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Memorandum

To: Scott Alfonse and Cheryl Henlin, City of New Bedford
From: David M. Sullivan, LSP CHMM, TRC Environmental Corporation
CC: Jeffry Saunders, TRC Environmental Corporation
Subject: Summary of Work Completed at Durfee and Summit Streets
Date: March 3, 2010

The following summarizes the procedures and analytical results associated with soil and groundwater sampling conducted by TRC Environmental Corporation (TRC) along the City of New Bedford (the "City") right-of-way (ROW) along Durfee Street and Summit Street in New Bedford, Massachusetts (see Figures 1). The subsurface soil investigation was performed to provide additional site characterization and delineate areas potentially impacted by the Parker Street Waste Site (PSWS). The groundwater sampling program was conducted concurrently by TRC to further evaluate groundwater conditions in the vicinity of the Keith Middle School (KMS) in support of TRC's wetland ecological evaluation. The data collected by TRC supplement data collected previously on behalf of the City by the BETA Group, Incorporated of Norwood, Massachusetts and by TRC in the surrounding area.

Soil Sampling Investigation

The subsurface soil investigation was conducted on December 17 and 18, 2009 and consisted of direct push soil borings using a truck-mounted direct push GeoProbe® drill rig to sample soil and to observe subsurface soil conditions. Drilling services and equipment were provided by New England Geotech, LLC of Jamestown, Rhode Island. Figure 1 illustrates the locations investigated by TRC along the Durfee Street (WSB-11 through WSB-15) and Summit Street (WSB-16 through WSB-19) ROWs using the above-described techniques. The soil boring locations were surveyed by Land Planning, Incorporated of Hanson, Massachusetts following TRC's sampling activities.

The investigative approach was intended to evaluate the presence or absence of fill, the vertical extent of impacts (if any), and the potential presence of impacts in soil and fill material that may be present. Borings were advanced and samples were collected until native overburden was encountered unless refusal was encountered first. Due to shallow refusal at one soil boring location (WSB-17), additional efforts were made to advance the boring to depth. Where native material was submitted for laboratory analysis, two samples of native material were typically collected in borings selected to characterize the native horizon. The lower native sample was retained for analysis contingent upon the results of the upper native horizon analysis in an attempt to delineate the vertical extent of potential impacts exceeding applicable standards, if present. The contingent native material was not analyzed if the native material interval above it was found to be uncontaminated (below cleanup

criteria) based on laboratory analysis or as directed by the TRC Licensed Site Professional (LSP). In this case, analysis of the contingent native samples was not warranted.

TRC conducted field screening of soil samples consisting of visual and olfactory observations, jar headspace readings using an appropriately calibrated photoionization detector (PID), and professional judgment, consistent with TRC Standard Operating Procedures (SOPs) and general industry practice. TRC employed the Massachusetts Department of Environmental Protection (MassDEP) jar headspace technique to screen for the presence of volatile organic compounds (VOCs) in soil. TRC also evaluated and logged the geologic character of the soil samples consistent with the Burmeister method. A subset of soil samples was subjected to chemical analysis at an off-site environmental laboratory. The following table summarizes the soil samples collected by TRC from the Durfee Street and Summit Street ROWs for laboratory analysis:

Summary of Investigation Activities – December 2009					
Location	**Soil Borings**	**Number of Soil Samples Submitted for Laboratory Analysis[1]**	**Analyses[2]**		
			PCBs[3]	**PAHs[4]**	**MCP Metals/Hg[5]**
Durfee Street	5	19 (4)	19	19	19
Summit Street	4	16 (3)	16	16	16

Notes:
[1] Contingency samples held by the laboratory listed in parentheses.
[2]Does not include quality assurance/quality control samples (e.g., duplicates).
[3]Polychlorinated biphenyls (PCBs) as Aroclors by SW-846 Method 8082.
[4]Polyaromatic hydrocarbons (PAHs) by SW-846 Method 8270C.
[5]Massachusetts Contingency Plan (MCP) Metals/Hg - antimony, arsenic, barium, beryllium, cadmium, chromium, lead, nickel, selenium, silver, thallium, vanadium, zinc and mercury by SW-846 Methods 6010B/7471A.

Soil samples for polychlorinated biphenyl (PCB) Aroclor analyses were submitted to Northeast Analytical Laboratories (NEA) of Schenectady, New York. Soil samples for Massachusetts Contingency Plan (MCP) metals and mercury and polyaromatic hydrocarbon (PAH) analyses were submitted to Con-Test Analytical Laboratory of East Longmeadow, Massachusetts. All samples were submitted under chain-of-custody.

The laboratory analytical results are summarized in Table 1. An analytical data map is included as Figure 1.

The subsurface material along both Durfee Street and Summit Street generally consisted of various sized sands and gravels. Limit fill material (trace to some coal and clinkers) was encountered at shallow depths at two of the soil boring locations along Summit Street (WSB-16 and WSB-19). All of the soil borings were screened with a PID using the MassDEP jar headspace method. PID screening results were consistently at background concentrations. Boring logs are included in Appendix A.

Groundwater Investigation

Two of the soil borings advanced within the Summit Street ROW (WSB-16 and WSB-19) were completed as permanent monitoring wells to evaluate groundwater conditions adjacent to the KMS wetland (see Figure 1). The monitoring well locations were surveyed by Land Planning following TRC's installation activities.

The monitoring wells (MW-9 and MW-10) were installed on December 18, 2009 at soil boring locations WSB-16 and WSB-19, respectively. Well construction logs are included in Appendix A. The monitoring wells were subsequently developed on December 21, 2009 using a Whale Mini Purge Pump and dedicated tubing. A LaMotte 2020 turbidity meter as used throughout development to monitor turbidity levels.

Following a stabilization period, TRC collected groundwater samples from the newly installed monitoring wells on January 7, 2010. Groundwater samples were collected following EPA Region I low stress (low flow) sampling guidelines. During purging activities, water quality parameters were monitored using a YSI 600XL Sonde and 650 MDS datalogger and a LaMotte 2020 turbidity meter. Water quality parameters were recorded on groundwater sampling log forms. Groundwater samples were collected after water quality parameters had stabilized in accordance with the low flow guidance.

Groundwater samples for polychlorinated biphenyl (PCB) Aroclor analyses were submitted to NEA of Schenectady, New York. Groundwater samples for total and dissolved (field filtered) MCP metals and mercury were submitted to Con-Test Analytical Laboratory of East Longmeadow, Massachusetts. All samples were submitted under chain-of-custody.

The results of the groundwater sample analysis from MW-9 and MW-10 are summarized in Table 2.

Please contact us if you have an questions.

Table 1
Summary of Analytical Results for Soil Samples - December 2009
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte						Sample ID:	WSB-11					WSB-12				WSB-13			
							Sample Depth (ft.):	0.5-1	1-3	1-3	4-5	7-8	0.5-1	1-3	4-5	7-8	0.5-1	1-3	5-6	7-8
							Sample Date:	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA			Field Dup										
PAHs																				
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Acenaphthylene	600	10	600	10	1	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Benz[a]anthracene	7	7	40	40	7	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Benzo[a]pyrene	2	2	4	4	2	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Benzo[b]fluoranthene	7	7	40	40	7	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Benzo[g,h,i]perylene	1,000	1,000	3,000	3,000	1,000	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Benzo[k]fluoranthene	70	70	400	400	70	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Chrysene	70	70	400	400	70	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Dibenz[a,h]anthracene	0.7	0.7	4	4	0.7	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Indeno[1,2,3-cd]pyrene	7	7	40	40	7	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Naphthalene	40	500	40	1,000	4	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Phenanthrene	500	500	1,000	1,000	10	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
PCB Aroclors																				
(mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0547 U	0.0526 U	0.0513 U	0.0574 U	0.0535 U	0.0523 U	0.0519 U	0.0566 U	0.0526 U	0.0516 U	0.0514 U	0.0564 U	0.0529 U
	Aroclor 1221	2	2	3	3	2	1	0.0547 U	0.0526 U	0.0513 U	0.0574 U	0.0535 U	0.0523 U	0.0519 U	0.0566 U	0.0526 U	0.0516 U	0.0514 U	0.0564 U	0.0529 U
	Aroclor 1232	2	2	3	3	2	1	0.0547 U	0.0526 U	0.0513 U	0.0574 U	0.0535 U	0.0523 U	0.0519 U	0.0566 U	0.0526 U	0.0516 U	0.0514 U	0.0564 U	0.0529 U
	Aroclor 1242	2	2	3	3	2	1	0.0547 U	0.0526 U	0.0513 U	0.0574 U	0.0535 U	0.0523 U	0.0519 U	0.0566 U	0.0526 U	0.0516 U	0.0514 U	0.0564 U	0.0529 U
	Aroclor 1248	2	2	3	3	2	1	0.0547 U	0.0526 U	0.0513 U	0.0574 U	0.0535 U	0.0523 U	0.0519 U	0.0566 U	0.0526 U	0.0516 U	0.0514 U	0.0564 U	0.0529 U
	Aroclor 1254	2	2	3	3	2	1	0.0547 U	0.0526 U	0.0513 U	0.0574 U	0.0535 U	0.0523 U	0.0519 U	0.0566 U	0.0526 U	0.0516 U	0.0514 U	0.0564 U	0.0529 U
	Aroclor 1260	2	2	3	3	2	1	0.0547 U	0.0526 U	0.0513 U	0.0574 U	0.0535 U	0.0523 U	0.0519 U	0.0566 U	0.0526 U	0.0516 U	0.0514 U	0.0564 U	0.0529 U
	Total PCBs	2	2	3	3	2	1	0.0547 U	0.0526 U	0.0513 U	0.0574 U	0.0535 U	0.0523 U	0.0519 U	0.0566 U	0.0526 U	0.0516 U	0.0514 U	0.0564 U	0.0529 U
Metals																				
(mg/kg)	Antimony	20	20	30	30	20	N/A	4.4 U	4.3 U	4.1 U	4.5 U	4.4 U	4.2 U	4.2 U	4.5 U	4.5 U	4.2 U	4.3 U	4.5 U	4.3 U
	Arsenic	20	20	20	20	20	N/A	**3.2**	**2.9**	2.6 U	2.8 U	2.8 U	2.6 U	**3.3**	2.8 U	2.8 U	2.6 U	**3.0**	2.8 U	2.7 U
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	**11**	**17**	**14**	5.6 U	**10**	**6.6**	**18**	**14**	**14**	**29**	**14**	**12**	**10**
	Beryllium	100	100	200	200	100	N/A	0.27 U	0.27 U	0.26 U	0.28 U	0.28 U	0.26 U	0.26 U	0.28 U	0.28 U	0.26 U	0.27 U	0.28 U	0.27 U
	Cadmium	2	2	30	30	2	N/A	0.27 U	0.27 U	0.26 U	0.28 U	0.28 U	0.26 U	0.26 U	0.28 U	0.28 U	0.26 U	0.27 U	0.28 U	0.27 U
	Chromium	30	30	200	200	30	N/A	**4.9**	**5.1**	**4.0**	**2.3**	**2.7**	**2.8**	**5.2**	**6.0**	**2.3**	**5.5**	**5.1**	**4.9**	**2.4**
	Lead	300	300	300	300	300	N/A	**13**	**13**	**10**	**3.3**	**5.4**	**4.7**	**5.6**	**10**	**4.2**	**4.9**	**8.8**	**18**	**3.8**
	Nickel	20	20	700	700	20	N/A	**3.5**	**3.6**	**3.3**	**1.7**	**2.4**	**2.2**	**4.1**	**3.1**	**2.1**	**4.8**	**4.0**	**2.5**	**1.7**
	Selenium	400	400	800	800	400	N/A	5.5 U	5.4 U	5.2 U	5.6 U	5.5 U	5.3 U	5.3 U	5.6 U	5.6 U	5.2 U	5.3 U	5.6 U	5.4 U
	Silver	100	100	200	200	100	N/A	0.55 U	0.54 U	0.52 U	0.56 U	0.55 U	0.53 U	0.53 U	0.56 U	0.56 U	0.52 U	0.53 U	0.56 U	0.54 U
	Thallium	8	8	60	60	8	N/A	3.3 U	3.2 U	3.1 U	3.4 U	3.3 U	3.2 U	3.2 U	3.4 U	3.4 U	3.1 U	3.2 U	3.3 U	3.3 U
	Vanadium	600	600	1,000	1,000	600	N/A	**9.8**	**9.3**	**6.3**	5.6 U	5.5 U	5.3 U	**9.8**	**7.3**	5.6 U	**8.1**	**8.8**	**6.1**	5.4 U
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	**15**	**15**	**20 B**	**11 B**	**11 B**	**15**	**14**	**12**	**8.1**	**19**	**12**	**11**	**6.9**
	Mercury	20	20	30	30	20	N/A	0.020 U	0.023 U	0.021 U	0.017 U	**0.047**	0.015 U	0.019 U	**0.031**	0.017 U	0.019 U	0.026 U	**0.017**	0.022 U

Notes:

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

B - Compound detected in associated method blank

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

U - Compound was not detected at specified quantitation limit.

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

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

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

PAHs - Polynuclear Aromatic Hydrocarbons.

PCB - Polychlorinated Biphenyl.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

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

** - For reference purpose only.

Table 1
Summary of Analytical Results for Soil Samples - December 2009
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte						Sample ID:	WSB-14			WSB-15				WSB-16			
							Sample Depth (ft.):	1-3	4-5	7-8	0.5-1	1-3	4-5	7-8	0.5-1	1-3	4-5	7-8
							Sample Date:	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/18/2009	12/18/2009	12/18/2009	12/18/2009
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA											
PAHs																		
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	0.37 U	0.39 U	0.39 U	0.19 U
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	0.37 U	0.39 U	0.39 U	0.19 U
	Acenaphthylene	600	10	600	10	1	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**0.38**	0.39 U	0.39 U	0.19 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	0.37 U	0.39 U	0.39 U	0.19 U
	Benz[a]anthracene	7	7	40	40	7	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**1.7**	0.39 U	0.39 U	0.19 U
	Benzo[a]pyrene	2	2	4	4	2	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**2.2**	0.39 U	0.39 U	0.19 U
	Benzo[b]fluoranthene	7	7	40	40	7	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**2.6**	0.39 U	0.39 U	0.19 U
	Benzo[g,h,i]perylene	1,000	1,000	3,000	3,000	1,000	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**1.0**	0.39 U	0.39 U	0.19 U
	Benzo[k]fluoranthene	70	70	400	400	70	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**1.1**	0.39 U	0.39 U	0.19 U
	Chrysene	70	70	400	400	70	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**1.9**	0.39 U	0.39 U	0.19 U
	Dibenz[a,h]anthracene	0.7	0.7	4	4	0.7	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	0.37 U	0.39 U	0.39 U	0.19 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**2.3**	0.39 U	0.39 U	0.19 U
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	0.37 U	0.39 U	0.39 U	0.19 U
	Indeno[1,2,3-cd]pyrene	7	7	40	40	7	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**1.3**	0.39 U	0.39 U	0.19 U
	Naphthalene	40	500	40	1,000	4	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	0.37 U	0.39 U	0.39 U	0.19 U
	Phenanthrene	500	500	1,000	1,000	10	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**1.5**	0.39 U	0.39 U	0.19 U
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.20 U	0.20 U	**2.4**	0.39 U	0.39 U	0.19 U
PCB Aroclors																		
(mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0517 U	0.0577 U	0.0522 U	0.0530 U	0.0509 U	0.0586 U	0.0571 U	0.0543 U	0.173 U	0.0572 U	0.0558 U
	Aroclor 1221	2	2	3	3	2	1	0.0517 U	0.0577 U	0.0522 U	0.0530 U	0.0509 U	0.0586 U	0.0571 U	0.0543 U	0.173 U	0.0572 U	0.0558 U
	Aroclor 1232	2	2	3	3	2	1	0.0517 U	0.0577 U	0.0522 U	0.0530 U	0.0509 U	0.0586 U	0.0571 U	0.0543 U	0.173 U	0.0572 U	0.0558 U
	Aroclor 1242	2	2	3	3	2	1	0.0517 U	0.0577 U	0.0522 U	0.0530 U	0.0509 U	0.0586 U	0.0571 U	0.0543 U	0.173 U	0.0572 U	0.0558 U
	Aroclor 1248	2	2	3	3	2	1	0.0517 U	0.0577 U	0.0522 U	0.0530 U	0.0509 U	0.0586 U	0.0571 U	0.0543 U	0.173 U	0.0572 U	0.0558 U
	Aroclor 1254	2	2	3	3	2	1	0.0517 U	0.0577 U	0.0522 U	0.0530 U	0.0509 U	0.0586 U	0.0571 U	**0.864 ***	**4.69 ***	**0.0660 ***	0.0558 U
	Aroclor 1260	2	2	3	3	2	1	0.0517 U	0.0577 U	0.0522 U	0.0530 U	0.0509 U	0.0586 U	0.0571 U	0.0543 U	0.173 U	0.0572 U	0.0558 U
	Total PCBs	2	2	3	3	2	1	0.0517 U	0.0577 U	0.0522 U	0.0530 U	0.0509 U	0.0586 U	0.0571 U	**0.864**	**4.69**	**0.0660 ***	0.0558 U
Metals																		
(mg/kg)	Antimony	20	20	30	30	20	N/A	4.2 U	4.5 U	4.3 U	4.2 U	4.1 U	4.7 U	4.7 U	4.4 U	4.5 U	4.6 U	4.4 U
	Arsenic	20	20	20	20	20	N/A	**3.1**	2.8 U	**3.0**	**2.8**	**3.3**	3.0 U	**3.7**	**5.9**	2.8 U	2.9 U	**3.2**
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	**17**	**9.9**	**45**	**9.4**	**10**	**8.1**	**29**	**63**	**18**	**15**	**11**
	Beryllium	100	100	200	200	100	N/A	0.26 U	0.28 U	0.27 U	0.26 U	0.26 U	0.30 U	0.29 U	0.27 U	1.4 U	0.29 U	0.27 U
	Cadmium	2	2	30	30	2	N/A	0.26 U	0.28 U	0.27 U	0.26 U	0.26 U	0.30 U	0.29 U	0.27 U	0.28 U	0.29 U	0.27 U
	Chromium	30	30	200	200	30	N/A	**5.4**	**6.6**	**7.9**	**7.5**	**5.1**	**4.3**	**30**	**37**	**10**	**8.4**	**5.3**
	Lead	300	300	300	300	300	N/A	**5.8**	**5.2**	**1.7**	**11**	**1.8**	**1.4**	**2.4**	**37**	**8.2**	**4.2**	**3.0**
	Nickel	20	20	700	700	20	N/A	**3.8**	**2.3**	**5.7**	**2.9**	**2.3**	**2.2**	**13**	**16**	**7.6**	**4.2**	**4.3**
	Selenium	400	400	800	800	400	N/A	5.3 U	5.7 U	5.3 U	5.2 U	5.1 U	5.9 U	5.8 U	5.5 U	5.6 U	5.7 U	5.5 U
	Silver	100	100	200	200	100	N/A	0.53 U	0.57 U	0.53 U	0.52 U	0.51 U	0.59 U	0.58 U	0.55 U	0.56 U	0.57 U	0.55 U
	Thallium	8	8	60	60	8	N/A	3.2 U	3.4 U	3.2 U	3.1 U	3.1 U	3.6 U	3.5 U	3.3 U	3.4 U	3.4 U	3.3 U
	Vanadium	600	600	1,000	1,000	600	N/A	**8.8**	5.7 U	**12**	**7.6**	**8.9**	**6.0**	**24**	**28**	**21**	**12**	**9.0**
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	**14**	**9.2**	**12**	**21**	**14**	**12**	**26**	**38**	**28 B**	**15**	**9.8**
	Mercury	20	20	30	30	20	N/A	0.020 U	0.019 U	0.018 U	**0.026**	0.013 U	0.016 U	0.016 U	**0.098**	**0.025**	0.013 U	0.021 U

Notes:

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

B - Compound detected in associated method blank

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

U - Compound was not detected at specified quantitation limit.

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

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

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

PAHs - Polynuclear Aromatic Hydrocarbons.

PCB - Polychlorinated Biphenyl.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

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

** - For reference purpose only.

Table 1
Summary of Analytical Results for Soil Samples - December 2009
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte						Sample ID:	WSB-17				WSB-18					WSB-19			
							Sample Depth (ft.):	0.5-1	1-3	4-5	7-8	0.5-1	1-3	1-3	4-5	7-8	0.5-1	1-3	4-5	7-8
							Sample Date:	12/17/2009	12/17/2009	12/18/2009	12/18/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/18/2009	12/18/2009	12/18/2009	12/18/2009
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	RC S-1**	TSCA							Field Dup						
PAHs																				
	2-Methylnaphthalene	80	300	80	500	0.7	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	0.20 U	0.20 U	0.20 U	0.20 U
	Acenaphthene	1,000	1,000	3,000	3,000	4	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	0.20 U	0.20 U	0.20 U	0.20 U
	Acenaphthylene	600	10	600	10	1	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	0.20 U	0.20 U	0.20 U	0.20 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	0.20 U	0.20 U	0.20 U	0.20 U
	Benz[a]anthracene	7	7	40	40	7	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	**0.83**	0.20 U	0.20 U	0.20 U
	Benzo[a]pyrene	2	2	4	4	2	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	**0.88**	0.20 U	0.20 U	0.20 U
	Benzo[b]fluoranthene	7	7	40	40	7	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	**1.2**	0.20 U	0.20 U	0.20 U
	Benzo[g,h,i]perylene	1,000	1,000	3,000	3,000	1,000	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	**0.45**	0.20 U	0.20 U	0.20 U
	Benzo[k]fluoranthene	70	70	400	400	70	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	**0.45**	0.20 U	0.20 U	0.20 U
	Chrysene	70	70	400	400	70	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	**0.91**	0.20 U	0.20 U	0.20 U
	Dibenz[a,h]anthracene	0.7	0.7	4	4	0.7	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	0.20 U	0.20 U	0.20 U	0.20 U
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	**2.0**	0.20 U	0.20 U	0.20 U
	Fluorene	1,000	1,000	3,000	3,000	1,000	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	0.20 U	0.20 U	0.20 U	0.20 U
	Indeno[1,2,3-cd]pyrene	7	7	40	40	7	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	**0.52**	0.20 U	0.20 U	0.20 U
	Naphthalene	40	500	40	1,000	4	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	0.20 U	0.20 U	0.20 U	0.20 U
	Phenanthrene	500	500	1,000	1,000	10	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	**0.78**	0.20 U	0.20 U	0.20 U
	Pyrene	1,000	1,000	3,000	3,000	1,000	N/A	0.18 U	0.38 U	0.19 U	0.19 U	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U	**1.5**	0.20 U	0.20 U	0.20 U
PCB Aroclors																				
(mg/kg)	Aroclor 1016	2	2	3	3	2	1	0.0539 U	0.0530 U	0.0509 U	0.0535 U	0.0544 U	0.0560 U	0.0562 U	0.0538 U	0.0538 U	0.0561 U	0.0594 U	0.0600 U	0.0587 U
	Aroclor 1221	2	2	3	3	2	1	0.0539 U	0.0530 U	0.0509 U	0.0535 U	0.0544 U	0.0560 U	0.0562 U	0.0538 U	0.0538 U	0.0561 U	0.0594 U	0.0600 U	0.0587 U
	Aroclor 1232	2	2	3	3	2	1	0.0539 U	0.0530 U	0.0509 U	0.0535 U	0.0544 U	0.0560 U	0.0562 U	0.0538 U	0.0538 U	0.0561 U	0.0594 U	0.0600 U	0.0587 U
	Aroclor 1242	2	2	3	3	2	1	0.0539 U	0.0530 U	0.0509 U	0.0535 U	0.0544 U	0.0560 U	0.0562 U	0.0538 U	0.0538 U	0.0561 U	0.0594 U	0.0600 U	0.0587 U
	Aroclor 1248	2	2	3	3	2	1	0.0539 U	0.0530 U	0.0509 U	0.0535 U	0.0544 U	0.0560 U	0.0562 U	0.0538 U	0.0538 U	0.0561 U	0.0594 U	0.0600 U	0.0587 U
	Aroclor 1254	2	2	3	3	2	1	0.0539 U	**0.348** *	0.0509 U	0.0535 U	0.0544 U	0.0560 U	**0.136** *	0.0538 U	0.0538 U	**1.37** *	**0.136** *	0.0600 U	0.0587 U
	Aroclor 1260	2	2	3	3	2	1	0.0539 U	0.0530 U	0.0509 U	0.0535 U	0.0544 U	0.0560 U	0.0562 U	0.0538 U	0.0538 U	0.0561 U	0.0594 U	0.0600 U	0.0587 U
	Total PCBs	2	2	3	3	2	1	0.0539 U	**0.348**	0.0509 U	0.0535 U	0.0544 U	0.0560 U	**0.136**	0.0538 U	0.0538 U	**1.37**	**0.136**	0.0600 U	0.0587 U
Metals																				
(mg/kg)	Antimony	20	20	30	30	20	N/A	4.2 U	4.6 U	4.4 U	4.4 U	4.3 U	4.7 U	4.6 U	4.3 U	4.4 U	4.8 U	4.7 U	4.8 U	4.7 U
	Arsenic	20	20	20	20	20	N/A	**3.1**	2.9 U	**6.2**	2.8 U	**2.7**	**3.4**	**3.3**	2.7 U	2.7 U	**4.8**	**4.9**	**4.4**	**5.7**
	Barium	1,000	1,000	3,000	3,000	1,000	N/A	**97**	**29**	**16**	**7.7**	**87**	**18**	**18**	**5.6**	**17**	**41**	**19**	**11**	**14**
	Beryllium	100	100	200	200	100	N/A	1.3 U	1.4 U	0.28 U	0.28 U	1.3 U	1.5 U	1.4 U	0.27 U	1.4 U	0.30 U	0.29 U	0.30 U	0.29 U
	Cadmium	2	2	30	30	2	N/A	0.26 U	0.29 U	0.28 U	0.28 U	0.27 U	0.30 U	0.29 U	0.27 U	0.27 U	0.30 U	0.29 U	0.30 U	0.29 U
	Chromium	30	30	200	200	30	N/A	**67**	**14**	**7.4**	**4.7**	**50**	**10**	**8.3**	**3.2**	**8.9**	**15**	**11**	**8.9**	**14**
	Lead	300	300	300	300	300	N/A	**5.2**	**29**	**3.3**	**1.8**	**8.5**	**26**	**24**	**2.0**	**3.1**	**120**	**27**	**8.6**	**7.1**
	Nickel	20	20	700	700	20	N/A	**30**	**7.7**	**5.7**	**2.4**	**22**	**5.6**	**4.7**	**2.7**	**6.6**	**6.1**	**5.3**	**4.4**	**7.3**
	Selenium	400	400	800	800	400	N/A	5.3 U	5.7 U	5.5 U	5.5 U	5.3 U	5.9 U	5.7 U	5.4 U	5.5 U	5.9 U	5.8 U	6.0 U	5.9 U
	Silver	100	100	200	200	100	N/A	0.53 U	0.57 U	0.55 U	0.55 U	0.53 U	0.59 U	0.57 U	0.54 U	0.55 U	0.59 U	0.58 U	0.60 U	0.59 U
	Thallium	8	8	60	60	8	N/A	3.2 U	3.4 U	3.3 U	3.3 U	3.2 U	3.6 U	3.4 U	3.2 U	3.3 U	3.6 U	3.5 U	3.6 U	3.5 U
	Vanadium	600	600	1,000	1,000	600	N/A	**38**	**16**	**16**	**5.9**	**35**	**19**	**17**	5.4 U	**10**	**19**	**18**	**14**	**20**
	Zinc	2,500	2,500	3,000	3,000	2,500	N/A	**40 B**	**28 B**	**18**	**12**	**45 B**	**28 B**	**24 B**	**10 B**	**24 B**	**43**	**23**	**24**	**35**
	Mercury	20	20	30	30	20	N/A	0.020 U	**0.034**	0.020 U	0.017 U	0.023 U	**0.11**	**0.069**	0.022 U	0.017 U	**0.10**	**0.057**	**0.042**	**0.033**

Notes:

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

B - Compound detected in associated method blank

NA - Sample not analyzed for the listed analyte.

N/A - Not applicable.

U - Compound was not detected at specified quantitation limit.

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

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

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

PAHs - Polynuclear Aromatic Hydrocarbons.

PCB - Polychlorinated Biphenyl.

RC - Reportable Concentration.

TSCA - Toxic Substances Control Act criteria.

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

** - For reference purpose only.

Summary of Analytical Results for Groundwater Samples -- January 2010
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:		MW-9				MW-10	
		Sample Date:		1/7/2010		1/7/2010		1/7/2010	
		GW-2	GW-3			Field Dup			
PCBs									
(ug/L)	Aroclor 1016	5	10	0.0510	U	0.0505	U	0.0500	U
	Aroclor 1221	5	10	0.0510	U	0.0505	U	0.0500	U
	Aroclor 1232	5	10	0.0510	U	0.0505	U	0.0500	U
	Aroclor 1242	5	10	**0.0495**	**J**	**0.0500**	**J**	0.0500	U
	Aroclor 1248	5	10	0.0510	U	0.0505	U	0.0500	U
	Aroclor 1254	5	10	**0.0235**	**J**	**0.0311**	**J**	0.0500	U
	Aroclor 1260	5	10	0.0510	U	0.0505	U	0.0500	U
	Total PCBs	5	10	**0.0730**	**J**	**0.0811**	**J**	0.0500	U
Metals, dissolved									
(ug/L)	Antimony	NS	8,000	40	U	40	U	40	U
	Arsenic	NS	900	**8.2**		**10**		5.0	U
	Barium	NS	50,000	**330**		**340**		50	U
	Beryllium	NS	200	2.5	U	2.5	U	2.5	U
	Cadmium	NS	4	2.5	U	2.5	U	2.5	U
	Chromium	NS	300	5.0	U	5.0	U	5.0	U
	Lead	NS	10	7.5	U	7.5	U	7.5	U
	Mercury	NS	20	0.10	U	0.10	U	0.10	U
	Nickel	NS	200	**6.7**		**6.8**		5.0	U
	Selenium	NS	100	25	U	25	U	25	U
	Silver	NS	7	2.5	U	2.5	U	2.5	U
	Thallium	NS	3,000	30	U	30	U	30	U
	Vanadium	NS	4,000	25	U	25	U	25	U
	Zinc	NS	900	**99**		**94**		**17**	
	Antimony	NS	8,000	40	U	40	U	40	U
Metals, total									
(ug/L)	Arsenic	NS	900	**8.9**		**9.1**		5.0	U
	Barium	NS	50,000	**360**		**360**		50	U
	Beryllium	NS	200	2.5	U	2.5	U	2.5	U
	Cadmium	NS	4	2.5	U	2.5	U	2.5	U
	Chromium	NS	300	5.0	U	5.0	U	5.0	U
	Lead	NS	10	7.5	U	7.5	U	7.5	U
	Mercury	NS	20	0.10	U	0.10	U	0.10	U

Summary of Analytical Results for Groundwater Samples -- January 2010
Keith Middle School
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:		MW-9		MW-10
		Sample Date:		1/7/2010	1/7/2010	1/7/2010
		GW-2	GW-3		Field Dup	
	Nickel	NS	200	**7.1**	**6.8**	5.0 U
	Selenium	NS	100	25 U	25 U	25 U
	Silver	NS	7	2.5 U	2.5 U	2.5 U
	Thallium	NS	3,000	30 U	30 U	30 U
	Vanadium	NS	4,000	25 U	25 U	25 U
	Zinc	NS	900	**100**	**130**	**16**

Notes:

ug/L - micrograms per liter.

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

NS - No MassDEP standards exist for this compound.

U - Compound was not detected at specified quantitation limit.

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

Values shown in Bold and shaded type exceed one or more of the list

WSB-13 12/17/09 Constituent	0.50 – 1.00	1.00 – 3.00	5.00 – 6.00	7.00 – 8.00
BAP	0.18 U	0.18 U	0.19 U	0.18 U
Total PCBs	0.0516 U	0.0514 U	0.0564 U	0.0529 U
Arsenic	2.6 U	3.0	2.8 U	2.7 U
Cadmium	0.26 U	0.27 U	0.28 U	0.27 U
Chromium	5.5	5.1	4.9	2.4
Lead	4.9	8.8	18	3.8
Nickel	4.8	4.0	2.5	1.7

WSB-14 12/17/09 Constituent	1.00 – 3.00	4.00 – 5.00	7.00 – 8.00
BAP	0.18 U	0.19 U	0.18 U
Total PCBs	0.0517 U	0.0577 U	0.0522 U
Arsenic	3.1	2.8 U	3.0
Cadmium	0.26 U	0.28 U	0.27 U
Chromium	5.4	6.6	7.9
Lead	5.8	5.2	1.7
Nickel	3.8	2.3	5.7

WSB-15 12/17/09 Constituent	0.50 – 1.00	1.00 – 3.00	4.00 – 5.00	7.00 – 8.00
BAP	0.18 U	0.17 U	0.20 U	0.20 U
Total PCBs	0.053 U	0.0509 U	0.0586 U	0.0571 U
Arsenic	2.8	3.3	3.0 U	3.7
Cadmium	0.26 U	0.26 U	0.30 U	0.29 U
Chromium	7.5	5.1	4.3	30
Lead	11	1.8	1.4	2.4
Nickel	2.9	2.3	2.2	13

WSB-12 12/17/09 Constituent	0.50 – 1.00	1.00 – 3.00	4.00 – 5.00	7.00 – 8.00
BAP	0.18 U	0.18 U	0.19 U	0.19 U
Total PCBs	0.0523 U	0.0519 U	0.0566 U	0.0526 U
Arsenic	2.6 U	3.3	2.8 U	2.8 U
Cadmium	0.26 U	0.26 U	0.28 U	0.28 U
Chromium	2.8	5.2	6.0	2.3
Lead	4.7	5.6	10	4.2
Nickel	2.2	4.1	3.1	2.1

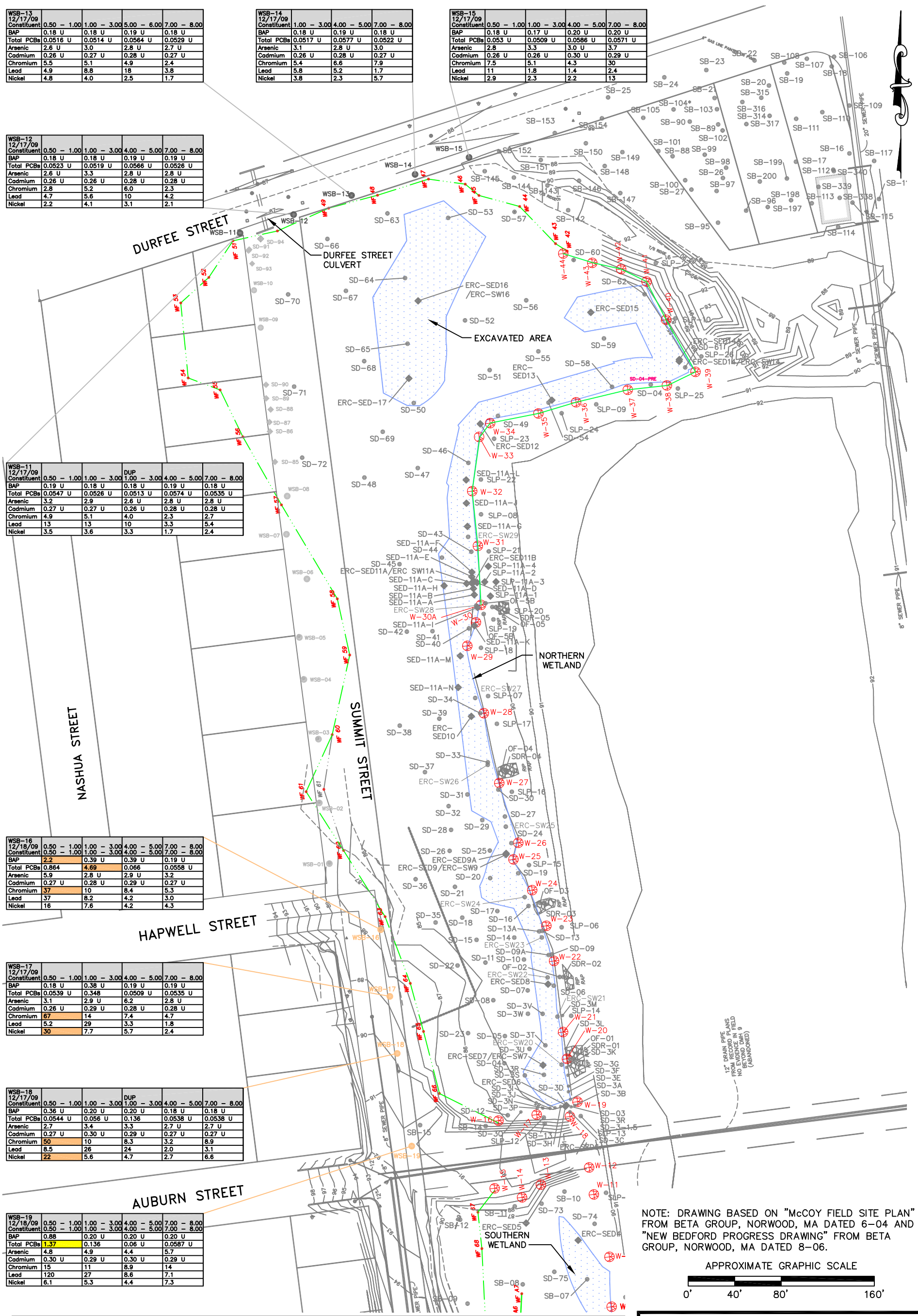
WSB-11 12/17/09 Constituent	0.50 – 1.00	1.00 – 3.00	DUP 1.00 – 3.00	4.00 – 5.00	7.00 – 8.00
BAP	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U
Total PCBs	0.0547 U	0.0526 U	0.0513 U	0.0574 U	0.0535 U
Arsenic	3.2	2.9	2.6 U	2.8 U	2.8 U
Cadmium	0.27 U	0.27 U	0.26 U	0.28 U	0.28 U
Chromium	4.9	5.1	4.0	2.3	2.7
Lead	13	13	10	3.3	5.4
Nickel	3.5	3.6	3.3	1.7	2.4

WSB-16 12/18/09 Constituent	0.50 – 1.00 / 0.50 – 1.00	1.00 – 3.00 / 1.00 – 3.00	4.00 – 5.00 / 4.00 – 5.00	7.00 – 8.00 / 7.00 – 8.00
BAP	2.2	0.39 U	0.39 U	0.19 U
Total PCBs	0.864	4.69	0.066	0.0558 U
Arsenic	5.9	2.8 U	2.9 U	3.2
Cadmium	0.27 U	0.28 U	0.29 U	0.27 U
Chromium	37	10	8.4	5.3
Lead	37	8.2	4.2	3.0
Nickel	16	7.6	4.2	4.3

WSB-17 12/17/09 Constituent	0.50 – 1.00	1.00 – 3.00	4.00 – 5.00	7.00 – 8.00
BAP	0.18 U	0.38 U	0.19 U	0.19 U
Total PCBs	0.0539 U	0.348	0.0509 U	0.0535 U
Arsenic	3.1	2.9 U	6.2	2.8 U
Cadmium	0.26 U	0.29 U	0.28 U	0.28 U
Chromium	67	14	7.4	4.7
Lead	5.2	29	3.3	1.8
Nickel	30	7.7	5.7	2.4

WSB-18 12/17/09 Constituent	0.50 – 1.00	1.00 – 3.00	DUP 1.00 – 3.00	4.00 – 5.00	7.00 – 8.00
BAP	0.36 U	0.20 U	0.20 U	0.18 U	0.18 U
Total PCBs	0.0544 U	0.056 U	0.136	0.0538 U	0.0538 U
Arsenic	2.7	3.4	3.3	2.7 U	2.7 U
Cadmium	0.27 U	0.30 U	0.29 U	0.27 U	0.27 U
Chromium	50	10	8.3	3.2	8.9
Lead	8.5	26	24	2.0	3.1
Nickel	22	5.6	4.7	2.7	6.6

WSB-19 12/18/09 Constituent	0.50 – 1.00 / 0.50 – 1.00	1.00 – 3.00 / 1.00 – 3.00	4.00 – 5.00 / 4.00 – 5.00	7.00 – 8.00 / 7.00 – 8.00
BAP	0.88	0.20 U	0.20 U	0.20 U
Total PCBs	1.37	0.136	0.06 U	0.0587 U
Arsenic	4.8	4.9	4.4	5.7
Cadmium	0.30 U	0.29 U	0.30 U	0.29 U
Chromium	15	11	8.9	14
Lead	120	27	8.6	7.1
Nickel	6.1	5.3	4.4	7.3



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.

APPROXIMATE GRAPHIC SCALE

0' 40' 80' 160'

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	RC S-1	TSCA
Benzo(a)pyrene (BAP)	2	2	4	4	2	N/A
Total PCBs	2	2	2	2	2	1
Arsenic	20	20	20	20	20	N/A
Cadmium	2	2	30	30	2	N/A
Chromium	30	30	200	200	30	N/A
Lead	300	300	300	300	300	N/A
Nickel	20	20	700	700	20	N/A

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.

NOTES:
MG/KG - MILLIGRAMS PER KILOGRAM (DRY WEIGHT).
DUP - FIELD DUPLICATE SAMPLE.
N/A - NOT APPLICABLE.
PCBS - POLYCHLORINATED BIPHENYLS.
RCS - REPORTABLE CONCENTRATIONS.
TSCA - TOXIC SUBSTANCES CONTROL ACT.
U - COMPOUND WAS NOT DETECTED AT SPECIFIED QUANTITATION LIMIT.

SAMPLE LOCATION
SAMPLE DATE

WSB-14 12/17/09 Constituent	1.00 – 3.00	4.00 – 5.00	7.00 – 8.00
BAP	0.18 U	0.19 U	0.18 U
Total PCBs	0.0517 U	0.0577 U	0.0522 U
Arsenic	3.1	2.8 U	3.0
Cadmium	0.26 U	0.28 U	0.27 U
Chromium	5.4	6.6	7.9
Lead	5.8	5.2	1.7
Nickel	3.8	2.3	5.7

SAMPLE DEPTH RANGE IN FEET

CONTAMINANT NAME /ABBREVIATION

SOIL BORING AND/OR SOIL SAMPLE LOCATION

SEDIMENT SAMPLE

SAMPLE LOCATION WITH EXCEEDANCE(S)

KEITH MIDDLE SCHOOL WETLAND
NEW BEDFORD, MASSACHUSETTS

ANALYTICAL RESULTS SUMMARY MAP
DECEMBER WSB SAMPLES

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(978) 970-5600

FIGURE 1

DRAWN BY: PZ
CHECKED BY: JS
DATE: JANUARY 2010

FILE: Q:\GEOSCI\GISKEYProjects\NewBedford\KMS WSB DEC 09.dwg

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford / 115058
BORING/WELL NUMBER WSB-11
TRC GEOLOGIST H. Rizza
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 12/17/2009
LOCATION KMS - Adjacent to culvert along Durfee St.
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for MCP metals, PAHs & PCBs. (Hold WSB-11 (9-10))

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 4
TOTAL DEPTH (Feet) 10
GROUND ELEVATION (Feet) 87.51
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/34"		S-1		0-1" TOPSOIL	0.0		
						1-24" Tan fine to medium SAND, little gravel.		WSB-11 (0.5-1) 1115	
1									
2								WSB-11 (1-3) 1125	
								WSB-111 (1-3) 1220 DUP	
3						24-34" Tan to light-tan medium SAND, trace gravel, moist.			
4									∇
		48/30"		S-2		0-30" Tan medium to coarse SAND, trace gravel, moist.	0.0		
5								WSB-11 (4-5) 1125 Plus MS/DUP	No Monitoring Well Installed
6									
7									
								WSB-11 (7-8) 1130	
8									
		24/21"		S-3		0-9" Dark-brown medium to coarse SAND, wet.	0.0		
9						9-11" Tan to brown fine SAND, some silt, wet.			
						11-21" Gray medium to coarse SAND, wet.		WSB-11 (9-10) 1140	
10						End of Boring @ 10 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford / 115058
BORING/WELL NUMBER WSB-12
TRC GEOLOGIST H. Rizza
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 12/17/2009
LOCATION KMS - 50' East of WSB-11
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for MCP metals, PAHs & PCBs. (Hold WSB-12 (9-10))

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 4
TOTAL DEPTH (Feet) 10
GROUND ELEVATION (Feet) 87.52
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/30"		S-1		0-1" Brown TOPSOIL, grass at surface.	0.0		
1						1-20" Tan medium SAND, little gravel, trace coal, moist.		WSB-12 (0.5-1) 1045	
2								WSB-12 (1-3) 1050	
3						20-30" Tan to gray fine to medium SAND, trace cobbles (rock), moist.			
4		48/38"		S-2		0-38" Tan to gray fine to medium SAND, trace gravel, wet.	0.0		▽
5								WSB-12 (4-5) 1055	No Monitoring Well Installed
6									
7									
8								WSB-12 (7-8) 1100	
		24/24"		S-3		0-24" Gray to tan fine to medium SAND, wet.	0.0		
9									
10								WSB-12 (9-10) 1105	
						End of Boring @ 10 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford / 115058
BORING/WELL NUMBER WSB-13
TRC GEOLOGIST H. Rizza
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 12/17/2009
LOCATION KMS - 50' East of WSB-12
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for MCP metals, PAHs & PCBs. (Hold WSB-13 (9-10))

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 5
TOTAL DEPTH (Feet) 10
GROUND ELEVATION (Feet) 87.94
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/36"		S-1		0-3" TOPSOIL, grass at surface.	0.0		
						3-9" Brown to tan fine to medium SAND, rock at 9-feet.			
1						9-17" Tan medium to coarse SAND, moist.		WSB-13 (0.5-1) 1010	
2						17-19" Crushed ROCK.		WSB-13 (1-3) 1015	
						19-36" Tan to gray fine to medium SAND, little fine gravel.			
3									
4		48/48"		S-2		0-19" Tan fine to medium SAND.	0.0		
5									No Monitoring Well Installed
						19-48" Gray medium SAND, some fine gravel, moist.		WSB-13 (5-6) 1020	
6									
7									
8								WSB-13 (7-8) 1025	
		24/20"		S-3		0-20" Tan to brown fine to medium SAND, little fine gravel,	0.0		
9									
10								WSB-13 (9-10) 1030	
						End of Boring @ 10 feet			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford / 115058
BORING/WELL NUMBER WSB-14
TRC GEOLOGIST H. Rizza
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 12/17/2009
LOCATION KMS - 50' East of WSB-13
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for MCP metals, PAHs & PCBs.

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 5
TOTAL DEPTH (Feet) 8
GROUND ELEVATION (Feet) 88.04
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/30		S-1		0-1" ASPHALT and ROCKS at surface.	0.0		
1						1-7" Tan medium SAND, some fine gravel.			
						7-12" Tan fine SAND, some fine gravel, rock in middle.			
2						12-30" Reddish-tan medium SAND, some fine gravel,		WSB-14 (1-3) 0945	
3									
4		48/48"		S-2		0-30" Tan fine SAND, some coarse sand, moist to wet.	0.0	WSB-14 (4-5) 0950	No Monitoring Well Installed
5									
6									
						30-36" Tan to gray fine SAND, trace fine gravel, wet.			
7						36-48" Gray medium to coarse SAND, trace gravel.			
8								WSB-14 (7-8) 0955	
						End of Boring @ 8 feet (Note: material was very tight at 8-feet; had to stop to avoid jamming core barrel.)			

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford / 115058
BORING/WELL NUMBER WSB-15
TRC GEOLOGIST H. Rizza
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 12/17/2009
LOCATION KMS - 50' East of WSB-14
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for MCP metals, PAHs & PCBs. (Hold WSB-15 (9-10))

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 5
TOTAL DEPTH (Feet) 10
GROUND ELEVATION (Feet) 88.34
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/33"		S-1		0-5" Brown medium SAND and fine GRAVEL, some roots, grass at surface.	0.0		
1						5-7" Crushed ROCK.		WSB-15 (0.5-1) 0900	
						7-33" Tan fine to medium SAND, trace gravel.			
2								WSB-15 (1-3) 0905	
3									
4		48/48"		S-2		0-2" Tan fine SAND, trace fine gravel.	0.0		
5						2-36" Tan fine to medium SAND, moist, no odor, no staining.		WSB-15 (4-5) 0915	No Monitoring Well Installed
6									
7						36-48" Brown medium SAND, trace gravel, moist, no odor, no staining.			
8		24/24"		S-3		0-12" Tan to brown fine to medium SAND.	0.0	WSB-15 (7-8) 0920	
9						12-18" Brown medium SAND.			
10						18-24" Brown to gray coarse SAND, some gravel, weathered bedrock in tip, wet.		WSB-15 (9-10) 0930	
						End of Boring @ 10 feet			

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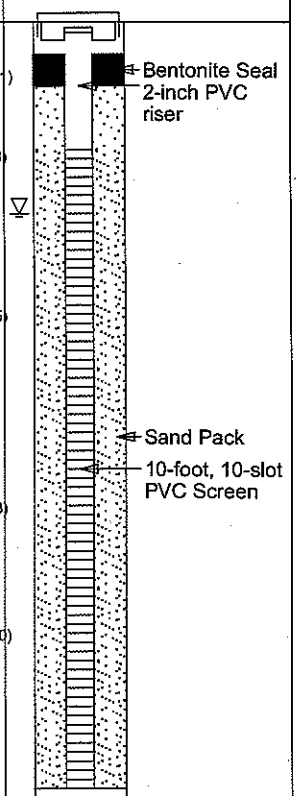
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford / 115058
BORING/WELL NUMBER WSB-16/MW-9
TRC GEOLOGIST H. Rizza
DRILLING CONTRACTOR/FOREMAN New England Geotech/Hayes Rembijas
DATE DRILLED 12/18/2009
LOCATION KMS - Intersection of Summit and Hapwell Street
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 6600 Truck Rig
NOTES Sampled for MCP metals, PAHs & PCBs. (Hold WSB-16 (9-10))

SCREEN TYPE/SLOT Slotted
FILTER PACK TYPE Sand
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 3
TOTAL DEPTH (Feet) 12
GROUND ELEVATION (Feet) 87.88
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
		60/36"		S-1		0-2" Tan to brown medium to coarse SAND, leaves at surface. 2-3" Gray fine to medium SAND, little gravel. 3-5" Brown fine to medium SAND, some gravel, trace pieces of coal and slag. 5-6" ASPHALT. 6-7" Crushed ROCK. 7-14" Brown to tan fine SAND, little gravel, moist to wet. 14-16" Crushed ROCK. 16-36" Gray fine SAND and SILT, some gravel, moist.	0.0	WSB-16 (0.5-1) 0915 WSB-16 (1-3) 0920 WSB-16 (4-5) 0935
		60/50"		S-2		0-50" Tan to gray fine to medium SAND, some gravel, fining toward bottom.	0.0	WSB-16 (7-8) 0940 WSB-16 (9-10) 0945
						End of Boring @ 10 feet (Note: Drove casing to 12 feet to set well.)		

WELL DIAGRAM



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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford / 115058
BORING/WELL NUMBER WSB-17
TRC GEOLOGIST H. Rizza
DRILLING CONTRACTOR/FOREMAN New England Geotech/Hayes Rembijas
DATE DRILLED 12/18/2009
LOCATION KMS - 50' North of WSB-16
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 6600 Truck Rig

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 3.5
TOTAL DEPTH (Feet) 10
GROUND ELEVATION (Feet) 89.08
REFERENCE ELEVATION (Feet) NA

NOTES Sampled for MCP metals, PAHs & PCBs. (Hold WSB-17 (9-10)) (0.5-1 and 1-3 samples collected 12/17/2009 on first attempt)

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		60/48"		S-1		0-2" TOPSOIL.	0.0		
1						2-12" Brown to gray fine to medium SAND, some gravel.		WSB-17 (0.5-1) 1315	
2						12-24" Brown fine SAND, some silt, trace fine gravel, moist to wet.		WSB-17 (1-3) 1320	
3						24-36" Gray crushed GRANITE.			▽
4						36-48" Tan to orange fine SAND and GRAVEL.		WSB-17 (4-5) 1130	
5		60/60"		S-2		0-10" Brown fine SAND, saturated.	0.0		No Monitoring Well Installed
6						10-22" Brown medium to coarse SAND and GRAVEL.			
7						22-26" Crushed gray ROCK.			
8						26-46" Brown medium to coarse SAND, some fine sand and gravel.		WSB-17 (7-8) 1135	
9						46-60" Tan to brown fine to coarse SAND.			
10								WSB-17 (9-10) 1140	

End of Boring @ 10 feet

(Note: Hit refusal at this location at 4-feet on 12/17/2009. Attempted again on 12/18/2009 with a different drill rig.)

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BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford / 115058
BORING/WELL NUMBER WSB-18
TRC GEOLOGIST H. Rizza
DRILLING CONTRACTOR/FOREMAN New England Geotech/Bill Meadows
DATE DRILLED 12/17/2009
LOCATION KMS - 50' North of WSB-17
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 5400 Truck Rig
NOTES Sampled for MCP metals, PAHs & PCBs.

SCREEN TYPE/SLOT NA
FILTER PACK TYPE NA
SEAL TYPE NA
DEPTH TO WATER (Approximate Feet) 4
TOTAL DEPTH (Feet) 8
GROUND ELEVATION (Feet) 90.14
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM
		48/29"		S-1		0-2" Brown TOPSOIL with roots and leaves.	0.0		
1						2-8" Brown to gray fine SAND, some coarse sand and gravel.		WSB-18 (0.5-1) 1350	
2						8-18" Gray to brown fine SAND, little gravel.		WSB-18 (1-3) 1400	
3						18-29" Reddish-tan fine SAND, some gravel, crushed rock at bottom.		WSB-118 (1-3) 1500 DUP	
4		48/35"		S-2		0-28" Tan medium to coarse SAND, little gravel, fining towards bottom, wet.	0.0		No Monitoring Well Installed
5								WSB-18 (4-5) 1415 Plus MS/DUP	
6									
7									
8						28-35" Tan to gray fine to medium SAND, some crushed rock.		WSB-18 (7-8) 1420	
						End of Boring @ 8 feet (refusal)			

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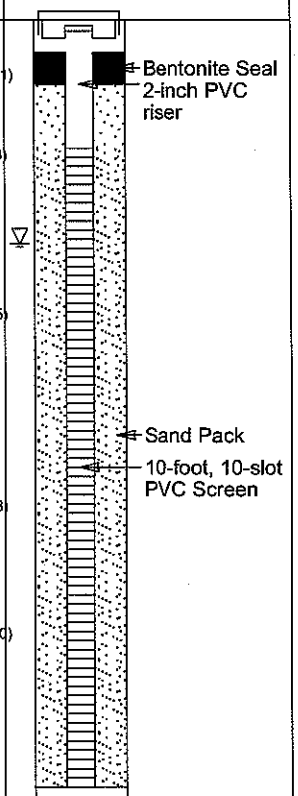
BORING/WELL CONSTRUCTION LOG

CLIENT/PROJECT NUMBER New Bedford / 115058
BORING/WELL NUMBER WSB-19/MW-10
TRC GEOLOGIST H. Rizza
DRILLING CONTRACTOR/FOREMAN New England Geotech/Hayes Rembijas
DATE DRILLED 12/18/2009
LOCATION KMS - 50' North of WSB-18
SAMPLING METHOD 48" Macrocore
DRILLING METHOD Direct Push - 6600 Truck Rig
NOTES Sampled for MCP metals, PAHs & PCBs. (Hold WSB-19 (9-10))

SCREEN TYPE/SLOT Slotted
FILTER PACK TYPE Sand
SEAL TYPE Bentonite
DEPTH TO WATER (Approximate Feet) 3.5
TOTAL DEPTH (Feet) 10
GROUND ELEVATION (Feet) 91.75
REFERENCE ELEVATION (Feet) NA

DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME
		60/31"		S-1		0-2" Brown TOPSOIL, some grass and leaves at surface. 2-10" Dark-brown fine SAND, some fill (coal and slag).	0.0	WSB-19 (0.5-1) 1040
1								
2						10-31" Tan to brown fine SAND, some medium SAND, little gravel, moist to wet.		WSB-19 (1-3) 1045
3								
4		60/35"		S-2			0.0	WSB-19 (4-5) 1050
5						0-10" Brown tan fine SAND and SILT.		
6								
7						10-35" Tan to gray fine to medium SAND, some silt and gravel, wet.		
8								WSB-19 (7-8) 1055
9								
10								WSB-19 (9-10) 1100

End of Boring @ 10 feet

(Note: Drove casing to 12-feet to set well.)

WELL DIAGRAM