysis with the higher of the two results reported, unless analyst discretion required otherwise (e.g. the result without an interference signal was reported).

Extracts selected for PCB homologue analysis (approximately 7.5% of all the samples) were analyzed using gas chromatography/mass spectrometry (GC/MS), following modified EPA Method 1668A. Sample data were quantified by the method of internal standards, using the IS compounds.







3.0 RESULTS

3.1 Sample Collection and Analysis

A total of 15 surface sediment samples (14 field samples + 1 field duplicate) were collected. Additionally, 7 soil samples were collected from the shoreline of the Acushnet River north of Wood Street. Table 1 lists sample collection information. Appendix A contains sediment and soil Sampling Field Logs.

All samples were analyzed for 18 PCB congeners, and 4 samples were selected by the Battelle field team to be analyzed for PCB homologue groups. Sample analysis was performed by Battelle Duxbury laboratory. Detailed analytical results, including concentrations for individual 18 congeners and concentrations for individual homologue groups are presented in Appendix B.

Table 1. Listing of Field Data from the North of Wood St. Core Surveys

	North (Of Wood St.	Core Collections			
	Collection	Collection	Northing	Easting		
Station	Date	time	(NAD 83 MA ft)	(NAD 83 MA ft)		
		Sediment .	Samples			
C006-033	11/06/2006	8:33	2708615	815412		
C006-028	11/06/2006	9:01	2708704	815401		
C006-039	11/06/2006	10:13	2708513	815410		
C006-040	11/06/2006	10:36	2708514	815466		
C006-049	11/06/2006	10:49	2708403	815469		
C006-048	11/06/2006	11:01	2708382	815420		
C006-030E	11/06/2006	12:55	2708682	815497		
C006-055	11/07/2006	7:42	2708268	815460		
C006-062	11/07/2006	8:03	2708165	815566		
C006-023	11/07/2006	9:40	2708814	815412		
C006-030W	11/07/2006	14:42	2708653	815363		
C006-016	11/07/2006	15:15	2708946	815393		
C006-010	11/07/2006	15:40	2709108	815349		
C006-038	11/08/2006	11:24	2708518	815383		
		Soil Sai	mples			
06-NWS-36	11/06/2006	13:40	2708762	815513		
06-NWS-35	11/06/2006	13:55	2708761	815509		
06-NWS-34	11/07/2006	15:20	2708923	815338		
06-NWS-38	11/07/2006	13:50	2708819	815500		
06-NWS-37	11/07/2006	12:45	2708682	815535		
06-NWS-39	11/07/2006	13:20	2708820	815509		
06-NWS-33	11/15/2006	13:54	2709040	815330		







3.2 Physical Characteristics

3.2.1 Surface Sediments

Surface sediments at each of the in river samples were similar. A relatively thin layer (0.1-0.4 feet) of fine black silt was found at each location. Below this surface layer most of the stations were characterized by medium to fine sand and clay. There were a few exceptions, including the northernmost station (C006-010) which had unconsolidated coarse sand, pebbles, and rock; and station C006-023 which contained a 0.2-ft thick layer of wood chips. Appendix A contains characterization logs of each of the stations.

3.2.2 Shoreline Soils

Soil samples collected on the western side of the river on the lumber yard site were somewhat different than the samples collected in the recently remediated areas on the eastern shore south of River View Park. The upper 0.5-ft of sample in the western locations consisted of a medium to fine sandy soil. At the more northerly site (NWS-33) the bottom 0.5-ft of sample was a dry crumbly sand and pebble mixture. At the more southerly station (NWS-34) the lower portion of the core was packed with a layer of decaying vegetation in sandy soils.

The eastern shoreline samples showed some variability even over the relatively small horizontal distribution. The two northernmost stations contained ~0.5-ft of medium-grained sand and clay over a 0.5-ft of coarse sand, gravel, and clay. This presumably represents the backfilled soils overlying the gravel/sand base layer. Samples NWS-35 and NWS-36 were nearly identical to each other. Each sample consisted of ~0.75-ft of coarse to fine sand with a silt and organic component. Refusal was consistently met at the bottom of these cores, and deeper samples could not be obtained. Station NWS-37 was the southernmost of the soil locations. This sample consisted of 0.4-ft of brown sandy clay on top of an erosion control netting. Below this was a heterogeneous mixture of clay, pebbles, sand, and asphalt. Appendix A contains characterization logs of each of the stations.

3.3 PCB Congener Results

Table 2 presents the total PCB results total PCB concentration results in river sediment samples and shoreline soil samples collected from the North of Wood Street area during the November 2006 sampling effort by Battelle. Total PCBs presented in Table 2 were calculated as the sum of 18 NOAA congeners multiplied by the project-specific factor of 2.6 for both sediments and shoreline soils. Non-detected results were treated as 0 mg/kg, and not included in the calculation.

Total PCB concentrations in sediment samples ranged from 0.16 mg/kg to 100 mg/kg. Total PCB concentrations for the 5 soil samples collected from the remediated areas on the eastern shoreline ranged from 0.082 mg/kg to 0.35 mg/kg, all below 1 mg/kg. The distribution of PCBs in sediments and surface soils are shown in Figure 4. Analytical PCB results are provided in Appendix B.







Table 2. Summary of Total PCB Concentrations in Sediments and Shoreline Soils

C4-4' ID	Total PCB *						
Station ID	(mg/kg)						
Sediment	Samples						
C006-010	2.4						
C006-016	15						
C006-023	8.5						
C006-028	18						
C006-028 DUP	9.4						
C006-030W	0.16						
C006-030E	0.72						
C006-033	93						
C006-038	1.8						
C006-039	13						
C006-040	47						
C006-048	100						
C006-049	12						
C006-055	9.6						
C006-062	40						
Soil So	amples						
06-NWS-33	0.014						
06-NWS-34	3.4						
06-NWS-35	0.27						
06-NWS-36	0.14						
06-NWS-37	0.35						
06-NWS-38	0.15						
06-NWS-39	0.082						

^{*} Sum of 18 congeners x 2.6







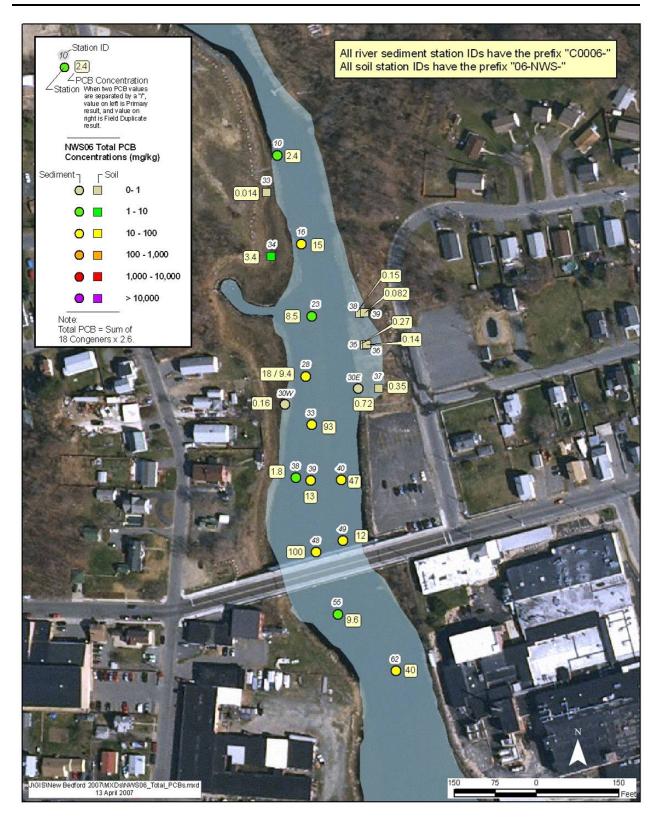


Figure 4. Total PCB Concentrations in Sediment and Soil Samples North of Wood St.







3.4 PCB Homologue Comparison

Out of the 22 samples collected from the North of Wood Street area, 4 samples were selected for PCB homologue group analysis. Table 3 summarizes the total PCB concentrations calculated as the sum of the homologue results and the corresponding total PCB concentrations calculated by congener results for these 4 samples. As indicated in Table 3, total PCB concentrations calculated by congener results are generally comparable to those calculated by homologue results. However, total PCBs calculated by congener results appeared to be slightly lower than those calculated by homologue results, with the relative difference decreasing with increasing total PCB concentration in the sample. Due to the small number of samples available for comparison it is difficult to evaluate the reasons or implications of this difference. During the 2006 post dredge sampling a greater number of samples were collected for homologue-congener comparison. These results are discussed in the Sediment Monitoring Summary Report for 2006 Remedial Dredging (Battelle, in preparation).

Table 3. Total PCB Concentrations Calculated by Congener and Homologue Results

Sample ID	Total PCBs Calculated by Congener Results* (mg/kg)	Total PCBs Calculated by Homologue Results** (mg/kg)
S-06D-C006028-00-05	18	19
S-06D-C006028-00-05-DUP	9.4	11
S-06D-06NWS34-00-05	3.4	3.9
S-06D-06NWS38-00-05	0.15	0.29

^{*} Sum of 18 congeners x 2.6, non-detect = 0 mg/kg.

^{**} Sum of 10 homologue groups, non-detect = 0 mg/kg.













4.0 DISCUSSION

The North of Wood Street area was previously remediated by Tetra Tech FW, Inc (TTFW) in 2002-2003 to remove PCB-contaminated sediments and soils from the river and surrounding shoreline. A confirmatory sampling event was conducted by TTFW immediately following the remediation in February 2003. In August 2004 (pre-dredging), May 2005 (spring flow conditions), September 2005 (pre-dredging, late summer flow), and January 2006 (post-dredging), ENSR conducted four sampling events in the area to evaluate changes in river sediment PCB concentrations that may have occurred due to seasonal influence and/or dredging/remediation activities.

Table 4 summarizes the total PCB concentrations in sediments measured from previous sampling events ENSR (2006) and TTFW (2003) and for stations revisited in November 2006. The January 2006 sampling revealed an increase in PCB concentrations at in-river locations relative to previous sampling events. This increase could have resulted from a) transport of sediments from the upper harbor during dredging activities, b) natural (i.e., non-dredging related) transport of sediments from the upper harbor, or c) from releases during the small-scale (approximately one-half acre) inter-tidal zone remedial excavation in November/December 2005. The sampling effort conducted by Battelle in November 2006 following the 2006 dredging was to further assess potential recontamination of this area.

Total PCB concentrations in river sediment samples collected during Battelle's November 2006 sampling effort ranged from 0.16 mg/kg to 100 mg/kg. Compared to the results obtained from the January 2006 sampling event (ENSR), approximately half of the November 2006 data points showed an increase in PCB concentrations, while the other half showed a decrease. PCB concentrations in mid-channel stations (Stations 33, 48 and 40), showed the largest increases in concentrations from previous measurements. As has been noted during previous monitoring activities, this area is subject to dynamic sediment movements and is characterized by heterogeneous sediments. The variations observed in sediment concentrations at individual stations in 2006 are likely related to these factors. Annual monitoring will continue in this area as needed to continue to assess the potential for recontamination from the unremediated harbor areas immediately to the south.







Table 4. Total PCB Concentrations in River Sediment Samples from the North of Wood Street Area.

	TTFW		EN	SR		Battelle
Station ID	Feb 2003 PCB Conc.* (mg/kg)	Aug 2004 PCB Conc.* (mg/kg)	May 2005 PCB Conc.* (mg/kg)	Sept 2005 PCB Conc.* (mg/kg)	Jan 2006 PCB Conc.* (mg/kg)	Nov 2006 PCB Conc.* (mg/kg)
C006-010	6.1	20	-	82	1	2.4
C006-016	4.6	13	-	18	16	15
C006-023	8.3	22	4	2	4	8.5
C006-028	0.5	63	10	0.2	11	18
C006-028	-	-	-	-	-	9.4
C006-030W	-	=	=	0.4	5	0.16
C006-030E	-	=	=	0.7	89	0.72
C006-033	0.4	65	22	1	17	93
C006-038	0.5	36	=	5	9	1.8
C006-039	0.5	64	5	-	-	13
C006-040	2.9	72	81	73	187	47
C006-048	0.4	23	9	-	-	100
C006-049	12	160	37	6	4	12
C006-055	0.4	61	-	7	20	9.6
C006-062	7.4	19	-	0.9	1	40

^{*} Sum of 18 congeners x 2.6

Total PCB concentrations in shoreline soils measured in the most recent sampling event, indicated that the fall 2005 shoreline excavation was effective, and no substantial recontamination occurred between December 2005 (completion of remediation) and November 2006 (Battelle sampling event).







5.0 REFERENCES

- Battelle, June 2006a. Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum New Bedford Harbor Superfund Site, New Bedford, Massachusetts. Prepared under Contract DACW33-03-D-0004 Task Order No 0022 for the U.S. Army Corps of Engineers New England District, Concord, MA.
- Battelle, 2006b. Sediment Monitoring Field Sampling Plan New Bedford Harbor Superfund Site, New Bedford, Massachusetts. Prepared under Contract DACW33-03-D-0004 Task Order No 0022 for the U.S. Army Corps of Engineers New England District, Concord, MA.
- ENSR Corporation. August 2004. Field Sampling Plan Addendum New Bedford Harbor Superfund Site. Prepared Under USACE Contract No. Dacw33-00-D-0003 Task 010. U.S. Army Corps of Engineers New England District Concord, Massachusetts
- ENSR Corporation. March 2006. 2005 Monitoring Summary Report; North of Wood Street Area Sampling. Prepared Under USACE Contract No. Dacw33-00-D-0003 Task 012. U.S. Army Corps of Engineers New England District Concord, Massachusetts
- Tetra Tech FW, Inc. August 2004. North of Wood Street Confirmatory Sampling Report, New Bedford Harbor Superfund Site.







Appendix A

Sediment and Soil Sampling Field Logs



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Station ID:		CO	Client:		SACE NAE Time On Sta	tion:	1500			t: Alex Mansfield rements are ±0.1 feet	· · · · · · · · · · · · · · · · · · ·
Core Sam	ole ID: S		20060/6		Northing (N/		270894		Water Dep		0.5
Logged by			m		Easting (NA	'	81539		_	ush core assembly (B):	, <u>==</u>
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(Not	eifl≠l ₂ w	rithin ± 1.0) feet, discard	d and resam	nple)						
	(VGD)	·-··	apni				ticle	,			
	Elevation (NVGD)		Lithology - Include	ļ	ļ	ancy	Maximum particle size		s <u>o</u>		
	evatic	^	olog SS c	₈	<u>5</u>	Consistency	. simu	5	Sample IDs		
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he Business of Inn		Client:		SACE NAE			Chi	ef Scientist	: Alex Mansfield	11 12	ral
tation ID:		06-023		Time On Sta		0927		All measur	ements are ±0.1 feet	18 ⁺	<u>-/</u>
ore Sample ID:			3-00-05	Northing (N	AD 83):	2708814		_Water Dept	n (A):	3,37,5	3
ogged by:	- kv	W		_ Easting (NA	-	815411.	<u>† </u>	_	ush core assembly (B):	6.9/10	W.
ollection Mechar		Push-Core		_ GPS Accura	-	2.3	· ·	_	ce to top of handle (C):	0.6 2	<u>4</u>
ate:	11/	7106		Predicted Ti		15t 2nd		_	ore (from bottom) (D):	0.6 11	
				Time of Coli		09321094	0[-	evation (NVGD 29) (E):	-	
				Time Depar	t Station:	0350		_Water surfa	ce from surveyed elevation	(F):	
				Calculation	s for Dete	rmination of	Z* Elevat	ion			
•		rface (NVGD) n of the core (:- /R - C)							
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ŕ		nsition (NVGD	, ,			•					
		ent-water inte							/ NA		
(2) Elevation	or the sedim	ent-water inte	rrace as m	easured fron	n water dep	otn (NVGD): G	i - A				
(Note if I ≠ I	₂ within ± 1.0	0 feet, discard	and resan	nple)							
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he Business of L	lle movation	Lo	Name: / cation: Client:	New Be	rd Harbor E dford, MA BACE NAE	nvironmen	tal Monitori	•		G606422 CR environmental skiff Alex Mansfield	
Station ID:		C006-0	^^ M		Time On Stat	lion.	0048	<u> </u>		nents are ±0.1 feet	
Core Sample II	n. 5~/		00602	0-00-161	Northing (NA	7	270070	4	Water Depth		5-8
	U	-N/~	<u> </u>	VO IOV		-	01540	1	-		10.0'
ogged by:		-42V			Easting (NAI	•	017 10		-	h core assembly (B):	27
Collection Mec	nanism:	11/	h-Core Ub		GPS Accura	•	1,0		_	e to top of handle (C):	12/
Date:		11/6/	00		Predicted Tid	le (ft):	000		_Length of con	e (from bottom) (D):	
					Time of Colle	ection:	0920	9	_Surveyed ele	vation (NVGD 29) (E):	
					Time Depart	Station:	<u> 0448</u>		_Water surface	e from surveyed elevation (F	;):
•		ter Surface		E-F		for Deterr	mination of 2	Z* Elevati	on		
z*) Elevation	on of visi	ual transition	n (NVGD): H + (dista	nce to visua	l transition)					
•			•			•				114	
							ore (NVGD)			<u> </u>	
(₂) Elevation	on or trie	seaiment-v	vater inte	mace as me	asured from	water dept	h (NVGD): G	i - A			
(Note if I	l≠l ₂ with	in ± 1.0 fee	t, discard	and resam	ple)						
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Elevation (NVGD)	Ê		Lithology - Include USCS code				Maximum particle size				
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٠٠	Battelle The Business of Innovation	Location:	lew Bedford Harbor E New Bedford, MA USACE NAE	nvironmental Monitori	Ves	t #: G606422 ssel: CR environmental skiff tist: Alex Mansfield	
	Station ID: Core Sample ID: Logged by: Collection Mechanism: Date:	C006-028		0 83): 270 87 0 83): 0 1,5 4 e (ft): 1 5 T ction: 20 5 6	8 All mea O U Water D Length Water s Length O O O Surveye	Depth (A): of push core assembly (B): surface to top of handle (C): of core (from bottom) (D): ed elevation (NVGD 29) (E): surface from surveyed elevation (F	5-8 5-8 10.0 10.0 2.3 1.7
	(H) Elevation of the (z*) Elevation of vis (I) Elevation of the (I ₂) Elevation of the	e sediment-water inter	E-F NVGD): G-(B-C) TH+(distance to visual face as measured from face as measured from	bottom of core (NVGD)	::H+D	NA	
	Elevation (NVGD)	Lithology - Include	5, 17/ 15/40l	Consistency Maximum particle	Odor Sample 10s	Commen	ts 228-01 A-05
		0.6	fine Olive Sand Star	from Free		S-96D-CO966 S-06D-CO966	28 25-18 Shre
	File ID of digital photocomments: (ST attraction of the comment o	ograph(s):	rushed cor	e-			
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Battelle	Project Name: Location: Client:	New Be	rd Harbor E dford, MA SACE NAE	nvironmei	ntal Monito	امير		G606422 CR environmental skiff Alex Mansfield	÷.	•
	c006-030y	8E Ø	Time On Sta	tion:	0804	1246		ments are ±0.1 feet	15"	Zvel
	6DC006030 h		Northing (NA	ND 83):	170868	2.1	Water Depth	(A):	601	5.4
Logged by:	mw		Easting (NA	D 83):	81549	7.0	_ Length of pus	sh core assembly (B):		
Collection Mechanism: _	Push-Core		GPS Accura	су:	2.5		_Water surfac	e to top of handle (C):	2.0	2.7
Date: _	11/6/06		Predicted Ti	de (ft):			_Length of cor	re (from bottom) (D):		
			Time of Coll	ection:	805/12	-55	_Surveyed ele	vation (NVGD 29) (E):		
			Time Depart	Station:	0815		_Water surfac	e from surveyed elevation	(F):	1
(G) Elevation of Wate	er Surface (NVGD):		Calculation	s for Deter	mination of	Z* Elevati	on			
	ottom of the core ((B - C)	·						
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	at transition (NVGD	•		•		=		A IA	·	
	ediment-water inte				•	•		/ 191		
,	ediment-water inte			ı water dep	in (NVGD): (G - A		····		
(Note if I ≠ I₂ within	± 1.0 feet, discard	and resamp	ole)							
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Elevation (NVGD)	Lithology - Include USCS code				Maximum particle size					
Elevation (f	ogy -			Consistency	# <u></u>		Sample IDs			
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Business of Innov		Client:	70.	ACE NAE		1406	Unie		Alex Mansfield	
tation ID: C ore Sample ID: S				Time On Sta		708653	2 7		ments are ±0.1 feet	0,0
ore Sample ID. ~ ogged by:		CA W-	20010	Easting (NA		815363		Water Depth	(A): sh core assembly (B):	<u> </u>
ogged by. ollection Mechani		Push-Core		GPS Accura		2.4		•	e to top of handle (C):	
ate:	<u> </u>	11/7/	n/a		-			•		1.0
ate:		11/1/	υΨ	Predicted Ti	• •	144	2	•	re (from bottom) (D):	11.0
							0	•	vation (NVGD 29) (E):	
		_		Time Depar	Station:		<u> </u>	_ water surfac	e from surveyed elevation (F	<i>'</i> -
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·		ırface (NVGD)								
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z*) Elevation o	f visual tra	nsition (NVGD	0): H + (dista	nce to visua	al transition))			<u> </u>	
l) Elevation of	f the sedin	nent-water inte	erface as me	asured fron	bottom of	core (NVGD): H + D		NA	
(₂) Elevation o	f the sedin	nent-water inte	erface as me	asured fron	water dep	th (NVGD):	G • A			
(Note if I ≠ I₂	within ± 1.	.0 feet, discar	d and resam	ple)					,	
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	n ID: Sample I	D.	5-061	06-633 0-6006		Time On Sta		2708615	- 2		ments are ±0.1 feet	6.4/1.2
	Sample I ed by:	U.	- M	 	War or VIII	_/Frontning (N/ Easting (NA		815417		_ Water Depth Length of pus	(A): sh core assembly (B):	10.0 160
	ction Med	hanis		Push-Core		GPS Accura		1.84	_	-	e to top of handle (C):	25/19
e:			11/	6/06		Predicted Tide (ft): Time of Collection:		13+ Zvd		Length of core (from bottom) (D): 0.7 13		
				, ,				0123 00	33	Surveyed elevation (NVGD 29) (F):		
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	ation	Bottom		- vgo			Consistency			Sample IDs		
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Battelle Business of Innovation	Project Name: Location: Client:	New B	ord Harbor I edford, MA 'SACE NAE	environme.	ntal Monitor	•		G606422 CR environmental skif Alex Mansfield	f
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ation ID:		8	_ Time On Sta					ements are ±0.1 feet	<u> </u>
ore Sample ID:	<u> C006 - 03</u>	<u>'O</u>	_ Northing (N/	ND 83):	27085		Water Depth	n (A):	514
gged by:	<u></u>		Easting (NA	D 83):	81538	55.0	Length of pu	ish core assembly (B):	5,7 2.9
ollection Mechanism:	Push-Core		_ GPS Accura	cy:	1.9		_Water surfa	ce to top of handle (C) :	2.9
ate:	11/8/04	o	Predicted Ti	de (ft):			Length of co	ore (from bottom) (D):	0.5
			Time of Coll	ection:	1124		Surveyed el	evation (NVGD 29) (E):	
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· · · · · · · · · · · · · · · · · · ·					mination of		_	•	
3) Elevation of Wa	ter Surface (NVGD):	E-F	ou.ou.u.i.o	o toi Detei	iiiiiaiioii oi				
Elevation of the	bottom of the core (NVGD): G	- (B - C)						
*) Elevation of visi	al transition (NVGD	· \· H + (diet	ance to vieus	al transition	1				
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(Note if I ≠ I ₂ with	in ± 1.0 feet, discard	and resan	nple)						
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vation (N	8 69 8			Consistency	l mu		Sample IDs		
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Battelle The Business of Innovation	Project Name: Location: Client:	New B	ord Harbor E edford, MA SACE NAE	nvironme	ntal Monitori	-	Project #: G606422 Vessel: CR environmental skiff nief Scientist: Alex Mansfield			
Station ID: Core Sample ID: S- Logged by: Collection Mechanism: Date:	CBO6-0 06D-COO6039 MW Push-Core 11 [6 66	-00-10	Time On Sta Northing (NA Easting (NAI GPS Accura Predicted Tir Time of Colle Time Depart	AD 83): D 83): cy: de (ft): ection:	1013 1023		Water Depti Length of pu Water surface Length of co Surveyed ele	ements are ±0.1 feet In (A): ush core assembly (B): ce to top of handle (C): ore (from bottom) (D): evation (NVGD 29) (E): ce from surveyed elevation (A)	\$.\$', 7.0' 0.0' 1.1'	
H) Elevation of the z*) Elevation of vi Elevation of the z*) Elevation of the z*)	fater Surface (NVGD) e bottom of the core (sual transition (NVGE) e sediment-water inte e sediment-water inte thin ± 1.0 feet, discard	: E-F NVGD): G i): H+ (distantace as mentace as me	- (B - C) ance to visua easured from easured from	ul transition)	core (NVGD)	: H + D	ion	NA.		
-0,	Lithology - Include USCS code	Silt Clay sand	Black Olivi groy	Consistency Consistency	Size Maximum particle	Odor	Sample IDs	Commer S-OGD-COOL 0.2-0.3 ser subview cl S-(CD-COO (ACC	039-00- nd Inyer Iny 06039-0	
e ID of digital photo omments:	graph(s):									

he Business of Innova		Client:		SACE NAE		1071	Chi	-	t: Alex Mansfield				
tation ID:	S-06D-	<u>6 - 040</u> C 01/11/11	17. 19.6	Time On Sta		1031	-14 2		rements are ±0.1 feet				
ore oumple is.	nu	<u>COO600</u>	10 00 10	Northing (NA		27085		_Water Dept					
ogged by:			Easting (NAD 83): 815465, 6 GPS Accuracy: 3.5					Length of push core assembly (B): Water surface to top of handle (C): Length of core (from bottom) (D):					
ate:	Mechanism: Push-Core GPS Accuracy: \(\langle \lefta \lef					<u> </u>							
ale.		2100		Time of Coll		1036		Surveyed elevation (NVGD 29) (E):					
				Time Depart		1041		_	ace from surveyed elevation (F):				
				Time Depart	i Otation.	10 11	-	_ *************************************	ace from surveyed elevation (7).				
	· · · ·			Calculation	s for Deter	mination of	Z* Elevat	ion					
G) Elevation of	Water Surfa	ice (NVGD)	: <i>E-F</i>				•		· .				
H) Elevation of	the bottom o	of the core ((NVGD): G	- (B - C)									
z*) Elevation of	visual transi	ition (NVGE)): H + (dista	ance to visua	al transition))							
Elevation of	the sedimer	nt-water inte	rface as me	asured from	n bottom of	core (NVGD): <i>H + D</i>		NA				
(2) Elevation of	the sedimer	nt-water inte	erface as me	easured from	n water dep	th (NVGD):	G - A		/				
(Note if I ≠ I₂ v	within ± 1.0 f	eet, discard	d and resam	ple)				$\overline{}$					
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Elevation (NVGD)		Lithology - Include USCS code				Maximum particle			1				
vation (N Bottom	1	y - Ir ode			ency	E E		Ωs					
evati		holog SCS o	<u> </u>	Color	Consistency	e ximu	Odor	Sample IDs					
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			silt	Black	lusal	fine	ļ		5-06D-C006046-00-0 5-06D-C006040-05 (ARChive)				
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	-		find	Brown	Cons	fin			SUP ARRIAND-05				
			clay myx	Brown	firm	7100			D. (161)-CONOMIO #				
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	ample ID	. چ	MI	006049	016 101	Northing (NA		27084	1023	Water Depth		4,4 '			
gged	•	•		iw	ΨΨ	•			_	-	• •	7,0'			
	ion Mech	aniem:		Push-Core		Easting (NAD 83): <u>815 968, 9</u> GPS Accuracy: <u>3.0</u> Predicted Tide (ft):					Length of push core assembly (B): Water surface to top of handle (C): Length of core (from bottom) (D):				
ite:	ion intech	ariisiii.	31	16/06											
				14104		Time of Coll		1049		_	evation (NVGD 29) (E):	<u> </u>			
						Time Depart		1053		- 1	ce from surveyed elevation	(E):			
						Time Depair	otation.	<u> </u>		_ *************************************	ce nom salveyed elevation	V)			
						Calculation	s for Deter	mination of	Z* Elevati	on					
				ace (NVGD	•										
) E	Elevatio	n of th	e bottom	of the core	(NVGD): G	- (B - C)						<u></u>			
) E	Elevatio	of vi	sual tran	sition (NVGI	D): H + (dista	ance to visua	al transition)	ı							
E	Elevatio	n of th	e sedime	ent-water int	erface as me	easured from	bottom of	core (NVGD)	: <i>H</i> + <i>D</i>		MA				
₂) E	Elevatio	n of th	e sedime	ent-water int	erface as me	easured from	ı water dept	th (NVGD): G	9 - A		<u></u>				
(N	lote if I a	⁴ I ₂ wit	hin ± 1.0	feet, discar	d and resam	nple)									
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	Elevation (NVGD)	(F)		Lithology - Include USCS code			_	Maximum particle size							
	en ()	Bottom		y - Ir			ency	E 6		<u>°</u>					
	evatik	Bol		SS S	g	<u>5</u>	Consistency	e ximu	ō	Sample IDs					
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Battelle The Business of Innovation	Project Name: Location: Client:	New Bedford Harbor New Bedford, MA USACE NAB	١	ental Monitor	_		G606422 CR environmental skiff Alex Mansfield	
Station ID: Core Sample ID: Logged by: Collection Mechanism: Date:	COOG-OY8 001)-COOG(94 MW Push-Core IV [6 106	Time On S Control of	NAD 83): AD 83): racy: Tide (ft): billection:	1058 270838 815420 3.9 1101		Water Depth Length of pus Water surface Length of cor Surveyed ele	ments are ±0.1 feet (A): th core assembly (B): to top of handle (C): to (from bottom) (D): vation (NVGD 29) (E): to from surveyed elevation	4,4' 7.0' 0.9' 1.5'
 (H) Elevation of the (z*) Elevation of visual (I) Elevation of the (I₂) Elevation of the 	sediment-water inte	Calculation E - F NVGD): G - (B - C) The H + (distance to visual from the content of the cont	ns for Deter	rmination of): H+D	_	MA	
	9	sometimes Black Silt Black Clay gray cungsine	Live Sandy Consistency	Maximum particle Size	Odor	Sample IDs	Comme Hzs D6DCDO60 O6D-CØO60 (ARChive)	
File ID of digital photog Comments: Lost GPS (d	hue to Brid	ge) just after	conv	ing an	sah	rou	<u> </u>	

etation ID: core Sample ID cogged by: collection Mech	: S - Ø6D - Ø - Å anism:	06-05 C006053 M Push-Core 7/06	5 -0005	Time On Sta Northing (NA Easting (NAI GPS Accura Predicted Tid Time of Colla Time Depart	D 83): (C) 84): (C) 84): (C) 85: (C) 85: (C) 85: (C) 85: (C) 85: (C) 85: (C) 85: (C) 8	270826 81540 2.4 0742 078	2 2 7	Water Depth Length of pu Water surface Length of co Surveyed else	ements are ±0.1 feet (A): 7, 6 sh core assembly (B): /0.0 the to top of handle (C): // // // // // // // // // // // // //
(H) Elevatio (Z*) Elevatio (I) Elevatio (I2) Elevatio	n of Water Surface of the bottom n of visual transn of the sediment of the sediment $\neq l_2$ within ± 1.0	of the core (sition (NVGD ent-water inte ent-water inte	: E-F NVGD): G): H + (distated as meen taced as meen ta	· (B - C) nce to visua asured from asured from	al transition)	ore (NVGD)	: H+ D	on	M
Elevation (NVGD)	(i.e. Bottom = H)	Lithology - Include USCS code	Туре	Color	Consistency	Maximum particle size	Odor	Sample IDs	Comments
	1.0		clay Shell Hosh	olive gray	Cilm	fine			S-06D-0006055-00 S-06D-0006055-00 (ARCHIVE)
le ID of digita	 li photograph(s):	·						

Battelle The Business of Innovation	Project Name: Location: Client:	New Bed	dford, MA ACE NAE				Project #: Vessel: (lef Scientist: /	CR environmental skiff	
Station ID:	C006-00	2	Time On Sta	tion:	080	2		nents are ±0.1 feet	····
Core Sample ID: S-6	06D-(006067	NI OI	Northing (NA		2708	165	Water Depth (62
ogged by:	Dw-				8155		_	h core assembly (B):	100
			Easting (NAI	-	7 5	20_		• • •	19
Collection Mechanism:	Push-Core		GPS Accura	-				to top of handle (C):	1 5
Date:	11/7/06		Predicted Tid		080	27	_	e (from bottom) (D):	1.5
			Time of Colle	ection:			_Surveyed elev	ration (NVGD 29) (E):	
		•	Time Depart	Station:	_080	9	Water surface	e from surveyed elevation	(F):
			alculations	s for Deteri	mination of	Z* Elevat	ion		
	ter Surface (NVGD) bottom of the core ((P. C)						/
(z*) Elevation of vis	ual transition (NVGD): H + (distar	nce to visua	ıl transition)	l			- ATA	
(I) Elevation of the	sediment-water inte	rface as mea	asured from	bottom of	core (NVGD): H + D		MA	
(12) Elevation of the	sediment-water inte	rface as mea	asured from	water dept	th (NVGD):	G - A			
(Note if I ≠ I ₂ with	in ± 1.0 feet, discard	and resamp	le)						_
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(GD)	epr				e,				-
4 1	Lithology - Include) <u>}</u>	Maximum particle size		S		
vation (h	- ygy -			Consistency	<u> </u>		Sample IDs		
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tation ID:	Client:		<i>CE NAE</i> me On Sta	tion:	1343	Chie		Alex Mansfield ments are ±0.1 feet	·
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ogged by:	MW	•	asting (NAI	V.	81533		•	sh core assembly (B):	
ollection Mechanism:	Push-Core		PS Accura		7 7	<u> </u>	-	e to top of handle (C):	
ate:	11/15/06		redicted Tid	•			-	e (from bottom) (D):	1.0
			me of Colle	ection:	1354		•	vation (NVGD 29) (E):	
		Ti	me Depart	Station:	1350		Water surface	e from surveyed elevation (F):
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G) Elevation of Wate	r Surface (NVGD):		icuiations	s for Deterr	nination of 2	. Elevati	оп		
H) Elevation of the be	, ,		B - C)						
z*) Elevation of visua	•		•	ıl transition)					
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: Business of Im	novation	Location: Client:	US	edford, MA SACE NAE		 جو ا	Chi		CR environmental skiff Alex Mansfield	
ation ID:	5/0/7/	-NW5-3	Charles	Time On Sta	กั	1000	7 7		ments are ±0.1 feet	NA
ore Sample ID	(6NW534-1	2010	Northing (N/	, ,	70892		_ Water Depth	· ·	<u>/ () () </u>
gged by:		<u> </u>	 -	Easting (NA		315338	5.1	_Length of pus	sh core assembly (B);	
ollection Mech	anism:	Push-Core		GPS Accura	cy:	2(-1		_Water surfac	e to top of handle (C):	406
ate:		-7-06		Predicted Ti	de (ft):			_Length of cor	re (from bottom) (D):	1.0'
				Time of Coll	ection:	152		_Surveyed ele	vation (NVGD 29) (E):	
				Time Depart	Station:	154	0	_Water surfac	e from surveyed elevation (F):_	
				Calculation	s for Determ	nination of a	Z* Elevati	'on	<u> </u>	
		urface (NVGD)								
d) Elevation	of the botto	om of the core	(NVGD): G	- (B - C)						
:*) Elevation	of visual tr	ansition (NVGI	D): H + (dista	ance to visua	ıl transition)					
) Elevation	n of the sedi	ment-water into	erface as me	easured from	bottom of c	ore (NVGD)	: H + D		NA	-
		ment-water inte								
(INOTE IT I	- 12 WKNIN ±	1.0 feet, discan	u and resam	ipie)			· ·		<u>. </u>	
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Elevation (NVGD)	Bottom = H)	Lithology - Include			, i	Maximum particle size		ر (
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leva	(i.e. b)	tholo	Type	Color	Consistency	axim 2e	Odor	Sample IDs		
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	Battelle	Project Name: / Location:	New Bedford Harbo New Bedford, M		onitoring	Project #: 0	6606422 R environmental skiff	
ļ	The Business of Innovation	Client:	USACE NA	E		of Scientist: A		
70°5	Station ID:	06. NWS.	201 00		230	All measurem	ents are ±0.1 feet	
. /		<u> </u>	-00-09 Northing (682	Water Depth (NA
	Logged by:		Easting (I		<u>535</u> 1.2		core assembly (B):	
٠.	Collection Mechanism: Date:	Push-Core 11 . 7 - 0 6	GPS Acc			_	to top of handle (C):	0.9'
•	Date.	-1 1 0 4	Predicted Time of C		45		(from bottom) (D): ation (NVGD 29) (E):	<u> </u>
					808		from surveyed elevation (I	=):
						_ ,,,,,,,,		
			Calculation	ons for Determination	on of Z* Elevation	on		
	(G) Elevation of Wa	ter Surface (NVGD):	E-F				····	
	(H) Elevation of the	bottom of the core (I	NVGD): <i>G - (B - C)</i>					
	(z*) Elevation of visi	ual transition (NVGD): H + (distance to vis	cual transition)				
,	(I) Elevation of the	sediment-water inte	rface as measured fr	om bottom of core (N	IVGD): <i>H + D</i>		NA	-
	(I2) Elevation of the	sediment-water inte	rface as measured fr	om water depth (NVC	GD): G - A			
	(Note if I ≠ I ₂ with	in ± 1.0 feet, discard	and resample)					
	o -	9						
	Elevation (NVGD)	- Include		articl				
	vation (N	ogo code		stenc		ű		
	Eleva	Lithology - ir USCS code	Type	Consistency Maximum particle	size	Sample IDs	Commer	uts
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2 000 00	~~33 / ~~	1	Clay Blows	1 Cohesive Me	2d		surface	
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5-06D-06N	553 /- 050		Pelbles, 1516	Hatrogener	ادراه		~ 0.5'	
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Business of In		Client:		SACE NAE		13			Alex Mansfield	
tation ID:		CONWS36		Time On Sta		27088			nents are ±0.1 feet	AN
ore Sample ID	: 3-000	75/2	7 40 10	Northing (NA		8155		Water Depth		744
ogged by:				Easting (NA		2 5	70.4	_	th core assembly (B):	1
ollection Mech ate:		Push-Core		GPS Accura				-	e to top of handle (C): e (from bottom) (D):	1.0
ale.			 	Time of Coll		/35	<u></u>	-	vation (NVGD 29) (<i>E</i>):	/. -
				Time Depar				_	e from surveyed elevation	(F):
				ranc ocpu	Columnia.			_ 'Valci suilaci	e nom surveyed elevation	' /
				Calculation	s for Deter	mination of	Z* Elevat	ion		
G) Elevatio	n of Water Sເ	urface (NVGD): <i>E-F</i>							
H) Elevatio	n of the botto	m of the core	(NVGD): G	- (B - C)						
z*) Elevatio	n of visual tra	nsition (NVG(D): H + (dista	ance to visua	al transition)			MA	
) Elevatio	n of the sedin	nent-water int	erface as me	easured fron	n bottom of	core (NVGD): H + D		/	
-		nent-water int				•				
(Note if I	≠ l ₂ within ± 1	.0 feet, discar	d and resam	ple)						
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T						Τ				
Elevation (NVGD)	E	Lithology - Include USCS code		1	<u> </u>	Maximum particle size				İ
<u>2</u>	Bottom = H	y - loge			ency	E		. Q		
evatic	Bg.	olog CS c	, e	<u>5</u>	Consistency	l mix	ъ	Sample IDs		
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Battel he Business of L			ect Name: Location: Client:	New Be	rd Harbor I edford, MA SACE NAE	Environmen	tal Monitori	_		G606422 CR environmental skiff Alex Mansfield
Station ID:		26.N	102-3		Time On Sta	ation:	1305			ements are ±0.1 feet
Core Sample ID	۱.			00.08	Northing (NA		70881	97	Water Depti	A. A
	<i>,</i> .		W-	10000		<i>y</i>	815580		-	
ogged by:					Easting (NA		2 6	7.	-	ush core assembly (B):
Collection Mech	nanısm		Push-Core 7 - 0 6	 	GPS Accura	一(ワー			_	ce to top of handle (C):
Date:		117	(.08		Predicted Ti	• • • • • • • • • • • • • • • • • • • •	1000		-	ore (from bottom) (D):
					Time of Coll	ection:	1320		_Surveyed el	evation (NVGD 29) (<i>E</i>):
					Time Depar	t Station:	1335	<u> </u>	_Water surfa	ce from surveyed elevation (F):
					Calculation	s for Deterr	nination of 2	Z* Elevati	on	
. ,			ace (NVGD)): <i>E • F</i> (NVGD): <i>G</i>	- (B - C)					
•					, ,					
z*) Elevatio	on of v	isual trans	ition (NVGD	0): H + (dista	ince to visua	al transition)				
1) Elevation	n of t	he sedimei	nt-water inte	erface as me	asured fron	n bottom of c	ore (NVGD)	H+D		NA
(12) Elevation	n of t	tie sedimei	nt-water inte	erface as me	easured fron	n water dept	h (NVGD): G	i-A		
(Note if I	≠ l₂ w	rithin ± 1.0	feet, discard	d and resam	ple)					
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Elevation (NVGD)	= H)		Lithology - Include USCS code		 -		ticle			
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ation	Bottom	Į	S co		[ister	Linu Linu		e	
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Batte he Business o			ject Name: Location: Client:	New Be	dford, MA ACE NAE	ormier	ointoi	_		CR environmental skiff Alex Mansfield
Station ID:		Dh-	NW5-	36	Time On Sta	tion:	1330		All measure	ments are ±0.1 feet
	1D. C		6NWS 36		Northing (NA		270 87	61.6	Water Depth	
ogged by:	. 10. 3		NW	DV DS	Easting (NAI	•	815513		_ `	
	ahaaiam			•		•	2.5	<i>y</i>	_ ·	sh core assembly (B):
Collection Me	echanish	11	Push-Core		GPS Accura	•	_^3		_	te to top of handle (C):
Date:			10100		Predicted Tie		17110			re (from bottom) (D):
					Time of Colle		1340		-	evation (NVGD 29) (E):
					Time Depart	Station:	1345		_Water surfac	ee from surveyed elevation (F):
(H) Eleva (z*) Eleva (I) Eleva (I ₂) Eleva	tion of t tion of t tion of t	the bottom visual trans the sedime	ace (NVGD) of the core (sition (NVGE int-water inte ent-water inte feet, discard	: E-F NVGD): G-): H+ (distalentace as meentace as me	(B - C) nce to visua asured from asured from	il transition)	core (NVGD): H + D	ion	NA
Elevation (NVGD)	(l.e. Bottom = H)	0.8	Lithology - Include USCS code	Туре	Color	Consistency	Maximum particle size	Odor	Sample IDs	Comments
	-	0.8	7	coarse to					T	
		-0.0	\	Firm Salve with Sill with Sill	pany	Sandy	fine to med.		S.	06D-06NWS36-00-0 06D-06NWS36-05-0 (ARCHIVE)
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e ID of dig omments:	ital pho	tograph(s)	:							

Batte Business of		n	Location: Client:		edford, MA SACE NAE	·-		Chi		CR environmental skiff Alex Mansfield
tation ID:		06 - N	W5-35		Time On Sta	ation:	1345		All measure	ments are ±0.1 feet
ore Sample	ıd: S -		ZEZWA3		Northing (N	AD 83):	27087	1.2	Water Depth	
ogged by:	_	mw			Easting (NA	·	815508		_	sh core assembly (B):
ollection Me	hanism		Push-Core	_	GPS Accura		2.4	-	_	e to top of handle (C):
ate:			106		Predicted Ti	-			-	re (from bottom) (D):
			<u></u>		Time of Coli		1355		<u> </u>	evation (NVGD 29) (E):
					Time Depar		1400		_	e from surveyed elevation (F):
					- Into Depar		1 10		_ Water dariae	e main darroyed dioralion (r).
					Calculation	s for Dete	rmination of	Z* Elevati	on	,
			ace (NVGD)							
H) Elevati	on of th	e bottom	of the core ((NVGD): G	- (B - C)					
z*) Elevati	on of vi	sual trans	ition (NVGE)): H + (dista	nce to visua	al transition)			
) Elevati	on of th	e sedimeı	nt-water inte	rface as me	asured fron	n bottom of	core (NVGD): H + D		/ NH
•							oth (NVGD):	•		
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(Note II	1 F 12 WI	amı≖ 1.0 i	ieei, uiscali	and resam	hie)					
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Elevation (NVGD)	Bottom = H)	1	Lithology - Include USCS code	` _ '	_	Consistency	E E		Sample IDs	
Elev	(].e.		Lifto USC	Type	Color	Sons	Maximum particle size	ogo	Samj	Comments
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Appendix B Analytical Data



Station ID	C006 -01	0	C006 -016			C006 -02	3		C006 -028			
Collected		11/	7/2006		11/7/2006			11/	7/2006	11/6/2006		
Fraction	TOTAL		TOTAL			TOTAL			TOTAL			
QC Code	SA		SA	SA					SA			
Sample ID	_	006010-00-05			006016-00-05		SA S-06D-C	006023-00-05			006028-00-05	
·												
Param Name	Result	Unit	FinQ	Result	Unit	FinQ	Result	Unit	FinQ	Result	Unit	FinQ
2,4'-Dicb (PCB 8)	0.07017	MG/KG_DRYWT	DME	0.76278	MG/KG_DRYWT	DME	0.2953	MG/KG_DRYWT	DME	0.6821	MG/KG_DRYWT	DME
2,2',5-Tricb (PCB 18)	0.18309	MG/KG_DRYWT	D	1.31126	MG/KG_DRYWT	D	0.56364	MG/KG_DRYWT	D	0.8542	MG/KG_DRYWT	D
2,4,4'-Tricb (PCB 28)	0.17955	MG/KG_DRYWT	D	0.00998	MG/KG_DRYWT	DU	0.62834	MG/KG_DRYWT	D	1.2389	MG/KG_DRYWT	D
2,2',3,5'-Tetracb (PCB 44)	0.0957	MG/KG_DRYWT	D	0.40902	MG/KG_DRYWT	D	0.23439	MG/KG_DRYWT	D	0.444	MG/KG_DRYWT	D
2,2',5,5'-Tetracb (PCB 52)	0.16158	MG/KG_DRYWT	D	1.67855	MG/KG_DRYWT	D	0.72042	MG/KG_DRYWT	D	1.2943	MG/KG_DRYWT	D
2,3',4,4'-Tetracb (PCB 66)	0.05077	MG/KG_DRYWT	D	0.2138	MG/KG_DRYWT	D	0.12378	MG/KG_DRYWT	D	0.3596	MG/KG_DRYWT	D
2,2',4,5,5'-Pentacb (PCB 101)	0.04621	MG/KG_DRYWT	D	0.37671	MG/KG_DRYWT	D	0.20131	MG/KG_DRYWT	D	0.5095	MG/KG_DRYWT	D
2,3,3',4,4'-Pentacb (PCB 105)	0.02317	MG/KG_DRYWT	D	0.06461	MG/KG_DRYWT	D	0.03058	MG/KG_DRYWT	D	0.1035	MG/KG_DRYWT	D
2,3',4,4',5-Pentacb (PCB 118)	0.04118	MG/KG_DRYWT	D	0.29237	MG/KG_DRYWT	D	0.15036	MG/KG_DRYWT	D	0.436	MG/KG_DRYWT	D
2,2',3,3',4,4'-Hexacb (PCB 128)	0.0093	MG/KG_DRYWT	DU	0.03452	MG/KG_DRYWT	D	0.0131	MG/KG_DRYWT	Dp	0.0459	MG/KG_DRYWT	D
2,2',3,4,4',5'-Hexacb (PCB 138)	0.03358	MG/KG_DRYWT	Dp	0.21266	MG/KG_DRYWT	D	0.09221	MG/KG_DRYWT	D	0.2782	MG/KG_DRYWT	D
2,2',4,4',5,5'-Hexacb (PCB 153)	0.03717	MG/KG_DRYWT	D	0.38961	MG/KG_DRYWT	D	0.18165	MG/KG_DRYWT	D	0.4319	MG/KG_DRYWT	D
2,2',3,3',4,4',5-Heptacb (PCB 170)			DU			DpJ		MG/KG_DRYWT			MG/KG_DRYWT	Dp
2,2',3,4,4',5,5'-Heptacb (PCB 180)			DU			D		MG/KG_DRYWT			MG/KG_DRYWT	D
2,2',3,4',5,5',6-Heptacb (PCB 187)			DU	0.03994	MG/KG_DRYWT	D	0.01617	MG/KG_DRYWT	Dp		MG/KG_DRYWT	D
2,2',3,3',4,4',5,6-Octacb (PCB 195)			DU		MG/KG_DRYWT	DU		MG/KG_DRYWT			MG/KG_DRYWT	DU
2,2',3,3',4,4',5,5',6-Nonacb (PCB 206)	0.00921	MG/KG_DRYWT	DU		MG/KG_DRYWT	DU	0.00933	MG/KG_DRYWT	DU	0.0098	MG/KG_DRYWT	DU
Decacb - Congener (PCB 209)			DU		MG/KG_DRYWT	DU		MG/KG_DRYWT			MG/KG_DRYWT	DU
Total MonoCB		-			_			_		0.0529	MG/KG_DRYWT	D
Total DiCB										1.8993	MG/KG_DRYWT	D
Total TriCB										6.5774	MG/KG_DRYWT	D
Total TetraCB											MG/KG_DRYWT	D
Total PentaCB											MG/KG_DRYWT	D
Total HexaCB										1.4305	MG/KG_DRYWT	D
Total HeptaCB				1			1			0.2605	MG/KG_DRYWT	D
Total OctaCB											MG/KG_DRYWT	DU
Total NonaCB	1										MG/KG_DRYWT	DU
DecaCB											MG/KG_DRYWT	DU
Total PCB Congeners (sum CONG x 2.6)	2.4	MG/KG_DRYWT		15	MG/KG_DRYWT		8.5	MG/KG_DRYWT			MG/KG_DRYWT	
Total PCB Homologues (sum HOM)										19	MG/KG_DRYWT	

Station ID	C006 -02	28	C006-030V	C006-030W			C006-030E			C006 -033				
Collected		11/	/6/2006)	11/6/2006			11/7/2006			6 11/6/2006			
Fraction	TOTAL		TOTAL			TOTAL			TOTAL					
QC Code	REP		SA			SA			SA					
Sample ID	S-06D-C	006028-00-05-DUF)		06030E-00-05			006030W-00-05			006033-00-05			
Param Name		Unit			Unit			Unit			Unit	FinQ		
2,4'-Dicb (PCB 8)		MG/KG_DRYWT	DME		_	DME		MG/KG_DRYWT	DME		MG/KG_DRYWT	D		
2,2',5-Tricb (PCB 18)	0.49654	MG/KG_DRYWT	D	0.00848	MG/KG_DRYWT	D	0.017	MG/KG_DRYWT	D	4.5238	MG/KG_DRYWT	D		
2,4,4'-Tricb (PCB 28)			D			D	0.02937	MG/KG_DRYWT	D		MG/KG_DRYWT	D		
2,2',3,5'-Tetracb (PCB 44)		MG/KG_DRYWT	D			D		MG/KG_DRYWT	D		MG/KG_DRYWT	D		
2,2',5,5'-Tetracb (PCB 52)	0.84896	MG/KG_DRYWT	D	0.01222	MG/KG_DRYWT	D	0.03604	MG/KG_DRYWT	D	9.1118	MG/KG_DRYWT	D		
2,3',4,4'-Tetracb (PCB 66)	0.13959	MG/KG_DRYWT	D	0.00408	MG/KG_DRYWT	D	0.02376	MG/KG_DRYWT	D	1.1834	MG/KG_DRYWT	D		
2,2',4,5,5'-Pentacb (PCB 101)	0.24927	MG/KG_DRYWT	D	0.00554	MG/KG_DRYWT	D	0.03108	MG/KG_DRYWT	D	2.5952	MG/KG_DRYWT	D		
2,3,3',4,4'-Pentacb (PCB 105)	0.03108	MG/KG_DRYWT	D	0.00118	MG/KG_DRYWT	D	0.00881	MG/KG_DRYWT	Dp	0.3079	MG/KG_DRYWT	D		
2,3',4,4',5-Pentacb (PCB 118)	0.17686	MG/KG_DRYWT	D	0.00644	MG/KG_DRYWT	D	0.032	MG/KG_DRYWT	D	1.827	MG/KG_DRYWT	D		
2,2',3,3',4,4'-Hexacb (PCB 128)	0.01669	MG/KG_DRYWT	Dp	0.00101	MG/KG_DRYWT	DU	0.00509	MG/KG_DRYWT	D	0.165	MG/KG_DRYWT	Dp		
2,2',3,4,4',5'-Hexacb (PCB 138)	0.12583	MG/KG_DRYWT	D	0.00178	MG/KG_DRYWT	D	0.02555	MG/KG_DRYWT	D	1.3786	MG/KG_DRYWT	D		
2,2',4,4',5,5'-Hexacb (PCB 153)	0.23808	MG/KG_DRYWT	D		MG/KG_DRYWT	D	0.03335	MG/KG_DRYWT	D	2.6999	MG/KG_DRYWT	D		
2,2',3,3',4,4',5-Heptacb (PCB 170)	0.01012	MG/KG_DRYWT	DU	0.00101	MG/KG_DRYWT	DU	0.00332	MG/KG_DRYWT	Dp	0.1026	MG/KG_DRYWT	DU		
2,2',3,4,4',5,5'-Heptacb (PCB 180)	0.02836	MG/KG_DRYWT	Dp	0.00101	MG/KG_DRYWT	DU	0.00479	MG/KG_DRYWT	Dp	0.3183	MG/KG_DRYWT	Dp		
2,2',3,4',5,5',6-Heptacb (PCB 187)	0.02531	MG/KG_DRYWT	D	0.001	MG/KG_DRYWT	DU	0.00153	MG/KG_DRYWT	Dp	0.3134	MG/KG_DRYWT	Dp		
2,2',3,3',4,4',5,6-Octacb (PCB 195)	0.01012	MG/KG_DRYWT	DU	0.00101	MG/KG_DRYWT	DU	0.00089	MG/KG_DRYWT	DU	0.1026	MG/KG_DRYWT	DU		
2,2',3,3',4,4',5,5',6-Nonacb (PCB 206)		MG/KG_DRYWT	DU		MG/KG_DRYWT	DU		MG/KG_DRYWT	DU		MG/KG_DRYWT	DU		
Decacb - Congener (PCB 209)		MG/KG_DRYWT	DU		MG/KG_DRYWT	DU		MG/KG_DRYWT	DU		MG/KG_DRYWT	DU		
Total MonoCB	0.00492	MG/KG_DRYWT	DJ					-			_			
Total DiCB		MG/KG_DRYWT	D											
Total TriCB		MG/KG_DRYWT	D											
Total TetraCB			D											
Total PentaCB			D						1			1 1		
Total HexaCB			D											
Total HeptaCB		MG/KG_DRYWT	D											
Total OctaCB		MG/KG_DRYWT	DU											
Total NonaCB		MG/KG_DRYWT	DÜ											
DecaCB		MG/KG_DRYWT	DU									+		
Total PCB Congeners (sum CONG x 2.6)		MG/KG_DRYWT		0.16	MG/KG_DRYWT		0.72	MG/KG_DRYWT		93	MG/KG_DRYWT			
Total PCB Homologues (sum HOM)	11	MG/KG_DRYWT												

Station ID	C006 -03	8		C006 -039	C006 -039			10		C006 -048			
Collected		11/	8/2006	3	11/6/2006			11/	6/2006	6 11/6/2006			
Fraction	TOTAL		TOTAL			TOTAL			TOTAL				
QC Code	SA		SA			SA			SA				
Sample ID	_	006038-00-05			06039-00-05			006040-00-05			C006048-00-05		
Param Name	Result	Unit	FinQ	Result	Unit	FinQ	Result	Unit	FinQ	Result	Unit	FinQ	
2,4'-Dicb (PCB 8)		MG/KG_DRYWT	DME	0.32948	MG/KG_DRYWT	D			D		MG/KG_DRYWT	D	
2,2',5-Tricb (PCB 18)	0.08765	MG/KG_DRYWT	D	0.71267	MG/KG_DRYWT	D	3.58273	MG/KG_DRYWT	D	4.9156	MG/KG_DRYWT	D	
2,4,4'-Tricb (PCB 28)	0.13815	MG/KG_DRYWT	D	0.90014	MG/KG_DRYWT	D	3.55414	MG/KG_DRYWT	D	7.0581	MG/KG_DRYWT	D	
2,2',3,5'-Tetracb (PCB 44)	0.04969	MG/KG_DRYWT	D	0.40169	MG/KG_DRYWT	D	1.30759	MG/KG_DRYWT	D	3.1449	MG/KG_DRYWT	D	
2,2',5,5'-Tetracb (PCB 52)	0.19262	MG/KG_DRYWT	D	1.32295	MG/KG_DRYWT	D	4.70769	MG/KG_DRYWT	D	9.7601	MG/KG_DRYWT	D	
2,3',4,4'-Tetracb (PCB 66)	0.02011	MG/KG_DRYWT	D	0.15537	MG/KG_DRYWT	D	0.44133	MG/KG_DRYWT	D	1.3568	MG/KG_DRYWT	D	
2,2',4,5,5'-Pentacb (PCB 101)	0.04385	MG/KG_DRYWT	D	0.30953	MG/KG_DRYWT	D	0.88407	MG/KG_DRYWT	D	2.7937	MG/KG_DRYWT	D	
2,3,3',4,4'-Pentacb (PCB 105)	0.01105	MG/KG_DRYWT	D	0.0163	MG/KG_DRYWT	D	0.17116	MG/KG_DRYWT	D	0.437	MG/KG_DRYWT	D	
2,3',4,4',5-Pentacb (PCB 118)	0.03383	MG/KG_DRYWT	D	0.22586	MG/KG_DRYWT	D			D		MG/KG_DRYWT	D	
2,2',3,3',4,4'-Hexacb (PCB 128)	0.01022	MG/KG_DRYWT	DU	0.00884	MG/KG_DRYWT	DJ	0.09564	MG/KG_DRYWT	DU	0.2147	MG/KG_DRYWT	Dp	
2,2',3,4,4',5'-Hexacb (PCB 138)	0.02706	MG/KG_DRYWT	Dp	0.20847	MG/KG_DRYWT	D	0.4671	MG/KG_DRYWT	D		MG/KG_DRYWT	D	
2,2',4,4',5,5'-Hexacb (PCB 153)		MG/KG_DRYWT	D	0.33756	MG/KG_DRYWT	D			D		MG/KG_DRYWT	D	
2,2',3,3',4,4',5-Heptacb (PCB 170)		MG/KG_DRYWT	DU			DU			DU		MG/KG_DRYWT	DU	
2,2',3,4,4',5,5'-Heptacb (PCB 180)		MG/KG_DRYWT	DU			Dp			DU		MG/KG_DRYWT	Dp	
2,2',3,4',5,5',6-Heptacb (PCB 187)	0.00116	MG/KG_DRYWT	DpJ	0.03941	MG/KG_DRYWT	D.			DU	0.2974	MG/KG_DRYWT	Dp	
2,2',3,3',4,4',5,6-Octacb (PCB 195)	0.01022	MG/KG_DRYWT	DU	0.01004	MG/KG_DRYWT	DU	0.09564	MG/KG_DRYWT	DU	0.1117	MG/KG_DRYWT	DU	
2,2',3,3',4,4',5,5',6-Nonacb (PCB 206)	0.01012	MG/KG_DRYWT	DU	0.00994	MG/KG_DRYWT	DU	0.0947	MG/KG_DRYWT	DU	0.1106	MG/KG_DRYWT	DU	
Decacb - Congener (PCB 209)		MG/KG_DRYWT	DU			DU			DU		MG/KG_DRYWT	DU	
Total MonoCB													
Total DiCB						1						1	
Total TriCB													
Total TetraCB						1						1	
Total PentaCB						1						1	
Total HexaCB	1											1	
Total HeptaCB	1											1	
Total OctaCB						İ				Ì			
Total NonaCB	1											1	
DecaCB	1											1	
	1											1	
Total PCB Congeners (sum CONG x 2.6)	1.8	MG/KG_DRYWT		13	MG/KG_DRYWT		47	MG/KG_DRYWT		100	MG/KG_DRYWT		
Total PCB Homologues (sum HOM)													

Station ID	C006 -049		C006 -055			C006 -062			06-NWS-33				
Collected		11/	6/2006		11/7/2006			11/	7/2006	11/15/2006			
Fraction	TOTAL		TOTAL			TOTAL			TOTAL				
QC Code	SA		SA	SA					SA				
Sample ID		06049-00-05			006055-00-05			006062-00-05		S-06D-06NWS33-00-05			
·													
Param Name	Result	Unit	FinQ	Result	Unit	FinQ	Result	Unit	FinQ	Result	Unit	FinQ	
2,4'-Dicb (PCB 8)	0.37667	MG/KG_DRYWT	DME	0.249	MG/KG_DRYWT	D	2.0141	MG/KG_DRYWT	D	0.0007	MG/KG_DRYWT	DME	
2,2',5-Tricb (PCB 18)	0.66962	MG/KG_DRYWT	D	0.52599	MG/KG_DRYWT	D	3.6466	MG/KG_DRYWT	D	0.0006	MG/KG_DRYWT	D	
2,4,4'-Tricb (PCB 28)	0.87857	MG/KG_DRYWT	D	0.68314	MG/KG_DRYWT	D	3.1674	MG/KG_DRYWT	D	0.00114	MG/KG_DRYWT	D	
2,2',3,5'-Tetracb (PCB 44)	0.34302	MG/KG_DRYWT	D	0.32009	MG/KG_DRYWT	D	0.6755	MG/KG_DRYWT	D	0.00017	MG/KG_DRYWT	DJ	
2,2',5,5'-Tetracb (PCB 52)	1.03535	MG/KG_DRYWT	D	0.94872	MG/KG_DRYWT	D	4.0954	MG/KG_DRYWT	D	0.00135	MG/KG_DRYWT	Dp	
2,3',4,4'-Tetracb (PCB 66)	0.15605	MG/KG_DRYWT	D	0.12038	MG/KG_DRYWT	D	0.1288	MG/KG_DRYWT	D	0.00059	MG/KG_DRYWT	Dp	
2,2',4,5,5'-Pentacb (PCB 101)	0.29094	MG/KG_DRYWT	D	0.23872	MG/KG_DRYWT	D	0.446	MG/KG_DRYWT	D	0.00036	MG/KG_DRYWT	D	
2,3,3',4,4'-Pentacb (PCB 105)	0.03173	MG/KG_DRYWT	D	0.01035	MG/KG_DRYWT	D	0.0704	MG/KG_DRYWT	D	0.0003	MG/KG_DRYWT	DU	
2,3',4,4',5-Pentacb (PCB 118)	0.19881	MG/KG_DRYWT	D	0.17262	MG/KG_DRYWT	D	0.257	MG/KG_DRYWT	D	0.0006	MG/KG_DRYWT	Dp	
2,2',3,3',4,4'-Hexacb (PCB 128)		MG/KG_DRYWT	DU			DpJ			DU		MG/KG_DRYWT	DU	
2,2',3,4,4',5'-Hexacb (PCB 138)		MG/KG_DRYWT	D		MG/KG_DRYWT	D		_	Dp		MG/KG_DRYWT	DU	
2,2',4,4',5,5'-Hexacb (PCB 153)		MG/KG_DRYWT	D		MG/KG_DRYWT	D		_	D		MG/KG_DRYWT	DU	
2,2',3,3',4,4',5-Heptacb (PCB 170)		MG/KG_DRYWT	DpJ			DU			DU		MG/KG_DRYWT	DU	
2,2',3,4,4',5,5'-Heptacb (PCB 180)		MG/KG_DRYWT	DÜ		MG/KG_DRYWT	Dp			DU			DU	
2,2',3,4',5,5',6-Heptacb (PCB 187)		MG/KG_DRYWT	Dp		MG/KG_DRYWT	D		_	Dp		MG/KG_DRYWT	DU	
2,2',3,3',4,4',5,6-Octacb (PCB 195)		MG/KG_DRYWT	DU		MG/KG_DRYWT	DU			DU		MG/KG_DRYWT	DU	
2,2',3,3',4,4',5,5',6-Nonacb (PCB 206)		MG/KG_DRYWT	DÜ		MG/KG_DRYWT	DU			DÜ		MG/KG DRYWT	DU	
Decacb - Congener (PCB 209)		MG/KG DRYWT	DU		MG/KG DRYWT	DU			DÜ		MG/KG DRYWT	DU	
Total MonoCB		_			_			_			_		
Total DiCB													
Total TriCB													
Total TetraCB													
Total PentaCB													
Total HexaCB													
Total HeptaCB													
Total OctaCB													
Total NonaCB									t			1	
DecaCB												1	
Total PCB Congeners (sum CONG x 2.6)	12	MG/KG_DRYWT		9.6	MG/KG_DRYWT		40	MG/KG_DRYWT		0.014	MG/KG_DRYWT		
Total PCB Homologues (sum HOM)													

Station ID	06-NWS-3	34	06-NWS-35			06-NWS-36			06-NWS-37				
Collected		11/	7/2006		11/6/2006			11/6/2006			6 11/7/2006		
Fraction	TOTAL			TOTAL			TOTAL			TOTAL			
QC Code	SA			SA	SA					SA			
Sample ID	S-06D-06I	NWS34-00-05		S-06D-06	NWS35-00-05		S-06D-06	NWS36-00-05		S-06D-06N	WS37-00-05		
Param Name		Unit	FinQ	Result				Unit	FinQ		Unit	FinQ	
2,4'-Dicb (PCB 8)	0.11017	MG/KG_DRYWT	DME			DME		- · · · -	DME		MG/KG_DRYWT	DME	
2,2',5-Tricb (PCB 18)			D			D		MG/KG_DRYWT			MG/KG_DRYWT	D	
2,4,4'-Tricb (PCB 28)		_	D		MG/KG_DRYWT	Dp		MG/KG_DRYWT			MG/KG_DRYWT	D	
2,2',3,5'-Tetracb (PCB 44)	0.10143	MG/KG_DRYWT	D	0.00589	MG/KG_DRYWT	D	0.00263	MG/KG_DRYWT	D	0.00971	MG/KG_DRYWT	D	
2,2',5,5'-Tetracb (PCB 52)	0.25154	MG/KG_DRYWT	D	0.01414	MG/KG_DRYWT	Dp	0.00996	MG/KG_DRYWT	Dp	0.0186	MG/KG_DRYWT	D	
2,3',4,4'-Tetracb (PCB 66)	0.05957	MG/KG_DRYWT	D	0.00641	MG/KG_DRYWT	D	0.00276	MG/KG_DRYWT	D	0.01585	MG/KG_DRYWT	D	
2,2',4,5,5'-Pentacb (PCB 101)	0.09264	MG/KG_DRYWT	D	0.00769	MG/KG_DRYWT	D	0.00224	MG/KG_DRYWT	D	0.01021	MG/KG_DRYWT	D	
2,3,3',4,4'-Pentacb (PCB 105)	0.0336	MG/KG_DRYWT	D	0.00318	MG/KG_DRYWT	Dp	0.00149	MG/KG_DRYWT	D	0.00373	MG/KG_DRYWT	Dp	
2,3',4,4',5-Pentacb (PCB 118)	0.07742	MG/KG_DRYWT	D	0.00936	MG/KG_DRYWT	D	0.00306	MG/KG_DRYWT	Dp	0.01228	MG/KG_DRYWT	D	
2,2',3,3',4,4'-Hexacb (PCB 128)			Dp			DU		MG/KG_DRYWT			MG/KG_DRYWT	Dp	
2,2',3,4,4',5'-Hexacb (PCB 138)			D			D		MG/KG_DRYWT			MG/KG_DRYWT	D.	
2,2',4,4',5,5'-Hexacb (PCB 153)			D			D		MG/KG_DRYWT			MG/KG_DRYWT	D	
2,2',3,3',4,4',5-Heptacb (PCB 170)			DU		MG/KG_DRYWT	DU		MG/KG_DRYWT			MG/KG_DRYWT	DU	
2,2',3,4,4',5,5'-Heptacb (PCB 180)		_	Dp		MG/KG_DRYWT			MG/KG_DRYWT			MG/KG_DRYWT	Dp	
2,2',3,4',5,5',6-Heptacb (PCB 187)			DpJ			DU		MG/KG_DRYWT			MG/KG_DRYWT	DU	
2,2',3,3',4,4',5,6-Octacb (PCB 195)			DU			DU		MG/KG_DRYWT			MG/KG_DRYWT	DU	
2,2',3,3',4,4',5,5',6-Nonacb (PCB 206)		_	DU			DU		_	DU		MG/KG_DRYWT	DU	
Decacb - Congener (PCB 209)		MG/KG_DRYWT	DU			DU		MG/KG_DRYWT	_		MG/KG_DRYWT	DU	
Total MonoCB			DJ		_			_			_		
Total DiCB		MG/KG_DRYWT	D										
Total TriCB			D										
Total TetraCB			D										
Total PentaCB			D										
Total HexaCB			D										
Total HeptaCB			DU										
Total OctaCB			DU										
Total NonaCB			DU	<u> </u>						<u> </u>			
DecaCB		MG/KG_DRYWT	DU										
	1												
Total PCB Congeners (sum CONG x 2.6)		MG/KG_DRYWT		0.27	MG/KG_DRYWT		0.14	MG/KG_DRYWT		0.35	MG/KG_DRYWT		
Total PCB Homologues (sum HOM)	3.9	MG/KG_DRYWT											

Station ID	06-NWS-3	38	06-NWS-3	06-NWS-39					
Collected		11,	/7/2006	11/7/2006					
Fraction	TOTAL			TOTAL					
QC Code	SA		SA						
Sample ID		NWS38-00-05		NWS39-00-05					
Cample 15	3-00D-00	1444330-00-03	3-00D-00	1444559-00-05					
Param Name	Result	Unit	FinQ	Result	Unit	FinQ			
2,4'-Dicb (PCB 8)	0.00558	MG/KG_DRYWT	DME	0.00188	MG/KG_DRYWT	DME			
2,2',5-Tricb (PCB 18)	0.0079	MG/KG_DRYWT	D	0.00635	MG/KG_DRYWT	D			
2,4,4'-Tricb (PCB 28)	0.00988	MG/KG_DRYWT	D	0.00544	MG/KG_DRYWT	D			
2,2',3,5'-Tetracb (PCB 44)	0.00311	MG/KG_DRYWT	D	0.00153	MG/KG_DRYWT	D			
2,2',5,5'-Tetracb (PCB 52)	0.00969	MG/KG_DRYWT	Dp	0.00611	MG/KG_DRYWT	Dp			
2,3',4,4'-Tetracb (PCB 66)	0.00295	MG/KG_DRYWT	D	0.00209	MG/KG_DRYWT	D			
2,2',4,5,5'-Pentacb (PCB 101)	0.00346	MG/KG_DRYWT	D	0.00128	MG/KG_DRYWT	D			
2,3,3',4,4'-Pentacb (PCB 105)	0.00394	MG/KG_DRYWT	Dp	0.0013	MG/KG_DRYWT	D			
2,3',4,4',5-Pentacb (PCB 118)	0.00422	MG/KG_DRYWT	D	0.00248	MG/KG_DRYWT	Dp			
2,2',3,3',4,4'-Hexacb (PCB 128)	0.00114	MG/KG_DRYWT	DU	0.00102	MG/KG_DRYWT	DU			
2,2',3,4,4',5'-Hexacb (PCB 138)	0.00405	MG/KG_DRYWT	Dp	0.00098	MG/KG_DRYWT	DJ			
2,2',4,4',5,5'-Hexacb (PCB 153)	0.00411	MG/KG_DRYWT	D	0.00206	MG/KG_DRYWT	Dp			
2,2',3,3',4,4',5-Heptacb (PCB 170)	0.00114	MG/KG_DRYWT	DU	0.00102	MG/KG_DRYWT	DU			
2,2',3,4,4',5,5'-Heptacb (PCB 180)	0.00114	MG/KG_DRYWT	DU		MG/KG_DRYWT	DU			
2,2',3,4',5,5',6-Heptacb (PCB 187)	0.00112	MG/KG_DRYWT	DU		MG/KG_DRYWT	DU			
2,2',3,3',4,4',5,6-Octacb (PCB 195)	0.00114	MG/KG_DRYWT	DU	0.00102	MG/KG_DRYWT	DU			
2,2',3,3',4,4',5,5',6-Nonacb (PCB 206)	0.00112	MG/KG_DRYWT	DU	0.00101	MG/KG_DRYWT	DU			
Decacb - Congener (PCB 209)	0.00112	MG/KG_DRYWT	DU	0.00101	MG/KG_DRYWT	DU			
Total MonoCB	0.00078	MG/KG_DRYWT	DJ						
Total DiCB	0.02021	MG/KG_DRYWT	D						
Total TriCB	0.161	MG/KG_DRYWT	D						
Total TetraCB	0.04705	MG/KG_DRYWT	D						
Total PentaCB		MG/KG_DRYWT	D						
Total HexaCB	0.02144	MG/KG_DRYWT	D						
Total HeptaCB	0.00691	MG/KG_DRYWT	D						
Total OctaCB	0.00225	MG/KG_DRYWT	DU						
Total NonaCB	0.00225	MG/KG_DRYWT	DU						
DecaCB	0.00225	MG/KG_DRYWT	DU						
Total PCB Congeners (sum CONG x 2.6)	0.15	MG/KG DRYWT		0.082	MG/KG_DRYWT				
Total PCB Homologues (sum HOM)		MG/KG_DRYWT		0.002	o,rto_bit1W1				
Total 1 OD Homologues (Sum HOW)	0.23	W.O, NO_DIX 1 W 1	<u> </u>						

Qualifiers:

 $\begin{array}{ll} D & & \text{Dilution run. Initial run outside linear range of instrument} \\ J & & \text{Analyte detected below the sample specific reporting limit} \end{array}$

ME Significant Matrix Interference - Estimated value

p The relative percent difference (RPD) between the values obtained from the dual columns is >40%.

U Analyte not detected at 3:1 signal:noise ratio. Reporting limit is reported.

