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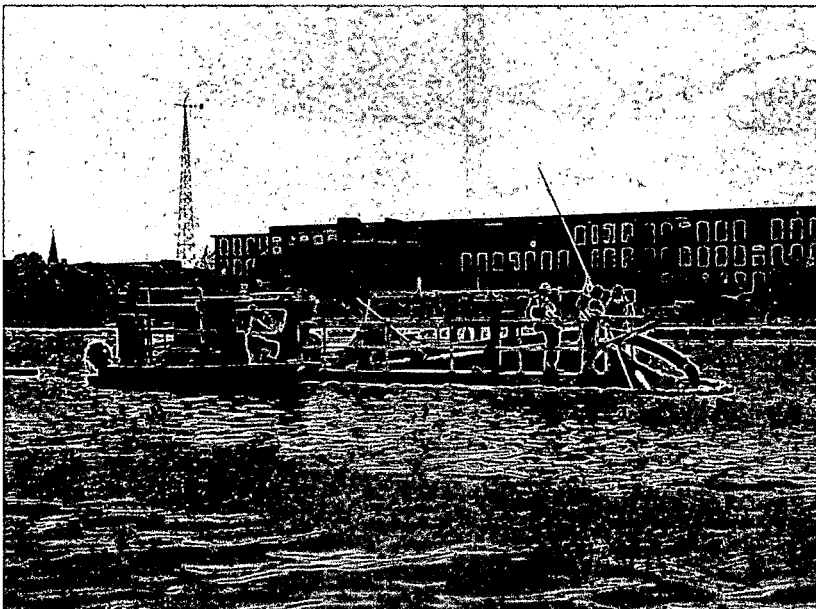
US Army Corps
of Engineers
New England District

FINAL REPORT

2009 Environmental Monitoring, Sampling, and Analysis Reports

NEW BEDFORD HARBOR SUPERFUND SITE NEW BEDFORD, MASSACHUSETTS

Contract No. W912WJ-09-D-0001-0010



- I. Water Quality Monitoring Summary Report
- II. Sediment Monitoring Summary Report
- III. 2009 Biannual Groundwater Monitoring at the Sawyer Street Confined Disposal Facility
- IV. Sediment Trap Study Summary Report
- V. North of Wood Street Post-Remediation Monitoring

Prepared For:
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August 2010



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**US Army Corps
of Engineers**
New England District

WATER QUALITY MONITORING SUMMARY REPORT 2009 REMEDIAL DREDGING NEW BEDFORD HARBOR SUPERFUND SITE, OU #1

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**WATER QUALITY MONITORING SUMMARY REPORT
2009 REMEDIAL DREDGING
NEW BEDFORD HARBOR SUPERFUND SITE
OPERATIONAL UNIT #1
NEW BEDFORD, MASSACHUSETTS**

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EXECUTIVE SUMMARY

In 2009, remediation activities at the New Bedford Harbor Superfund Site included hydraulic dredging of contaminated sediments from four separate areas within the upper harbor. Water quality monitoring was performed during remediation activities to help optimize the field program, minimize potential ecological impacts, and provide field reconnaissance information to document the activities. Data and observations resulting from the water quality monitoring was used to document background conditions and gauge the extent of water quality impacts potentially resulting from remediation operations. The water quality monitoring program helped to ensure that dredging activities were conducted in a manner that did not produce extensive turbidity plumes and associated potential impacts, such as toxicity to marine organisms, contaminant transport or hindrance of the seasonal migrations of anadromous fish within the Acushnet River. This report presents the scope and key findings from the water quality monitoring performed during the 2009 dredge season.

Remediation activities, including dredging and debris removal were performed from June 1 through December 1, 2009, resulting in the removal of some 49,809 cubic yards of contaminated sediments. Water quality monitoring was performed during the first week of dredging to reaffirm the ecological protectiveness of the project-based compliance criteria, and to establish baseline water quality conditions of the harbor. The monitoring program included: 1) boat-based monitoring to survey *in-situ* turbidity and observe the dredge area for sediment plumes as well as fish and wildlife passage, 2) moored water quality sensors to collect *in-situ* data to supplement the boat-based monitoring; and 3) collection of discrete water samples for physical, chemical, and biological testing to assess the protectiveness of the project-based compliance criteria.

Boat-based *in-situ* measurements were evaluated against the project-specific turbidity compliance criteria, which was reevaluated and redefined during the 2009 dredge season. Phase I of the 2009 season adopted the monitoring compliance criteria of previous years. Phase I monitoring was based on a warning level defined as 50 Nephelometric Turbidity Units (NTU) above background 300 feet down-current of dredging and associated activities. Consistent with previous years, the compliance threshold for Phase I was defined as 50 NTU above background 600 feet down-current of dredging and dredge-related activities. The 2009 dredging season was unique, though, because there was active dredging of multiple dredge areas simultaneously. This dredging improved the efficiency with which contaminated sediments were removed from the harbor, but added complexity to the definition of a plume from the dredging activity with respect to the Phase I monitoring approach. The traditional monitoring protocol used in previous years and for Phase 1 of 2009 proved inadequate. For instance, applying the Phase I methods as the dredging advanced produced a warning level exceedance event that subsequently demonstrated no adverse acute toxic effects observed in discrete water samples from the plume. To optimize the water quality monitoring program, an investigation and reevaluation of the project-specific compliance criteria was conducted. A toxicity evaluation dilution study was developed to reassess the protectiveness of the 50 NTU criteria and to modify the overall monitoring approach. Based on the results of the toxicity evaluation dilution study, modifications to the water quality monitoring program

and to the project-based compliance criteria were employed, and a Phase II revised approach of the 2009 monitoring season began August 3, 2009.

During Phase II of the 2009 water quality monitoring program, the entire active dredge zone, including all four dredge areas and the region between them, not actively dredged in 2009, was considered the containment or active dredge zone. Rather than attempt to monitor individual activities within the zone that proved not to have any toxicological impacts by the traditional methods, the Phase II approach was designed to monitor water quality impacts resulting from the collective remediation activities. Monitoring occurred outside of the boundaries of the containment zone, at 300 foot transects south of the zone during the ebb tide and north of the active dredge zone during the flood tide. The results of the toxicity evaluation dilution study indicated that turbidity plumes 100 NTU above background exhibited no adverse acute toxic effects. Based on these results, the turbidity compliance criterion was raised from 50 NTU to 100 NTU above background, or ambient turbidity levels in the harbor. The 100 NTU criteria threshold at the 300 foot down-current transect from the active dredge (containment zone) was redefined as the compliance threshold. Phase II greatly improved the efficiency of the monitoring approach, satisfied monitoring objectives, and was less restrictive on the remedial operations, while remaining ecological protective as demonstrated by the toxicity evaluation. During the Phase II approach, no exceedances of the water quality compliance criteria were observed.

Boat-based monitoring and the continuous *in-situ* turbidity data from the water quality moorings revealed that dredge operations did, at times, have an effect on the water quality in the immediate vicinity of the dredging activity. The continuous water quality data also revealed, however, that weather events, tidal activity, and natural influences greatly affected water quality throughout the harbor. When turbidity plumes were observed, they were generally immediately adjacent to active debris removal operations or near the dredge on windy days when push-boats were utilized to keep the dredge positioned in a straight line. These plumes tended to be ephemeral, and were confined to within ~100 feet of the active operation.

Throughout the 2009 dredge season, large numbers of fish and wildlife were observed. Lower trophic level fish were consistently observed moving throughout the river, between the Sawyer Street facility and north of the Wood Street Bridge. Birds, such as great blue herons, green herons, gulls, swans, cormorants, egrets, osprey, terns and other wading birds, were observed feeding along the shoreline and in the river. A coyote was observed on the eastern shoreline on one occasion. During the middle of the summer, hypoxic conditions were observed in the northernmost dredge areas and north of Wood Street. Water temperatures reached 30°C and dissolved oxygen concentrations dropped to below 1 mg/L. Such hypoxic conditions are naturally occurring in estuarine systems like the Acushnet River. Small fish were observed struggling, and a few were found dead during this warm low-oxygen time period; however, no large scale fish kills occurred. During the active dredge season, when fish were most abundant, there appeared to be no restriction of movement past the dredge area.

The combination of boat-based monitoring, continuous *in-situ* water quality monitoring data, and discrete water samples demonstrated that the remediation operations have measureable impacts to water quality. These impacts, however, were limited to near-field areas, contained within the active dredge zone, and generally decreased with increasing distance from the active operations. Overall, the PCB and toxicity data, along with the *in-situ* water quality measurements, confirmed the project compliance criteria are ecologically protective, while allowing remediation efforts to progress. The reader is referred to Section 5 of this report for a more detailed summary of the 2009 water quality monitoring program results.

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1.0 INTRODUCTION

1.1 SITE LOCATION AND DESCRIPTION

The New Bedford Harbor Superfund Site, located in Bristol County, Massachusetts, extends from the shallow northern reaches of the Acushnet River estuary south through the commercial harbors of New Bedford and Fairhaven and into 17,000 adjacent acres of Buzzards Bay (Figure 1). The City of New Bedford, located along the western shore of the Site, is approximately 55 miles south of Boston. New Bedford is currently home port to a large offshore fishing fleet and is a densely populated manufacturing and commercial center. By comparison, the eastern shore of New Bedford Harbor is predominantly residential, light commercial or salt marsh.

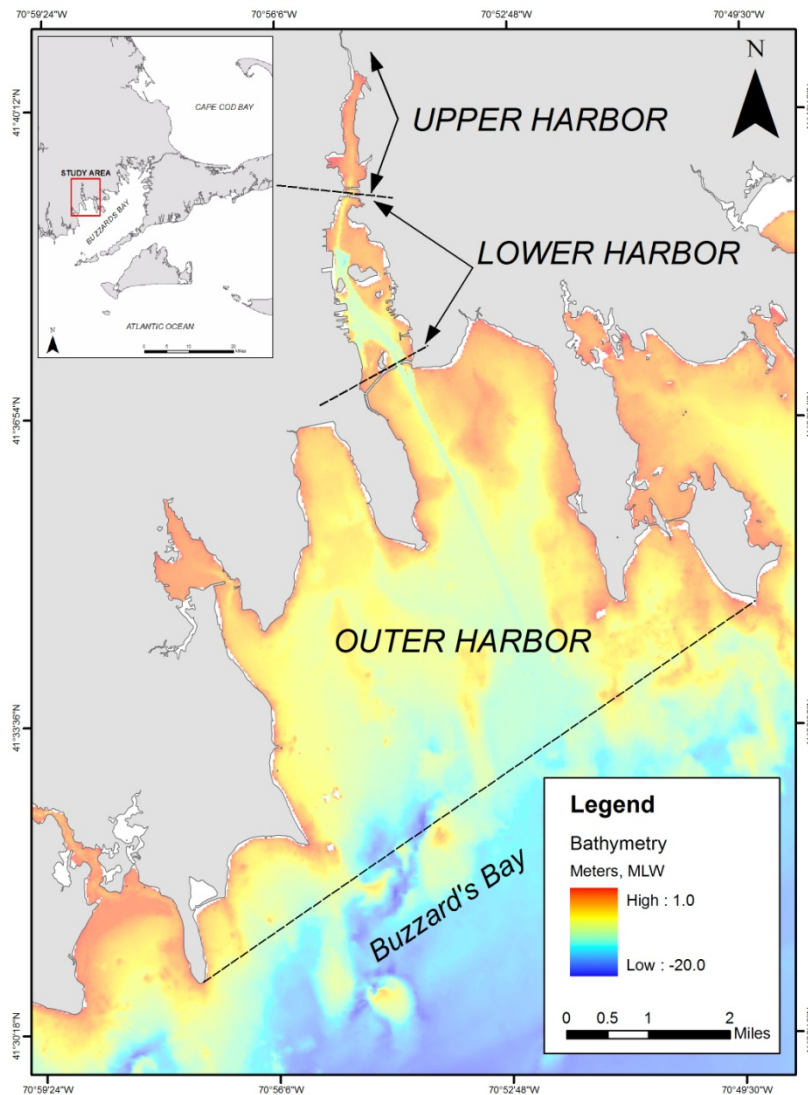


Figure 1. Basemap of New Bedford Harbor Superfund Site in Southeastern, MA

The Acushnet River's 16.5 square mile drainage basin discharges to New Bedford Harbor in the northern reaches of the Site, contributing relatively minor volumes of fresh water to the tidally influenced harbor. Numerous storm drains, combined sewer overflows (CSOs), industrial discharges, as well as smaller brooks and creeks also discharge directly to the Site. The upper and lower harbors are believed to be areas of net groundwater discharge. The estuary can be characterized as a shallow, well-mixed system.

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. Contaminant gradients within harbor sediments decrease from north to south. The source of the contamination has been attributed to two electrical capacitor manufacturing facilities that operated between the 1940s and the 1970s. One facility, Aerovox Corporation, is located near the northern boundary of the Site, and the other, Cornell-Dubilier Electronics, Inc. is located just south of the New Bedford Harbor hurricane barrier. The two facilities are known to have discharged PCB-laden wastes either directly into the harbor or indirectly via discharges to the City's sewerage system.

Based on human health concerns and ecological risk assessments, the United States 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 United States Army Corps of Engineers, New England District (USACE NAE), the USACE is responsible for carrying out the design and implementation of remedial measures at the Site.

The Site has been divided into three geographic areas: the upper, lower and outer harbors, consistent with geographic features, basin morphology and gradients of contamination (Figure 1). The Site is also defined by three state-sanctioned fishing closure areas extending approximately 6.8 miles north to south and encompassing approximately 18,000 acres in total. The upper harbor comprises approximately 187 acres, with current sediment PCB levels ranging from below detection to approximately 4,000 parts per million (ppm). Prior to the removal of the most contaminated hot spot sediments in 1994 and 1995 as part of EPA's first cleanup phase, sediment PCB levels were reported higher than 100,000 ppm in the upper harbor. The boundary between the upper and lower harbor is the Coggeshall Street Bridge; at this point the harbor is constricted to a width of approximately 100 feet. The lower harbor comprises approximately 750 acres, with current sediment PCB levels ranging from below detection to over 100 ppm. The boundary between the lower and outer harbor is the 150 foot wide opening of the New Bedford hurricane barrier. The hurricane barrier was constructed in the mid-1960s. Sediment PCB levels in the outer harbor are generally low, with only localized areas of PCBs in the 50 – 100 ppm range near the Cornell-Dubilier plant and the New Bedford sewage treatment plant's outfall pipes. The southern extent of the outer harbor is a line mapped from Rock Point (the southern tip of West Island in Fairhaven), southwesterly to Negro Ledge, and then southwesterly to Mishaum Point in Dartmouth (Figure 1).

1.2 PROJECT OBJECTIVES

Remediation of the Site involves the excavation and dredging of approximately 900,000 cubic yards of PCB-contaminated sediment. The majority of the contaminated material is being removed by a hydraulic dredge that pumps a spoils-slurry to the project's Sawyer Street facility where it is mechanically processed to remove all sand, gravel, and debris. The remaining silt and clay slurry is then pumped to the Area D Dewatering Facility located on Herman Melville Boulevard where it is mechanically dewatered and transported off-site for disposal.

The Site is divided into a series of Dredge Management Units (DMU) based primarily on contamination levels, contamination sources, and topography. In 2009, remediation activities at the Site included hydraulic dredging in four areas, M, G, J and L (Figure 2). Three of the four areas (Areas M, G and J) dredged during the 2009 season were in the vicinity of the Aerovox facility. These three areas comprised the majority of the estuary between the Wood Street Bridge and the Aerovox facility. The fourth area, Area L, is located south of the submerged cable crossing.

During dredging and dredging related activities, such as debris removal, the resuspension of sediments can transport contaminated sediments away from the dredge area. Additionally, contaminated sediments suspended in the water column present a concern for toxicity to aquatic organisms in the area. The water quality monitoring program was developed to assess the near-field water column impacts as well as the extent of sediment resuspension and transport away from the dredging operation.

1.3 WATER QUALITY MONITORING PROGRAM

The primary objective of the 2009 water quality monitoring program was to conduct boat-based and fixed-station field monitoring during remediation activity to gauge and limit the impacts to water quality from dredge-related activities. An additional objective was to ensure that the remediation dredging activities were conducted in a manner which did not hinder the seasonal migration of anadromous fish in the Acushnet River. The field reconnaissance information, collected as part of this effort, was made available to the USACE, USEPA, and dredge operators to fulfill these objectives.

To meet these objectives, a tiered monitoring approach was employed consistent with previous years' monitoring which incorporated field measurements of turbidity and water quality parameters along with discrete water samples for physical, chemical, and biological testing, as needed. The 2009 water quality monitoring program was marked by a change in the project compliance criteria, dividing the season into Phases I and II, before and after the modifications, respectively.



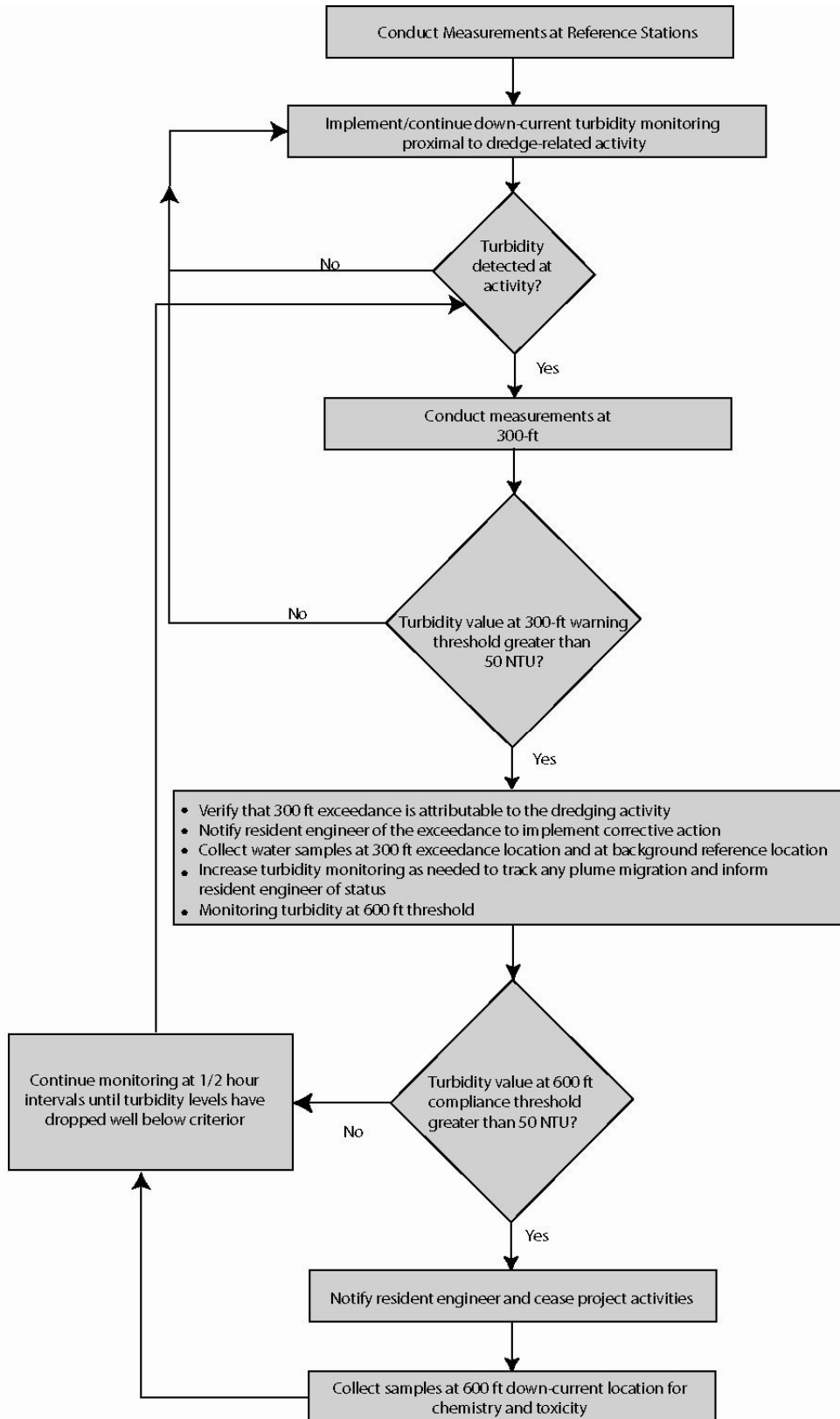
Figure 2. Basemap of 2009 Remediation Dredging Areas

1.3.1 Phase I

The compliance criterion for the 2009 season was initially defined as 50 Nephelometric Turbidity Units (NTU) above background turbidity levels measured 600 feet down-current of dredging activity. A warning was issued if turbidities exceeded the 50 NTU criteria at a distance 300 feet down-current of the dredging activity. The criterion was based on historical observations in other operational areas of New Bedford Harbor which demonstrated that this turbidity level rarely, if ever, had adverse biological effects.

Background turbidity was quantified from observations 1000 feet up-current of all dredging activity. For example, if background turbidity of the ambient harbor water was quantified as 10 NTU, then the exceedance criterion for that particular time would be 60 NTU. If values of 50 NTU or greater above background were observed 300 feet from the dredging activity and it was verified that the exceedance could be attributed to the activity, the resident USACE engineer (Mr. Paul L'Heureux) was notified to implement corrective actions and WHG proceeded to collect water samples. Following water sample collection at the 300-foot location, WHG monitored 600 feet down-current. If turbidity levels reached 50 NTU above background at the 600 foot transect, the exceedance qualified as a compliance violation and all remediation activities were terminated. Water samples were collected at the 600-foot location, as well as at the background station located 1000 feet up-current of all activity. Figure 3 depicts the decision sequence for Phase I of the 2009 Water Quality Monitoring Program.

After the full suite of water samples were collected, an initial toxicity analysis was performed using the *Arbacia punctulata* (sea urchin) 1-hour sperm immobilization/fertilization bioassay. Results of this initial toxicity screening and information regarding the intensity and duration of the plume were delivered to appropriate USACE personnel to determine whether subsequent analytical chemistry testing should be performed. Figure 4 illustrates the tiered decision sequence for water sample analyses.



Notes: 1:50 NTU value was defined as 50 NTU above background turbidity level

Figure 3. Decision sequence for 2009 water quality monitoring – Phase I

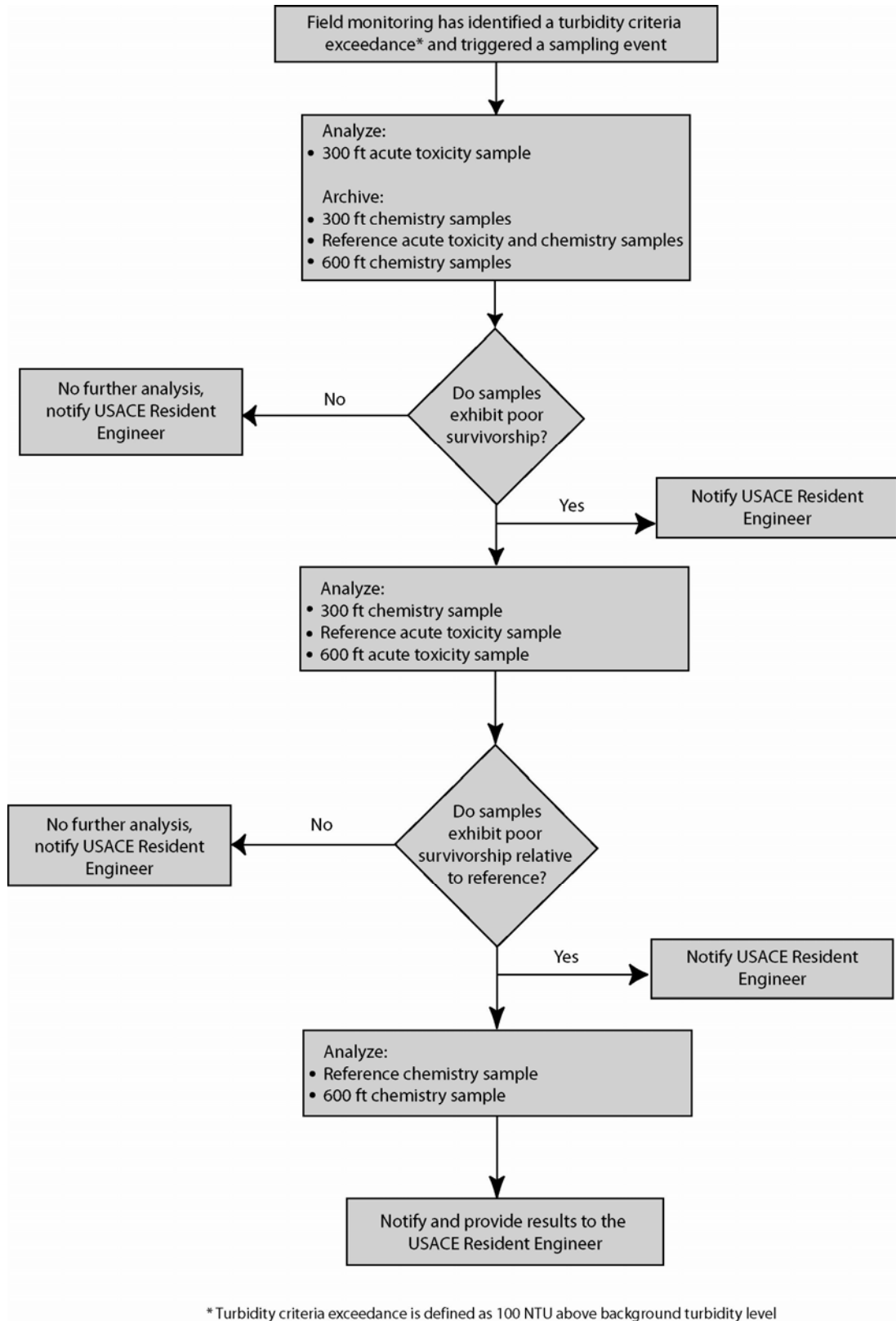


Figure 4. Decision sequence for Level III water quality sample analysis

1.3.2 Compliance Criteria Modifications Leading to Phase II

The compliance criterion for the 2009 dredge season was reevaluated in July, 2009 for several reasons. First, the criterion of 50 NTU's 300' from the dredge was based on historical observations in other operations which demonstrated that this turbidity level rarely if ever caused adverse biological effects; therefore, it was adopted as a "protective" concentration. A new dose-response test with freshly collected resuspended upper harbor sediment (7/22/09) showed that concentrations as high as 110 NTU's had no significant toxic effect in the *Arbacia* test or the Mysid test. Further, there was still 88% fertilization in the *Arbacia* test at 190 NTUs, indicating that while this result may be statistically different, it probably isn't biologically relevant. Based on these data, it was reasonable to reassess the old NTU criterion level and increase it from 50 to 100. This would be less restrictive on the operation and still be "protective" as defined by the toxicity tests.

The second rationale for the modification concerned the logistics associated with the operational turbidity monitoring. Because of simultaneous and separate dredging and debris removal operations in the upper harbor in 2009, monitoring became at best complicated and at times, unwieldy. The overall monitoring objective has always been to restrict toxic impacts and resuspended contamination to the immediate area of the dredge, while preventing redistribution of contaminants to cleaner areas north of Wood St. and south of the Coggeshall St. Bridge. While this was easier in past remedial operations due to limited dredging in one area at a time, the 2009 season included multiple dredge areas in the upper harbor, multiple removal operations in each (i.e., sediment and debris), time restrictions due to water depth, etc. Therefore, the "operational" boundaries were redefined as the northern-most dredging/debris removal area and the southern-most working area. This was consistent with limiting effects north of Wood St. and south of Coggeshall St., as has been done in the past. Adopting this approach simplified the operational monitoring, maintained adequate environmental protection, and ultimately speeded up the contaminant removal.

Based on this new NTU criterion and monitoring boundaries, the 100 NTU threshold was not to be exceeded 300 feet down-current of the active work zone. The active work zone was defined as the area between the northern boundary of Area M and the southern boundary of Area L. In the event that no work was being done in Area L on an ebb tide, the boundary was instead 300 feet down-current of the southern boundary of Area J. If the criterion was exceeded, the on-site resident USACE engineer Mr. Paul L'Heureux was notified of the event and water samples were collected. These "exceedance" water samples were submitted for analysis according to the priority outlined by the USACE (Figure 3). The sample analysis prioritization began with acute toxicity assays to determine if subsequent chemical analysis was necessary.

An exceedance of the 100 NTU turbidity criterion was considered a "compliance threshold violation," when observed 300 feet down-current of the active work zone. This is in contrast to a "high turbidity event," which occurred when turbidity levels reached 100 NTU above background, but still within the active work zone before reaching the compliance boundary. While a high turbidity event is cause for concern and certain adjustments should be made to active dredging operations in the area, it does not

constitute a project-specific compliance threshold violation and therefore does not require collection of water quality samples.

1.3.3 Phase II

A technical memorandum issued by the EPA on August 3rd, 2009 marked the formal installment of the modifications to the water quality monitoring compliance criteria and approach (USEPA, 2009). For the remainder of the 2009 dredge season, the 100 NTU compliance threshold was not to be exceeded 300 feet down-current of the active work zone, as defined above. If the criterion was exceeded, the on-site resident USACE engineer Mr. Paul L'Heureux was to be notified and water sample collections were initiated. The Phase II water quality monitoring decision sequence is outlined in Figure 5.

In the event of an exceedance of the threshold criteria, water samples were to be submitted for analysis according to the priority outlined by the USACE, which began with acute toxicity assays to determine if subsequent chemical analysis was necessary. The prioritization sequence for sample analysis was performed in the same manner as done under Phase I during the 2009 season with the exception of the 600 ft water samples, which were not collected under Phase II (Figure 4).

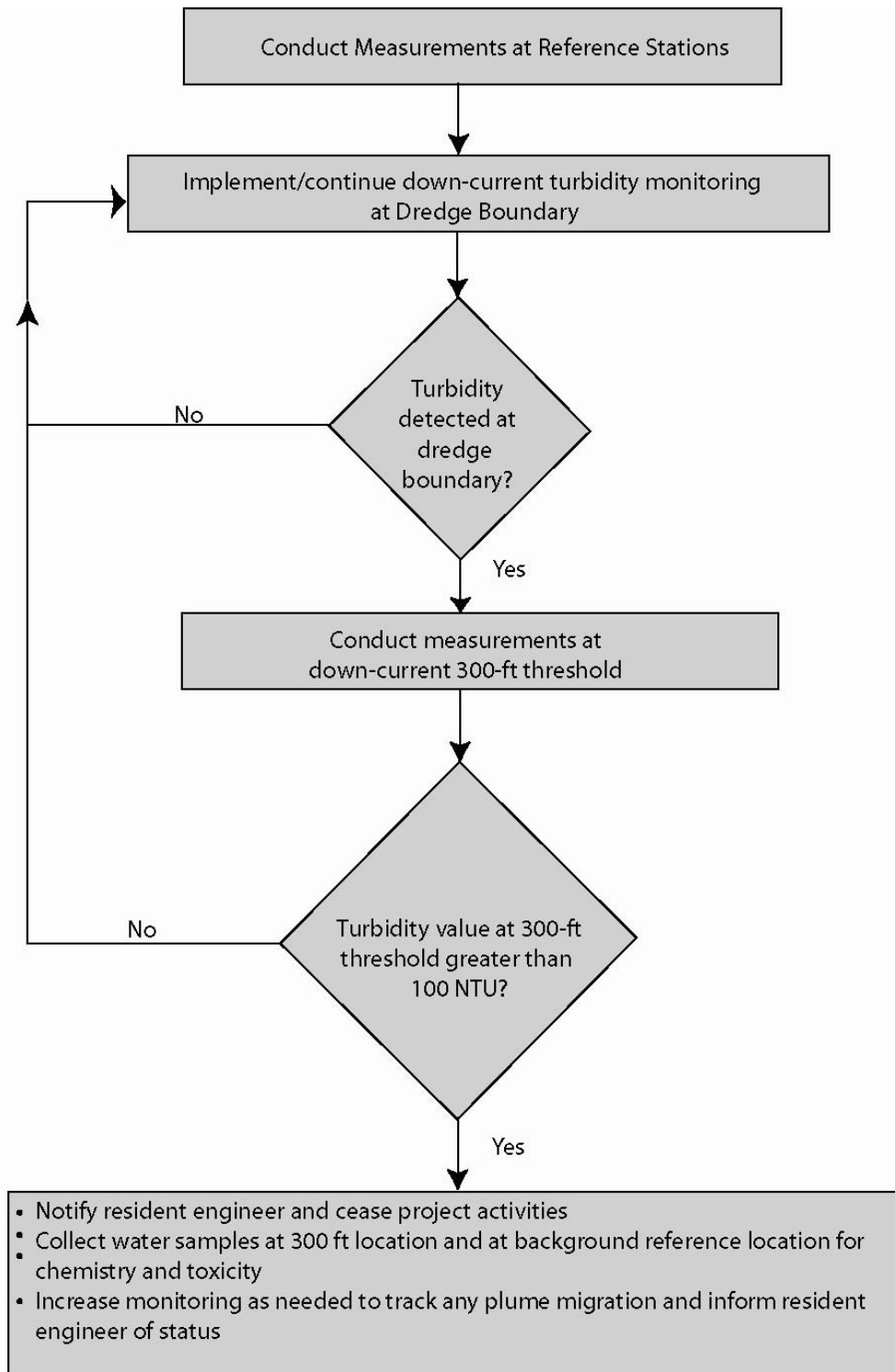


Figure 5. Decision sequence for 2009 water quality monitoring – Phase II

2.0 METHODS

Methods employed to monitor water quality and collect water quality samples are summarized below and described in detail in the project Field Sampling Plan (Woods Hole Group 2009A) and Quality Assurance Project Plan (Woods Hole Group 2009B).

2.1 MONITORING APPROACH

The established sampling approach for this program employed a variety of methods to characterize sediment resuspension, sediment transport, and its potential impact on water quality. The overall approach utilizes an adaptive, criteria-based, sampling scheme to monitor project-related water quality impacts. *In-situ* boat-based water quality monitoring was performed along transects immediately adjacent to defined distances down-current of dredging operations and at up-current reference stations as described in Section 1.4.2. The daily boat-based monitoring data was supplemented with fixed station instruments that recorded a continuous time series of the pertinent parameters, to provide near continuous observation of the system's water quality during dredging operations.

As with previous years' efforts, a tiered monitoring approach was employed using varying levels of monitoring intensity to assess dredging related water quality impacts, as described in Section 2.2. More intensive monitoring occurred during the initial week of dredging to verify the effectiveness of the project-specific turbidity compliance threshold and to track sediment plume dispersion and potential for contaminant transport downfield of the dredge. Following the intensive monitoring at the start of the season, boat-based monitoring was performed twice weekly by WHG. Flexibility in the monitoring program was necessary throughout the dredging process in order to respond to changing field conditions.

The three general levels of monitoring are defined as follows:

- Level I represents the highest level of monitoring and includes the collection of discrete water samples. Level I sampling was conducted for activities considered to have the greatest potential to impact water quality or when new conditions were encountered. Level I sampling included collection of discrete water samples at designated stations: Reference, Dredge Boundary, 300 feet down-current, and 600 feet down current. Water samples were collected for all test parameters from the depth of highest turbidity, based on *in-situ* readings. For the last five years, Level I sampling has been implemented to collect discrete samples at locations representing a full range of turbidities to evaluate relationships, if any, among the turbidity, PCB and toxicity data and to confirm that the current criteria were adequately protective of the aquatic environment.

Level II represents a lower level of monitoring intensity compared to Level I, and performed to identify any project related water quality impacts adjacent to any dredging or operational activity related activity as warranted.

- Level III represents routine, boat-based monitoring performed during dredging activities to evaluate *in-situ* turbidity readings against the project-specific water

quality compliance criteria. Collection of discrete water samples for laboratory testing was conditional based on results of *in-situ* turbidity monitoring and/or visual observations of any oil sheens.

Complete details of these sampling methods are provided in the Field Sampling Plan (WHG 2009A) and Quality Assurance Project Plan (WHG 2009B).

2.1.1 Boat-Based Water Quality Monitoring

Except for Level 1 monitoring events, boat-based water quality monitoring was conducted twice weekly during the course of the 2009 dredge season. Beginning in June, 2009 and ending in December, 2009, monitoring was typically scheduled on Mondays and Thursdays, throughout the active dredge season and supplanted with the fixed mooring data. A YSI 6920-V2 datasonde was used to collect *in-situ* measurements of depth, temperature, salinity, turbidity, and dissolved oxygen along monitoring transects. This datasonde was equipped with optical turbidity and dissolved oxygen sensors. A handheld YSI 650 was used to acquire real-time water quality data during observation transects. Data was recorded on field log sheets and summarized in a daily report, which was delivered to the USACE at the end of each boat-based monitoring day (Appendix A). The sondes were calibrated for all parameters once per week according to manufacturers specifications to ensure data quality.

At the start of each monitoring day, the vessel transited to the appropriate reference location, 1000 feet up-current of the active dredge areas. During a flood tide, this location was 1000 feet south of the Area L southern boundary. Conversely, during an ebb tide, the reference readings were measured 1000 feet north of the northern boundary of Area M. These “background” reference values were used to characterize the ambient conditions in the estuary and serve as the basis for comparison with the active monitoring data on a given day and tide. Reference values were re-established as necessary given changes in weather and tidal conditions.

Once reference values were established, the team would initiate boat-based monitoring per required protocols. During Phase I of the 2009 season, water quality parameters were monitored at distances 300 feet down-current from any active dredge related operations. This required transiting between active dredge areas and examining the potential for impacts to water quality at each operational area. If a turbidity plume was detected 300 feet from the activity with sustained turbidity readings of 50 NTU above background or greater, the on-site USACE resident engineer was notified and work crews were advised to adjust operational activity to allow for the plume to disperse. If turbidity readings remained 50 NTU above background or greater at the 300 ft down-current transect water quality samples were collected and USACE project personnel were notified of the exceedance of the warning level criteria. Turbidity levels were then monitored at the location 600 feet down-current transect for potential compliance criteria violations. If the plume was detected at the 600 foot transect and turbidity exceeded 50 NTU, WHG would notify USACE Resident Engineer, who would in turn direct the dredging contractor to terminate all dredging related activities. Figure 6 depicts the monitoring thresholds for Phase I of the 2009 water quality monitoring program.

During Phase II of the 2009 dredge season, water quality parameters were monitored at the specified transects 300 feet down-current from the active dredge zone. As previously defined, the active dredge zone comprised the area between the northern boundary of Area M and the southern boundary of Area L (See Figure 7). Under the Phase II water quality monitoring approach, an exceedance of the 100 NTU criteria at either of the 300 foot transects would indicate a compliance violation. If such a plume was identified and turbidity readings remained elevated 100 NTU above background for a sustained period, the resident engineer Mr. Paul L'Heureux was to be notified and all dredge related operations were to be shut down until the condition abated. Figure 7 depicts the monitoring compliance transects for Phase II of the 2009 water quality monitoring efforts.

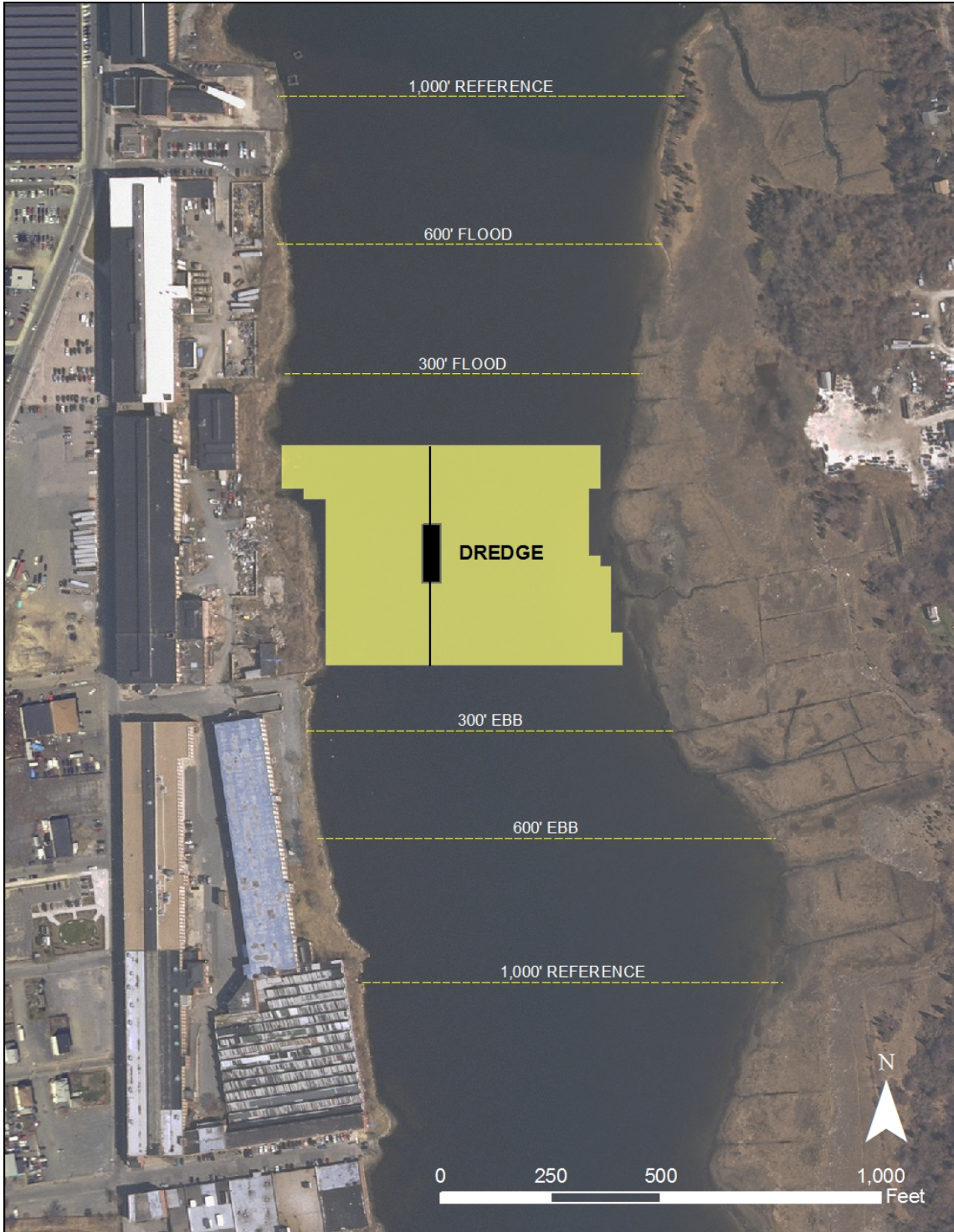


Figure 6. Basemap of compliance thresholds for turbidity criteria – Phase I

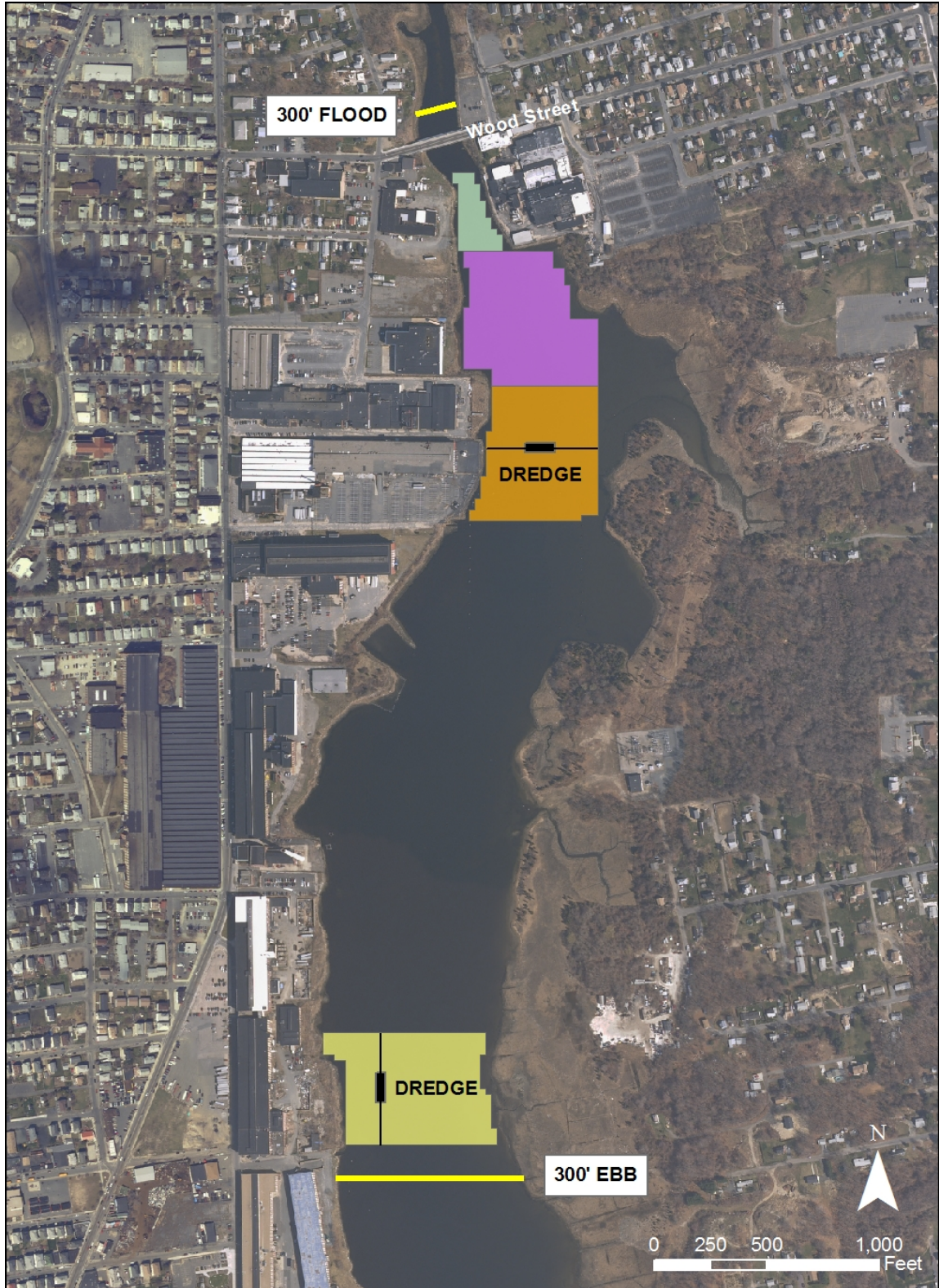


Figure 7. Compliance monitoring transects for turbidity exceedance criteria – Phase II

2.1.2 Fixed Station Water Quality Monitoring

In addition to the active boat-based monitoring, fixed station water quality moorings were deployed at five locations throughout the upper portion of the estuary (Figure 8). Monitoring instrumentation included YSI 6920 data sondes that provided depth, temperature, salinity, turbidity and, dissolved oxygen measurements, recorded in 15-minute intervals. The locations were strategically selected in order to best supplement the boat-based water quality monitoring data (Figure 5). Mooring locations included: 1) North of the Wood Street Bridge, 2) North of Area G, 3) South of Area J, 4) North of Area L, and 5) South of Area L. Moorings were designed to either float approximately 1.0 – 1.5 feet below the water surface, or to be fixed on the bottom (Figure 8).

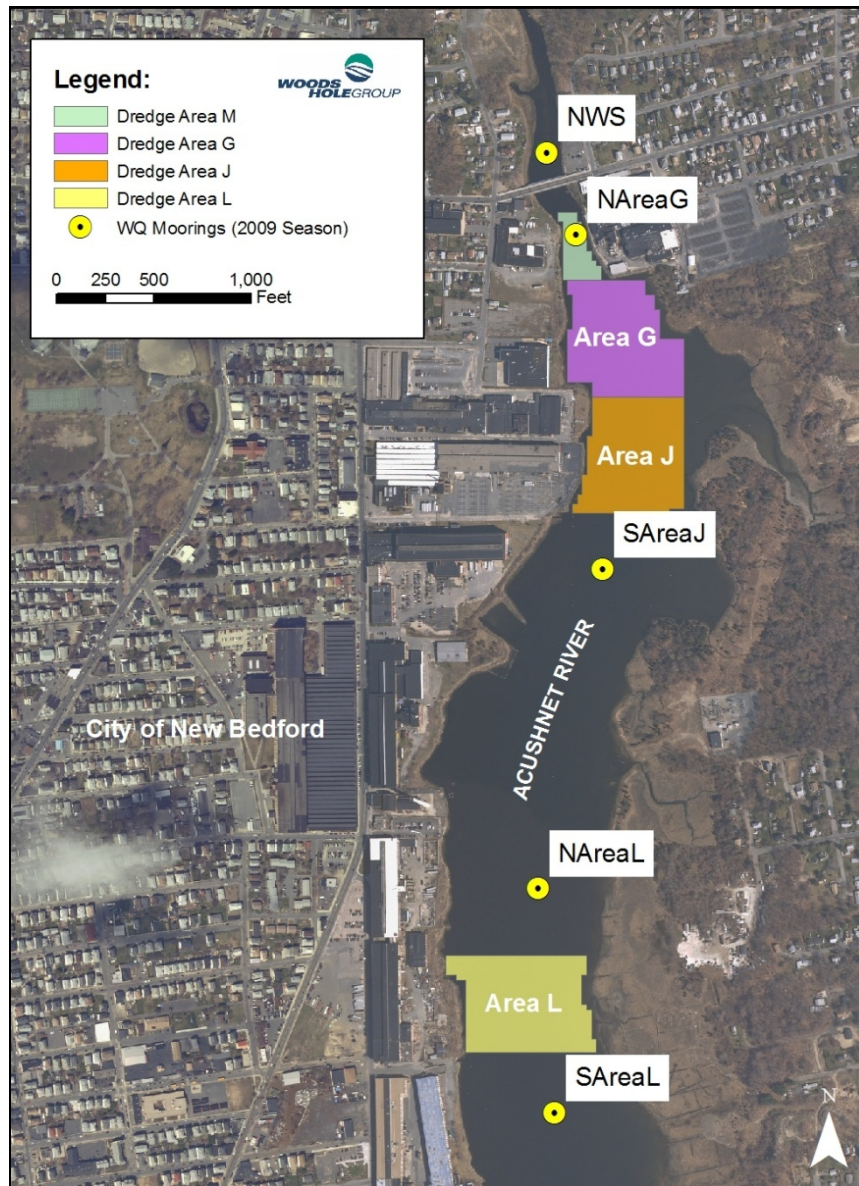


Figure 8. 2009 Fixed Station Water Quality Mooring Locations

A fixed mooring was located north of the Wood Street Bridge 1 foot off the bottom due to the shallow water conditions. It was attached to a milk crate facing upward and weighted by a heavy chain, with a marker buoy attached so as not to be disturbed by any boating or fishing activity (Figure 9). At this location, readings collected were at least 600 feet away from any operational activity. The four remaining moorings were floating design. The floating moorings were fastened to a line and a chain connected to the mushroom anchor and suspended by a lobster buoy. Each mooring also had a larger indicator buoy so that the mooring location was easily discernible and minimize disturbance (Figure 9). The instruments were positioned to float vertically, with the sensors facing upward. The moorings south of Area J, north of Area L and south of Area L were positioned 300 feet from their respective dredge area boundaries (Figure 8). A fourth floating mooring was positioned south of the Wood Street Bridge. This mooring was added during the 2009 dredge season to provide better spatial coverage and to monitor increased activity in Areas M and G and identify plume migration into the previously remediated area north of Wood Street.

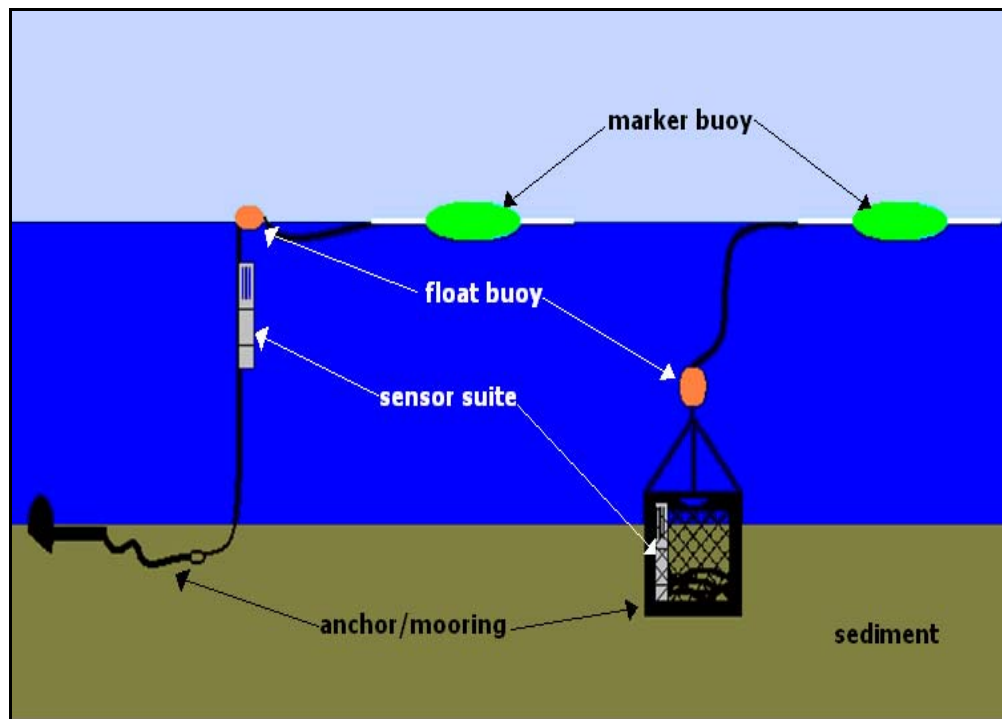


Figure 9. Diagram of fixed station water quality moorings

Data from the water quality moorings was downloaded twice per week and reported to the USACE. The data was provided as figures of the turbidity and dissolved oxygen time series at each station over a three to four day period. An example of a bi-weekly report figure is included as Figure 10. The tidal cycle was also displayed on the figures, collected from the bottom-fixed mooring north of Wood Street. Information regarding dredge related activities were provided by the dredge contractor and included on these figures. Times of active dredging and debris removal in the areas immediately adjacent to each mooring were shaded on the figures to determine whether elevated turbidity levels could be attributed to dredging activities. For the moorings located north and

south of the Wood Street Bridge, any dredge related activities in Areas M or G was shaded. Activity in Area J was shaded for the mooring south of Area J, and any activity within Area L was shaded for the moorings north and south of Area L. The complete time series of turbidity data for each mooring are provided in Appendix B to this report.

The moorings were maintained approximately every other week (14 days). Maintenance required that the instruments be recovered and brought back to the lab trailer for cleaning, recalibration, and to have batteries changed, as needed. Once routine maintenance was performed and the data had been downloaded, the mooring instruments were returned to their original locations.

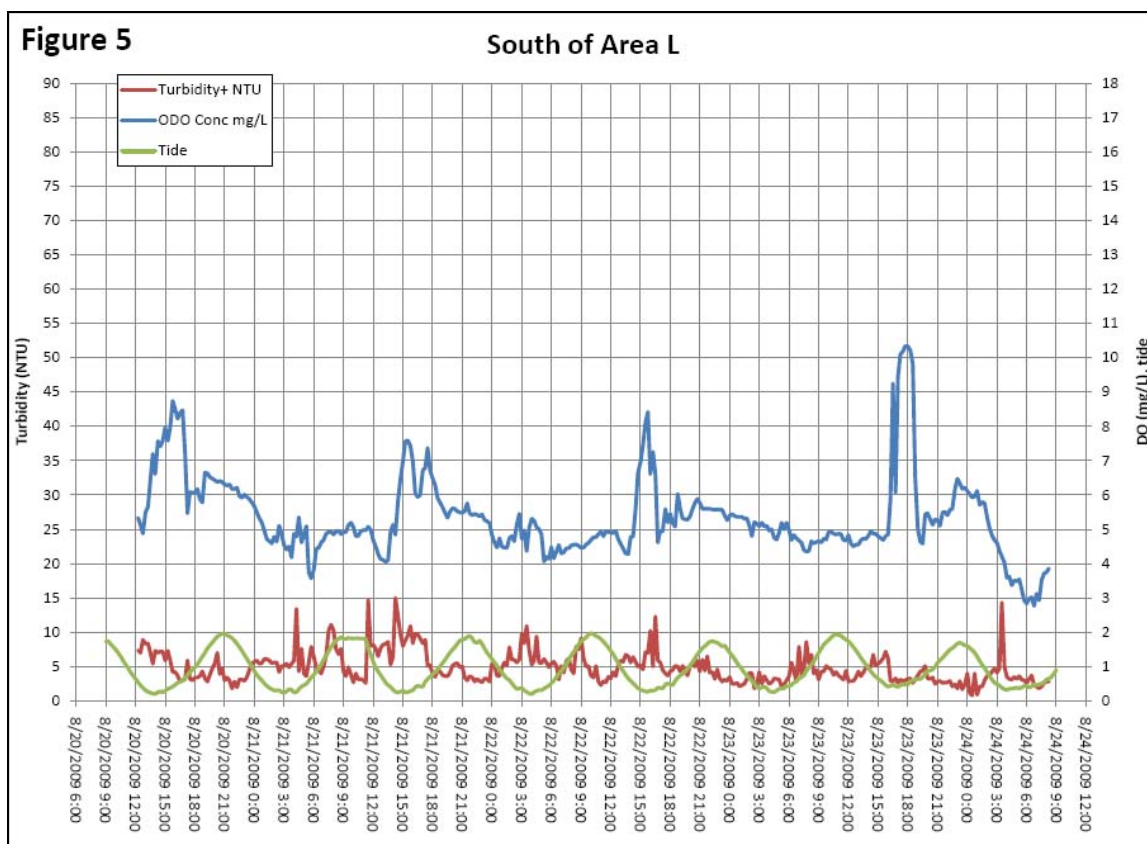


Figure 10. Example of bi-weekly report figure plotting fixed station water quality mooring data

2.1.3 Discrete Water Samples

Discrete water samples were collected during boat-based monitoring using a diaphragm pump connected to 10 feet of tygon tubing. Prior to collecting samples at a given location, water was pumped continuously through the system for approximately two minutes to flush the equipment. This process purged the pumping system in order to reduce the potential for site-to-site cross-contamination. The YSI *in-situ* sensor was placed in the water adjacent to the tubing inlet during collection to ensure that the sensor measurements and the analytical results were representative of the parcel of water being tracked.

Following the purging procedure, water sampled from the pump outlet was collected into the appropriate sample containers for laboratory testing (Table 1). The GPS coordinates of the sample collection were recorded in the WHG field logbook and later entered into electronic files (EDDs) for inclusion in the project database. Following collection, samples were stored on ice in coolers until delivery to the participating laboratories for analysis (Table 1). For each sample event, a routine set of field-based quality control (QC) samples were collected to monitor data quality. Samples included one equipment blank and one field duplicate sample for each set of 20 or fewer field samples. Field QC samples were collected for all test parameters except toxicity assays.

Table 1. Sample collection requirements and participating laboratories

Parameter	Sample Volume	Sample Container	Preservation	Storage Condition	Holding Time	Analytical Lab
TSS	1 L	HDPE Bottle	Ice	4 ± 2 °C	7 Days	Alpha Analytical 320 Forbes Blvd Mansfield, MA 02767 Ph:508-822-9300
Turbidity	1 L	HDPE Bottle	Ice	4 ± 2 °C	48 Hours	
PCB (unfiltered)	1 L	Wide-mouth Amber Glass Bottle	Ice	4 ± 2 °C	7 Days	
PCB (dissolved)	1 L	Wide-mouth Amber Glass Bottle	Ice	4 ± 2 °C	7 Days	
Total Metals	500 ml	HDPE Bottle	HNO ₃	4 ± 2 °C	6 Months	
Toxicity	5 gallons	Cubitainer	Ice	4 ± 2 °C	24 Hours	EnviroSystems, Inc One Lafayette Road P.O. Box 778 Hampton, NH 03843 Ph: 603-926-3345

2.2 LABORATORY ANALYSIS

Laboratory testing was performed on contingency based and/or preplanned discrete water samples. Contingency based samples (Level III), collected in the event of an exceedance of the project’s warning or compliance criteria were analyzed according to the program’s decision sequence for sample analysis. In short, Level III samples were analyzed for toxicity and results were used to determine if subsequent chemical and physical analyses would be required. Figure 4 depicts the decision sequence for sample analysis for a Level III sampling event. At the direction of USACE, planned samples (Levels I and II) were submitted for total suspended solids (TSS), turbidity, PCB (total and dissolved phases), and toxicity testing. An additional sample was collected and archived in the event that heavy metals analysis was later requested. Laboratory methods are summarized below and described in detail in the project QAPP (WHG 2009B).

In addition to the discrete water samples, a routine set of laboratory-based QC samples were prepared from those bottles submitted to the laboratory to monitor data quality in terms of accuracy and precision. Depending on the analysis, QC samples included a procedural blank, laboratory control sample (LCS), laboratory control sample duplicate (LCSD), matrix spike (MS), and matrix spike duplicate (MSD). Specific QC samples and the associated measurement quality objectives are discussed in the QAAP (WHG 2009B).

2.2.1 Total Suspended Solids and Turbidity

In addition to real-time *in-situ* turbidity monitoring, discrete water samples were submitted for total suspended solids (TSS) and turbidity analyses at Alpha Analytical Laboratories (AAL). Water samples were analyzed for TSS following AAL Standard Operating Procedure (SOP) “Total Suspended Solids (TSS) Non-Filterable Residue, Rev. 6.1” (WHG 2009B), which is based on a modified USEPA Method 160.2. In brief, a well-mixed sample was filtered through a 0.45 μ membrane filter and the residual retained on the filter was dried and weighed. Results were reported on a milligram dry-weight basis per volume of water filtered (mg/L). Water samples were analyzed for turbidity following AAL SOP “Turbidity 180.1 Rev. 2.2” (WHG 2009B), which is based on USEPA Method 180.1. Sample results were reported as NTU.

2.2.2 Polychlorinated Biphenyl Congeners (NOAA-18)

Polychlorinated biphenyl (PCB) analyses for the National Oceanic and Atmospheric Administration (NOAA) eighteen congeners were conducted by AAL, using both unfiltered (total) and filtered (dissolved) water samples. Dissolved phase samples required filtering using Gelman AE glass fiber filters (0.45 μ m pore size) and the filtrate captured for analysis.

Polychlorinated biphenyl samples (total and dissolved) were extracted following modified EPA Method 3510C, AAL SOP “Extraction of Water Samples by Separatory Funnel” (WHG 2009B). An aliquot of a well mixed, homogeneous aqueous sample is accurately measured for sample preparation. Generally, 1L of a water sample is extracted. The sample is spiked with surrogate compounds and then extracted using methylene chloride. The extract is dried using anhydrous sodium sulfate and solvent exchanged to hexane during sample concentration. After extraction and concentration, the SW-846 3600-series methods for extract clean-up techniques are applied as necessary. The extract may be treated with Florisil (3620B) or GPC (3640A) for hydrocarbon and lipid removal, and copper (3660B) for sulfur removal. The extract is solvent exchanged into hexane and concentrated to the appropriate volume, generally 10mL, and transferred for analysis. Prior to analysis, the extract is cleaned with sulfuric acid (3665A). Alternatively, this method can be employed for lower detection limits by decreasing the final volume to 1-5mL.

After clean-up and re-concentration, the extracts are analyzed on a gas chromatograph (GC) which is fitted with two capillary columns of differing polarities each employing separate ECD detectors. This process follows a modified USEPA Method 8082 (WHG 2009B). The extracts of PCB Congeners are spiked with internal standards (IS) prior to

analysis. The target analytes are resolved on each column and detected using an electron capture detector (ECD). Analytes are introduced into the GC/ECD by injecting a known volume of the calibration standards, quality control samples, and sample extracts into the GC which is temperature and flow programmed to separate the analytes. Identification of the target analytes is accomplished by confirming a target hit on two dissimilar columns using Retention Time (RT) and Pattern Recognition (PR). Concentrations are calculated from the ECD response using internal standard techniques. Sample results were reported in micrograms per liter ($\mu\text{g/L}$) for the individual eighteen congeners.

For each batch of 20 or fewer samples, a laboratory method blank, LCS/LCSD, MS and MSD was processed and analyzed with the field samples.

2.2.3 Toxicity

Acute and chronic (sub-lethal) exposure screening assays were performed to evaluate the potential toxicity of surface water samples. All assays were conducted by EnviroSystems, Inc. (ESI) located in Hampton, New Hampshire. The information regarding the toxicity analyses that is contained in this section has been obtained from the ESI report text (Appendix D). Assay design included a laboratory control treatment and one or more surface water samples, generally including a site reference sample. Samples were evaluated "As Received" without dilutions. Testing was based on programs and protocols developed by the USEPA primarily designed to provide standard approaches for the evaluation of toxicological effects of discharges on aquatic organisms, and for the analysis of water samples. Testing included the following assays: modified 2 day acute and 7 day chronic assays conducted with the mysid shrimp, *Americamysis bahia*, and the red macro alga, *Champia parvula*, and 60 minute chronic fertilization assays conducted with the purple sea urchin, *Arbacia punctulata*.

2.2.3.1 Test Species

Americamysis bahia, ≤ 5 days old, were obtained from cultures maintained by Aquatic Research Organisms (ARO), Hampton, New Hampshire. Juvenile shrimp were collected daily, isolated, and placed in a rearing tank for up to 6 days. Holding tanks were maintained in a flow-through culture mode at a temperature of $25 \pm 2^\circ\text{C}$. At the start of the assays the mysids were 7 days old. Juveniles were fed <24 hour old brine shrimp on a daily basis. Water temperature, salinity, and pH were monitored on a daily basis. Prior to testing organisms were siphoned from the rearing tanks to a holding vessel, and then transferred to test chambers using a large bore pipet, minimizing the amount of water added to test solutions.

Arbacia punctulata adults were from cultures maintained by ESI. Original stock was obtained from commercial supply. Male and female urchins were maintained in separate chambers. Adult urchins were induced to spawn by the injection of a potassium chloride solution. The viability of gametes obtained was determined prior to their addition to the test solutions. Eggs and/or sperm that would not result in a fertilized egg were rejected from the pool of gametes used in the assay.

Champia parvula biomass was obtained from stock cultures maintained by the Saskatchewan Research Council. Original stocks were obtained from the University of Texas algal collection. The male and female plants were maintained in separate culture vessels under sterile conditions. Algal cultures were maintained on an orbital shaker (100 rpm) at 23±2°C under a ratio of 16 hours light: 8 hours dark at a light intensity of 40 to 75 foot candles light intensity. Cultures are “cropped” and transferred to fresh nutrient solutions on a weekly basis.

2.2.3.2 Site Water Samples and Laboratory Control Water

Prior to testing, samples were evaluated to document salinity, conductivity, and total residual chlorine. Total residual chlorine was measured by amperometric titration (MDL 0.02 mg/L). Prior to use in the assays, the salinity of the samples was adjusted, as necessary, to predetermined levels using artificial sea salts for *A. bahia* and *A. punctulata* assays, and GP-2 salts for the *C. parvula* assays. When necessary, the salinity of samples for the *A. bahia* acute and chronic exposure assays were adjusted to 25±2‰ while samples used for the *A. punctulata* and *C. parvula* assays were adjusted to 30±2‰. Samples with “as received” salinity above these levels were not adjusted.

Laboratory control water used for the mysid and sea urchin assays was collected from the Hampton/Seabrook Estuary. This water is classified as SA-1 and has been used to culture marine test organisms since 1981. The laboratory control water used in the algal assay (48 hour acute portion), collected from Hampton Harbor, New Hampshire, is the same water used in culture maintenance. Prior to use, seawater used in the algal assays was filtered through glass fiber filters and sterilized. Control water used in the algal assays conducted by AquaTox (acute and chronic portions) was natural seawater collected from the West Coast of Canada. Salinity of the surface water samples was adjusted, as required, using commercial sea salts.

2.2.3.3 Bioassay Tests

***Americamysis bahia* Acute Exposure Assays**

The endpoint for the *A. bahia* bioassay was survival (acute). The 48 hour static acute toxicity tests were conducted at 25±1°C with a photoperiod of 16:8 hours light: dark. Test chambers for the acute assays were 250 mL glass beakers containing 200 mL test solution in each of 4 replicates with 10 organisms per replicate. Survival and dissolved oxygen were measured daily in each replicate prior to test solution renewal. Salinity, temperature and pH were recorded in a composite sample of the “old” test solution and in the “new” test solution prior to being added to the test chamber. Specific conductivity was measured in one replicate of each sample at the start of the assay. Mysids were not fed during the assay.

***Americamysis bahia* Chronic Exposure Assays**

The 7 day assays were conducted at a temperature of 26±1°C with a photoperiod of 16:8 hours light:dark. Mysids were maintained in 250 mL beakers containing 150 mL of test solution. Approximately 100 mL of the test solution were replaced each day. The assay incorporated 8 replicates with 5 organisms per replicate. Survival and dissolved oxygen were measured daily in each replicate prior to test solution renewal. Salinity, temperature

and pH were recorded in a composite sample of the “old” test solution and in the “new” test solution prior to being added to the test chamber. Incubator temperatures were also recorded on a daily basis. During the test, mysids were fed #24 hour old *Artemia* nauplii. On Day 7 of the assay, surviving mysids were removed from test solutions, rinsed to remove any surface detritus and salts, and transferred to tared foils and dried for 24 hours at 103°C. Foils were weighed to the nearest 0.01 mg. Mean dry weights per individual were obtained by dividing the net dry weight of all surviving organisms by the number of organisms added at the start of the assay.

***Arbacia punctulata* Chronic Exposure Fertilization Assays**

The endpoint for the *A. punctulata* bioassay was fertilization. Gametes were obtained by potassium chloride injection to induce spawning. Sperm were collected dry, diluted to achieve a concentration of approximately 5.0×10^7 sperm/mL in the surface water treatments. Actual sperm concentrations are provided on laboratory bench sheets within ESI’s report in Appendix D. Sperm solutions were added to 5 mL aliquots of each sample being evaluated and allowed to remain in the test solutions for 60 minutes before the addition of unfertilized eggs. Each treatment incorporated a total of four (4) replicates. After 20 minutes exposure, the assay was terminated by the addition of 0.2 mL of preservative. Aliquots of preserved solution were counted to determine numbers of fertilized and unfertilized eggs. Fertilization was accepted based on the presence or absence of a fertilization membrane around the egg.

***Champia parvula* Acute Exposure Assays**

The target endpoints for the acute *C. parvula* bioassay were coloration and necrosis. The red algae assay was conducted with a 2 day exposure period to the surface waters and laboratory control treatments. Each treatment used four replicates with five female branches and one male branch per replicate. Temperature was maintained at $23 \pm 1^\circ\text{C}$. The light source was cool white and fluorescent bulbs set on a 16:8 hours light:dark cycle, with a light intensity of 40 to 75 foot candles. Light intensity was checked at the start of each assay. Temperatures were monitored on a daily basis. Test chambers were 200 mL borosilicate glass fleakers. Upon test termination, plants were examined to determine the physical condition and coloration of the individual branches. Branches showing signs of degeneration were noted and used to establish an acute endpoint.

2.2.3.4 Data Analysis

Statistical analysis of acute and chronic exposure data was completed using Comprehensive Environmental Toxicity Testing System (CETTS) software. The program computes acute and chronic exposure endpoints based on EPA decision tree guidelines specified in individual test methods. For chronic exposure endpoints statistical significance was accepted at $\alpha < 0.05$.

2.2.3.5 Quality Control

As part of the toxicity testing laboratory quality control program, standard reference toxicant assays are conducted on a regular basis for each test species to provide relative health and response data while allowing for comparison with historic data sets.

3.0 CHRONOLOGY OF MONITORING OBSERVATIONS

Water quality monitoring was performed from the onset of the dredging season, starting in June 2009 and continuing through the extended dredging season until late December 2009. Remedial dredging began on June 1, 2009 and was completed on December 1, 2009. In the following summary, all turbidity values referenced are the actual values as read from the sensor and therefore, not corrected for background levels. Field logs and daily summary reports, as well as figures depicting the complete time series from *in-situ* fixed-station water quality monitoring station instruments are included in Appendices A and B, respectively. Complete tide data corresponding to the 2009 dredge season is included on the field logs (Appendix A). The following section provides a weekly summary of water quality monitoring observations and activities. The text was summarized from the daily field logs and weekly summary reports submitted to the USACE throughout the 2009 dredge season.

Week of June 1 – June 5, 2009 (Spin-Up)

- **Days monitored:** Wednesday 6/3, Thursday 6/4 and Friday 6/5.
- **Areas of activity:** Dredging and debris removal in Area L, pipe work in Areas M, G and J.
- **Exceedances:** None.
- **Turbidity summary:** Wed: ref = 1-3 NTU, 300-ft transect L = 17-40 NTU, 600-ft transect L = 7-12 NTU; Thurs: ref = 3-5 NTU, 300-ft transect L = 10-28 NTU; Fri: ref = 3-5 NTU, 50-ft transect L = 60-80 NTU, 100-ft transect L = 30-40 NTU, 200-ft transect L = 20-30 NTU, 300-ft transect L = 10-30 NTU
- **Wildlife:** Many fish observed jumping. Jellies were abundant throughout the harbor.
- **Notes:** Monitoring on Wednesday 6/3 showed elevated turbidity readings of <40 NTU above background 300-ft north of Area L during debris removal on the flood tide. While monitoring the pipe installation work being done in Areas M, G and J, slightly elevated turbidity values ranging from 6 – 12 NTU were observed. Also, a moderate to heavy sheen appeared and collected on the northern most oil boom in the M/G/J areas.

On Thursday 6/4, two fixed YSI moorings were deployed 150-ft south and north of the Area L boundaries. Turbidities ranging 25 – 50 NTU were observed directly adjacent to operations in Area L, but were 10 – 30 NTU outside of the area boundaries. During debris removal operations, a short plume with maximum turbidity value of 185 NTU was observed but quickly dissipated once the operator noticed and ceased working. Surrounding the dredge in Area L and outside of the boundaries of L on Friday 6/5, readings were 10 – 30 NTU. A narrow (50 feet wide) plume of higher turbidity, ranging from 30 – 80 NTU trailed the debris removal barge but dissipated quickly with distance to only 30 – 40 NTU at 100-ft down-current.

Week of June 8 – June 12, 2009 (Week 1)

- **Days monitored:** Monday 6/8, Wednesday 6/10 and Friday 6/12.

- **Areas of activity:** Dredging and debris removal in Areas J and L. Debris removal in Area G.
- **Exceedances:** None.
- **Turbidity summary:** Mon: ref = 2-5 NTU, 200-ft transect L = 10-30 NTU, 300-ft transect = 5-12 NTU; Weds: ref = 6-12 NTU, 300-ft transect J = 10-12 NTU (flood) and 10-20 NTU (ebb); Fri: ref = 11-15 NTU, 100-ft transect G = 20-30 NTU (slack high) and 30-80 NTU (max 130, ebb), 300-ft transect L = 6-10 NTU
- **Wildlife:** Many shorebirds and jellies observed. A dead seagull was found floating in Area J on Friday 6/12.
- **Notes:** On Monday 6/8, during times of inactivity, turbidity readings surrounding the debris removal barges in Area L were as high as 40 NTU. It is thought that during low tides, the barge may be touching the bottom sediments, causing a disturbance of sediments into the water column. High readings were also observed very close (<100 feet) to the debris removal barges in Area L during activity, but these plumes dissipated rapidly with increasing distance. Monitoring surrounding dredging and debris removal in Area J on Wednesday 6/10 showed a narrow plume of turbidity traveling south of the activity, limited to <30 NTU at a distance of 300-ft down-current.

On Friday 6/12, the two YSI moorings were recovered, cleaned, and recalibrated, and then redeployed in their new long-term locations 300-ft south of Areas J and L. A plume of turbidity was observed in Area J in association with debris removal in Areas G and J and dredging in Area J. The plume reached a maximum reading of 130 NTU 100-ft down-current from the activity, but was short-lived. Turbidity generally ranged from 30 – 80 NTU in this region, and was 30 – 40 NTU 200-ft down-current from the activity.

Week of June 15 – June 19, 2009 (Week 2)

- **Days monitored:** Tuesday 6/16 and Wednesday 6/17.
- **Areas of activity:** Dredging in Area L and debris removal in J and L.
- **Exceedances:** None.
- **Turbidity summary:** Tues: flood ref = 1-4 NTU, ebb ref = 4 NTU, 50-ft transect L = 60-80 NTU, 100-ft transect L = 30-50 NTU, 300-ft transect L = 5-10 NTU; Wed: ref = 2-5 NTU, 300-ft transect L = 10-40 NTU, 300-ft transect J = 4-7 NTU
- **Wildlife:** Many shorebirds observed, many jellies, a few fish jumping.
- **Notes:** On Tuesday 6/16, WHG deployed a third fixed station YSI mooring in a long-term location north of Wood Street. The mooring is approximately 100-ft north of the bridge and 300-ft north of Area M. Monitoring showed elevated turbidity immediately surrounding debris removal in Area L, as high as 76 NTU at a distance of 50-ft down-current. At a distance of 100-ft, readings diminished to <50 NTU, and under 10 NTU 300-ft down-current. Activity was also monitored in Area J, where no readings of over 10 NTU were observed. Wednesday 6/17 experienced similar turbidity readings, elevated to <50 NTU within 300-ft of debris removal and dredging in Area L, and under 15 NTU 100-ft from debris removal in Area J.

Week of June 22 – June 26, 2009 (Week 3)

- **Days monitored:** Tuesday 6/23 and Wednesday 6/24.
- **Areas of activity:** Dredging in Area L and debris removal in Areas J and L.
- **Exceedances:** None.
- **Turbidity summary:** Tues: ref = 10-15 NTU, 600-ft transect = 10-15 NTU, 300-ft transect = 15-20 NTU; Wed: ref = 2-6 NTU, 600-ft transect = 10-15 NTU, 300-ft transect = 10-40 NTU
- **Wildlife:** Many shorebirds observed and fewer jellies than past weeks.
- **Notes:** Monitoring this week exhibited higher ambient turbidity levels than recent weeks, as high as 10 – 15 NTU, likely due to the significant wind and rainfall during the previous week. Water samples were collected on Wednesday 6/24 for turbidity, total suspended solids, metals (archived), dissolved PCBs and total PCBs analysis by AAL and toxicity assays by ESI. The sampling was performed in conjunction with water quality monitoring at five sites: 1) a reference location upstream of all activity collected during a flooding tide 1000-ft south of Area L, 2) a reference location upstream of all activity collected during an ebbing tide 1000-ft north of Area M and north of Wood Street, 3) the site of active debris removal in J, 4) 300-ft downstream of active debris removal, south of J during ebb, and 5) 600-ft downstream of active debris removal, south of J during ebb. Turbidity levels ranged from 80 – 160 NTU. A strong H₂S odor was noted during sampling at the site of active debris removal.

Week of June 29 – July 3, 2009 (Week 4)

- **Days monitored:** Monday 6/29 and Tuesday 6/30.
- **Areas of activity:** Dredging and debris removal in Areas J and L.
- **Exceedances:** None.
- **Turbidity summary:** Mon: ref = 1-10 NTU, 600-ft transect = 10-30 NTU, 300-ft transect = 10-40 NTU; Tues: ref = 2-10 NTU, 600-ft transect = 1-5 NTU, 300-ft transect = 5-15 NTU.
- **Wildlife:** Terns and ospreys seen fishing, and nesting swans were abundant.
- **Notes:** On Monday 6/29, the field team observed a moderate sheen in Area J associated with debris removal and high turbidity within 100-ft of activity. The turbidity plume and sheen was carried north of the debris removal. No exceedances were observed, however readings of >40 NTU at 300-ft downstream were cause for some concern, so operations were slowed to reduce the turbidity plume. WHG continued to monitor for half an hour after debris removal ceased. Turbidity levels dropped off quickly to between 30 – 50 NTU at the source, and 10 – 20 at 300-ft down-current.

On Tuesday 6/30, a heavy sheen was observed in Area L associated with the debris removal in the northwest corner. The sheen was not contained by the oil boom and was noticeable 300-ft south of Area L. Jacobs Engineering (JE) was notified (Mr. Josh Cummings) and debris removal was stopped for 2 – 3 hours. WHG monitored the sheen, which was contained within the oil boom in Area L when debris removal started again.

Week of July 6 – July 10, 2009 (Week 5)

- **Days monitored:** Tuesday 7/7 and Thursday 7/9.
- **Areas of activity:** Dredging and debris removal in Areas J and L.
- **Exceedances:** High turbidity event on 7/9/09 in Area L associated with debris removal. WHG was unable to collect water samples due to plume dissipation. This event is qualified as a warning criteria exceedance.
- **Turbidity summary:** Tues: ebb ref = 2-5 NTU, flood ref = 4-10 NTU, 300-ft transect J = 5-15 NTU, 300-ft transect L = 5-20 NTU; Thurs: ref = 5-7 NTU, 300-ft transect J = 5-20 NTU, 300-ft transect L = 20-80 NTU
- **Wildlife:** Fish observed jumping around Area J. Many swans near the Sawyer St dock and by Area J. No jellies were noted.
- **Notes:** Monitoring on Tuesday 7/7 observed a moderate to heavy sheen in Area L associated with the debris removal. The sheen was mostly contained within the oil boom. Turbidity levels were not elevated in this area. The fixed station YSI units were recovered, cleaned and recalibrated for redeployment.

On Thursday 7/9, a small turbidity plume, narrow and focused, with readings as high as 60 NTU appeared <100-ft downstream of a push boat working to keep a dredge straight in Area J. That same day, WHG observed a slight sheen and very turbid water (50 – 120 NTU) surrounding the recently active, but currently inactive debris barge located in the northwest corner of Area L. At the southern boundary of Area L and 300-ft from the debris removal barge, readings as high as 80 NTU were observed, generally averaging 30 – 60 NTU. The plume was narrow and localized, and as WHG prepared to collect water samples, the plume dissipated. No samples were collected.

Week of July 13 – July 17, 2009 (Week 6)

- **Days monitored:** Tuesday 7/14, Wednesday 7/15, Thursday 7/16 and Friday 7/17.
- **Areas of activity:** Dredging and debris removal in Area G, dredging in Area J and debris removal in Area L.
- **Exceedances:** Wednesday 7/15: warning criteria exceedance occurred in Area G associated with various activities including debris removal, dredging and boat traffic. WHG was able to collect water quality samples at the 300-ft downstream location.
- **Turbidity summary:** Tues: ebb ref = 5-17 NTU, flood ref = 5-15 NTU, 300-ft transect J = 20-30 NTU, 300-ft transect G = 10-35 NTU; Weds: ref = 5-16 NTU, 300-ft transect G = 40-105 NTU, 700-ft transect G = 20-45 NTU; Thurs: ref = 5-18 NTU, 300-ft transect G = 5-20 NTU, 300-ft transect J = 6-15 NTU, 300-ft transect L = 5-20 NTU; Fri: ref = 4-10 NTU, 300-ft transect L = 30-90 NTU, 300-ft transect G = 20-30 NTU, 100-ft transect J = 12-40 NTU;
- **Wildlife:** Fish jumping south of Area L, Many swans, blue and green herons, a kingfisher as well as the usual gulls and cormorants were observed. No jellies observed.
- **Notes:** Monitoring on Tuesday 7/14 observed a slight sheen in Area G associated with the debris removal and activity surrounding the preparation of the dredge.

The debris removal barge was positioned close to the shoreline in the southwest corner of Area G, and a plume of very high turbidity (120 – 265 NTU) was confined between the barge and the shore. The turbidity levels slowly dropped as WHG continued to monitor this plume. The plume was contained to an area approximately 100-ft from the debris removal barge.

Water quality monitoring on Wednesday 7/15 resulted in an exceedance of the project's warning criteria at the 300 foot threshold. Elevated turbidity levels were observed within Area G directly adjacent to the activity, so WHG transited into Area M, to a distance 350-ft from the debris removal and 300-ft from the dredge. WHG monitored water quality for over half an hour, observing a constant turbidity of 30 – 50 NTU with an increase to sustained 60 – 90 NTU and spikes to 105 NTU. USACE Engineer Paul L'Heureux was notified and WHG was able to sample the exceedance at the 300-ft distance. WHG continued to monitor for another half an hour. Turbidity remained elevated despite the halted debris removal and decreased boat traffic. Elevated levels (20 – 45 NTU) were seen past the 600-ft boundary as well.

On Thursday 7/16, WHG returned to monitor Area G where the warning criteria exceedance had occurred on the previous day. Turbidity levels were limited to a range of 40 – 60 NTU during both debris removal and dredging. WHG monitored this area for greater than two hours, to ensure that no exceedances reoccurred. Turbidity levels were near background (<20 NTU) in both Areas J and L.

Monitoring on Friday 7/17 observed a heavy sheen in Area L associated with the debris removal. The sheen was mostly contained within the oil boom, in the northwest corner of the dredge area. Turbidity levels were elevated in this area, ranging from 30 – 90 NTU (20 – 80 NTU above background). JE personnel and Paul L'Heureux were notified, and WHG continued to monitor the area. These elevated turbidity readings quickly decreased to <20 NTU above background once debris removal stopped.

Week of July 20 – July 24, 2009 (Week 7)

- **Days monitored:** Wednesday 7/22 and Friday 7/24.
- **Areas of activity:** Dredging and debris removal in Areas J and L.
- **Exceedances:** None.
- **Turbidity summary:** Weds: flood ref = 9-10 NTU, ebb ref = 3-45 NTU, 300-ft transect J = 10-15 NTU, 300-ft transect L (down-current) = 10-40 NTU, 300-ft transect L (up-current) = 6-22 NTU; Fri: flood ref = 3-13 NTU, ebb ref = 4-17 NTU, 200-ft transect G = 7-25 NTU, 600-ft transect G = 7-11 NTU
- **Wildlife:** Fish jumping south of Area L. A green heron, egrets, swallows, swans and shorebirds observed.
- **Notes:** On Wednesday 7/22, samples were collected for a toxicity study from a location in Area G where a warning level criteria exceedance occurred on 7/15. WHG also performed water quality monitoring on Wednesday, and cleaned and recalibrated the YSI moorings. A fourth mooring was added 300-ft north of Area

L. Water quality monitoring on Friday 7/24 observed no areas of concern associated with dredging activity. Turbidity levels were elevated <20 NTU above background near all activity in the northern area of the river.

Week of July 27 – July 31, 2009 (Week 8)

- **Days monitored:** Wednesday 7/29 and Friday 7/31.
- **Areas of activity:** Dredging and debris removal in Areas J and G. Dredging in Area L.
- **Exceedances:** None.
- **Turbidity summary:** Weds: flood ref = 2-8 NTU, 100-ft transect J = 5-70 NTU, 200-ft transect J = 5-30 NTU, 150-ft transect G = 2-10 NTU (brief spike to 110 NTU), 300-ft transect G = 2-25 NTU; Fri: flood ref = 3-11 NTU, 150-ft transect L = 5-1 NTU, 150-ft transect J = 8-20 NTU
- **Wildlife:** Fish observed north of Wood St near shoreline, as well as egrets, herons, swans, shorebirds. Very small fish (baitfish) near Sawyer St docks with other small fish jumping and feeding (Friday morning).
- **Notes:** Monitoring on Wednesday 7/29 observed low background turbidity levels as well as very low dissolved oxygen concentrations in the northern dredge areas (M and G) and north of the Wood Street Bridge. Dissolved oxygen levels in the very thin salt water layer during the daytime flood tide were as low as 0.12 mg/L or about 6%. The dissolved oxygen was much higher (between 3 – 8 mg/L) in the fresh water layer that lay on top of the salt water in the top 4 feet of water, in an area about 5 feet deep.

Water quality monitoring on Friday 7/31 observed a heavy sheen north of dredging activity in Area L. The sheen was escaping the oil boom due to heavy winds out of the south and a flood tide. There was no turbidity plume associated with the activity. Turbidity levels resembled background readings. The sheen was only spotty and light during periods of no activity, but when the dredge was active, the sheen was heavy. Thunderstorms ended activity in the afternoon on Friday.

Week of August 3 – August 7, 2009 (Week 9)

- **Days monitored:** Monday 8/3 and Thursday 8/6.
- **Areas of activity:** Debris removal in Area G. Dredging and debris removal in Area J. Dredging in Area L.
- **Exceedances:** None.
- **Turbidity summary:** Mon: ebb ref = 2-8 NTU, 100-ft transect J (up-current) = 4-6 NTU, 100-ft transect J (down-current) = 3-17 NTU, 250-ft transect J = 3-8 NTU, 100-ft transect L = 8-16 NTU; 125' L = 5-9 NTU; Thurs: ebb ref = 2-12 NTU, 300-ft transect G = 6-9 NTU
- **Wildlife:** Small fish observed north of Wood Street clearly stressed and struggling. Approximately a dozen fish were dead or dying. WHG collected three of these fish for identification by USACE. Fish observed jumping in all monitored areas. A coyote was seen in the afternoon on Thursday 8/6 on the Acushnet/Fairhaven shoreline between Areas J and L.

- **Notes:** Monitoring on Monday 8/3 provided no turbidity readings above 20 NTU. A light sheen was observed north of Area L, heading north on the flood tide. A very light sheen was observed near debris removal in Area L, moving south on the ebb tide. Water quality monitoring on Thursday 8/6 exhibited very low dissolved oxygen concentrations north of Wood Street and throughout the harbor. Turbidity levels were very low in all areas, below 15 NTU.

Week of August 10 – August 14, 2009 (Week 10)

- **Days monitored:** Monday 8/10 and Thursday 8/13.
- **Areas of activity:** Debris removal and dredging in Areas G and J. Dredging in Area L.
- **Exceedances:** None.
- **Turbidity summary:** Mon: flood ref = 2-6 NTU, north of Wood Street = 5-9 NTU, 300-ft transect up-current G = 4-9; Thurs: flood ref = 1-7 NTU, 300-ft transect L = 3-13 NTU, 300-ft transect J = 5-9 NTU (flood) and 6-15 NTU (ebb), 300-ft transect J = 9-30 NTU, 300-ft transect G = 11-45 NTU
- **Wildlife:** An abundance of birds, including great blue heron, many egrets and other herons, cormorants, seagulls and turns feeding on large numbers of small fish. A few dead and struggling fish also observed.
- **Notes:** Monitoring on Monday 8/10 observed turbidity levels <20 NTU surrounding all activity throughout the day. At the fixed-station mooring north of Wood Street, an abundance of aviary wildlife was feeding on large schools of small (1"-2") fish. A few of the fish were dead or appeared to be dying. Salinity levels in this area ranged from about 3 – 26 ppt. Lower levels (3 – 15 ppt) were within the first foot of water (surface to one foot depth) and between one and two feet deep was about 15 – 25 ppt. The salinity of the lower depths (below two feet to the bottom) was >25 ppt. Fish appeared to be swimming in healthy schools within the first 2 feet of water, while the unhealthy, struggling fish tended to lie around the one foot depth. In this water layer, dissolved oxygen concentrations were higher than in the lower depths (1 – 3 mg/L as compared to <1 mg/L).

On Thursday, no stressed or dead fish were observed. Work during the ebbing tide in the afternoon exhibited slightly elevated turbidity (about 20 – 30 NTU above background) at a distance 300-ft downstream (south) from the debris removal and dredging in Area G. Also, a light sheen was noticed moving south from the debris removal in Area J, but was contained within the oil boom.

Week of August 17 – August 21, 2009 (Week 11)

- **Days monitored:** Monday 8/17 and Thursday 8/20.
- **Areas of activity:** Debris removal in Areas G and L. Dredging in Areas J and L.
- **Exceedances:** None.
- **Turbidity summary:** Mon: ebb ref = 3-17 NTU, flood ref = 2-11 NTU, 200-ft transect L (up-current) = 2-11 NTU, 350-ft transect L (down-current) = 6-13 NTU, 100-ft transect J = 6-60 NTU; Thurs: ebb ref = 3-6 NTU, 300-ft transect L

- = 3-13 NTU, 100-ft transect G = 11-20 NTU, 300-ft transect J = 3-9 NTU, 300-ft transect L = 3-30 NTU
- **Wildlife:** Avian wildlife observed throughout the harbor feeding on small bait fish. Two young boys seen fishing on the banks north of Wood St reported catching small bluefish. Fish observed jumping throughout the harbor. Approximately one dozen dead fish located north of Wood St. Many birds, including blue and green herons, egrets, cormorants, seagulls and terns observed fishing in the river north of Wood St.
 - **Notes:** On Monday 8/17 high background turbidity levels were observed, ranging from 2 – 17 NTU. Dissolved oxygen concentrations were 7 – 12 mg/L as compared to 0 – 6 mg/L the previous week. Data from the YSI moorings revealed that dissolved oxygen concentrations were sometimes >18 mg/L, usually peaking during mid-afternoon or evening hours. These DO levels are much higher than past weeks and higher than any levels WHG has observed in New Bedford Harbor during 2009. Water temperatures are as high as 30° C in shallow areas, such as Areas M, G, and north of Wood St. Turbidity levels were elevated to >40 NTU above background 100-ft north of Area J. A strong southerly wind required the use of a push-boat to keep the dredge in line while operating. Due to the low tide, the propeller stirred up sediments, likely causing the elevated turbidity levels WHG observed. On Thursday 8/20, turbidity levels were low throughout the harbor. Dissolved oxygen levels ranged from 1.5-7 mg/L. Water temperatures remained between 26-30° C.

Week of August 24 – August 28, 2009 (Week 12)

- **Days monitored:** Monday 8/24 and Thursday 8/27.
- **Areas of activity:** Debris removal and dredging in Area G. Dredging in Area J. Debris removal in Area L.
- **Exceedances:** None.
- **Turbidity summary:** Mon: flood ref = 2-4 NTU, ebb ref = 1-2 NTU, 300-ft transect G = 6-31 NTU, 300-ft transect J = 3-7 NTU, 100-ft transect J and 300-ft transect G = 14.5 NTU; Thurs: flood ref = 2-6 NTU, 150-ft transect J = 18-27 NTU, 300-ft transect G = 6-33 NTU
- **Wildlife:** An abundance of aviary wildlife observed, including great blue herons, green herons, egrets, cormorants, seagulls and terns. Bluefish seen feeding on large numbers of menhaden north and south of Wood St. Ospreys observed diving for fish between Area J and Area L. Before dredging operations started, birds were observed resting on the equipment in Area G. Included were gulls, cormorants, egrets and swans.
- **Notes:** Monitoring on Monday 8/24 observed low turbidity levels surrounding all activity throughout the day (<31 NTU). A spotty sheen appeared near debris removal and dredging in Area G but did not travel away from the area where it originated. Dissolved oxygen concentrations were lower than previous weeks, ranging from 2 – 7 mg/L compared to 7 – 12 mg/L. Water temperatures range from 23 – 27°C throughout the harbor. On Thursday, turbidity levels <33 NTU were observed surrounding all activities.

Week of August 31 – September 4, 2009 (Week 13)

- **Days monitored:** Monday 8/31 and Thursday 9/3
- **Areas of activity:** Dredging in Area G and Area J. Debris removal in Area L.
- **Exceedances:** None
- **Turbidity summary:** Mon: flood ref = 1.5-6 NTU, 150-ft transect J = 1-40 NTU: ebb ref = 1-4.5 NTU, 300-ft transect G = 2-7 NTU, 300-ft transect J = 2-56 NTU (ebb) and 6-80 NTU (flood), 150-ft transect L = 10-41.5 NTU, 300-ft transect L = 7.5-36.5 (ebb) and 2.5-7.5 NTU (flood)
- **Wildlife:** No birds observed north of Wood Street, where they had been abundant in previous weeks. Large numbers of small fish, possibly “snapper” bluefish was seen jumping in the area between dredge Areas J and L. The fish action attracted multiple ospreys as well as some seagulls and other birds to the area.
- **Notes:** On Monday 8/31, WHG collected the five YSIs deployed in the harbor and brought them back to the trailers for routine maintenance; cleaning and calibration. Upon redeployment of the units, water quality profiles were taken at each of the five sites. A slight, spotty sheen was observed south of debris removal in Area L. The addition of secondary oil booms surround Area L appeared to limit the amount of sheen that appeared outside the boundary. Salinity readings showed the top 1 foot to be freshwater, (salinities less than 10 ppt), likely from the large amount of rainfall over the weekend.

On Thursday, turbidity levels appeared elevated surrounding the dredging activities in Area J during low tide. Push boats were being used to keep the dredge straight on its course and readings of up to 75 NTU above background were seen 300-ft north of the dredge. This was not an exceedance due to the compliance criteria being elevated to 100 NTU on August 4, 2009. WHG was unable to back away any farther due to the low tide and insufficient water in Area G. Turbidity levels were also slightly elevated near the debris removal in Area L, <30 NTU above background at a distance of 250-ft downstream. A light to moderate, spotty sheen was observed south of the debris removal in Area L. Dissolved oxygen concentrations were relatively low, between 0.5 – 5.5 mg/L and generally higher at the surface and in the top two feet of water.

Week of September 7 – September 11, 2009 (Week 14)

- **Days monitored:** Tuesday 9/8 and Thursday 9/10.
- **Areas of activity:** Dredging in Area G and Area J. Debris removal in Area L.
- **Exceedances:** None.
- **Turbidity summary:** Tues: flood ref = 0.3-2.3 NTU, 500-ft transect L = 1-2 NTU, 400-ft transect G (flood) = 5-40 NTU, 100-ft transect G (slack high) = 70 NTU, 300-ft transect G = 2-7 NTU, 300-ft transect J = 3.5-7 NTU, 200-ft transect L = 2.5-3 NTU ; Thurs: flood ref = 0.7-1.5 NTU, 300-ft transect J = 9-26 NTU, 300-ft transect G = 11-15 NTU (flood) and 2-7 NTU (ebb), 300-ft transect in L = 2-20 NTU
- **Wildlife:** Fish observed jumping in the northeastern corner of Area J. A dead cormorant located in the oil boom at the northern boundary of Area G on Tuesday

9/8. Abundant aviary wildlife appeared throughout, especially north of Wood Street.

- **Notes:** On Tuesday 9/8, WHG monitored activity in Areas L, J and G. Elevated turbidity levels (68 NTU above background) were observed very close to the dredge in Area G, <100-ft downstream. These values decreased to approximately 38 NTU above background at a distance of 400-ft downstream from the dredge. Turbidity levels near all other activity on the harbor were <5 NTU above background values. The dissolved oxygen concentration throughout the harbor was between 4.5 – 9 mg/L. Slightly lower values (~4 mg/L) were observed at depth. A moderate sheen was observed surrounding the dredge in Area G, which was working in the northern most region of Area G.

On Thursday, turbidity levels appeared slightly elevated surrounding the dredging activities in Area J, approximately 24 NTU above background. Turbidity was approximately 18 NTU above background 300-ft downstream from debris removal in Area L. Dissolved oxygen concentrations ranged from 5.5 – 10 mg/L, the lower concentrations occurring at depth. There were no noticeable sheens or odors surrounding activity in the harbor on Thursday.

Week of September 14 – September 18, 2009 (Week 15)

- **Days monitored:** Monday 9/14 and Thursday 9/17.
- **Areas of activity:** Dredging in Area G and Area J. Debris removal and dredging in Area L.
- **Exceedances:** None.
- **Turbidity summary:** Mon: flood ref = 0-3 NTU, 300-ft transect L (up-current) = 2-7 NTU, 300-ft transect L (down-current) = 0.5-23 NTU (morning) and 10-52 NTU (afternoon). 400-ft transect L = 2.5-13; Thurs: ebb ref = 3-7 NTU, 800-ft transect G = 10-14 NTU, 300-ft transect G = 25 NTU
- **Wildlife:** Fewer birds observed throughout the harbor. Fish observed jumping in all areas, particularly the region between Areas J and L.
- **Notes:** Monitoring on Monday 9/14 observed background turbidity levels ranging from 0.1 – 2.6 NTU at the flood reference site, 1000-ft south of Area L. Turbidity levels were consistently low throughout the harbor in the morning. Slightly elevated turbidity readings (<50 NTU above background) were noted near dredging in Area L, about 300-ft north (down-current). The WHG vessel backed away to a distance of 400-ft downstream of the dredge where turbidity levels decreased to <10 NTU above background. Dissolved oxygen concentrations in the harbor remain in a range between about 3.5 – 6.5 mg/L during monitoring hours.

On Thursday 9/17, work was halted in the late morning due to a large, heavy sheen emanating from the debris removal activity in Area L. This sheen was noted between the northern boundary of Area L and the Sawyer Street dock, a distance of >2000-ft. Turbidity levels were low, however, under 20 NTU above background. Background turbidity readings from the northern ebb reference site ranged between 3 – 7 NTU. Turbidity was slightly elevated (approximately 20

NTU above background) within Area M, north of dredging in Area G. Dissolved oxygen concentrations ranged between 3.0 – 7.5 mg/L.

Week of September 21 – September 25, 2009 (Week 16)

- **Days monitored:** Monday 9/21 and Thursday 9/24.
- **Areas of activity:** Dredging in Area G and Area J. Debris removal in Area G and Area L. Pipe maintenance in Area G.
- **Exceedances:** None.
- **Turbidity summary:** Mon: ebb ref = 2-3 NTU, 300-ft transect J = 6-13 NTU, 600-ft transect J = 3-7 NTU, 300-ft transect L = 4-5 NTU; Thurs: ebb ref = 3-5 NTU, north of Wood Street (flood) = 6-11 NTU, 100-ft transect J = 7-11 NTU, 300-ft transect J = 1.5-10 NTU, 300-ft transect L = 1.5-4 NTU
- **Wildlife:** A large school of fish observed in the excavated channel on the shoreline at the Aerovox facility and continuing south into the region between Areas J and L. The fish were schooling and jumping in this area throughout the day and appeared healthy. Approximately 100+ fish were observed.
- **Notes:** Water quality monitoring on Monday 9/21 observed low background turbidity levels at the reference site north of the Wood Street Bridge. Turbidity levels were consistently low throughout the harbor around activities in all areas. Dissolved oxygen concentrations were slightly higher than usual, between 8 – 11 mg/L. On Thursday 9/24 background turbidity levels were 3-5 NTU and no readings above 25 NTU were noted. Turbidity levels were <10 NTU above background at 100-ft downstream from the dredge in Area J. Dissolved oxygen readings were lower than Monday, between 3.5 – 9 mg/L. No sheens were observed during monitoring on either day.

Week of September 28 – October 2, 2009 (Week 17)

- **Days monitored:** Monday 9/28 and Thursday 10/1.
- **Areas of activity:** Dredging in Area J. Debris removal and dredging in Area G and Area L.
- **Exceedances:** None.
- **Turbidity summary:** Mon: flood ref = 1-4 NTU, 75' G = 14-120 NTU, 75' G = 16-60 NTU; Thurs: ebb ref = 6-9 NTU, 600-ft transect G = 6-40, NTU, 300-ft transect J = 5-25 NTU, 300-ft transect L = 4-10 NTU, 300-ft transect L = 2-5 NTU
- **Wildlife:** Many fish observed jumping throughout harbor. Blue crabs observed swimming and mating. Water fowl feeding on small fish south of Wood Street.
- **Notes:** Water quality monitoring on Monday 9/28 observed low background turbidity levels ranging from 1.3 – 3.8 mg/L at the reference site 1000-ft south of Area L. Turbidity levels were elevated surrounding activity in Area G, with both the dredge and debris removal in operation. A short burst of high turbidity (<120 NTU) was observed, but quickly dissipated. Turbidity readings at a distance of 75' down-current of the activity generally ranged from 20 – 80 NTU with a reported average reading of approximately ~50 NTU. Dissolved oxygen concentrations in monitored areas ranged between 3 – 8 mg/L, the higher

concentrations appearing in the southern areas of the harbor. No sheen or odor was observed near any activity.

On Thursday, 10/1, turbidity readings at the northern reference site were 6.1 – 8.1 NTU. Monitoring around activity in Area G exhibited slightly elevated turbidity levels with a maximum value of approximately ~30 NTU above background 600-ft down-current. Based on the ebbing tide, WHG moved farther down-current into Area J and continued to monitor water quality. Turbidity readings decreased to 17 NTU above background, maximum. Dissolved oxygen levels ranged from 1.8 – 5.4 mg/L in northern regions to 5.0 – 9.1 mg/L in the southern areas that were monitored.

Week of October 5 – October 9, 2009 (Week 18)

- **Days monitored:** Monday 10/5 and Thursday 10/8.
- **Areas of activity:** Dredging in Area J. Debris removal and dredging in Area G and Area L.
- **Exceedances:** Short-lived high turbidity event resulting in a warning criteria exceedance on Monday 10/5 associated with debris removal in Area G.
- **Turbidity summary:** Mon: flood ref = 1-3 NTU, ebb ref = 2-3.5 NTU, 300-ft transect G = 10-180 NTU (average range: 50-90 NTU), 600-ft transect G = 10-50 NTU; Thurs: ebb ref = 4-6.5 NTU, 300-ft transect J and 1000-ft transect G = 5-25 NTU
- **Wildlife:** Fish observed jumping in Area J near dredge. A dead bird (possibly a duck) was seen in the oil boom south of Area J.
- **Notes:** Water quality monitoring on Monday 10/5 observed low background turbidity levels at both reference sites. Turbidity levels were elevated surrounding activity in Area G, with both the dredge and debris removal in operation. A short-lived plume of high turbidity (<180 NTU) was observed where turbidity generally ranged from 50 – 90 NTU 300-ft down-current within the active work zone. Due to this elevated reading, the debris removal operator was notified and asked to stop work for a short time while WHG continued to monitor the turbidity in the plume. Turbidity decreased after the initial spike, although infrequent ephemeral plumes would appear, ranging from 80 – 120 NTU. Turbidity readings 600-ft down-current ranged from 5 – 50 NTU. The highest turbidity readings appeared between 1.0 – 1.5 feet below the surface, between the fresh water layer and the salt water layer below. Once work had been halted for almost an hour and readings had decreased consistently below 60 NTU, debris removal operation resumed and WHG continued to monitor the work. Turbidity levels continued to decrease and remained below 30 NTU for the duration of debris removal work in Area G. It was noted that a much thicker layer (greater than one foot) of fresh water lay on the surface throughout the harbor, likely due to the significant amount of rainfall the previous weekend.

On Thursday 10/8, all five moored YSI sondes were cleaned and recalibrated. WHG monitored activity in Areas G and J, observing near background turbidity levels surrounding all activity. Dissolved oxygen concentrations appeared

normal, ranging from 4.6 – 9.8 mg/L. Water temperatures have been decreasing, with a maximum temperature of 20.3° C last week, 18.2° C on Monday, and a maximum reading of 17.2° C on Thursday.

Week of October 12 – October 16, 2009 (Week 19)

- **Days monitored:** Tuesday 10/13.
- **Areas of activity:** Dredging in Area J. Debris removal and dredging in Area G and Area L.
- **Exceedances:** None.
- **Turbidity summary:** Tues: flood ref = 1-3 NTU, 300-ft transect J = 4-33 NTU, 300-ft transect L = 4-56 NTU, 300-ft transect G = 8-12 NTU.
- **Wildlife:** A dead striped bass was observed in Area J on Tuesday 10/13. Many birds (gulls and terns) were observed feeding on small fish.
- **Notes:** Monitoring on Tuesday 10/13 took place primarily on a flood tide. Turbidity readings 300-ft down-current (north) of dredging in Area J exhibited a maximum reading of 30 NTU above background. Turbidity readings were higher 300-ft down-current of the debris removal in Area L, approximately 50 NTU above background. Water quality monitoring exhibited increasingly colder water throughout the harbor. Average water temperature was approximately 15° C, down from 17° – 18° C the previous week. Dissolved oxygen concentrations were normal, between 7.3 – 11 mg/L.

Week of October 19 – October 23, 2009 (Week 20)

- **Days monitored:** Monday 10/19 and Friday 10/23.
- **Areas of activity:** Dredging and debris removal in Area G, Area J, Area L and Area M.
- **Exceedances:** None.
- **Turbidity summary:** Mon: flood ref = 0-1 NTU, ebb ref = 2.5-3.5 NTU, 300-ft transect J = 5-35 NTU (max: 50 NTU), 300-ft transect L = 10-60 NTU, 600-ft transect L = 10-30 NTU; Fri: flood ref = 2-6 NTU, 300-ft transect L = 3-4 NTU (flood) and 0-3 NTU (ebb), 300-ft transect J = 5-9 NTU (flood) and 3-12 NTU (ebb).
- **Wildlife:** Fish observed jumping in between Areas L and J. Water fowl observed on Friday 10/23.
- **Notes:** Dredging and debris removal work progressed north into Area M this week. The fixed-station mooring previously located in Area M was removed and repositioned just south of the Wood Street Bridge. The mooring location was moved to keep the equipment from interfering with the work in Area M. The mooring north of the Wood Street Bridge remains in its location, as an approximate 300-ft marker for the compliance zone, given a flooding tide.

On Monday 10/19, turbidity levels down-current (south) of dredging in Area J were generally between 5 – 35 NTU, with brief plumes of higher turbidity (<50 NTU). South of debris removal operations in Area L, a narrow (~20 feet wide) plume of high turbidity was observed. The plume was visible (<60 NTU), as was the transition to the surrounding less turbid waters (5 – 20 NTU). Farther down-

current, at a distance of 600-ft, turbidity within the visible plume decreased to 10 – 30 NTU. The plume was contained in the top 0.5 foot of water. Dissolved oxygen concentrations ranged from 6 – 11 mg/L. Water temperatures ranged between 11° – 14° C.

On Friday 10/23, water quality monitoring observed no significant elevated turbidity surrounding any activity. Background turbidity was approximately 6 NTU. The highest reading observed was 12 NTU 300-ft down-current (south on an ebb tide) from both dredging and debris removal in Area J.

Week of October 26 – October 30, 2009 (Week 21)

- **Days monitored:** Monday 10/26 and Thursday 10/29.
- **Areas of Activity:** Dredging and debris removal in Area G, Area J, Area L and Area M.
- **Exceedances:** None.
- **Turbidity summary:** Mon: flood ref = 0.5-2 NTU, 300-ft transect J = 15-20 NTU, 300-ft transect M = 9-36 NTU, 300-ft transect L = 2-6 NTU; Thurs: flood ref = 1.5-1.7 NTU, 300-ft transect M = 4-87 NTU (ebb) and 0.3-24 (flood), 300-ft transect J = 1-18 NTU, 300-ft transect L = 1-3 NTU
- **Wildlife:** Fish observed jumping and water fowl present throughout harbor.
- **Notes:** On Monday 10/26, turbidity readings were elevated to ~34 NTU above background at 300-ft down-current of dredging and debris removal in Area J. Turbidity readings were near background levels surrounding work in Area M, during both active dredging and debris removal. Monitoring of work done in Area M on Thursday 10/29 observed a plume of turbidity 300-ft south of the dredge, at a spud location inside of dredge Area G. Brief but frequent spikes up to a maximum of 85 NTU above background were observed, with general turbidity ranging between 20 – 40 NTU. On the flood tide, WHG returned to Area M to monitor dredging activity 300-ft north of the dredge. At this time turbidity levels had decreased to ~20 NTU above background. Water quality monitoring surrounding dredging in Area L, and debris removal in Area J, observed no significant elevated turbidity readings.

Week of November 2 – November 6, 2009 (Week 22)

- **Days monitored:** Monday 11/2 and Thursday 11/5.
- **Areas of activity:** Dredging and debris removal in Area G, Area J, Area L and Area M.
- **Exceedances:** None.
- **Turbidity summary:** Mon: ebb ref = 0-0.5 NTU, 300-ft transect M = 3-87 NTU, 300-ft transect L = 0.5-1 NTU, 300-ft transect J = 10-32 NTU; Thurs: ebb ref = 2-10 NTU, 300-ft transect M = 9-66, 300-ft transect J = 2-67 NTU, 300-ft transect L = 18-77 NTU, 300-ft transect J = 5-31 NTU.
- **Wildlife:** Fish observed jumping throughout the harbor.
- **Notes:** Work continued in Area M, including both dredging and debris removal. Background turbidity on Monday 11/2 was very low (<2 NTU). Background readings on Thursday 11/5 were slightly elevated, ranging between 2.7 – 9.8

NTU. Water quality monitoring of the debris removal and dredging in Area M on Monday 11/2 observed elevated turbidity values as high as 87 NTU. Similar readings were observed on Thursday 11/5, although debris removal and dredging were not currently active. During dredging, turbidity readings ≤ 66 NTU were observed while readings ≤ 77 NTU were observed during debris removal. The highest turbidity readings were at a depth of about 1.5 feet. In general, turbidity values averaged between 20 – 30 NTU during activity. A slight to moderate sheen was observed both days surrounding work in Areas M and J. Monitoring of debris removal and dredging in Area J also observed elevated turbidity readings both days. Readings < 67 NTU were observed 300-ft south of debris removal during an ebb tide, and 31 NTU at 300-ft south of dredging during an ebb tide.

Week of November 9 – November 13, 2009 (Week 23)

- **Days monitored:** Monday 11/9 and Thursday 11/12.
- **Areas of activity:** Dredging and debris removal in Area G, Area J, and Area M. Dredging in Area L.
- **Exceedances:** None.
- **Turbidity summary:** Mon: flood ref = 0-0.5 NTU, 200-ft transect J = 30-160 NTU (average ~100 NTU), 250-ft transect L = 0.3-3 NTU, 100-ft transect M = 20-80 NTU (average ~30 NTU); Thurs: flood ref = 0.4-3 NTU, 250-ft transect M = 4-12 NTU, 300-ft transect J = 5-17 NTU.
- **Wildlife:** Fish observed jumping throughout the harbor. Abundant water fowl, especially swans.
- **Notes:** Background turbidity on Monday 11/9 was very low, around 0 NTU throughout the water column (depths of 1 – 9 feet at the reference location). Elevated turbidity readings were observed adjacent to and down-current of the debris removal in Area J during a flood tide, ranging from 30 – 160 NTU, but averaged between 75 – 125 NTU. A sheen was also observed in this area during debris removal activity. During dredging in Area M, turbidity elevated, ranging from 20 – 80 NTU, but averaged approximately 30 NTU at a distance of 100-ft down-current.

On Thursday 11/12, WHG monitored 250-ft down-current of dredging in Area M where turbidity ranged between 4 – 12 NTU. Likewise, 250-ft down-current of dredging in Area J, turbidity ranged between 5 – 17 NTU. No sheens were observed. Dissolved oxygen concentrations ranged approximately 6.5 – 9.5 mg/L, with water temperatures generally between 10° – 11° C.

Week of November 16 – November 20, 2009 (Week 24)

- **Days monitored:** Monday 11/16 and Thursday 11/20.
- **Areas of activity:** Dredging and debris removal in Area M. Dredging in Areas J and L. Debris removal in Area G.
- **Exceedances:** None.
- **Turbidity summary:** Mon: ebb ref = 0.4-1.3 NTU, 250-ft transect G/M = 2-95 NTU, 200-ft transect J = 8-40 NTU, 200-ft transect L = 2 NTU; Thurs: flood ref =

0.5-1 NTU, 300-ft transect M = 4.9-6.2 NTU (flood) and 11.8-20.2 NTU (ebb), 300-ft transect J = 1.9-30.5 NTU.

- **Wildlife:** Fish observed jumping in Areas G and J on Monday, and south of J on Thursday. Many swans, herons, a kingfisher and other water fowl observed.
- **Notes:** Monitoring on Monday 11/16 exhibited significantly elevated turbidity down-current of active debris removal and dredging in Areas G and M during the ebb tide. Turbidity ranged from 2 – 95 NTU, and averaged approximately 30 – 40 NTU. Plumes of high turbidity (>70 NTU) were not sustained, but a maximum reading of 95 NTU was observed. The pulses of higher turbidity were thought to be attributed to the debris removal barge becoming grounded on the bottom sediment due to the low tide conditions at the time of monitoring. A heavy sheen was observed in the vicinity of active debris removal in Area G. Dissolved oxygen concentrations were between 6.5 – 8.5 mg/L and water temperatures were between 10° – 12° C.

On Thursday 11/19, turbidity readings of ~30 NTU above background were noted 300-ft downstream of the dredge in Area M during the ebb tide. Turbidity readings were also slightly elevated (~30 NTU above background) south of debris removal in Area M on the ebb tide. During the flood tide, however, turbidity decreased to near background levels north of the debris removal in Area M.

Week of November 30 – December 4, 2009 (Week 25)

- **Days monitored:** Monday 11/30.
- **Areas of activity:** Dredging in Areas G and L.
- **Exceedances:** None.
- **Turbidity summary:** Mon: ebb ref = 0.8-1.0 NTU, 300-ft transect G = 1-60 NTU, 300-ft transect L = 0.6-1.2 NTU (ebb) and 1.2-5.3 NTU (flood).
- **Wildlife:** Abundant swans, seagulls, water fowl. No fish observed.
- **Notes:** During monitoring on Monday 11/30, background turbidity readings were relatively low for New Bedford Harbor, around 1 NTU. Elevated turbidity was observed during a low ebbing tide, at a distance of 300-ft down-current of the dredge in Area G. The highest turbidity readings were observed in the bottom foot of water. Turbidity values ranged between 30 – 50 NTU, with a maximum of just under 60 NTU. The surface water in this location was near background (~2 NTU). WHG monitored activity in Area L during the ebb, low water slack, and flood tides at a distance of 300-ft downstream. Turbidity readings were at background levels during the ebb and low tides, and elevated only slightly, to ~5 NTU during the flood tide. This was the final day of boat-based monitoring for the 2009 dredge season.

4.0 RESULTS

Results of the WHG water quality monitoring of 2009 remedial dredging operations at the New Bedford Harbor Superfund Site are presented in this section. Complete results, fixed-station time series, and laboratory reports are provided as Appendices to this report.

4.1 DREDGING SUMMARY

Remedial dredging was initiated on June 1, 2009 and completed on December 1, 2009. The remediation efforts during the 2009 dredge season focused on four areas, identified as Areas M, G, J and L, described north to south (Figure 2). The entire Site is divided into a series of Dredge Management Units (DMU) based primarily on contamination levels, contamination sources, and topography. Portions of the following DMUs fell within the boundaries of the four Areas and were thus dredged in the 2009 season: DMU-1, DMU-2, DMU-3, DMU-4, DMU-10, DMU-12, DMU-13, DMU-14, DMU-102(MF) and DMU-103(MF).

Once the dredge areas were determined, sheet piling was placed around the perimeter of each section, at approximately 50-foot spacing, to anchor the perimeter and dredge winching cables. The perimeter cable was run around the sheet piles at approximately the high tide mark. Also along the perimeter, floating, absorbent oil booms were placed to contain any surface oil slicks. A 'gate' in the south end of the dredge area was used for all vessels entering or leaving the operation.

Dredging was performed by Severson Environmental Services Inc. (SES) under the direction of Jacobs Engineering (JE). Severson utilized a Mud Cat™ hydraulic dredge equipped with a horizontal auger (Figure 11). The dredge was propelled by winching itself along a transverse cable which spans the dredge area to opposite sides of the perimeter cable. As a pass is completed, support crews relocated the cable to position for the next pass. Dredged material was pumped through a flexible pipeline to a booster pump, then to the de-sanding facility at Sawyer Street. Following de-sanding, the remaining fine material was pumped via a separate pipeline to the dewatering, treatment, and handling facility in the Lower Harbor. In total, JE has estimated that the dredging team removed 49,809 cubic yards of material in 2009.

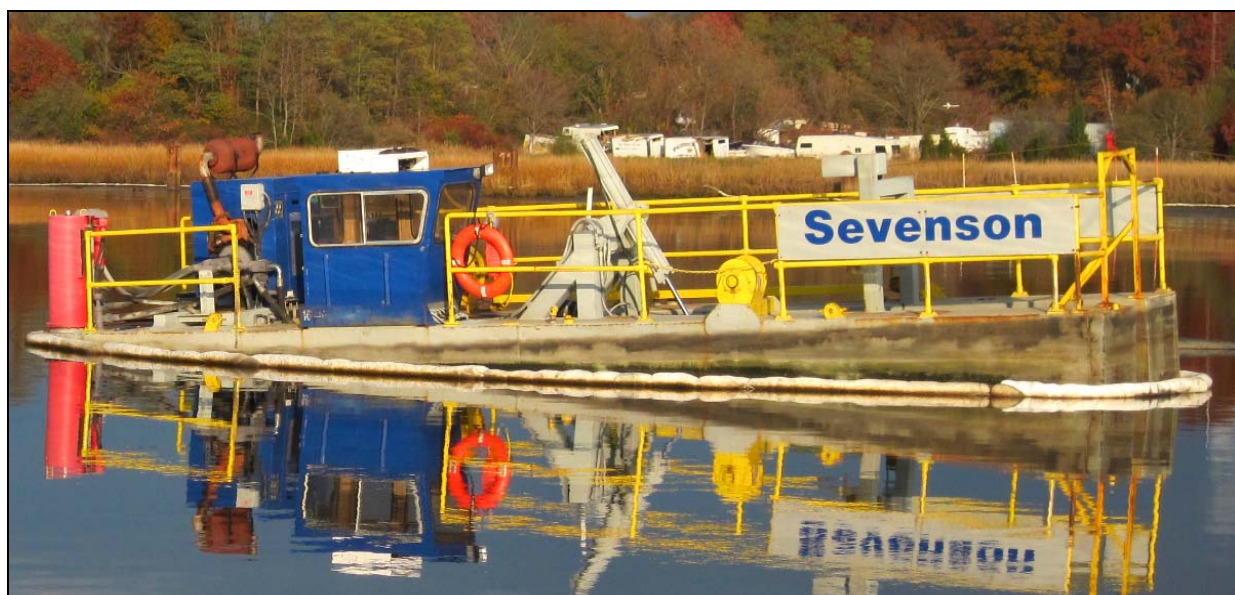


Figure 11. Mud Cat™ hydraulic dredge

Hydraulic dredges cannot process large debris contained in the native sediment because the oversized material fouls the auger and suction of the slurry pipeline. Therefore, the operation requires a separate debris removal operation prior to the dredging of a particular area. Debris removal was accomplished by ‘raking’ the bottom with a barge-mounted excavator (Figure 12). The end of the excavator has two forked jaws that are hydraulically opened and closed. The jaws are deployed to the bottom and methodically “grab” or scrape the bottom for debris. Each “grab” of the bottom is brought to the surface, rinsed of sediment and inspected. If debris such as cobbles, old tires, timbers or scrap metal is contained within the excavator jaws, the debris is stored in scows secured to the debris removal platform or barge. Support boats were used throughout the operation to transport crews, maintain dredges, handle the pipeline, and move barges.



Figure 12. Debris removal excavator and debris storage scow

The northern most portions of Areas M and G contain intertidal areas and therefore dredging operations could not always be conducted, especially during low tides. When low water prevented work in these areas, the dredge crew moved operations to deeper waters in Areas J and L. Due to the narrowing of the estuary in the northern regions of the harbor and the shallow waters in these locations, the use of heavy equipment in Areas M and G caused some concern that the equipment and dredge activity might impact the seasonal migration of anadromous fish species. For this reason, the dredging of Area M was only performed after November 1, 2009 to alleviate the potential for impacts on migratory fish species.

4.2 FIELD MONITORING SUMMARY

Water quality monitoring was conducted in an adaptive manner in response to changing operational and weather related conditions. The monitoring approach was modified 1) as tides and winds changed, 2) as dredge activities moved between areas, 3) as debris removal activities changed, and 4) as warranted based on support activities. All of these activities (dredging, debris removal, and support activities) had the potential to impact water quality. The monitoring program incorporated assessment of the entire operation.

The monitoring activities were also largely influenced by tidal conditions and safety. The dredge areas and the associated perimeter cable and oil boom spanned most of the width of the river limiting access to northern portions of the river, including the northern reference location. At lower tides, the northern portion of the river was nearly impassable, making it difficult to monitor work performed in Areas M and G during these periods. Due to the narrow river channel and shallow water depths at this location, however, there was increased potential for water quality impacts. This is supported by the increased turbidities observed during the month of July in Areas M and G. The turbidity exceedance water quality samples collected from Area G in July, however, resulted in no acute toxic effects and spurred the re-evaluation of the exceedance criteria.

The toxicity results from the two discrete sampling events exhibited no adverse effects on the subject species; therefore, it was thought that the project's turbidity compliance threshold was perhaps overly conservative, causing unnecessary stoppages to the remediation work, and over-complicating the monitoring tasks of the field team. The results of the water toxicity evaluation study led to the modification of compliance criterion and the definition of a new compliance threshold for turbidity. After the modifications to the compliance criteria, no turbidity threshold violations occurred for the remainder of the 2009 dredge season.

4.2.1 Boat-Based Monitoring

Boat-based water quality monitoring was performed three days a week at the start of dredging during the first two weeks of June, and typically twice a week until dredging was completed on December 1, 2009. Site conditions and *in-situ* water quality measurements collected during boat-based monitoring are summarized in Section 3.0 and documented per monitoring protocols in the field logs and daily reports, located in Appendices A and B, respectively. Water quality monitoring was performed primarily north of activities during a flood tide and south of activities during an ebb tide. Access to the northern areas was somewhat limited during low tidal periods and data at times reflects this limitation.

4.2.1.1 Turbidity Summary

Each water quality monitoring day began with a transit to one of two reference locations, 1000-ft down-current of the active work zone. The water quality readings collected at the reference location provided data regarding the background conditions and established the baseline turbidity for use in determining the compliance threshold on a given day. Turbidity values were generally higher and dissolved oxygen concentrations lower at the northern reference site as compared to the southern reference site. Background turbidity readings were typically around 5 NTU, but ranged over the season between zero and 15 NTU, depending on environmental conditions.

During dredging and debris removal, *in-situ* turbidity readings in the active dredge area increased compared to background conditions, with readings ranging from 0-160 NTU, depending upon the proximity to dredging activities and environmental conditions. The maximum reading of 160 NTU was observed on November 9, 2009 in Area J. It occurred during a flood tide, in a plume that migrated 200-ft north of the debris removal

barge. Readings within the plume ranged from 30-160 NTU, averaging approximately 100 NTU, and dissipated with increasing distance from the active operation.

Turbidity plumes observed during boat-based monitoring were generally weak (<30 NTU) and turbidity levels decreased as the plume migrated down-current, away from its origin. Plumes were observed on multiple occasions throughout the dredge season on both flood and ebb tides and were typically short-lived or ephemeral. Often, the plumes occurred south of debris removal in Area L on an ebb tide and north of debris removal in Areas M, G and J on the flood tide. At times, such as on October 19, 2009, a plume of turbidity was highly visible, but water quality readings indicated the turbidity ranged only 5-20 NTU. On other occasions, plumes of elevated turbidity of >100 NTU were not as readily visible. One such instance occurred on June 16, 2009 when debris removal operations created a plume of turbidity as high as 75.8 NTU, but the plume was not noticeable from view of the vessel.

Oily sheens were observed near dredging and debris removal operations, particularly during operations on the western shoreline of Area L. The addition of a second line of oil booms surrounding Area L helped to reduce the dispersion of sheen outside of the Area's boundaries. After closely monitoring water quality surrounding these oily sheens, it appeared there was no significant correlation between an oily sheen and high turbidity readings.

Relatively high turbidity readings were frequently observed immediately adjacent to dredging support activities. This is especially the case for, but not limited to, debris removal activities and the use of boats to push barges or boats for re-location and wind stabilization. During high winds, boats were used to maintain the hydraulic dredge's direction, and when used during low water levels, the motor's propeller wash often disturbed bottom sediments, forming narrow plumes of high turbidity. This was observed on numerous occasions throughout the dredge season. The single turbidity compliance threshold violation or "exceedance" event sampled during the 2009 dredge season occurred during a time of heavy boat traffic and active debris removal and dredging. Occasionally, localized plumes of elevated turbidity were observed around or emanating from inactive debris removal barges. When water levels were particularly low, the barge appeared to disturb sediments beneath it and create a plume of turbidity in the immediate vicinity of the barge. Such events were observed and documented on June 8 and November 16, 2009. Close monitoring of these activities and conditions ensured that elevated turbidity plumes did not migrate outside of the active work zone. On average, dredging itself did not produce high turbidities in surrounding areas.

4.2.1.2 Dissolved Oxygen Summary

Particular attention was also given to the concentration of dissolved oxygen (DO) during the 2009 dredge season. At the request of the USACE, WHG closely monitored this water quality parameter due to the concern for potential impacts to anadromous fish, other fish species and migration. During August, water temperatures peaked at approximately 30° C and dissolved oxygen concentrations decreased to hypoxic conditions throughout the system. This is a naturally occurring phenomenon during summer months in estuarine systems. Dissolved oxygen readings of <1 mg/L were

frequently observed north of Wood Street and in the vicinity of Areas M and G. These water quality conditions occur naturally in shallow stratified estuaries, but provided a warning for the dredging operators to be cautious as to not exacerbate the situation. Because of the project's activity in the northern regions of the estuary during the fall migratory season, characterization of dissolved oxygen conditions were important to distinguish between naturally occurring conditions and dredge related impacts to water quality.

During the first few weeks in August, schools of small bait fish were observed in the river north of Wood Street. On occasion, these fish appeared to be stressed, possibly suffering hypoxic effects due to the low dissolved oxygen levels in the estuary. While a few dead fish were observed, no large scale fish-kills occurred. Efforts to limit activity and keep equipment from interfering with fish passage or water flow exchange during hypoxic conditions in the northern areas were successful, as directed by the 2009 USACE Fish Protection Plan. The dredging operations had little or no effect on the fish migration or the overall health of the local fish and wildlife population.

4.2.2 Fixed-Station Continuous Monitoring

Two water quality sensors (YSI 6920 sondes) were deployed on June 4, 2009, during the first week of active dredging operations. Their initial positions were approximately 150-ft north and 150-ft south of the Area L dredge boundaries. These sensors remained in their initial short-term locations until they were recovered on June 12, 2009 for cleaning and re-calibration. Upon redeployment, the two YSI units were moved to their long-term locations, NBH – SAreaL (300-ft south of Area L) and NBH – SAreaJ (300-ft south of Area J). On June 16, 2009, a third mooring was deployed approximately 100-ft north of the Wood Street Bridge, and named NBH – NWS. A fourth mooring was added 300-ft north of Area L (NBH – NAreaL) on July 22, 2009, and a fifth mooring was placed approximately 300-ft north of Area G, inside Area M (NBH – NAreaG) on August 6, 2009. The fifth mooring was repositioned approximately 50-ft north of Area M on October 23, 2009 when dredge operations started in that area. Figure 8 depicts the locations of the water quality moorings.

The deployment of the continuously recording water quality sensors provided additional information that complemented the adaptive boat-based monitoring approach discussed above. The location of the sensors north and south of the dredge areas provided valuable information regarding tidal influences on sediment suspension and transport. Continuous readings provided water quality data for periods when active monitoring of dredge activities was not performed, as well as during nights and weekends, offering background conditions for comparison.

Dredging operations frequently stopped and started due to mechanical or physical issues and the location of active operations was highly variable. Moreover, the 2009 active dredge zone was divided into four separate dredge areas, each actively dredged at various dates and times depending on tides, fish migration, and other factors. As a result, it was difficult to positively determine whether active work in a given area would cause changes in water quality recorded in the five moorings' data sets. However, examining the record of dredge activity for each area and comparing it with the continuous water quality record

for the moorings in closest proximity allows for a cause-effect relationship to be determined.

The figures in Appendix B present the fixed station time series data along with times of active dredge operations. The figures were included in the weekly reports during the 2009 dredge season. Turbidity signals related to dredge activity were clearly observed in the time series. These signals manifest as peaks in turbidity above background. The background turbidity signal in the estuary is influenced by tidal conditions, river flow, weather and wind, output from CSOs, and other factors. As a result, the background signal can fluctuate on scales from minutes to days. The background turbidity level, on a given day in one area of the estuary, can be different than the background turbidity level in another area. The minor fluctuations and differences based on location are apparent in the figures in Appendix B. In some cases, it is difficult to discern whether a fluctuation in turbidity is merely background, or related to dredge activities. However, most often the turbidity level did not exceed the project-specific compliance criteria (50 or 100 NTU); when this did occur, it was on a time scale of 1-2 hours, maximum.

At times, the cause-effect relationship is apparent. This was the case for data recorded at the mooring north of Area G during a deployment from November 9 – 12, 2009. Figure 13 depicts data for this time period at the mooring 50 feet north of Area G and provides information regarding active operations in Areas G and M. Periods of sustained elevated turbidity are apparent during dredge-related activity in Areas G and M. Due to the proximity of the mooring to the dredge activities, the turbidity measurements are relatively high (176 NTU maximum), as the activity was likely less than 100' away from the mooring. This is the only occasion when turbidity readings were sustained and elevated to such levels. Noticeable spikes in turbidity readings also occurred during weekends and inoperable hours. Such spikes mirror those observed during operation periods and may be attributed to natural conditions in the estuary or malfunctions of the water quality sensors.

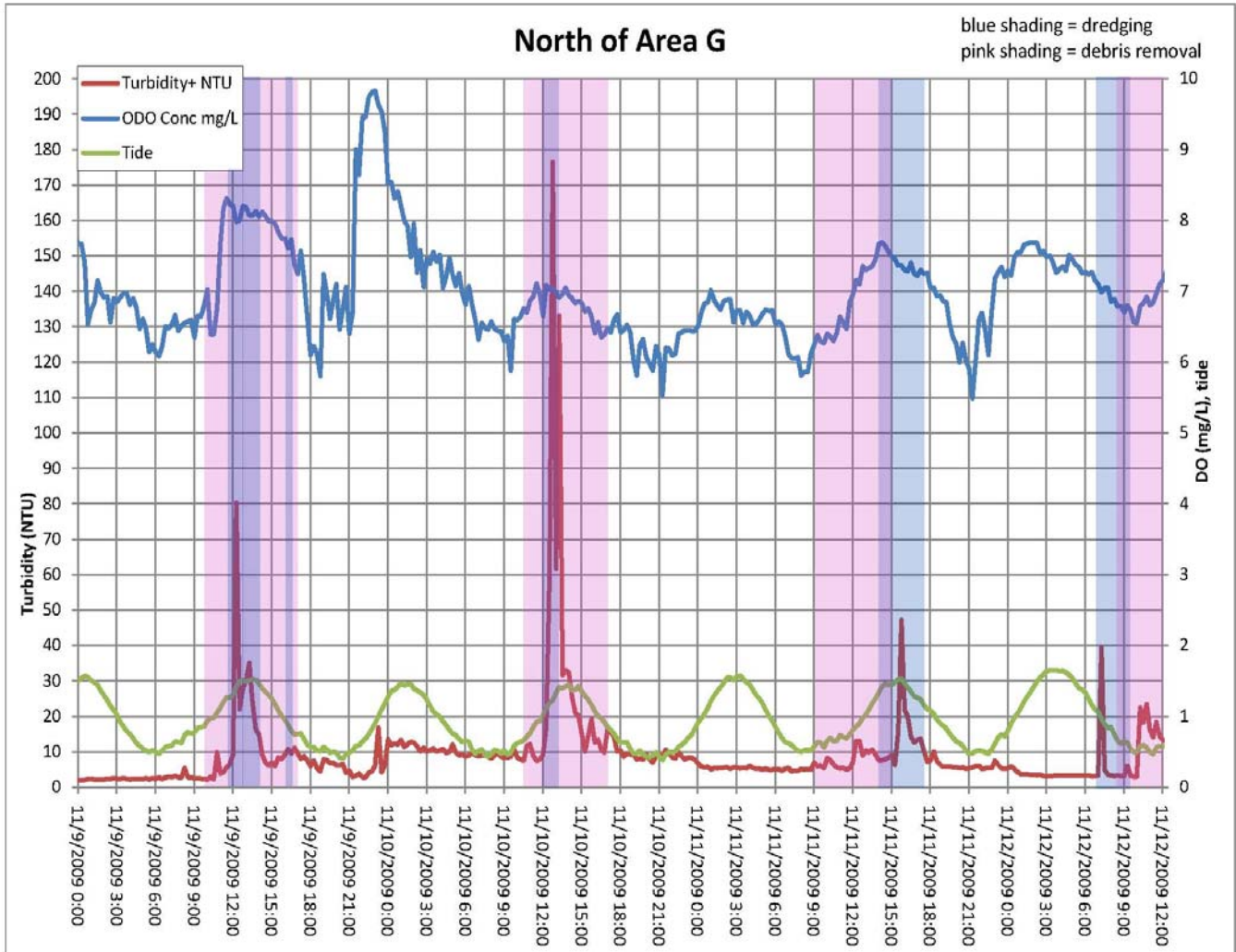


Figure 13. Example of turbidity levels related to dredging and debris removal in the northern part of the estuary, November 9-12, 2009

Weather events also appeared to have an impact on water quality. Significant amounts of rainfall occurring throughout the summer months caused frequent but minor spikes in turbidity. Storm events can also cause naturally elevated turbidity levels that can approach the project-specific turbidity compliance threshold. A large storm on December 20 deposited 20.0 inches of snow in the harbor and caused sheets of ice to form on the river. The storm period is apparent in the turbidity record of three of the fixed-station sondes (Figure 14). During this particular storm, all dredge related equipment had been demobilized and there was no dredge activity anywhere on the harbor.

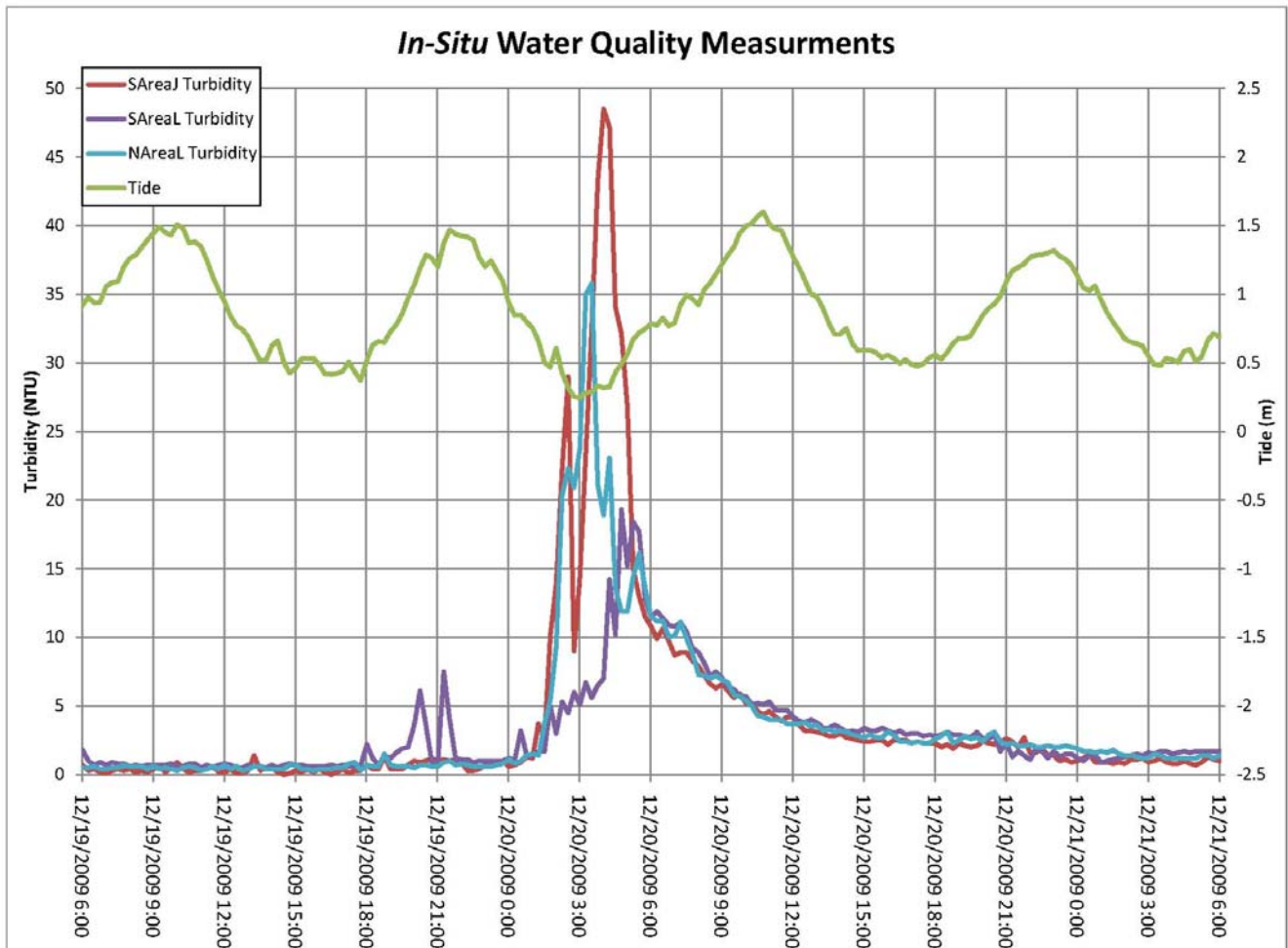


Figure 14. Example of turbidity levels coinciding with a weather event (snow storm) occurring December 19-21, 2009

Continuous *in-situ* dissolved oxygen (DO) data was also collected at each of the water quality moorings. The dissolved oxygen concentrations varied significantly over the seven month deployment. During August, periods of near-hypoxic conditions in the northern areas of the estuary were followed by DO concentrations as high as 16.93 mg/L (recorded at NBH – NWS on 8/16/09 17:31). The rapid, drastic change in DO was also observed at the mooring north of Area G, just south of the Wood Street Bridge. Because the mooring north of Wood Street is fixed on the bottom, it is sometimes difficult to make accurate comparisons with the other moorings, which are floating at a constant depth, independent of tide and water level. However, in the case of the data from August 12-16, 2009, the readings were very similar. Figure 15 depicts the data collected at the mooring north of Area G over this five-day period. Hypoxic conditions during the first two days are followed by readings of super-saturated (high DO) water on August 14-16, 2009. During the first two days, DO concentrations were <1 mg/L at night, and about 3 mg/L during peak hours of the day. On August 14th and 15th, DO spiked during the late afternoon to 10.18 mg/L on August 14th and 16.14 mg/L on the 15th. This dramatic

fluctuation in DO could have been caused by an algal bloom in the upper harbor and is likely not an effect of dredge related activities. The production rates of phytoplankton are known to have an effect on dissolved oxygen concentration. The fluctuations in DO during the summer were noticeable in all areas of the harbor. Fluctuations were particularly dramatic in the most northern areas where fresh and salt water actively mix, the bathymetry is very shallow, and water is warm. Water temperature during the five days highlighted in Figure 15 reached a maximum of 29.29°C at 15:00 on August 16, 2009.

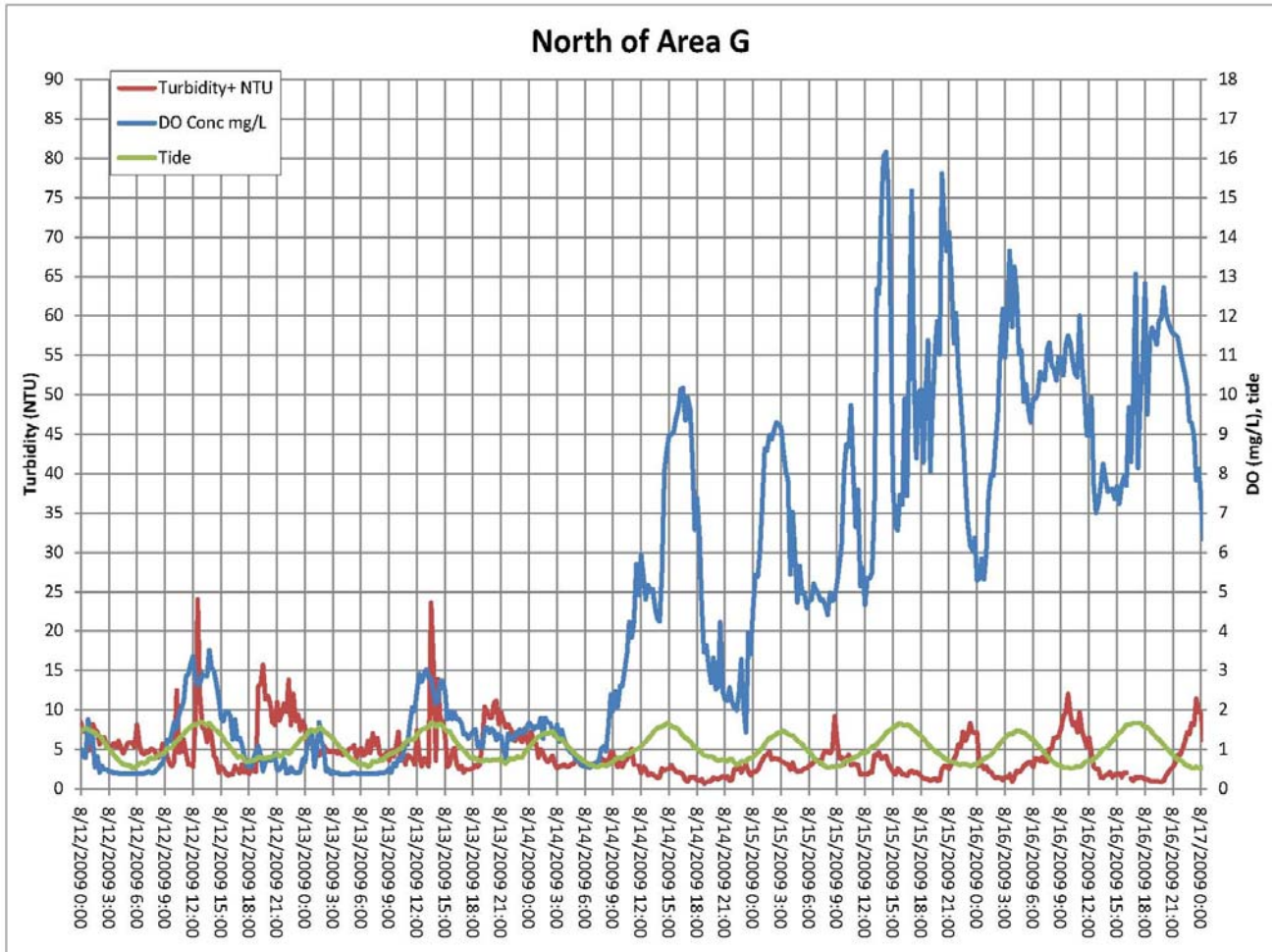


Figure 15. Example of rapid changes in dissolved oxygen, August 12-16, 2009

Water temperature in the active areas over the 2009 dredge season ranged from 32.37°C (recorded north of Area G on August 18, 2009 at 15:45) to -2.15°C (recorded @ NBH – NWS on December 11, 2009 at 21:45). Temperatures below freezing were occasionally recorded north of Wood Street, likely due to the mixing of saline bottom water with the abundant fresh water in this area, decreasing the freezing point of water at this location. In general, water temperatures were only just above freezing during December. Temperature readings of 1.24°C, 0.76°C, 0.28°C, and 0.47°C were recorded at moorings

NBH – NAreaG, NBH – SAreaJ, NBH – NAreaL, and NBH – SAreaL, respectively during the month of December.

4.2.3 Collection of Discrete Water Samples

Discrete water samples were collected three times throughout the 2009 season during boat-based monitoring operations (Table 2). Under the protocols outlined in Section 2.1, the sampling team functioned in an adaptive sampling mode, utilizing real-time *in-situ* data to guide monitoring and sample collection. Non-exceedance data from samples gathered from an artificially created suspended sediment plume provided valuable information regarding the potential effects of dredging and related activities on water quality. These Level I water samples were collected to establish near-baseline conditions and/or re-establish relationships between field measurements (i.e. turbidity) and toxicity results to verify the protectiveness of the project turbidity compliance threshold. The turbidity warning criteria exceedance on July 15, 2009 provided additional data that initiated the reevaluation of the project compliance criterion. The subsequent toxicity evaluation study supported the adjustment of the turbidity compliance threshold from 50 to 100 NTU above background. This new turbidity criterion was accompanied by a protocol adjustment where a violation would only occur when turbidity exceeded 100 NTU above background at locations 300 feet from the northern-most boundary of Area M and the southern-most boundary of Area L. The results of chemical and biological testing of all discrete water samples are presented and discussed further in Section 4.3.

Table 2. Summary of discrete water sampling events

Sampling Event	Date	Sample ID (WQ-TOX-)	Sample Description
Level I Water Quality Samples	6/24/2009	001-062409	1000-ft south, flood reference
		002-062409	1000-ft north, ebb reference
		003-062409	plume source
		004-062409	300-ft south of source, ebb
		005-062409	600-ft south of source, ebb
Project Criteria Exceedance Samples	7/15/2009	001-071509	at site of exceedance, 300' down-current from debris removal in Area G
Toxicity Evaluation Dilution Study Samples	7/22/2009	001-072209	100% plume water
		002-072209	75% plume, 25% reference
		003-072209	50% plume, 50% reference
		004-072209	25% plume, 75% reference
		005-072209	100% reference site water

4.2.3.1 Level I Water Quality Samples

The first sampling event was conducted on June 24, 2009. Water quality samples were collected as part of the Level I monitoring and sampling performed at the start of the 2009 dredge season. These samples were analyzed in order to reaffirm the turbidity exceedance criteria of 50 NTUs and to assess the protectiveness of the project's warning and compliance thresholds, 300 feet and 600 feet down-current, respectively. Samples were analyzed for turbidity, TSS, PCBs (total and dissolved), toxicity, and metals (archived) during dredging and debris removal activities in Area J. Due to the normally low turbidity levels during work, the debris removal operator was instructed to create an artificial suspended sediment plume which was monitored via *in-situ* readings from the YSI6920 data sonde. Water quality samples were collected at five locations during this event: 1) at the source of this plume (77 NTU), 2) 300-ft down-current (12 NTU), 3) 600-ft down-current (15 NTU), 4) at the northern, ebb tide reference location (6.6 NTU), and 5) at the southern, flood tide reference site (5.4 NTU). These planned samples were analyzed to verify the validity of the project compliance criteria during dredging activities and to examine the background conditions at the reference stations.

4.2.3.2 Project Criteria Exceedance Samples

On July 15, 2009, a plume of sustained turbidity (generally 60–90 NTU, maximum 105 NTU over a 30 minute period) was observed 300-ft down-current of debris removal and dredging in Area G. Water quality samples of this plume were collected. Despite the corresponding high turbidity readings, the acute bioassay results indicated that the plume did not have adverse toxic effects on the test species. The complete data report from ESI is provided in Appendix D and these results are further discussed in Section 4.3. No analytical chemistry was performed on the July 15 water samples because the acute bioassay results were non-toxic.

4.2.3.3 Toxicity Evaluation Dilution Study Samples

The goal of the water toxicity evaluation dilution study was to reevaluate both the turbidity exceedance criteria and the compliance threshold with the intent to simplify the monitoring approach and reduce interference with remedial progress, while remaining ecologically protective. The methodology used was to create an artificially suspended sediment plume and collect enough water from the plume and from a background location to complete five dilutions of varying turbidities for analysis. Given a plume of 200 NTU, analyses could be performed on water samples of approximately 200 NTU, 150 NTU, 100 NTU, 50 NTU and background. Boat based *in-situ* monitoring of the plume provided real-time turbidity readings and samples were collected when the plume was sustained at approximately 200 NTU. Four of the five toxicity sample cubitainers were filled to 100%, 75%, 50% and 25% full. The fifth cubitainer was filled with natural, low-turbidity water from the reference location up-current. The three cubitainers that had been partially filled with water from the artificial plume were topped off with the low-turbidity reference site water as well. The five samples were sent to ESI for toxicity analyses. A small sample of well-mixed water was collected from each cubitainer and sent to AAL for turbidity analysis. The actual turbidity values for the five water samples were: 190, 140, 110, 92, and 7.2 NTU (reference).

ESI evaluated the results of acute and chronic toxicity assays performed using the mysid shrimp, *Americamysis bahia*, the sea urchin, *Arbacia punctulata*, and red macro algae, *Champia parvula*. The evaluation identified potential acute toxic effects in the sea urchin, *Arbacia punctulata*, and red macro algae, *Champia parvula*, that were exposed to the 140 and 190 NTU water samples. The 110, 92 and 7.2 NTU samples showed no adverse toxic effects in either the sea urchin or red macro algae assays. Based on these analyses, the USACE determined that the results supported a change in the project's turbidity compliance criteria from 50 NTU to 100 NTU above background. It was also indicated that the violation threshold should be adjusted to 300-ft from the northern and southern boundaries of the 2009 active dredge-zone, as opposed to 600-ft from the plume-related activity, with a warning threshold at 300 feet. Sustained high-turbidity plumes within the "active work zone" were to be monitored and sampled on a case-by-case basis. This study maintained the ecological protectiveness of the project's turbidity compliance criteria, and the production of the remediation dredging operation in the harbor.

4.3 LABORATORY TESTING SUMMARY

A summary of the results from the three water sampling events are provided in this section. The first event on June 24, 2009, which established near-baseline levels for activity on the harbor included a complete suite of analyses: toxicity, TSS, turbidity, dissolved and total PCBs, and a sample was archived for potential future metals analysis. The second sample collection took place during an exceedance of the turbidity warning criteria on July 15, 2009. These samples were analyzed for toxicity only. The samples collected for chemical analysis were archived and ultimately disposed of due to the results of the toxicity assays. The third set of discrete water samples were collected on July 22, 2009 as part of the toxicity evaluation dilution study. These samples were analyzed for toxicity and turbidity.

4.3.1 Total Suspended Solids and Turbidity

Total suspended solids concentrations from the June 24, 2009 Level I sampling event ranged from 11.7 mg/L, at the ebb reference site, to 154 mg/L, at the source of the artificially created turbidity plume (Table 3). Turbidity ranges from the *in-situ* water quality monitoring sonde are comparable with the lab-based results. At the artificially created plume collection site, turbidity ranged from 16.7-158.9, as observed from the YSI 6920 sonde. The laboratory value of 77 NTU is consistent with the *in-situ* measurement range. Turbidity values and total suspended solids concentrations in site water were generally lower at reference locations, and decreased with increasing distance from the active site.

Turbidity observations from the *in-situ* monitoring during the water collection for the toxicity evaluation study performed on July 22, 2009 are also comparable to the laboratory results (Table 3).

Table 3. Summary of total suspended solids (TSS) and turbidity results

Sampling Event	Date	Sample ID (WQ-TSS/TUR-)	Sample Description	Lab Results		In-situ Measurements
				TSS (mg/L)	Turbidity (NTU)	Turbidity (NTU)
Level I Water Quality Samples	6/24/2009	001-062409	1000-ft south, flood reference	14.2	5.4	2.6-5.9
		002-062409	1000-ft north, ebb reference	11.7	6.6	1.8-4.5
		003-062409	plume source	154.0	77.0	16.7-158.9
		004-062409	300-ft south of source, ebb	20.0	12.0	10.9-17.3
		005-062409	600-ft south of source, ebb	24.0	15.0	8.3-36.7
Toxicity Evaluation Dilution Study Samples	7/22/2009	001-072209	100% plume water	NA	190	170-220
		002-072209	75% plume, 25% reference	NA	140	plume/reference mixture
		003-072209	50% plume, 50% reference	NA	110	plume/reference mixture
		004-072209	25% plume, 75% reference	NA	92	plume/reference mixture
		005-072209	100% reference site water	NA	7.2	4.9-9.0

4.3.2 Polychlorinated Biphenyl Congeners (NOAA-18)

Polychlorinated biphenyl testing for the NOAA-18 congeners was performed for one sampling event during the 2009 dredge season: the Level I samples collected June 24, 2009. Results are presented in Table 4 as total concentrations of the NOAA-18 congeners. For all congener analyses resulting in a non-detect, a value of zero is used in determining the sum of the NOAA-18 congeners. Results for individual congeners are reported with all complete analytical data in Appendix C. Concentrations of the NOAA-18 PCB congeners ranged from 0.422 µg/L to 14.106 µg/L in the total (unfiltered) water samples, and from 0.147 µg/L to 3.342 µg/L in the dissolved phase (filtered) samples (Table 4). The dissolved phase samples contained lower concentrations than the total, unfiltered samples. Concentrations of dissolved PCBs were lowest at the reference sample sites, and as expected, the concentrations were highest in the plume and decreased with distance down-current. Total PCB concentrations of NOAA-18 congeners were also lowest at the background reference locations, and higher within the turbidity plume.

Table 4. Summary of Total and Dissolved PCB (NOAA-18 Congeners) results

Sampling Event	Date	Sample ID (WQ-TPC/DPC)	Sample Location Description	Lab Results		
				Turbidity (NTU)	Dissolved PCBs (µg/L)	Total PCBs (µg/L)
Level I Water Quality Samples	6/24/2009	001-062409	1000-ft south, flood reference	5.4	0.147	0.422
		002-062409	1000-ft north, ebb reference	6.6	0.824	1.349
		003-062409	plume origin	77.0	3.342	14.106
		004-062409	300-ft south of origin, ebb	12.0	1.837	5.323
		005-062409	600-ft south of origin, ebb	15.0	1.789	4.019

4.3.3 Toxicity

Toxicity results from the acute and chronic (sub-lethal) exposure assays performed on site water samples collected on three separate occasions are summarized in Table 5. Results are presented for the test endpoints: survival, growth, development, and reproduction. Results for test endpoints for each sample were statistically compared to those from both the event-specific site reference water and the laboratory control sample.

Table 5. Summary of toxicity results

Sampling Event	Date	Sample ID (WQ-TOX-)	Sample Description	Lab Results						
				Turbidity (NTU)	Sea Urchin (<i>A. punctulata</i>)	Mysid (<i>A. bahia</i>)			Red Algae (<i>C. parvula</i>)	
					mean fertilization (%)	48-hr mean survival (%)	7-day mean survival (%)	7-day mean biomass (mg/mysid)	48-hr mean survival (%)	7-day mean reproduction (cystocarp/tip)
Level I Water Quality Samples	6/24/2009	001-062409	1000-ft south, flood reference	5.4	93.4	95.0	92.5	0.314	100.0	44.9
		002-062409	1000-ft north, ebb reference	6.6	86.3	97.5	97.5	0.287	100.0	38.3
		003-062409	plume origin	77.0	94.1	100.0	100.0	0.436	100.0	0.5
		004-062409	300-ft south of origin, ebb	12.0	85.2	100.0	97.5	0.297	100.0	24.9
		005-062409	600-ft south of origin, ebb	15.0	N/A	N/A	N/A	N/A	N/A	N/A
		N/A	laboratory control sample	N/A	96.4	100.0	100.0	0.298	100.0	45.9
Turbidity Criterion Exceedance Samples	7/15/2009	001-071509	exceedance	<i>in-situ</i> range: 30-105 (average: 60-90)	97.8	95.0	90.0	0.307	100.0	29.3
		N/A	laboratory control sample	N/A	98.8	100.0	87.5	0.337	100.0	9.5
Sampling Event	Date	Sample ID (WQ-TOX-)	Sample Description	Lab Results						
				Turbidity (NTU)	Sea Urchin (<i>A. punctulata</i>)	Mysid (<i>A. bahia</i>)	Red Algae (<i>C. parvula</i>)			
					mean fertilization (%)	48-hr mean survival (%)	48-hr coloration/ necrosis (qualitative scale)			
Toxicity Dilution Study Samples	7/22/2009	001-072209	100% plume water	190.0	93.7	97.5	0.0			
		002-072209	75% plume, 25% reference	140.0	90.3	100.0	0.8			
		003-072209	50% plume, 50% reference	110.0	98.1	97.5	2.0			
		004-072209	25% plume, 75% reference	92.0	98.0	97.5	2.9			
		005-072209	100% reference site water	7.2	99.1	100.0	3.2			
		N/A	laboratory control sample	N/A	98.8	100.0	4.0			

Level I water quality samples collected on June 24, 2009 suggest a trend of reproductive failures by the red macro algae (*C. parvula*) under chronic exposure to high turbidity water. This assay, however, is often considered to produce false positive results, due to over sensitivity of the test species to a number of environmental factors. These results therefore should not be heavily considered, except when in conjunction with adverse effects on other species. Fertilization percentages in the sea urchin *A. punctulata* varied among samples with no apparent correlation between turbid water and fertilization rate. Likewise, the mysid shrimp *A. bahia* showed no acute or chronic toxic effects via the 48-hour or 7-day assays based on exposure to the site water samples.

Toxicity assays performed on the samples collected on July 15, 2009 did not exhibit any significant adverse effects when compared to the laboratory control. The site water samples did result in lower *A. punctulata* fertilization rates and lower 48-hr survival rates when compared to the lab control, however these differences were not statistically significant. Furthermore, 7-day survival (*A. bahia*) and 7-day reproduction (*C. parvula*) were high in the site water sample when compared to the lab control. These results coupled with rigorous statistical analyses have supported that the exceedance water samples did not have any significant acute or chronic toxic effects on the test species.

The sample collection on July 22, 2009 was performed to evaluate the toxicity of water with varying turbidity concentrations in the 2009 dredge zones. The objective of the study was to compare the results of toxicity assays on water at 200 NTU, 150 NTU, 100 NTU, 50 NTU and background. Actual turbidity values for the five water samples were: 190, 140, 110, 92, and 7.2 (reference). The ESI analytical report (Appendix D) evaluates the results of acute and chronic toxicity assays. All red macro algae *C. parvula* analyses resulted in significant adverse (toxic) differences when qualitatively compared with both the lab control and the site reference water samples. The mysid shrimp (*A. bahia*) assays exhibited no significant adverse effects. The sea urchin (*A. punctulata*) analyses resulted in adverse effects in the water samples at the highest turbidity levels (140 and 190 NTU), however all samples exhibited fertilization rates over 88%, which generally indicates a non-toxic affect on the organism. The significant differences in fertilization of the *Arbacia punctulata* assays in the 140 and 190 NTU samples were interpreted by ESI as false positives caused by a statistical difference in numbers that did not correspond to a dangerous decrease in the organism's fertilization rates. Although an adverse toxic effect was exhibited for the red macro algae (*C. parvula*) assays, ESI scientists believe that these plants are overly sensitive. The qualitative results of this assay are not robust, especially in comparison to the other assays performed for this project.

4.3.4 *Quality Control*

Complete laboratory QC data from AAL and ESI is included in the laboratory reports and provided in Appendix C and D of this report. In general, the quality of the data was acceptable and the analytical methods were in control. For example, target parameters were undetected in the method/procedural blanks, indicating that the methods were free of contamination. Results for the laboratory-based QC samples, such as LCS and MS/MSD samples were acceptable for all test parameters, indicating that the laboratory

procedures were in control. Field-based QC samples (i.e. field duplicate samples) were also acceptable, indicating sampling methods were also in control.

5.0 DISCUSSION

The water quality monitoring program was developed to monitor and limit the potential impacts of dredging on water quality for the purpose of minimizing ecological harm and limiting redistribution of contaminated sediments. Achieving this goal required utilizing a variety of monitoring techniques:

- Adaptive boat-based *in-situ* monitoring used to track sediment plumes in real-time
- Collection of water samples for analytical testing, used to establish baseline water quality conditions and assess project compliance criteria
- Continuous *in-situ* data collection using fixed-station instrument moorings strategically selected locations. Data was collected autonomously to provide water quality data when boat-based monitoring was not possible
- Observational monitoring of water quality conditions with respect to fishery and wildlife impacts, used to minimize ecological risk factors

5.1 FISHERY AND WILDLIFE OBSERVATIONS

Field staff consistently recorded visual observations regarding fish migration and wildlife behavior throughout the 2009 dredge season. Large numbers of fish were observed in the upper harbor, between the Sawyer Street facility and the northern reaches of the estuary, north of the Wood Street Bridge. Lower trophic level fish and juveniles were consistently observed schooling throughout the estuary, particularly north of Wood Street. Larger predatory fish such as striped bass and bluefish were often seen feeding on these smaller fish. On occasion, in late summer, highly stressed and dead or dying fish were observed during hypoxic conditions and water temperatures near 30°C (Figure 16). The stressed fish were most often observed in the top layer of water where dissolved oxygen concentrations were slightly higher (~3 mg/L compared to <1 mg/L) than deeper water. Although a dozen or more dead fish were observed on a given day, no large-scale fish kill events occurred during the 2009 dredge season. The fish mortality that did occur is likely attributable to the poor water quality conditions (low DO concentrations, high temperature) that naturally occur during the late summer months. There appeared to be no restriction of movement or migration of fish past the dredge areas.

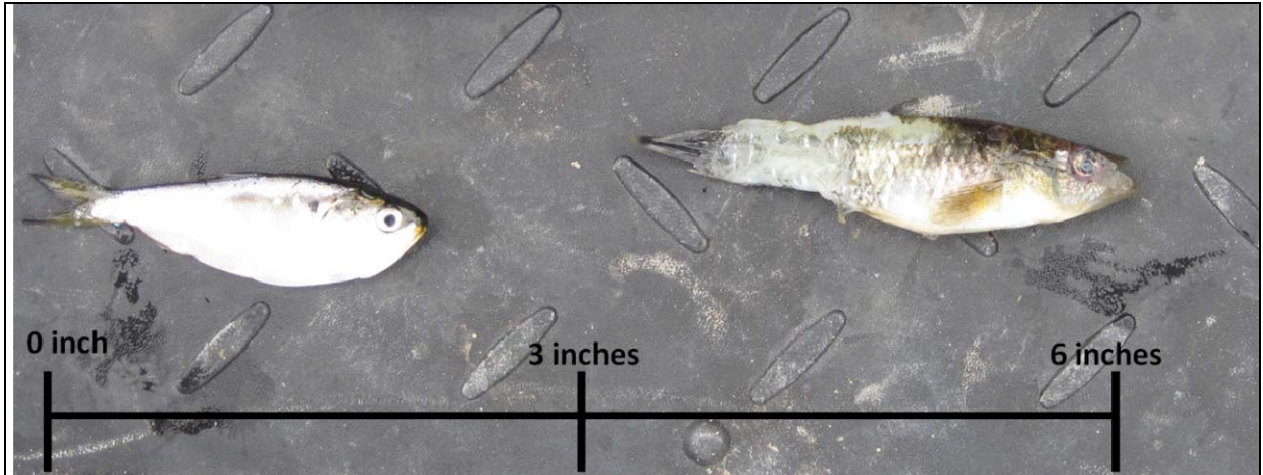


Figure 16. Dead fish collected from north of Wood Street Bridge on August 6, 2009

Birds such as great blue herons, green herons, gulls, swans, cormorants, egrets, terns and osprey, as well as other water fowl were observed living and feeding in the estuary surrounding all active dredge areas (Figure 17).



Figure 17. Cormorants and gulls observed perched on pipeline during active dredge operations

Other wildlife observed during the 2009 dredge season included a coyote, seen on August 6, 2009. The coyote was spotted on the Fairhaven (eastern) shoreline between areas J and L in the late afternoon. Undisturbed by boat traffic and active dredge operations, it remained resting on the shore for a short period during a low tide before retreating back into the marsh in the direction from which it had emerged.

5.2 SUSPENDED SEDIMENT AND TRANSPORT FROM DREDGING ACTIVITIES

In 2009, the project-specific turbidity compliance criteria of 50 NTUs above background was reevaluated and determined to be an overly conservative threshold. In order to be less restrictive on remedial operations and simplify the monitoring approach but remain ecologically protective, the turbidity criteria and compliance threshold were modified. The toxicity evaluation dilution study demonstrated that plumes of 100 NTU turbidity had no adverse toxic effect on the test species. The compliance threshold was adjusted to 300 feet down-current of the active work zone, encompassing all active dredge areas.

This allowed for more simplified sampling and monitoring, but continued to prevent far-field toxic impacts and suspended contaminated sediments being redistributed to cleaner areas.

Given the narrow and shallow characteristics of the estuary in the active 2009 dredge zones, distribution of turbidity plumes was often restrained by bathymetry and work-related vessels. The containment of turbidity plumes resulted in elevated turbidity levels immediately adjacent to dredging activities that rapidly decreased with distance from the source.

In general, there were three activities with potential to generate suspended sediment plumes; 1) dredging, 2) debris removal, and 3) support activities. Direct field reconnaissance information collected in close proximity to dredge operations allowed field personnel to determine which activities had the greatest potential to contribute to turbidity plumes. These findings were generally consistent with previous monitoring years.

The hydraulic dredging operation created virtually no measurable or sustained sediment plumes above 30 NTU, as evidenced by both boat-based and continuous *in-situ* turbidity monitoring data. In the event that an object became fouled in the auger-head of the dredge and required manual removal, the auger would be lifted to the water surface. If high winds or strong tidal flow drew surface water across the sediment-covered auger, a localized plume of turbidity and often a light to moderate sheen was observed down-wind or down-current of the dredge. Such plumes were spatially limited and temporally short-lived. Also during period of high winds, the use of support vessels was necessary to keep the dredge moving in line with the dredge cables. In areas of low water level, the supporting push-boats' propeller disturbed sediments to create narrow plumes of elevated turbidities.

Suspended sediment plumes related to debris removal activities were more common. These plumes tended to occur in pulses. Rapid increases and decreases in turbidity readings, or "spikes" were observed in conjunction with the debris removal rake being lifted through the water column and releasing sediments. Constant communication with excavator operators performing debris removal showed that when this work was done carefully and slowly, plumes were less frequent and of lower turbidity. Frequent breaks would allow suspended sediments to settle to the bottom before the operator disturbed the water again with a subsequent pass of the excavator's rake.

Debris removal barges had the potential to create plumes of suspended sediment when not in use, as well. If the barge was located in a particularly shallow area or during a very low tide, the wave or wind induced motion of the barge could disturb sediments below it and create a plume surrounding the barge. These plumes tended to be localized to within 100-ft of the barge. This effect was observed on multiple occasions.

The short-term, pulsed nature of the suspended sediment plumes was also observed in the continuous fixed station *in-situ* data record. Turbidity spikes occurred frequently during operational activity and usually represented only one or two readings at a time (lasting

15-30 minutes). Short-lived spikes in turbidity during non-working hours and occasional single spurious readings were also recorded which were not attributed to dredging operations, rather to naturally occurring weather events and other sources, such as CSOs or a momentary blockage of the turbidity sensor. These types of spikes were observed on both incoming and outgoing tides.

Sustained plumes of elevated turbidity lasting more than 30 minutes were also observed in the *in-situ* data from the continuously monitoring fixed stations. Often, these plumes could be correlated with activities in dredge areas adjacent to the fixed station moorings. However, the sustained peaks occasionally occurred during night hours and over weekends, when no dredge related activities were taking place. As discussed previously in Section 4.2.3, weather can be a significant factor affecting turbidity readings throughout the harbor, especially in the shallow waters of the 2009 active dredge areas.

Large variations in dissolved oxygen concentrations (DO), beyond normal diurnal cycling, were observed in the fixed station data. Over the course of the season, concentrations varied from near 0 mg/L to just under 20 mg/L, depending on location. These changes were gradual at times, such as when DO increased slowly during daylight hours, and did not decrease overnight before climbing again the next day. Other times, a change in DO concentrations was observed to be very rapid. Such events were likely caused by a bloom of algae or other photosynthesizing organisms, releasing oxygen into the water causing super-saturation. Generally, large fluctuations in DO concentrations were observed at the northern moorings. These fluctuations were apparent to a lesser magnitude in the data from moorings surrounding Area L.

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- Battelle. 2009. Environmental Monitoring, Sampling, and Analysis Final Water Quality Monitoring Summary Report. 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.
- Woods Hole Group. 2009A. Environmental Monitoring, Sampling and Analysis Water Quality Monitoring Field Sampling Plan. New Bedford Harbor Superfund Site, New Bedford, MA. Prepared under Contract W912WJ-09-D-0001 Task Order No 0010 for the U.S. Army Corps of Engineers New England District, Concord, MA.
- Woods Hole Group. 2009B. Environmental Monitoring, Sampling and Analysis Quality Assurance Project Plan Addendum. New Bedford Harbor Superfund Site, New Bedford, Massachusetts. Prepared under Contract W912WJ-09-D-0001 Task Order No 0010 for the U.S. Army Corps of Engineers New England District, Concord, MA.
- United States Environmental Protection Agency. 2009. Memorandum “A potentially kinder, friendlier, and simpler monitoring approach.” National Health and Environmental Effects Research Laboratory, Atlantic Division, Narragansett, RI.

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**APPENDIX A: WATER QUALITY MONITORING FIELD LOGS AND
DAILY REPORTS**

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Attachment 1

Water Quality Monitoring Field Log Sheet (example for dredge area)



Daily Field Summary Sheet for Water Quality Monitoring

Date: 6/3/09
 Weather: MOSTLY CLOUDY/RAIN
 Tides: _____
 _____ @ _____
 _____ @ _____

Monitoring Period:
 From: 1445 To: 1830
 Tidal Stages: HWS Ebb LW@ Flood → HIGH WATER

Dredging Activity:
 - NO DREDGING
 - DEBRIS REMOVAL IN AREA L
 - PIPE WORK IN AREA M, J.

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
<u>AREA M</u>	<u>10.2</u>	<u>1.2</u>
<u>AREA G</u>	<u>7.3-11.6</u>	<u>~1.5</u>
<u>AREA J</u>	<u>6.9-10.1</u>	<u>~1.5</u>

Oil Sheen/Debris: HEAVY SHEEN ON WATER SURFACE COLLECTED AGAINST OIL BOOM. ^{NORTHERN MOST}

Wildlife Observations: JELLY FISH, EGRETS

Samples Collected for Laboratory Analysis - Sample IDs:
~~TSS (1L) Turbidity (1L)~~
~~Total PCB (1L) Dissolved PCB (2x1L)~~
~~Toxicity (5 gal) Metals (500ml)~~

Notes:

Sampling Crew: DAVE WALSH, MIKE WALSH
 Chief Scientist Signature: [Signature]

Attachment 1

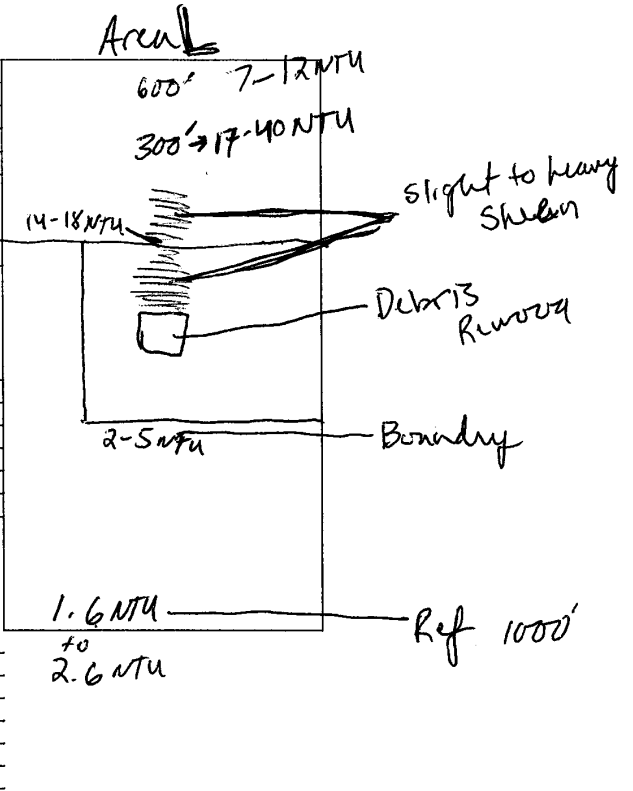
Water Quality Monitoring Field Log Sheet (example for dredge area)



Daily Field Summary Sheet for Water Quality Monitoring

Date: C/3/09
 Weather: mostly cloudy / Rain
 Tides: _____ @ _____
 _____ @ _____
 _____ @ _____
 Monitoring Period:
 From: 1445 To: 1830
 Tidal Stages: HWS Ebb LWS Flood
 Dredging Activity:
None
Debris Removal in Area L
Pipe Work in Area M, G, J.

Turbidity Summary:		
Location	Turbidity range (NTU)	Sensor/water Depth (ft)
<u>Area L</u>		



Oil Sheen/Debris: med to heavy sheen on northern Boundary of Bridge Area

Wildlife Observations: occasional Fish Jump, many Jellies, 2 Egrets

Samples Collected for Laboratory Analysis - Sample IDs:	
TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

Sampling Crew: Dave Walsh, Mike Walsh
 Chief Scientist Signature: Dave Walsh



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Sampling Location	AREA L
Sampling Description	Debris Removal
Survey Vessel	George Hampson
Chief Scientist	D. WALSH
Sampling Technician	D. WALSH
Vessel Captain	M. WALSH
Other Personnel	NA
Weather Conditions	CLOUDY/LIGHT RAIN WINDS S-SW 5-10 knots

Date	6/3/2009
Page	1 of 3

Tide Information	
High	
Low	
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth (ft)	Turbidity NTU	Salinity ppt	DO mg/L	Temp °C	Notes
L-S-1000	15:36				Surf	2.5 NTU	28.74	10.09	18.43	TIDE FLOODING
L-S-1000	1554				2.78'	1.8	28.89	9.29	18.34	
L-S-1000	1555				7.02'	1.6	30.13	7.04	17.14	
L-S-600	1558				3.32'	1.8 NTU	29.16	8.92	18.15	
L-S-300	1559				3.36'	1.7	29.12	8.64	18.21	
L-S	1602				3.25'	2.1	28.87	8.30	18.28	
L-S	1605				5.87'	4.6	29.20	6.79	18.84	
L-N-1000	1621				1.78'	7.9	28.40	8.63	18.87	TIDE FLOODING, NEAR H.W.
L-N-1000	1622				4.79'	14.5 NTU	28.53	8.09	18.83	
L-N-600	1625			6.0'	2.4'	7.6	29.51	7.49	18.78	slight sheen on surface
L-N-600	1627			7.4'	4.5'	12.2	29.72	7.19	18.45	
L-N-300	1631	L-N-300		7.4'	1.99'	39.8	28.70	7.47	18.39	
L-N-300	1632	L-N-300			5.13'	17.5	28.20	6.46	17.09	Drifted EAST, out of plume
L-N	1636				1.73	4.1	28.82	8.15	18.37	
L-N	1637				5.09	18.2	28.94	7.52	18.15	

corp, Inc.



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Sampling Location: AREA M, G, J
 Sampling Description: DEBRIS REMOVAL / PILE DRIVING / PIPE CONNECTION
 Survey Vessel: GEORGE HAMPTON
 Chief Scientist: D. WALSH
 Sampling Technician: D. WALSH
 Vessel Captain: M. WALSH
 Other Personnel: NA
 Weather Conditions: CLOUDY - LIGHT RAIN, WIND 10-15 knots

Date: 6/3/09
 Page: 2 of 3

Tide Information	
High	
Low	
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity NTU	Salinity PPT	DO %L	Temp °C	Notes
AREA M	1659	41 40.642	70 54.993	5.7'	1.24'	10.2	23.25	7.15	21.20	HEAVY SHEEN ON SURFACE
	1701	41 40.649	70 54.992	"	5.01'	7.9	27.75	5.95	19.54	
AREA G	1707	41 40.585	70 54.962	3.9'	1.52'	11.6	23.97	6.16	21.22	SHEEN SEEMS TO BUILD UP ON OIL BARGE.
	1709	41 40.577	70 54.955	"	3.05'	9.8	25.97	6.54	25.97 20.57	
AREA G/J	1717	41 40.516	70 54.952	5.7'	1.68'	9.3	25.18	6.06	20.50	ADJACENT TO BARGE & EXCAVATOR
	1719	41 40.548	70 54.952	"	4.81'	7.3	27.82	6.07	19.63	
AREA G/J	1724	41 40.552	70 54.969	5.4'	1.42'	10.1	25.60	5.98	20.90	
	1725	41 40.555	70 54.976	"	4.35'	8.9	27.41	6.11	20.24	WATER/TIDE LEVEL ~ HIGH
AREA J	1730	41 40.500	70 54.947	7.7'	1.33'	8.8	26.64	6.26	20.39	South of EXCAVATOR & BARGE connecting pipeline
	1731	"	"	"	6.07'	6.3	27.96	5.58	19.58	South boundary of AREA J
AREA J-S	1737	41 40.422	70 54.941	7.8'	1.64'	6.9	27.95	6.48	19.89	
	1739	"	"	"	7.03'	7.5	28.22	6.77	19.42	
AREA L-N	1746	41 40.057	70 55.021		1.20'	8.3	28.93	7.25	18.11	
	1748	41 40.057	70 55.021		4.95'	17.4	29.10	6.19	17.84	



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Sampling Location	AREA L
Sampling Description	Debris Removal
Survey Vessel	GEORGE HAMPSON
Chief Scientist	D. WALSH
Sampling Technician	D. WALSH
Vessel Captain	M. WALSH
Other Personnel	NA
Weather Conditions	CLOUDY, LIGHT RAIN, WIND 10-15 knots

Date	6/3/09
Page	3 of 3

Tide Information	
High	
Low	
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	Salinity	DO	Temp	Notes
NBH-L-N	1754				5.1	14.3	29.09	6.00	17.89	HEAVY SHEEN BEINT CAUSED BY DEBRIS REMOVAL; ONCE WORK STARTED, SHEEN INCREASED - WIND BLOWING SHEEN TO NORTH, BEYOND BOOM.
NBH-L-S	1804				1.41	2.8	29.01	6.28	18.03	
	1805				5.01	3.9	29.11	6.44	18.02	

Water Quality Monitoring Summary Report W912WJ-09-D-0001

A-7

Delivery Order-0010 July 2010

Attachment 1

Water Quality Monitoring Field Log Sheet (example for dredge area)



Daily Field Summary Sheet for Water Quality Monitoring

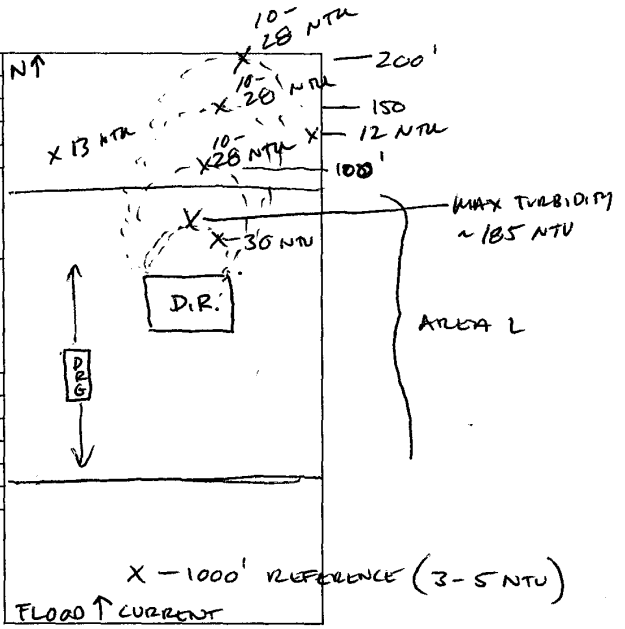
Date: 6/4/2009
 Weather: PARTLY CLOUDY - SUNNY
 Tides:
 HIGH @ 0606 AM
 LOW @ 1126 AM
 HIGH @ 0632 PM

Monitoring Period:
 From: 1030 To: 1655
 Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:
Debris Removal AREA 1
DREDGING (1430 stack) AREA 1

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
REFERENCE	3-5	2-8 ft.
50' N of D.R.	20-30	3 ft sensor
100' N of D.R.	20-30	3 ft sensor
200' N of D.R.	10-25	3 ft sensor



Oil Sheen/Debris: SLIGHT SHEEN DURING DEBRIS REMOVAL IN AREA 1, SHORT LIVED

Wildlife Observations: MANY FISH JUMPS, EGRETS, TULLIES

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	<u>NA</u>	Turbidity (1L)	<u>NA</u>
Total PCB (1L)	<u>NA</u>	Dissolved PCB (2x1L)	<u>NA</u>
Toxicity (5 gal)		Metals (500ml)	

Notes:
 * 2 Moorings w/ YSI sensors Deployed 150' NORTH AND 150' SOUTH OF AREA 1
 * In general, turbidity within Area 1 and adjacent to Debris Removal (D.R.) ranged 25-50 NTU. However there was a very high turbidity plume of approx 100-185(max) NTU that occurred for a short while. D.R. activities stopped once this plume was noticed by operator and turbidity dissipated.

Sampling Crew: M. WALSH D. WALSH
 Chief Scientist Signature: [Signature]

corp, Inc.



YSI 6920 S/N 97E0064AB

Attachment 2

Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	AREAL
Dredging Description	DEBRIS REMOVAL & DREDGING
Survey Vessel	GEORGE THOMPSON
Chief Scientist	D. WALSH
Sampling Technician	D. WALSH
Vessel Captain	M. WALSH
Other Personnel	NA
Weather Conditions	CLOUDY WINDS S-SW 10 knts

Date	6/4/09
Page	11 of 4

Tide Information	
High	0606
Low	1126
High	0632
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	Salinity	DO	Temp	Notes
L-N-1000E	1055	41 40.212	70 55.021	2.9'	1.28	3.2	18.24	5.95	18.08	EBB TIDE } EAST SIDE
L-N-1000E	1056	"	"	"	2.18	5.7	26.62	5.13	18.90	
L-N-1000C	1100	41 40.218	70 55.043	2.8'	1.27	6.1	20.82	5.17	18.61	Center
L-N-1000C	1101	"	"	"	2.40	6.7	27.24	4.81	19.16	
L-N-1000W	1106	41 40.215	70 55.094	2.4'	1.24	2.0	18.54	6.10	18.10	WEST
L-N-1000W	11:07	"	"	"	2.08	1.6	25.32	5.35	18.86	
L-N-150	11:48	41 40.075	70 55.038	4.6'	3.1	6.1	27.91	4.99	18.68	MEASUREMENT @ measure locations
L-S-150	14:35	41 39.941	70 55.017	5.1'	1.95	5.2	28.22	7.70	19.56	measure ment @ measure locations
L-S-1000	14:46	41 39.795	70 55.012	10.1'	1.91	3.5	29.31	7.21	18.96	FLOOD TIDE - REFERENCE
L-S-1000	14:48	"	"	"	8.87	3.4	30.09	4.83	17.20	"
AREAL	15:01				2.55	65.1	27.99	5.96	19.60	30' North of Debris Removal
AREAL	15:03				2.62	77.5	27.98	6.21	19.31	30' North of " "
AREAL	15:05					55.1				60' North of " " (100' from Working Dredge)
AREAL	15:07					52.2				60' " "
AREAL	15:09					37.1				60' " Debris Removal

START OF DREDGING →

corp, inc.

YS1 6920 S/N 97E φφ64 AB



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	AREA L
Dredging Description	Debris Removal & Dredging
Survey Vessel	R/V GEORGE HAMPSON
Chief Scientist	D. WALSH
Sampling Technician	D. WALSH
Vessel Captain	M. WALSH
Other Personnel	N/A
Weather Conditions	PARTLY CLOUDY - SUNNY WIND S-SW 10-15 knots

Date	6/4/09
Page	2 of 4

Tide Information	
High	0606
Low	1126
High	1832
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	Salinity	DO	Temp	Notes
AREAL	1515				2.51	36.5	28.24	6.61	19.45	50' NORTH OF Debris Removal
AREAL	1518				2.89	22.6	28.25	6.10	19.53	STRONG H ₂ S odor → 50' From Dredge
AREAL	1520				2.89	21.0	28.09	6.40	19.81	50' from Debris Removal. From Dredge
	1528				2.91	63.4	28.19	5.23	19.41	- LIGHT SHEEN ON SURF
	1529				2.06	127.8	28.19	5.30	19.57	-50' W of D.R. plume, narrow plume
	1530				2.43	138.3				"
	1531					184.7				" NOTIFIED J.C. Cummings
	1532					163.7				" about first turbidity.
	1533					109.2				" - Debris Removal Stopped
AREAL	1536					18.6				- 30' FROM STOPPED DREDGE, TO WEST.
AREN	1541				3.04	47.1	28.41	5.60	19.53	DR stopped (100' N of DR)
DR-N-200	1543				3.13	58.5	28.34	5.59	19.65	DR stopped, 200' N of DR.
DR-N-400	1546				3.24	59.6	28.21	5.32	19.65	DR stopped, 400' N of DR.



YSI 6920 S/N 97E0064AB

Attachment 2

Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

AREA L ~~100~~
DEBRIS REMOVAL & DREDGING
George Hampson
D. WMSIT
D. WMSIT
M. WMSIT
N/A
MOSTLY SUNNY, WINDS S-FW 10-15 knots

Date 6/4/09
Page 3 of 4

Tide Information	
High	0606
Low	1126
High	1832
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	Salinity	DO	Temp	Notes
L-DR-N-100	1553				3.37	42.7	28.43	5.48	19.61	DR stopped, plume drifting N-NE w/ tide & winds.
L-DR-N-100	1603				2.62	22.8	28.48	5.60	19.70	WINDS range (35-55) in plume DREDGING underway, DR stopped.
L-DRG-N-50	1607				3.39	20.1	28.68	5.45	19.74	50' FROM RUNNING DREDGE
L-DRG-N-50	1608				3.39	12.6	28.61	5.41	19.55	" "
L-DRG-N-50	1609					13.3				1009 Debris Removal (started 50' from Dredge, 100' DR.)
L-DRG-N-50	1616				3.34	11.8	28.74	5.12	19.42	100' N of D.R. / 50' from working D.R.
L-DR-N-125	1618					5.2				125' NE (EAST SIDE of channel)
L-DR-N-125	1623					7.3				of D.R. NEAR L-N boundary.
L-DR-N-125	1626				3.38	25.2	28.65	5.18	19.81	125' N of D.R.
L-DR-N-125	1628					14.1				" "
L-N	1630				3.1	20.40				25' ACTIVE DREDGE (with current)
L-DR-N-125	1634				3.35	11.9				DR STOPPED, 125' FROM D.R.

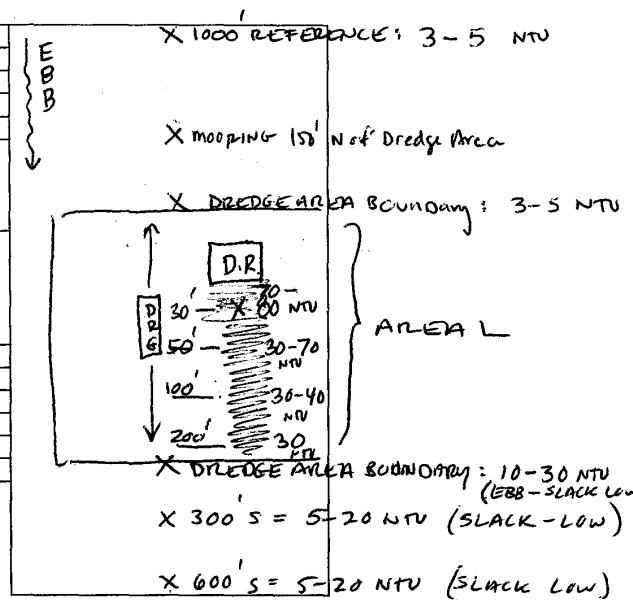
Attachment 1

Water Quality Monitoring Field Log Sheet (example for dredge area)



Daily Field Summary Sheet for Water Quality Monitoring

Date: 6/5/2009
 Weather: CLOUDY/RAIN
 Tides:
 HIGH @ 0650
 LOW @ 1245
 HIGH @ 1919
 Monitoring Period:
 From: 0830 To: 1230
 Tidal Stages: HWS Ebb LWS Flood
 Dredging Activity:
AREAL DEBRIS REMOVAL
AREAL DREDGING



Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
REFERENCE	3-5	1.5-4.5'
SOUTH BOUNDARY	10-30	3-4'
300' SOUTH of Boundary	5-20	3-4'
30' S of Debris Removal	70-80	2-3'
50' "	60-80	2-3'
100' "	30-40	2-3'
200' "	20-30	2-3'

Oil Sheen/Debris: NONE OBSERVED

Wildlife Observations:
EGRETS, SHOREBIRDS, JELLIES

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:
 AREA L: ARRIVED ON EDGE AND TO E of w of Debris Removal, turbidity was ~10-30 NTU; however, more levels increased to 30-80 NTU in the narrow plume (~50' wide) trailing behind debris removal. Turbidity levels decreased to 5-20 NTU outside (south) of Dredge Area L.
 Sampling Crew: D. WALSH, M. WALSH
 Chief Scientist Signature: [Signature]

YS1 6920 s/w 97E064 AB



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Water Quality Monitoring Summary Report
W912WJ-09-D-0001

A-14

Delivery Order-0010
July 2010

Dredging Location	AREA L
Dredging Description	Debris Removal, Dredging
Survey Vessel	George Hampson
Chief Scientist	D. WALSH
Sampling Technician	D. WALSH/M. WALSH
Vessel Captain	M. WALSH
Other Personnel	N/A
Weather Conditions	CLOUDY, WINDS S-SW 5-10 knots

Date	6/5/09
Page	1 of 2

Tide Information	
High	0656
Low	1245
High	1919
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity NTU	Salinity PPT	DO mg/L	Temp °C	Notes
Area L-N-1000	0855	41 40.215	70 55.026	5.4'	1.83'	3.7	21.05	6.37	18.35	EBB TIDE, REFERENCE
L-N-1000	0856	"	"	"	4.33	5.2	29.42	6.07	18.40	
L-N-0	0904	41 40.054	70 55.047	7.2'	3.86	4.1	28.50	6.09	18.30	60' from active DRG, DR pile.
L-S-0	0911			6.5'	3.90	11.4	29.14	5.41	18.22	Area L south Boundary
	0911	41 39.953	70 55.031			25.1				Turb. increases near sheet pile
	0911	7 55.031	"			24.4				- narrow "plume" (south of 180°)
	0912	"	"			23				- DR 10E.
L-S-0	0912	"	"			26.1				~ 300' south of DRG (18-26) pile
	0940	ENTERED AREAL.								
L-DR-S-50	0959				2.81	22.3	27.75	4.95	18.82	50' south of D.R. (ACTIVE)
	1000					38.3				550-75' south
	1000					34.9				
	1002					52.4				
	1002					70.1				
L-DR-S-100	1004					82.4				100' south of ACTIVE D.R.

774 83 5486
FR. JK - D.R.

YSI 6920 s/w 97Eφφ64AB



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: AREA L
 Dredging Description: Debris Removal / Dredging
 Survey Vessel: GEORGE HAMPSON
 Chief Scientist: D. WALSH
 Sampling Technician: D. WALSH / M. WALSH
 Vessel Captain: M. WALSH
 Other Personnel: N/A
 Weather Conditions: CLOUDY, WINDS E 10 knots

Date: 6/5/09
 Page: 2 of 2

Tide Information
 High: 0656
 Low: 1245
 High: 1919
 Low:

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity NTU	Salinity PPT	DO mg/L	Temp °C	Notes
L-DR-S-150	1007				2.33	47.1	25.40	5.27	18.97	-Thin/Narrow plume, Turbidity on either side of band is low
L-DR-S-175	1009				2.31	44.1	26.85	5.09	18.92	~20-25 NTU.
L-DR-S-200	1018				2.26	33.1				-Thin plume, 200' south of DE (idle)
				4.0'	2.63	135.1	25.01	5.05	18.89	- 10 NTU to either side (E/W) of thin plume. Plume width is approx. width of D.R. Barge.
										- plume turbidity ranges 20-40 NTU
										- plume extends SE from DE
L-DR-S-50	1107			4.0	2.63	135.1	25.01	5.05	18.89	- short lived turbidity plume
L-DR-S-100	1112	} Same Location		5.0'	1.51	19.6	22.03	5.97	18.72	
L-DR-S-100	1113	}		5.0'	3.65	31.4	28.93	5.30	18.80	
L-DRG-S-30	1132				3.36	37.6	29.19	5.58	18.59	30' from DRG (ACTIVE)
L-DRG-S-50	1138				2.50	46.6				Turbidity range ~ 40-60 NTU w/in 50' of active DRG.

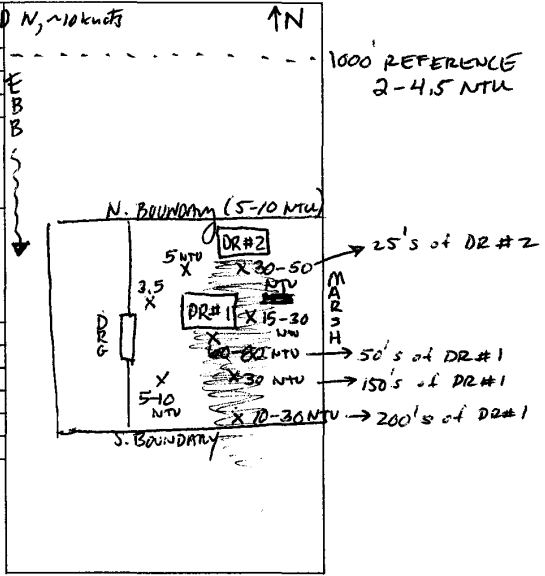
Attachment 1

Water Quality Monitoring Field Log Sheet (example for dredge area)



Daily Field Summary Sheet for Water Quality Monitoring

Date: 6/8/2009
 Weather: PARTLY CLOUDY - PARTLY SUNNY, WIND N, ~10 knots
 Tides:
 HIGH @ 0903
 LOW @ 1407
 HIGH @ 2123
 Monitoring Period:
 From: 1830 To: 1230
 Tidal Stages: HWS Ebb LWS Flood
 Dredging Activity:
DREDGING: AREA L
DEBRIS REMOVAL: 2 EXCAVATORS, AREA L



Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
1000' REFERENCE	2-5	2-9' profile
NORTH BOUNDARY (L-N-O)	5-12	3-3.5'
200' S of D.R.	10-30	2-3'
100'-150' of D.R.	~30	2-3'
25' S of D.R.	MAX 60-80	2-3'
50' WEST of D.R.	2-5 NTU	2-3'
100' S of DREDGE	(BACKGROUND)	
Oil Sheen/Debris:	5-10 NTU	2-3'

SLIGHT OIL SHEEN IN PLUME OF DEBRIS REMOVAL, EFFLUENT

Wildlife Observations:
SHOREBIRDS, TELLINS;

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:
 * EVEN WHEN DEBRIS REMOVAL EXCAVATORS WERE INACTIVE (for lunch) turbidities RANGED FROM 15-40 NTU DOWNCURRENT OF WORKING PLATFORMS. DUE TO THE SHALLOW WATER & FALLING TIDE, IT IS THOUGHT THAT THE BARGES/PLATFORMS WERE CAUSING THE DISTURBANCE/TURBIDITY. AT HIGHER WATER, TURBIDITY DURING INACTIVE EXCAVATOR PERIODS RANGED FROM 5-15 NTUS WITHIN 200' of D.R. platforms.
 Sampling Crew: D WALSH, M WALSH
 Chief Scientist Signature: D Walsh



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Sampling Location		Area L							Date		6/8/2009											
Sampling Description		Debris Removal Dredging							Page		1 of 4											
Survey Vessel		George Hampson							<table border="1"> <tr><th colspan="2">Tide Information</th></tr> <tr><td>High</td><td>0903</td></tr> <tr><td>Low</td><td>1407</td></tr> <tr><td>High</td><td>2123</td></tr> <tr><td>Low</td><td></td></tr> </table>				Tide Information		High	0903	Low	1407	High	2123	Low	
Tide Information																						
High	0903																					
Low	1407																					
High	2123																					
Low																						
Chief Scientist		D. WALSH																				
Sampling Technician		D. WALSH / M. WALSH																				
Vessel Captain		M. WALSH																				
Other Personnel		N/A																				
Weather Conditions		MOSTLY SUNNY WINDS N 10 knots																				
Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	Salinity	DO	Temp	Notes												
L-S-1000	0903			10.9	1.88'	2.3	24.35	7.11	19.14	1000' S of Area L - Reference → HWS												
	0907				9.02'	3.7	30.57	6.03	17.52	} 1000' S (Reference) Area L HIGH WATER SLACK												
	0908				4.58'	1.8	30.24	6.14	17.62													
	0908					1.71'	2.0	24.15	6.49	19.22												
L-N-1000	0921			6.2'	1.65'	2.3	23.62	8.29	19.89	1000' N of Area L - Reference												
	0922				5.18	4.4	30.02	7.12	18.05													
	0924				1.74	2.1	23.83	6.91	20.02													
L-N-0	0933				3.75	10.9	25.77	5.61	19.40	-measurement @ L-N boundary Approx. 50' N of debris removal												
"	0934				3.75	11.5		6.43		" "												
"	0936				3-3.5'	5.8		6.43		} 50' NORTH OF ACTIVE DREDGE												
"	0937				"	8.9		6.45		} 50' N of ACTIVE DRG + D.R.												
"	0939				"	3.2		6.79														
	0940					9.9		6.02		30' North of DR.												



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

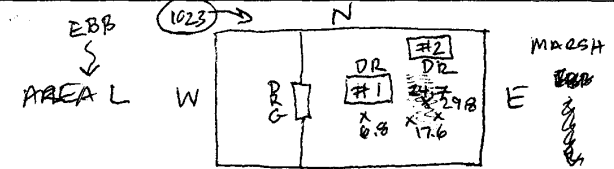
Dredging Location: Area L
 Dredging Description: Debris Removal & Dredging
 Survey Vessel: George Hampson
 Chief Scientist: D. WALSH
 Sampling Technician: D. WALSH / M. WALSH
 Vessel Captain: M. WALSH
 Other Personnel: N/A
 Weather Conditions: Partly sunny / cloudy, wind N @ 5-10 knots

Date: 6/8/2009
 Page: 2 of 4

Tide Information	
High	0903
Low	1407
High	2123
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity NTU	Salinity ppt	DO mg/L	Temp °C	Notes
LS-300	0950			10.2'	1.50'	2.0	23.40	6.37	19.71	300's of Area L Boundary
LS-300	0951				4.73'	1.8	30.26	6.11	17.71	" (approx 400's of DR & DRG)
LS-300	0952				9.15'	4.1	30.58	5.74	17.51	" " "
LS-300	0953				1.84'	2.2	23.80	6.05	19.60	
LS-150	0958				3.55'	1.8	30.00	5.97	17.83	Southern mooring location
LS-150	1000				1.60'	11.6	24.89	6.20	19.33	Southern mooring location
LS-150	1001				1.55'	10.9	24.74	6.35	19.49	Southern mooring location
LS-0	1004				1.58'	12.6	24.89	6.32	19.49	South boundary of Area L, 200' south of D.R. & DRG
L-DR-S-75	1017				3.29'	6.8	29.43	5.53	18.30	INSIDE AREA L, 75' south of D.R. #1, 300' S of DR #2.
L-DR-S-75	1023				3.46'	17.6	29.67	5.39	18.26	↳ slight sheen on surface.
L-DR-S-200	1024				3.9'	53.2		5.48		↳ HIT BOTTOM, Disregard Data
L-DR-S-200	1025				1.94'	9.5		6.23		
L-DR-S-200	1028				2.10'	29.8		6.22		
LDR-S-150	1029				2.14'	24.7		6.25		
LDR-S-75	1032				2.18'	24.3		6.06		

Southern mooring





Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Water Quality Monitoring Summary Report
W912WJ-09-D-0001

A-19

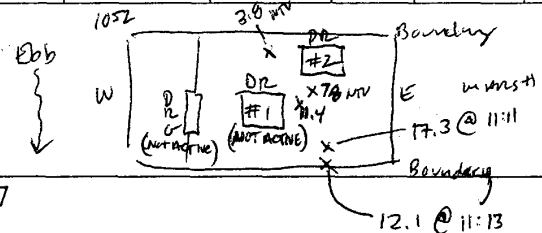
Delivery Order-0010
July 2010

Dredging Location	AREA L
Dredging Description	Debris Removal, Dredging (Two D.R. Excavators)
Survey Vessel	George Hampson
Chief Scientist	D. WARSIT
Sampling Technician	D. WARSIT, M. WARSIT
Vessel Captain	M. WARSIT
Other Personnel	N/A
Weather Conditions	PARTLY SUNNY/CLOUDY, WINDS N 10-15 knots.

Date	6/8/2009
Page	3 of 4

Tide Information	
High	0903
Low	1407
High	2123
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	Salinity	DO	Temp	Notes
L-DR-S-25'	1034				2.21	34.6		6.27		25' south of DR#2, turbidity readings vary between 10-40 NTU
L-DR-S-100'	1044	-100' south of DR#1			2.19	46.1		5.90		max turbidity is sheet lined and only within 200' of DR
L-DR-S-200'	1046	-200' south of DR#1			2.11	29.7		6.04		
L-DR-W-50'	1053	-50' west of DR#2			1.99	3.8		6.03		sed at DR#2 is sandy, low turbidity
L-DR-S-300'	1111	-75' south of DR#1, 300' of DR#2		30'	2.09	17.3	27.62	6.11	19.28	water is shallow, both D.R. are inactive.
L-DR-S-200'	1113	-200' south of DR#1, 425' south of DR#2			2.1	12.1		6.21		
L-DR-S-100'	1120	-100' south of DR#1			1.61	5.9	27.92	6.39	19.26	BOTH DR'S INACTIVE TURBIDITIES DECREASED and leveled out @ 5-10 NTU
L-DR-S-100'	1129	-100's of DR#1		3.3'	2.2	14.7	?	6.14		Both DR's active again, oil/gas sheen on water.
"	1131	"			2.2'	23.7	@ 100's of DR#1 Turb varies between 18-24 NTU	5.91		
"	1132	"			2.2'	13.6		6.14		oil sheen on water
L-DR-S-50'	1145	-50's of DR#1, was active but both stopped			2.17	82.7	27.79	5.97	19.53	DR created plume, stopped immediately; highest turbidity nearest Barry and drop off away from ops.
L-DR-S-100	1146	-100's of DR#1			2.24	66.1		5.51		
L-DR-S-150	1147	-150's of DR#1			2.24	26.3		5.80		
L-DR-S-200	1148	-200's of DR#1			2.25	14.2		5.71		





Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

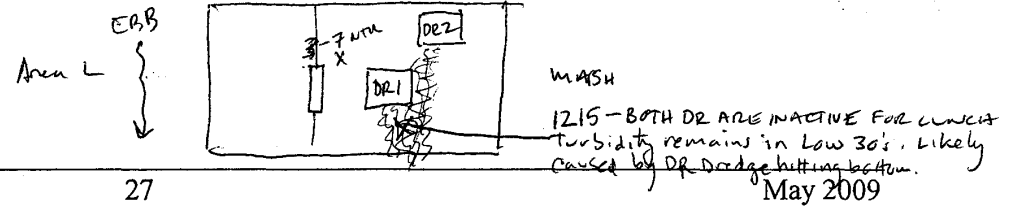
Sampling Location	AREAL
Sampling Description	Debris Removal, Dredging (two active ^{D.R.} excavators)
Survey Vessel	George Thompson
Chief Scientist	D. WALSH
Sampling Technician	D. WALSH / M. WALSH
Vessel Captain	M. WALSH
Other Personnel	N/A
Weather Conditions	partly sunny/cloudy, WINDS N 10-15 knots

Date	6/8/2009
Page	4 of 4

Tide Information	
High	0903
Low	1407
High	2123
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	Salinity	DO	Temp	Notes
DR-W-30	1200			3.7'	2-2.8'	3.5 MV				30' W of inactive DR #1
DR-NW-50	1203			3.7'		4.6				50' NW of inactive DR #1, 100' SW of DR #2
DR-S-100	1205			3.7'	2.1'	5.9	28.13	6.01	20.04	100'S of inactive DR #2
L-DR-S-75'	1208				2.18	21.9		5.82		75'S of inactive DR #2
L-DR-S-25'	1210			2.9'	2.13'	13.5		6.32		25'S of inactive DR #2
L-DR-S-50'	1215			4.2'	2.12'	41.3	28.25	5.83	19.72	50'S of inactive DR #1, likely hitting bottom ^{likely hitting bottom}

Likely hitting bottom, causing increased turbidity although not working. Tide level falling and EAST side of Area L is shallow.



Attachment 1

Water Quality Monitoring Field Log Sheet (example for dredge area)



Daily Field Summary Sheet for Water Quality Monitoring

Date: 6/10/09
 Weather: CLOUDY, CALM, WINDS N 5-10 knots
 Tides:
 HIGH @ 1025
 LOW @ 1535

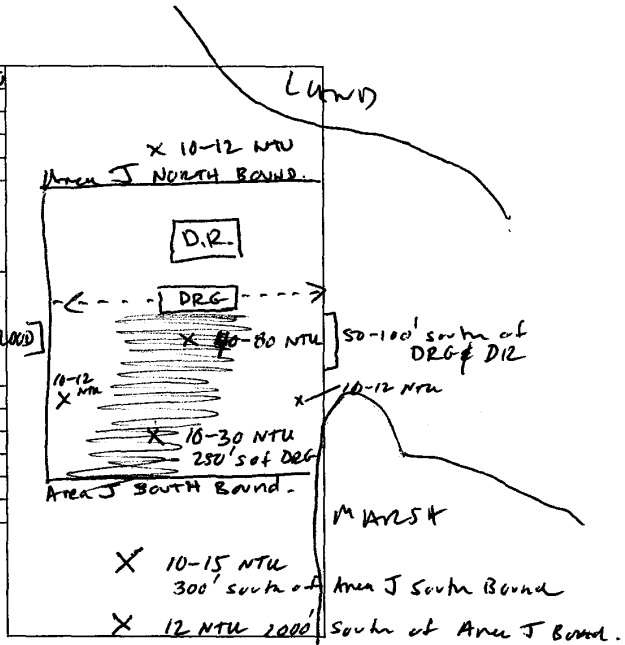
Monitoring Period:
 From: 1230 To: 1700

Tidal Stages: ~~HWS~~ ~~Ebb~~ ~~LWS~~ Flood Ebb, LWS, Flood
 [Focus on LWS, Flood]

- Dredging Activity:
 ① DREDGING IN AREA J
 ② Debris Removal in AREA J

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor water Depth (ft)
600 North Wood St Bridge	~6 NTU	~1'
400' South Wood St Bridge	~6-8 NTU	1-2'
Area J North Bound.	10-12 NTU	1-2'
Area J, 100' S of DRG/DR	40-80 NTU	1-2'
Area J, 250' S of DRG/DR	10-30 NTU	1-2'
300' South Area J	10-20 NTU	1-2'



DAILY DO RANGE: 3.6 - 6.1 mg/L

Oil Sheen/Debris: LIGHT TO MODERATE SHEEN within AREA J, sheen "popping" in undisturbed areas

Wildlife Observations: FISH JUMPS, EGRETS, SWAN, SEALIES

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:
 - Primarily focused on LWS & Flood monitoring due to inactivity before 1330.
 - Surface current running to South entire monitoring period despite LWS @ 1535 and tidal flood thereafter.
 - Turbidity "plume" limited in width behind DRG & DR; thin narrow, oriented NE-SW.
 Sampling Crew: D. WALSH, M. WALSH
 Chief Scientist Signature: [Signature]



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Area J

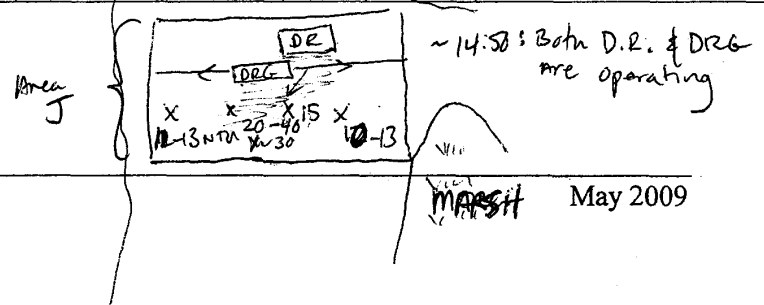
Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

~~AREA J~~ Debris Removal, ~~Area J~~ ~~Debris Removal/Dredging~~
NO ACTIVITY IN AREA J
R/V George Hampton
D. WALSH
D. WALSH/M. WALSH
M. WALSH
N/A
Cloudy, WINDS N 0-5 knots

Date 6/10/2009
Page 1 of 2

Tide Information	
High	1025
Low	1535
High	2240
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity NTU	Salinity ppt	DO mg/L	Temp °C	Notes
NNS-600	1305			4.8'	1.03'	6.5	27.54	3.92	18.91	600' NORTH OF WOOD ST. BRIDGE.
NWS-600	1306			3.4'	2.11'	6.0	28.32	3.63	18.89	"
SNS-400	1313			4.4'	1.01'	6.5	28.66	4.41	18.79	400' SOUTH OF WOOD ST. BRIDGE
SNS-400	1317			4.4'	2.67'	8.1	28.90	3.77	18.73	"
S-N-0	1328			4.0'	1.02'	10.7	28.01	4.04	18.75	Area G, NORTH Boundary
N-0	1329			4.0'	2.37'	11.6	29.05	3.86	18.39	"
DRS-50'	1339			3.5'	1.07'	11.7	28.32	4.24	18.74	50' South of INACTIVE DR. in Area G.
DRG-S-100'	1351				0.99'	11.3	28.23	4.25	18.69	100' South of inactive DRG in Area G. Slight peppinkish tint
BOAT-WAKE	1353					11 → 30 → 10	(West to East)			TRANSVERSE Behind passing cargo boat
DR-S-100'	1425				0.92'	29.8	28.64	4.26	18.48	STRONG H ₂ S odor. D.R. started/resumed work
DR-S-75'	1436				1.49'	24.5	29.11	4.35	18.29	SHARP (moderate) low sulfur, mild H ₂ S + petroleum odor.
DRG/DR-250'	1455			3.5'	1.26'	30.7	27.98	4.56	18.44	250' S of DRG & DR, both active
DRG/DR-200'	1502			3.5'	1.48'	34.4	28.77	4.53	18.32	200' S of DRG & DR, both active
DRG/DR-100'	1505			3.0'	1.47'	46.5	28.79	4.43	18.35	100' South of DRG & DR





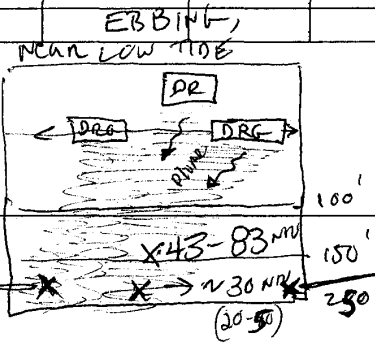
Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Sampling Location: Area J
 Sampling Description: Dredging & Debris Removal
 Survey Vessel: R/V George Hampson
 Chief Scientist: D. WALSH
 Sampling Technician: D. WALSH / M. WALSH
 Vessel Captain: M. WALSH
 Other Personnel: N/A
 Weather Conditions: Cloudy, WINDS N-NE 5-10 knots

Date: 6/10/09
 Page: 2 of 2

Tide Information	
High	1025
Low	1535
High	2240
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	Salinity	DO	Temp	Notes	
J G-DRG/DR-S-100	1535			3.3'	0.91	33.6	28.19	4.63	18.67	Low TIDE - 100 SW of DRG	
G-DRG/DR-S-150	1537				0.90	82.9	26.73	4.75	18.94	Both DRG & DR active	
G-DRG/DR-S-150	1537				0.84	43.1	27.95	4.68	18.77	" " " " DRG & DR active	
G-DRG/DR-S-250E	1543			2.0'	0.93	10.0	28.84	6.08	19.08	250's of DRG, East side of Area J	
G-DRG/DR-S-250C	1545			4.2'	0.85	23.5	27.90	5.10	18.73	? Flo	
G-DRG/DR-S-250W						25-35					
J G-DRG/DR-S-400	1602				0.75	14.2	28.49	4.61	18.64	400's of DRG & DR, OUTSIDE OF AREA J	
J-S-300'	1614				0.68	14.3	26.98	5.13	18.57	300's of Area J south boundary FLOOD TIDE?	
J-S-400'	1615				0.67	10.8	26.84	5.20	19.03		
J-S-1000'	1619			3.0'	0.70	12.3	25.70	5.61	19.26	FLOOD TIDE REFERENCE	
J-S-DRG/DR-S-250	1628	ENTERED AREA J from South, LIGHT MODERATE SWELL ON SURFACE.									250' south of DRG & DR. REFERENCE
						17.7					



Field Sampling Plan
 New Bedford Harbor-Water Quality Sampling

27
 20-50 NTU
 10-25 NTU
 May 2009

Attachment 1

Water Quality Monitoring Field Log Sheet (example for dredge area)



Daily Field Summary Sheet for Water Quality Monitoring

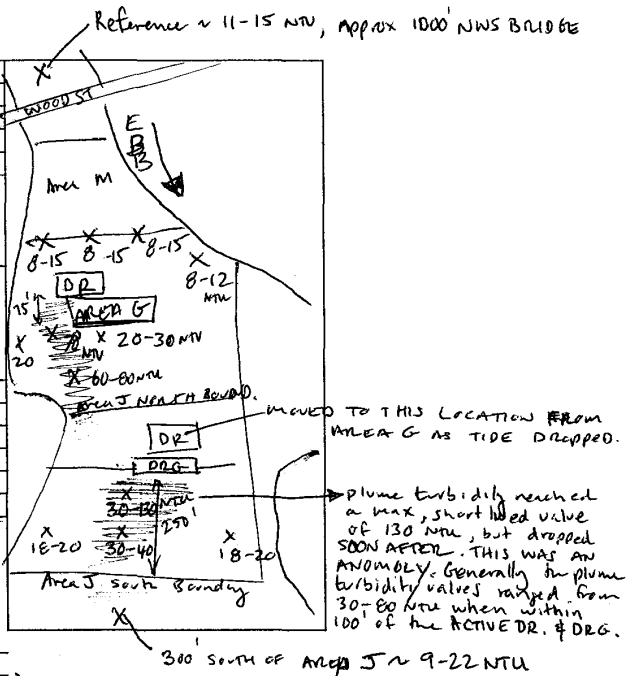
Date: 6/12/2009
 Weather: CLOUDY, RAIN, WINDS VARIABLE
 Tides:
 HIGH @ 1148
 LOW @ 1702

Monitoring Period:
 From: 1200 To: 1600
 Tidal Stages: MWS Ebb LWS Flood

Dredging Activity:
 AREA J - Debris Removal / AREA G
 Area J - Dredging
 Area L - Debris Removal

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
1000 NWS BRIDGE - REF	11-15	1-4
100' NWS BRIDGE	10-15	1-5
100' S of D.R. in AREA G	20-30 ~2 (AREA G)	
75' S of DR in Plume	70-80 ~2 (AREA G)	
100' S of DR & DRG in plume	MAX 130 ~2 (AREA J) - SHORT LIVED	
200' S of DR & DRG	30-40 ~2 (AREA J)	
300' S of AREA L	6-10 1-4 (NEW MONITORING LOCATION) FURTHEST MONITORING DOWN CURRENT	



Oil Sheen/Debris:
 LIGHT TO MODERATE SHEEN IN AREA J

Wildlife Observations:
 SHORE BIRDS, HILWEE, DEAD SEAGULL FLOATING IN AREA J

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:
 - TWO MONITORS RECOVERED, TWO MONITORS DEPLOYED @ NEW LONG TERM LOCATIONS: CENTER & SOUTH. CENTER LOCATED 300' SOUTH OF AREA J; SOUTH IS LOCATED 300' SOUTH OF AREA L.

Sampling Crew: D. WALSH, M. WALSH
 Chief Scientist Signature: *[Signature]*



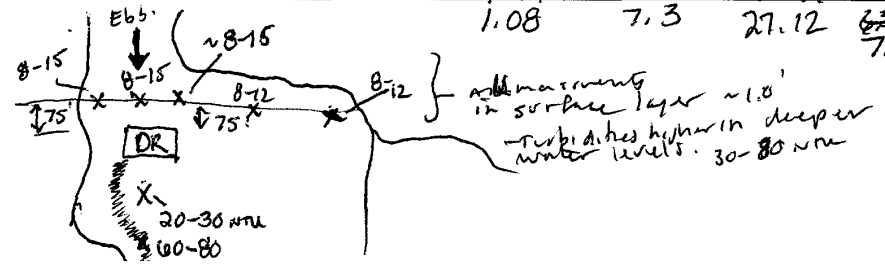
Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	AREA J, AREAL, Area G
Dredging Description	Area G Debris Removal, AREA J Dredging, Area L D.R.
Survey Vessel	Gorge Hampton
Chief Scientist	D. WALSH
Sampling Technician	D. WALSH, M. WALSH
Vessel Captain	M. WALSH
Other Personnel	N/A
Weather Conditions	CLOUDY / RAIN, WINDS \approx S \sim 10-15 knots

Date	6/12/09
Page	1 of 2

Tide Information	
High	1148
Low	1702
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity NTU	Salinity ppt	DO mg/L	Temp °C	Notes
NWS-REF-100	1228	41°40.841	070°55.040	5.5'	0.99'	11.2	10.39	5.48	17.87	Reference station ~1000' NWS Bridge & CSO's Adjacent to dock
NWS-REF-100	1229	"	"	5.5'	2.48'	15.3	24.66	4.85	18.40	"
NWS-REF-100	1231	"	"	"	4.33	12.1	26.38	2.80	18.38	"
NWS-0	1236	41 40.705	70 55.020	6.2'	6.2' 2.05	14.9	18.42	6.14	18.05	NWS Bridge, north side
NWS-0	1236	"	"	"	3.04	12.6	25.50	5.22	18.44	
NWS-0	1238	"	"	"	5.33'	10.1	27.38	2.66	18.51	
M-S-150'	1252			6.4'	1.51	78.0	22.41	5.54	18.43	75' N of D.R. in Area G, 150' S of Area M Bound.
G-DR-5-100	1312			3.9	2.20	21.4	26.34	5.62	18.47	100' S of D.R. in Area G.
J-S-300'	1435	41 40.374	70 54.959	8.9'	1.39	22.6	24.05	5.90	18.61	MOORING LOCATION (NBSH-CENT)
"	1438	"	"	"	7.55	12.8	29.44	2.45	17.99	300' SOUTH AREA J, EBB
"	1439	"	"	"	4.10	9.1	27.39	5.17	18.42	"
"	1440	"	"	"	1.39	21.5	25.06	5.77	18.59	"
L-S-300'	1514	41 39.914	70 55.018	6.1	1.07	6.7	26.68	7.47	18.95	MOORING LOCATION (NBSH-SOUTH)
"	1515	"	"	"	3.03	7.1	29.01	6.04	18.16	300' SOUTH OF AREA L, EBB
"	1518	"	"	"	4.64	10.1	29.66	4.90	18.01	
"	1519				1.08	7.3	27.12	6.55 7.03	18.78	



Attachment 1

Water Quality Monitoring Field Log Sheet (example for dredge area)



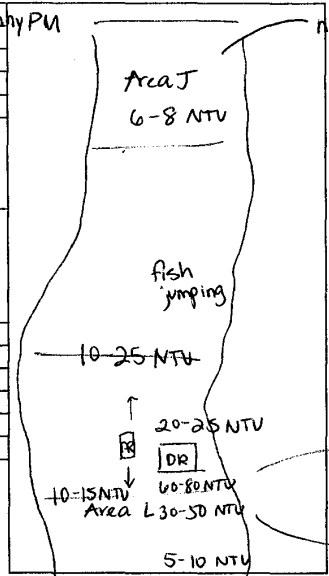
Daily Field Summary Sheet for Water Quality Monitoring

Date: 6/16/09
 Weather: variable overcast/light rain AM, Slushy PM
 Tides:
 high @ 0214
 low @ 0758
 high @ 1445

Monitoring Period:
 From: 09:00 To: ~~10:30~~ 1130

Tidal Stages: ~~HWS~~ ~~Ebb~~ LWS Flood

Dredging Activity:
 AM dredge Area L in SE corner
 AM debris Area L in SE corner



Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
(ref) 100' S Area L	1-4	1-9
(boundary) 0' S Area L	12	~2
(boundary) 0' N Area L	13-24	~2-3
100' of DR (N)	20-25	~2
50' S of DR	60-80	~2
100' S of DR	30-50	~2
300' S of DR	5-10	~2

Oil Sheen/Debris: only associated with debris removal/dredging

Wildlife Observations: jellies, shorebirds, fish jumping

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: monitored area J, no dredge activity during ~~ebb~~ flood
 slight sheen associated w/ dredge activity

Sampling Crew: K. McCartney, M. Walsh
 Chief Scientist Signature: *K. McCartney*

Attachment 1

Water Quality Monitoring Field Log Sheet (example for dredge area)



Daily Field Summary Sheet for Water Quality Monitoring

Date: 6/16/09
 Weather: Sunny, strong wind out of N (PM) X ~4 NTU
 Tides:
 high @ 0214
 low @ 0758
 high @ 1445

Monitoring Period:
 From: 1415 To: 1530

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:
active dredging in Area G
active debris removal area G

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
M ref. 1000' N of M	~4 NTU	~2.5'
N boundary M	~7 NTU	~2.5'
S boundary M	~7 NTU	~2
50' N of DR	~7 NTU	~2
75' NW of NE of DR	~10 NTU	~2
300' S of DR	~7 NTU	~4
300' SE of DR	~10-20 NTU	~4

Oil Sheen/Debris: None

Wildlife Observations: osprey, egret, jellies

Samples Collected for Laboratory Analysis - Sample IDs:
 TSS (1L) Turbidity (1L)
 Total PCB (1L) Dissolved PCB (2x1L)
 Toxicity (5 gal) Metals (500ml)

Notes: mooring deployed North of Wood St (YSE mooring)

Sampling Crew: K. McCartney, D. Walsh, M. Walsh
 Chief Scientist Signature: [Signature]



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

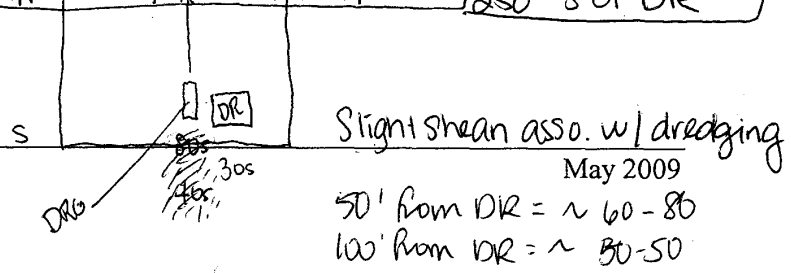
Dredging Location: Area L southeast corner
 Dredging Description: Area L dredging & debris removal
 Survey Vessel: Hampson
 Chief Scientist: Dave Walsh, Kaitlyn McCartney
 Sampling Technician: Mike Walsh
 Vessel Captain:
 Other Personnel:
 Weather Conditions: overcast, 60° intermittent drizzle

Date: 6/16/09
 Page: 1 of 3

Tide Information	
High	7:58 am 2:14 am
Low	7:58 am
High	2:46 pm 2:46 pm
Low	9:00 pm

Station Name	Time	Latitude	Longitude	Water Depth ^f	Sample Depth ^f	Turbidity NTU	Salinity ppt	DO mg/l	Temp °C	Notes
L-S-ref	9:06			10.2	1.29	1.9	27.14	7.56	18.90	
L-S-ref	9:07			10.2	4.81	1.8	29.99	6.64	19.09	
L-S-ref	9:09			10.2	9.45	2.9	30.31	5.96	18.73	
(NBH-L-S) L-S border	9:17			4.2	2.14	12.1	28.22	6.88	18.88	
(NBH-L-N) L-N border	9:35			3.7	1.85	13.5	28.44	6.85	19.12	west east bank, ^{downstream} of DR
(NBH-L-N) " "	9:39			5.3	1.62	5.9	28.49	7.00	19.10	west bank
L-N border	10:20			4.6	1.79	18.2	28.30	6.91	19.06	100' N of DRG
" "	10:22			4.6	3.05	24.3	28.52	6.61	19.01	50' N of DRG ^{downstream}
L-N border	10:24			6.2	3.05	13.8	28.20	6.80	18.98	100' W of DRG
Areal	10:42			-	1.58	24.3	28.06	6.52	19.07	inside L, 50' from DR (N)
in Areal	10:45			3.3	1.61	14.8	28.08	7.20	19.05	100' N of DR
" "	10:54			-	1.67	13.1	28.16	6.90	19.21	75' N of DRG, 125' N of DR
" "	11:01			3.1	1.44	61.6	28.34	6.87	19.09	50' S of DR, 100' S of DR
" "	11:02			3.1	1.43	75.8	28.36	6.85	19.09	"
(S border)	11:04			3.9	1.40	48.5	28.40	7.01	19.14	100' S of DR
L-S border	11:13				1.44	N 5.2	28.64	7.91	19.16	250' S of DR

highest turb seen: 27 NTU
 Field Sampling Plan
 New Bedford Harbor-Water Quality Sampling



Water Quality Monitoring Summary Report W912WJ-09-D-0001

A-29

Delivery Order-0010 July 2010



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

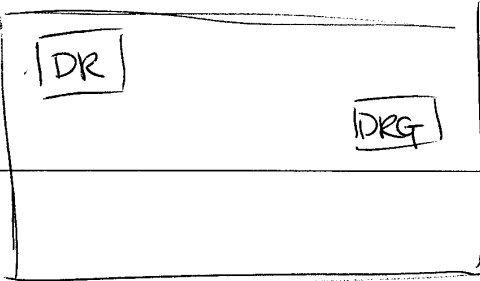
Dredging Location: Area J / north of woods St. bridge
 Dredging Description: currently dredging in area J, active DR
 Survey Vessel: George Hampton
 Chief Scientist: D. Walsh
 Sampling Technician: K. McCartney
 Vessel Captain: M. Walsh
 Other Personnel:
 Weather Conditions: Sunny wind out of the north (strong)

Date: 6/16/09
 Page: 3 of 3

Tide Information	
High	0214
Low	0758
High	1445
Low	2100

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	Salinity	DO	Temp	Notes
M-ref	1424			4.4	2.60	4.1	28.58	7.71	20.65	North of M reference
M-N-Ø	1432			7.6	2.51	7.3	28.41	6.99	20.78	
M-N-Ø	1434			7.6	6.95	6.4	29.24	6.35	20.21	
M-S-Ø	1439			4.4	1.65	10.8	27.53	7.85	20.65	150' from active DR
G-DR-NW-75	1448			6.1	1.8	9.5	28.20	7.19	20.41	west channel, NW 75' from DR
G-DR-N-50	1451			-	3.25	7.4	29.12	6.37	20.18	50' N of DR
G-DR-NE-75	1452			-	3.21	10.9	28.75	7.10	20.07	75' NE of DR
G-DR-S-300	1505			-	4.33	6.5	29.18	6.31	19.70	
G-DR-SE-300				-	4.06	19.5	29.12	-	-	
G-DR-SW-350	1529			5.8	4.07	9.1	29.16	6.30	19.75	SW of DRG 300ft, S of DR

DR and DRG



Water Quality Monitoring Field Log Sheet

Daily Summary Report



Date: 6/17/09

Weather: Sunny, clear, wind out of S/SW

Tides:

high @ 1308
low @ 0854
high @ 1529

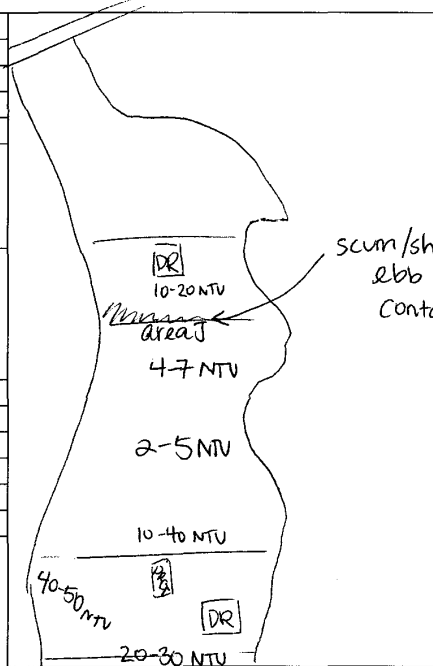
Monitoring Period:

From: 0845 To: 1230

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

active dredging and debris removal in Area L (DRG & DR)
active debris removal in Area J (DR)



Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
300' S of DR in J	4-7	~1
1000 (ref) S of L	2-5	1-9
300' S of DRG in L	20-30	1-3
~300' W of DRG in L	40-50	~1
200' N of DRG in L	10-40	1-4
50' S of DR in J	10-20	~1

(NW corner of L)

Oil Sheen/Debris:

none

Wildlife Observations:

jellies, fish jumping, shore birds

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (300ml)

Notes:

water level too low to get up to sample north of area J, where flood tide might carry a plume from debris removal monitoring showed low turbidity surrounding/very close to debris removal

Sampling Crew:

K. McCarney, M. Walsh

Chief Scientist Signature:

Kevin McCarney



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L, Area J
 Dredging Description: DR in J, DRG in L, DR in J quit at 0900, start again at 1030
 Survey Vessel: George Hampton
 Chief Scientist: K. McCartney
 Sampling Technician: _____
 Vessel Captain: M. Walsh
 Other Personnel: _____
 Weather Conditions: Sunny, clear, wind from S/SW (light at first, picked up ~ 1000)

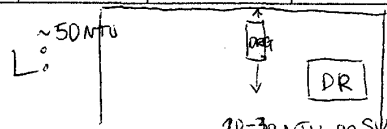
Date: 6/17/09
 Page: 1 of 2

Tide Information	
High	0308
Low	0854
High	1539
Low	2208

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
Sref-J/Nref-L	0849			2.9	0.73	2.4	6.50	28.88	19.99	ref for J and L
J-DR-300SW	0858			3.7	1.12	10.7	4.81	29.07	19.67	SW corner of J
J-DR-300S	0901			3.2	1.07	9.1	5.17	28.64	19.74	mid. S border inside J
J-DR-300SE	0903			3.1	1.09	5.4	6.71	28.24	19.60	SE corner of J
Sref-L	0921			8.9	1.14	2.5	6.98	29.12	19.82	S ref for L - surface
S-ref-L	0922			8.9	4.19	2.5	5.87	30.15	19.30	S ref for L - mid
S-ref-L	0923			8.9	8.45	4.5	5.60	30.60	18.87	S ref for L - bottom
* L-S-300	0931			3.9	0.95	18.9	6.57	28.97	19.50	at YSI mooring 300'S
L-S-bound	0934			4.0	1.02	29.3	5.69	28.93	19.55	300'S active DRG in L
L-S-bound	0937			4.0	1.64	8.5	6.28	29.53	19.33	" " deeper sample
L-SW-corner	0939			7.0	0.87	21.1	6.41	28.87	19.79	400'SW of active DRG
L-SW-corner	0942			7.0	5.05	7.0	5.42	30.47	19.01	400'SW of active DRG
L-DRG-W-250	0947			5.3	0.57	48.5	5.75	28.04	20.10	250'W of active DRG
L-NW-corner	0952			4.3	0.79	41.9	5.96	28.31	20.05	NW corner L, W of DRG 2
L-NW-corner	0955			4.3	1.27	12.5	6.51	29.52	19.69	



Sight: an/scum build up in SW corner of J at end of ebb zone during flood



20-30 NTU on surface ~8 NTU deeper
 bubbling of H₂S in shallow areas

← N of DRG ~20-30NTU uniformly murky at surface lower turb below 1' depth



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L, Area J
 Dredging Description: Active dredging in L, active debris removal in J (@1030)
 Survey Vessel: George Hampton
 Chief Scientist: K. McCartney
 Sampling Technician: M Walsh
 Vessel Captain: M Walsh
 Other Personnel: M Walsh
 Weather Conditions: Sunny, clear wind from S/SW

Date: 6/17/09
 Page: 2 of 2

Tide Information	
High	0308
Low	0854
High	1539
Low	2208

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
L-DRG-N-200	0959			4.1	1.29	23.1	6.07	28.88	19.74	200' N of active DRG
L-DRG-N-400	1006			4.3 4.3	1.19	3.4	6.87	29.09	20.07	300' N of L, 400' N of DRG
J-DR-S-100	1045			3.5	1.46	15.2	5.66	26.28	20.80	75' 100 ' S of active DRG
J-DR-SW-100	1056			5.1	1.08	6.9	6.18	26.43	20.75	100' SW active DRG
J-DR-S-100	1058			3.3	1.20	6.9	6.26	26.10	20.98	100' S of active DRG
J-DR-SE-100	1100			2.9	1.02	7.9	6.02	25.69	21.51	100' SE of active DRG
J-SW corner	1113				1.18	4.0				} along S boundary of J
J-S bound mid	1114				1.08	5.0				
J-SE corner	1116				1.06	5.4				
L-DRG-N-150	1146				1.08 1.08	9.0				150' N of DRG
L-N bound	1152				1.33	13.8	6.60			DRG moving S, 200' N
L-DRG-N-25	1207			5.2	1.17	21.2	6.79	28.76	20.26	25' N of DRG, moving N
L-DRG-N-25	1209				3.35	18.1	6.05	29.45	20.00	" "

1100: put out new oil boom, south border area J, one section
 DO levels higher than last week (as seen 6/16 and 6/17)

Attachment 1
Water Quality Monitoring Field Log Sheet (example for dredge area)



Daily Field Summary Sheet for Water Quality Monitoring

Date: 6/23/09
 Weather: rain, overcast, strong wind out of NW (am) or NE (pm)
 Tides:
 high @ 0854
 low @ 1416
 high @ 2116

Monitoring Period:

From: 0920 To: 1600

Tidal Stages: HWS, Ebb, LWS, Flood

Dredging Activity:

no activity during morning
monitoring
afternoon: debris removal and
maintenance on pipe in J;
debris removal and dredging
in L

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)	
N of wood st.	15-20	2-6	(am, during ebb)
300' S of L (300')	10-15	1-3	" "
300' S of J (300')	10-15	1-3	" "
50' S of J	50-70	~1	← during active pipe movement
150' S of J	20-30	~1	
250' S of J	15-20	~1	
200' S of L	20-30	~1	very shallow



Oil Sheen/Debris:

light/medium sheen between J and L moving South, southern boom of J open
due to pipe maintenance/movement, not south of L

Wildlife Observations:

crabs in our baskets at YSI mooring site N of wood street, fish jumping, shore birds

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

due to weather (lots of rain/heavy wind) ambient
turbidity readings today were ~8-12 NTU, during lower tides (very
low tide today) ambient readings were ~10-15 NTU

Sampling Crew:

Chief Scientist Signature:

R. McCartney, M. Wark
Rachel Wark



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: active dredge - debris removal in L, active debris removal in J
 Dredging Description: R/V George Hampton
 Survey Vessel: K. McCartney
 Chief Scientist: M. Walsh
 Sampling Technician:
 Vessel Captain:
 Other Personnel:
 Weather Conditions: rainy, overcast, strong wind out of NW/N/NE

Date: 6/23/09
 Page: 1 of 1

Tide Information	
High	0854
Low	0245
High	2116
Low	1416

N of Wood St ↓

W edge center

E edge

DRG

DRG

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
ref North	0923			6.8	0.905	6.0	6.63	17.64	17.22	no active dredge
ref North	0924			6.8	3.02	15.3	6.00	24.79	17.52	or debris removal
ref North	0928			6.8	5.82	21.6	5.87	26.21	17.57	at time of samples
NBH-south	1450			4.5	1.01	14.5	6.40	25.48	17.96	taken during YSI
NBH-south	1451			4.5	3.02	9.3	5.96	27.76	17.91	deployment
NBH-center	1515			4.4	0.99	9.5	7.00	22.25	17.90	" "
NBH-center	1516			4.4	3.07	12.2	5.75	28.41	18.00	
Sborder J	1526			2.8	1.39	53.8	6.04	22.58	17.86	transect taken, no
Sborder J	1529			2.8	1.13	20.1	6.49	21.12	17.85	activity, moving pipe
Sborder J	1532			4.1	0.96	19.4	6.57	20.44	17.82	shear on water, oil boom open
DRG - 200N	1539			3.1	0.93	9.1	6.74	24.31	18.13	200' N of J, active DRG
DRG - 300S	1547			3.5	0.83	27.1	6.45	25.83	18.13	300' S of L, active DRG

50' south of activity (moving pipe) at J, ~ 50-70 NTU
 150' south of activity in J ~ 20-30 NTU
 250' south of activity in J ~ 15-20 NTU

200' N of L ~ 10 NTU
 300' S of L ~ 20-30 NTU
 Very shallow! Flood tide but
 at NBH-south with some activity



New Bedford Harbor Water Quality Monitoring
Daily Field Report

* ← sample taken: N ref

Date: 6/24/09
Weather: overcast

Tides:
low @ 0336
high @ 0947
low @ 1513

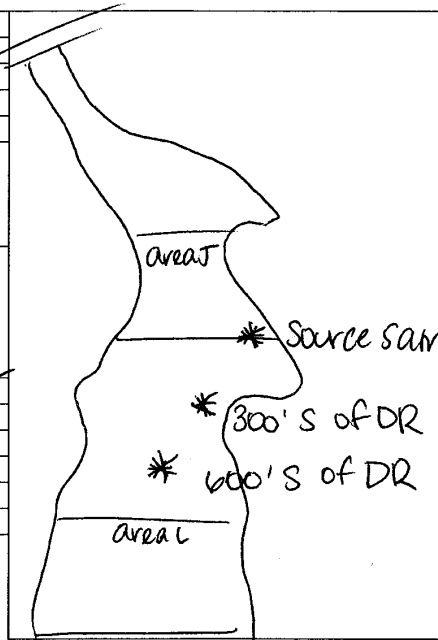
Monitoring Period:

From: 0900 To: 1200

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

active debris removal in J and L
active dredging in L



Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
S ref.	2-6	1-10
N ref.	1-5	1-6
next to debris rem. in J	80-160	~1 ft.
20' S of DR in J	40-130	~1 ft. - 2 ft.
300' S of DR in J	10-40	~1-2 ft.
600' S of DR in J	12-15	~1-2 ft.

* ← sample taken: S ref

Oil Sheen/Debris:

light sheen South of debris removal in J, strong H₂S odor

Wildlife Observations:

swans

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L) WQ-TSS-001→005 Turbidity (1L) WQ-TUR-001→005
Total PCB (1L) WQ-TPC-001→005 Dissolved PCB (2x1L) WQ-DPC-001→005
Toxicity (5 gal) WQ-TOX-001→010 Metals (500ml) WQ-MET-001→005

Notes:

Sampling Crew:

K. McCartney, M. Walsh

Chief Scientist Signature:

Paul H. Cao



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L, Area J, north of Wood St. bridge
 Dredging Description: active DR at L, active DR at J, prepping DR at A
 Survey Vessel: R/V George Hampton
 Chief Scientist: K. McCarthy
 Sampling Technician:
 Vessel Captain: M. Walsh
 Other Personnel:
 Weather Conditions: overcast No wind

Date: 6/24/09
 Page: 1 of 2

Tide Information	
High	6947
Low	0336
High	2209
Low	2000 1513

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
L-S-1000	0900			12.2	1.03	2.6	6.19	26.91	17.67	taking samples 001@
L-S-1000	0901			12.2	6.03	5.1	5.98	28.98	17.82	S ref. →
L-S-1000	0903			12.2	10.01	5.4	5.92	28.99	17.82	vert. profile to determine
* begin logging → L-S-1000	0905			12.2	8.42	5.9	5.91	28.99	17.82	sample depth
M-N-1000	1009			6.7	1.03	1.8	7.21	4.75	16.51	taking samples 002@
M-N-1000	1011			6.7	3.00	4.5	5.18	26.48	17.89	N ref. →
M-N-1000	1012			6.7	5.66	4.5	4.45	27.02	17.89	profile to determine
* begin logging → M-N-1000	1014			6.7	3.01	4.0	5.01	26.49	17.89	sample depth
O-6-24	1051			5.0	1.01	158.9	4.47	25.52	17.90	sampling next to
O-6-24	1052			5.0	2.26	35.3	5.45	27.89	17.87	active DR in area J
O-6-24	1053			5.0	3.88	16.7	5.51	28.29	18.01	
* begin logging → O-6-24	1055			5.0	2.06	92.5	4.94	27.00	17.92	
O-6-24	1057			5.0	2.82	41.8	5.40	27.67	17.91	
3-6-24				6.8						
3-6-24				6.8						

WQ samples taken during collection of water samples for lab analysis



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area J,
 Dredging Description: active DR
 Survey Vessel: R/V George Hampton
 Chief Scientist: K. McCarthy
 Sampling Technician: _____
 Vessel Captain: M Walsh
 Other Personnel: _____
 Weather Conditions: overcast, no wind

Date: 6/24/09
 Page: 2 of 2

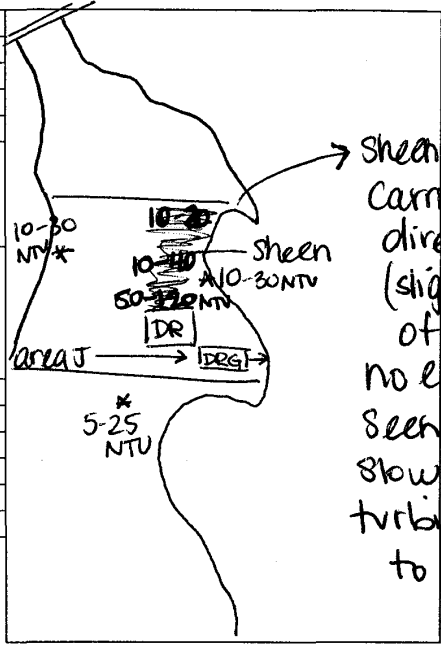
Tide Information	
High	0947
Low	0336
High	2209
Low	1513

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
3-6-24	1129			6.8	1.02	17.3	5.66	24.84	17.91	taking vert. profile
3-6-24	1130			6.8	2.98	10.9	5.63	28.10	17.91	to determine water
3-6-24	1132	<u>in GPS</u>		6.8	5.35	13.6	4.48	28.63	17.98	collection sampled depth
* 3-6-24	1134			6.8	0.96	17.1	5.27	26.01	17.91	
6-6-24	1153			5.9	1.02	36.7	5.01	26.00	18.02	" "
6-6-24	1154			5.9	2.07	9.6	5.27	28.13	17.97	↓
6-6-24	1156			5.9	4.62	8.3	5.14	28.64	17.95	↓
* 6-6-24	1157			5.9	1.15	19.6	5.06	27.47	18.02	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 6/29/09
 Weather: Overcast, rain
 Tides:
 high @ 0147
 low @ 0735
 high @ 1422
 Monitoring Period:
 From: 0830 To: 1200
 Tidal Stages: HWS Ebb LWS Flood
 Dredging Activity:
 no activity in Area L
 active dredging in Area J at 1015
 active debris removal in Area J at 1000



sheen and plume carried almost directly north (slightly east) of activity - no exceedances seen but had them slow down when turbidity started to spike.

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
1000's of L (ref)	1-10	Surface - 10 ft.
100' S of J	2-10	1-4 ft.
300' N of J	5-25	1-4 ft.
300' N of J	10-40	0.5-3 ft.
600' N of J	10-30	1-2 ft.
100' N of J	50-120	1-2 ft.

> before debris removal started
 > during active debris removal and dredging

Oil Sheen/Debris: moderate sheen N of DR; DRG associated w/ activity; light sheen SE of J

Wildlife Observations: nesting swans, fewer jellies, cormorant

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: at ~1100 we noticed a heavier sheen building N of activity in J as well as a plume of higher turbidity (~80-120 between 100' and 200' north) - we mentioned this to Frank who slowed down and took lunch break. we continued to monitor for half an hour and turbidity dropped off (~30-50)

Sampling Crew: K. McCartney, M. Walsh
 Chief Scientist Signature: [Signature]

no exceedances were seen at 300' or 600'.



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L, Area J
 Dredging Description: no activity until ~ 10:00, active DR in J
 Survey Vessel: R/V George Hampton
 Chief Scientist: K. McCartney
 Sampling Technician:
 Vessel Captain: M. Walsh
 Other Personnel:
 Weather Conditions: overcast, rain AM

Date: 6/29/09
 Page: 1 of 2

Tide Information	
High	<u>0147</u>
Low	<u>0735</u>
High	<u>1402</u>
Low	<u>2055</u>

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
L-NA-S-1000	0900			11.5	0.67	1.6	5.74	27.23	19.58	1000' S ref. for all acts
L-NA-S-1000	0901			11.5	2.69	2.3	5.39	28.11	19.66	EPA out doing "
L-NA-S-1000	0902			11.5	4.64	5.3	5.08	29.42	19.44	sediment grabs' S of L
L-NA-S-1000	0904			11.5	6.74	8.8	5.00	29.55	19.40	"
L-NA-S-1000	0905			11.5	8.72	16.2	4.73	29.71	19.33	" "
L-NA-S-1000	0907			11.5	9.31	18.1	4.59	29.72	19.32	" "
J-NA-S-100	0922			5.4	0.82	2.1	5.73	24.16	19.54	slight sheen just S
J-NA-S-100	0924			5.4	2.44	10.6	4.36	26.14	19.71	of Area J in SE
J-NA-S-100	0925			5.4	3.97	6.8	4.02	28.86	19.53	corner
J-NA-N-100	0944			4.3	1.08	22.7	5.29	22.72	19.53	preping to DRG
J-NA-N-100	0945			4.3	2.35	13.1	3.68	28.15	19.77	" "
J-DR-N-150	1000			4.2	1.52	34.5	4.64	25.02	19.58	downstream, N of DR
J-DR-N-150	1001			4.2	0.52	13.3	5.85	15.13	19.48	strong H ₂ S odor
J-DR-N-200	1003			4.2	2.06	36.9	4.59	26.10	19.66	
J-DR-N-300	1005			5.0	1.38	13.2	5.33	22.77	19.61	

resting swans & babies SE of J



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

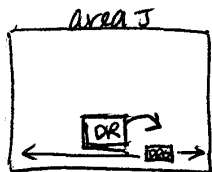
Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area J
active DR in J, active DRG in J
R/V George Hampton
K. McCartney
M. Walsh
Overcast

Date 6/29/09
Page 2 of 2

Tide Information	
High	
Low	
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
J-DR-NW-300	1037			5.0	2.70	6.7	4.11	27.42	19.76	active DRG 300's
J-DR-NE-300	1042			3.9	1.19	13.4	5.03	24.66	19.63	of sample
J-DR-NE-300	1044			3.9	2.08	29.7	3.91	26.50	19.68	
J-DRG-N-600	1047			4.2	2.18	14.1 10.6	4.55 5.88	26.32	19.75	NE of DR, Not DRG
J-DR-N-600	1049			4.2	2.36	18.4	3.77	26.60	19.74	Not DR, NW of DR
J-DR-NW-600	1023			4.5	2.20	33.9	4.37	26.95	19.83	
J-DR-N-100	1027			4.2	2.20	23.9	4.51	—	—	
J-DR-N-100	1031			4.2	1.77	4.2	5.10	—	—	
J-DR-N-150	1043			4.2	2.54	20.1	—	—	—	
J-DRG-N-75	1046			~4	2.39	14.3	4.96	26.56	19.70	
J-DR-N-150	1103			3.7	0.42	32.1	5.39	17.02	19.65	
J-DR-N-150	1104			3.7	2.48	22.9	3.00	27.86	19.66	
J-DR-N-600	1107			5.7	2.19	7.3	4.81	26.44	19.75	



turbidity appears to be in saltwater layer ~ 2 ft deep. (upper fresh water ~ 2-5 NTU)
30-40 NTU seen in 2-3 ft layer



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 6/30/09

Weather:

Tides:

high	@	0242
low	@	0831
high	@	1518

Monitoring Period:

From: 0745 To: 1145

Tidal Stages: HWS (Ebb) LWS, Flood

Dredging Activity:

debris removal in Area L 0745-0900, 1100 on

dredging and debris removal in Area J

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
1000' S of L (ref)	2-8	1-9'
1000' N of J (ref)	5-10	0-2'
100' S of DR in L	5-15	1-4'
100' N of DR in L	10-60	1-4'
200' N of DR in L	5-10	~2'
100' S of DR in J / DR in J	20-60	1-3'
200' S of DR / DR in J	5-15	1-3'
100' N of DR / DR in J	10-40	1-3'
Oil Sheen/Debris: 200' N of DR / DR in J	5-10	1-3'

heavy sheen @ ~ 0800 in L associated w/ debris removal, passing thru boom

Wildlife Observations:

terns fishing, nesting swans, ospreys fishing, egrets, gulls, Ash jumping

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

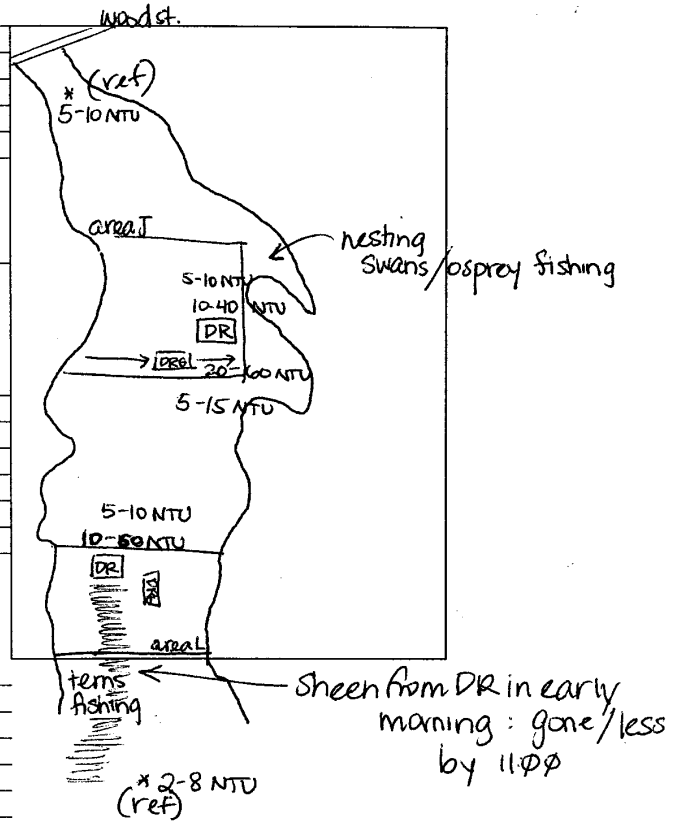
called Josh when we noticed a heavy sheen in L escaping boom - DR quit until ~ 1100 - sheen did not reappear as heavy after 1100 and was contained by boom.

Sampling Crew:

K. McCartney, M. Walsh

Chief Scientist Signature:

Julien McCall





Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

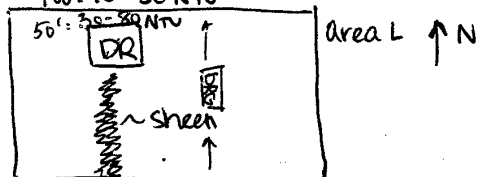
Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area L
debris removal in Area L
R/V George Hampton
K. McCartney
M. Walsh
overcast, fog

Date 6/30/09
Page 1 of 2

Tide Information	
High	0242
Low	0831
High	1518
Low	2209

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
(ref) L-DR-S-1000	0803	41°39.760'	70°54.996'	11.3	1.18	3.9	5.85	27.08	20.61	ref. sample 1000's
L-DR-S-1000	0804	"	"	11.3	3.03	3.5	5.77	29.47	20.17	of all activity
L-DR-S-1000	0805	"	"	11.3	6.03	4.4	5.87	29.66	19.94	
L-DR-S-1000	0806	"	"	11.3	9.00	6.2	5.59	29.69	19.90	
L-DR-S-600	0811	41°39.902'	70°55.055'	6.6	1.22	3.7	5.62	28.01	20.59	600' S of DR
L-DR-S-600	0812	"	"	6.6	3.03	4.8	5.70	29.55	20.08	
L-DR-S-600	0814	"	"	6.6	4.41	8.3	5.47	29.61	20.02	
L-DR-S-300	0823	41°39.956'	70°55.079'	6.1	1.16	9.0	4.30	27.80	20.38	sheen coming S from
L-DR-S-300	0826	"	"	6.1	4.05	13.4	5.12	29.57	20.04	DR thru boom
L-DR-S-75	0840	41°40.013'	70°55.089'	5.8	2.43	7.1	4.75	29.10	20.33	H ₂ S odor (strong!)
L-DR-S-75	0841	"	"	5.8	3.59	6.5	5.30	29.53	20.11	very heavy sheen
L-DR-N-75	0853	41°40.055'	70°55.091'	5.6	1.94	58.2	4.04	26.32	20.39	
L-DR-N-75	0856	"	"	5.6	4.09	23.5	4.45	29.31	20.21	turbidity in 1.5-2 ft
L-DR-N-75	0857	"	"	5.6	0.41	6.6	5.37	18.95	20.44	range: upper layer
L-DR-N-75	0858	20ft: 10-20 NTU 100ft: 10-50 NTU	"	5.6	2.01	40.2	-	-	-	of salt water





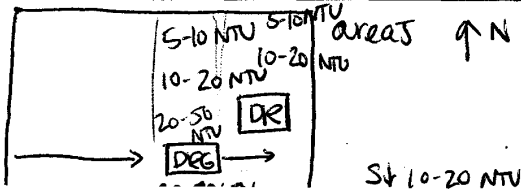
Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L, Area J
 Dredging Description: debris removal in Area L, active dredging in Area J & DR
 Survey Vessel: R/V George Hampton
 Chief Scientist: K. McCartney
 Sampling Technician: -
 Vessel Captain: M. Walsh
 Other Personnel: -
 Weather Conditions: overcast

Date: 6/30/09
 Page: 2 of 2

Tide Information	
High	0242
Low	0831
High	1518
Low	2209

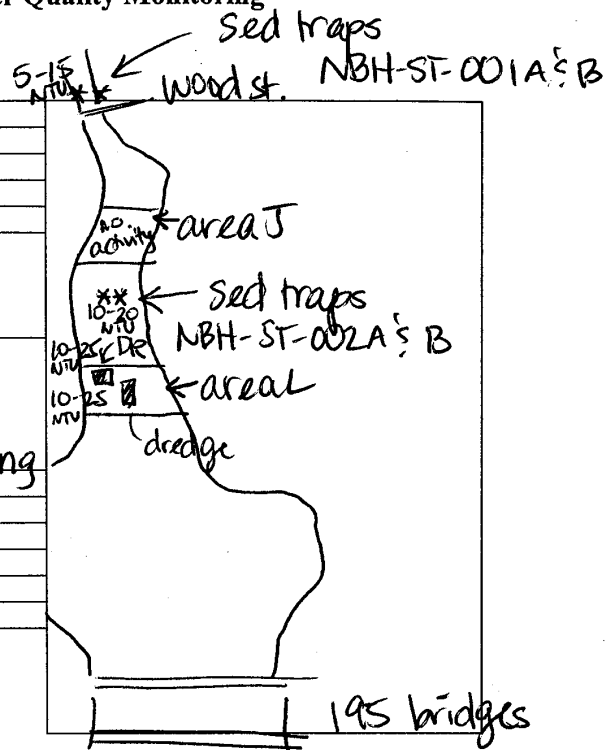
Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
L-DR-N-200	0902	41°40.064'	70°55.089'	5.5	3.55	4.7	5.20	29.28	20.35	
J-DRG-S-75	0915	41°40.409'	70°54.916'	5.3	0.88	17.6	4.59	26.23	20.37	75' S of DRG
J-DRG-S-75	0918	"	"	5.3	2.47	20.3	4.28	27.73	20.38	
J-DRG-SW-100	0923	41°40.416'	70°54.984'	3.5	2.33	16.2	4.55	28.39	20.41	
J-DRG-S-75	0926	41°40.409'	70°54.917'	5.3	2.15	60.5	4.38	-	-	
J-DRG-S-100	0927	41°40.407'	70°54.919'	5.3	2.18	38.6	4.28	28.01	20.38	
J-DRG-S-200	0930	41°40.383'	70°54.923'	4.7	2.04	13.4	3.89	27.94	20.41	
J-DRG-N-500	0940	41°40.509'	70°54.902'	3.5	0.84	5.6	4.00	26.88	20.52	
J-DRG-N-500	0941	"	"	3.5	2.34	5.9	4.01	28.21	20.24	
J-DRG-N-100	0951	41°40.454'	70°54.894'	4.0	2.02	40.7	4.08	27.68	20.47	
J-DRG-N-25	0956	41°40.440'	70°54.908'	4.0	2.05	24.4	4.32	28.29	20.43	25' N of active DRG
J-DR-N-100	1010	41°40.470'	70°54.874'	2.9	2.09	18.1	3.52	28.13	20.35	
J-DR-N-300	1024	41°40.502'	70°54.876'	5.0	1.92	8.6	4.21	27.85	20.35	
J-DR-N-1000	1034	41°40.622'	70°54.975'	2.6	0.62	5.9	5.18	20.70	20.50	
J-DR-N-1000	1036	"	"	2.6	1.87	8.7	4.02	27.35	20.45	





New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 7/1/09
 Weather: overcast
 Tides:
 high @ 0340
 low @ 0923
 high @ 1617
 Monitoring Period:
 From: 1000 To: 1200
 Tidal Stages: HWS Ebb LWS Flood
 Dredging Activity:
 debris removal and dredging in Area L
 no activity in Area J



Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
S of 195 bridge	2-5	1-20
100' S of DR in L	10-25	1-3
100' N of DR in L	10-25	1-4
N of Wood St.	5-15	1-4
300' S of J	10-20	1-6

2-5 NTU
 * * *
 Sed traps
 NBH-ST-003A & B

Oil Sheen/Debris:

Slight sheen by debris removal in Area L: stayed within oil boom
 Very heavy H₂S odor

Wildlife Observations:

Missing swans, very few jellies

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: 6 sediment traps deployed at 3 locations:

- NBH-ST-001 - North of Wood St.: collocated w/ YSI mooring
- NBH-ST-002 - South of Area J: collocated w/ YSI mooring
- NBH-ST-003 - South of 195 bridge: collocated w/ city's sed-trap.

Sampling Crew:

K McCarney, M. Walsh

Chief Scientist Signature:

[Handwritten Signature]



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
 Dredging Description
 Survey Vessel
 Chief Scientist
 Sampling Technician
 Vessel Captain
 Other Personnel
 Weather Conditions

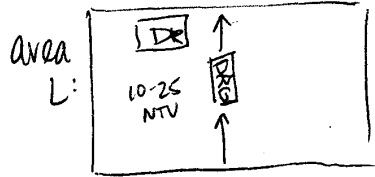
Area L, S of 195 bridge, Area T
 R/V George Hampton
 K. McCartney
 M. Walsh
 overcast

Date 7/1/09
 Page 1 of 2

Tide Information	
High	0340
Low	0923
High	1617
Low	2305

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
ST-003	10:52	41°39.197'	70°55.126'	>20'	1.03	2.6	6.85	28.83	20.71	S of 195 bridge
ST-003	10:53	41°39.197'	"	>20'	5.01	3.2	6.49	28.99	20.57	(at sed. trap
ST-003	10:54	"	"	>20'	10.12	3.5	6.21	29.56	20.21	mooring)
ST-003	10:55	"	"	>20'	15.00	2.4	5.93	30.26	19.88	near City's sed
ST-003	10:57	"	"	>20'	20.02	4.9	6.01	31.07	19.04	traps
L-DR-S-200	1120	41°40.001'	70°55.099'	4.9	0.94	13.1	7.31	23.39	22.25	W of DRG, S of DR
L-DR-S-200	1122	"	"	4.9	2.11	20.5	6.61	24.91	22.21	↳ ~100' ↳ ~200'
L-DR-N-100										

Sheet
 dropped in
 water





Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
 Dredging Description
 Survey Vessel
 Chief Scientist
 Sampling Technician
 Vessel Captain
 Other Personnel
 Weather Conditions

Area L, Area J, N of wood st.
 debris removal & dredging in L, no activity in J
 RV George Hampton
 K. McCartney
 M Walsh
 Overcast

Date 7/1/09
 Page 2 of 2

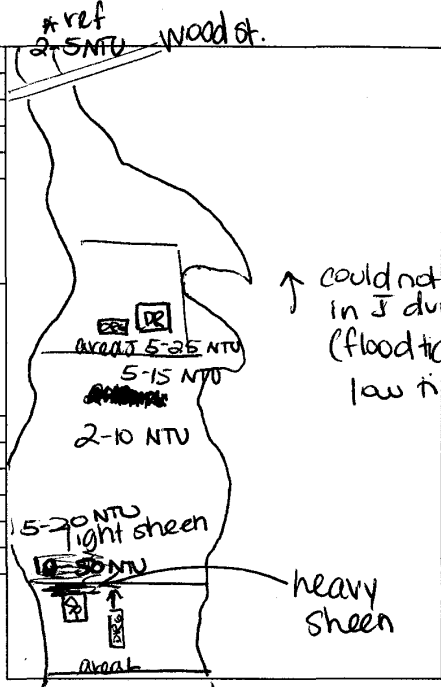
Tide Information	
High	0340
Low	0923
High	1617
Low	2305

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
L-N-DR-100	1132	41°40.058	70°55.107'	7.9	2.64	9.7	6.39	25.56	22.02	VERY strong H ₂ S
L-N-DR-100	1134	"	"	7.9	3.81	11.7	4.60	27.21	21.69	heavy sheen w/in L
ST-002	1154	41°40.373	70°54.949	7.3	1.01	6.3	7.81	17.62	22.67	
ST-002	1156	"	"	7.3	3.00	8.8	5.84	25.49	21.80	at YSI mooring
ST-002	1158	"	"	7.3	6.02	21.8	4.31	28.24	21.34	at NBH-center
ST-001	1215	41°40.726	70°55.020	4.0	0.96	5.0	7.13	1.37	20.91	for sed. trap deployment
ST-001	1216	"	"	4.0	3.02	13.2	3.32	27.18	21.37	at NBH-north



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 7/7/09
 Weather: overcast, light rain
 Tides:
 high @ 0841
 low @ 1351
 high @ 2101
 Monitoring Period:
 From: 0900 To: 1540
 Tidal Stages: HWS (Ebb) LWS (Flood)
 Dredging Activity:
 dredging and debris removal in Area L
 dredging during AM in Area J
 debris removal in Area J



could not get N of DR in J during afternoon (flood tide) b/c of low tide and dredge wires

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
N of wood st (ref)	2-5 NTU	0-5 ft.
S of Area L (ref)	4-10 NTU	0-4 ft.
S of Area J (at mooring)	2-10 NTU	0-6 ft.
300' S of DR in J	5-15 NTU	0-3 ft.
200' S of DR in J	5-25 NTU	0-2 ft.
150' N of DR in L	10-50 NTU	1-3 ft.
300' N of DR in L	5-20 NTU	2-4 ft.
300' N of DR 6 in L	~ 4 NTU	0-4 ft.

Oil Sheen/Debris:
 heavy sheen in area L by debris removal (heavy inside boom, light outside)

Wildlife Observations:

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

heavy H₂S odor and sheen associated with debris removal in NW corner of L. No turbidity exceedances.

Sampling Crew:

K. McCartney, M. Potter, M. Walsh

Chief Scientist Signature:

Kevin McCartney



New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area L, Area J
active dredging and debris removal in J and L
R/V George E Hampton
Kathryn McCartney
~~Martin Potter~~
Mike Walsh
- Martin Potter
overcast

Date
Page

7/7/09
1 of 2

Tide Information

High 0841
Low 1351
High 2101
Low 0215

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
NBH-North	09:57			5.8	1.5	2.4	5.50	22.26	22.79	during YSI mooring
NBH-North	09:59			5.8	0.73	3.2	5.03	1.76	20.01	deployment
NBH-North	09:59			5.8	3.02	3.1	4.45	26.04	22.58	
NBH-North	10:00			5.8	4.67	4.3	3.09	27.26	22.31	↓
NBH-South	13:52			5.5	0.38	4.4	10.64	14.12	22.17	during YSI
NBH-South	13:53			5.5	2.00	5.6	9.75	15.82	22.20	deployment
NBH-South	13:54			5.5	4.02	10.5	4.90	24.98	21.71	↓
NBH-Center	14:12			8.5	0.29	2.5	8.92	3.93	21.42	during YSI
NBH-Center	14:13			8.5	2.51	3.3	5.68	23.86	22.32	deployment
NBH-Center	14:14			8.5	5.21	4.5	3.80	25.49	21.75	↓
NBH-center	14:15			8.5	7.02	14.6	2.16	25.88	21.44	
J-DR-300-S	14:25			4.4	2.63	13.2	5.01	24.47	22.32	at boundary S of J
J-DR-300-S	14:26			4.4	0.67	6.4	8.23	4.29	21.41	
J-DR-200-S	14:29			2.8	0.36	4.5	9.50	4.13	21.42	
J-DR-200-S	14:31			2.8	2.08 1.72	23.1	7.93	16.95	21.94	

ret
ret



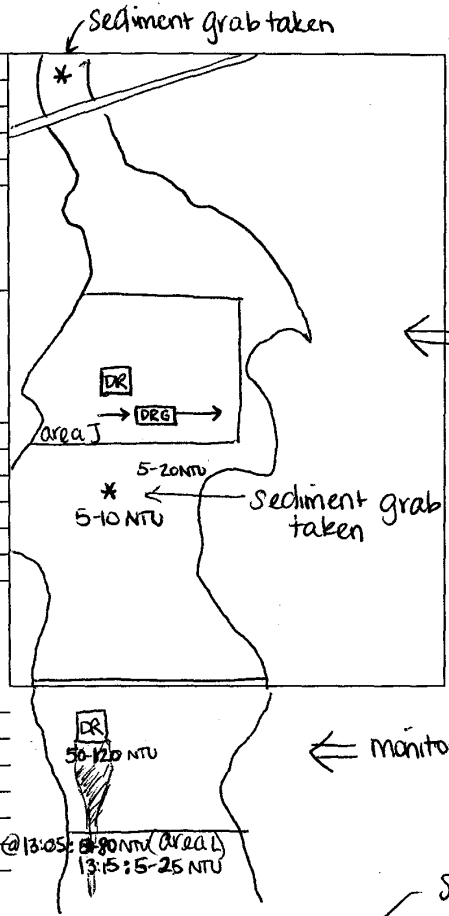
New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 07/09/09
Weather: overcast am, partly sunny pm
Tides:
low @ 0328
high @ 0958
low @ 1520

Monitoring Period:
From: 0915 To: 1415

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:
active dredging in Area J (10:30-12:45 monitored)
active debris removal in Area L (monitored 12:45-1330)



Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
N of wood St (ref)	5-7 NTU	1-6 ft
100' N of DRG in J	7-22 NTU	0.5-3.5 ft
300' S of DRG in J	5-10 NTU	1-8.5 ft
100' S of DRG in J	5-60 NTU	0.5-2.5 ft
50' S of DR in L	50-120 NTU	2-3 ft
immediately after: 300' S of DR in L	50-80 NTU	2-3 ft
15 mins later: 300' S of DR in L	5-25 NTU	2-3 ft

high turbidity seen when boat wash pushing DRG

Oil Sheen/Debris: bits of broken oil boom S of Area J drifting south in wind

Wildlife Observations: fish jumping S of Area J, many swans & shore birds

Samples Collected for Laboratory Analysis - Sample IDs: collected surface sediments @ sites of traps
TSS (1L) Turbidity (1L)
Total PCB (1L) Dissolved PCB (2x1L)
Toxicity (5 gal) Metals (500ml)

Notes: at ~ 12:45 we moved from Area J to monitor debris removal in Area L. Upon arrival, worker took lunch break (had been working for > 1 hr noticeably from: Very high turbidity plume seen S of DR (ebb tide) (strong NE wind) which we attempted to pinpoint and sample because an exceedance was seen (~80 NTU at 300' away) Plume was too narrow and dissipated within 15 mins - unable to sample.

Sampling Crew: K. McCartney, M. Walsh
Chief Scientist Signature: *[Signature]*



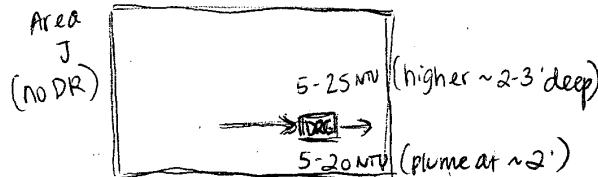
Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	Area L, Area J
Dredging Description	dredging in J
Survey Vessel	R/V George Hampton
Chief Scientist	K. McCartney
Sampling Technician	-
Vessel Captain	M. Walsh
Other Personnel	-
Weather Conditions	Overcast, partly sunny, strong wind from NE

Date	7/9/09
Page	1 of 2

Tide Information	
High	0958
Low	0328
High	2213
Low	1520

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
NBH-North ST-001 (ref)	10:45	41°40.728'	70°55.023'	5.9	0.99	4.5	5.40	10.64	19.36	done after scd grab
NBH-North ST-001	10:46	"	"	5.9	2.57	5.4	3.88	22.70	20.38	at NBH-North/ST-001
NBH-North ST-001	10:47	"	"	5.9	4.95	6.1	2.13	24.24	20.75	↓
J-DRG-100-N	11:06	41°40.461'	70°54.874'	5.7	2.15	14.7	3.85	24.32	20.46	waiting to pass DRG
J-DRG-100-N	11:07	"	"	5.7	0.72	7.8	4.68	19.10	20.37	↓
J-DRG-100-N	11:08	"	"	5.7	3.68	21.2	3.22	24.94	20.44	↓
NBH-center J-DRG-300-S	11:55	41°40.371'	70°54.946'	9.7	1.04	6.6	5.08	19.52	20.95	at ST-002 / NBH-center
J-DRG-300-S	11:56	"	"	9.7	3.08	5.8	4.66	25.52	20.28	↓
J-DRG-300-S	11:58	"	"	9.7	6.00	5.5	4.70	26.05	20.25	↓
J-DRG-300-S	12:00	"	"	9.7	8.61	10.1	4.41	26.70	20.17	↓
J-DRG-100-S	12:28	41°40.415'	70°54.908'	6.1	2.31	16.5	4.10	25.28	20.44	just outside S boundary
J-DRG-100-S	12:28	"	"	6.1	0.95	6.1	4.79	20.65	21.29	
J-DRG-100-S	12:30	"	"	6.1	1.65	11.0	4.12	24.03	20.75	
J-DRG-75-S	12:35	41°40.413'	70°54.887'	6.0	0.75	6.9	3.88	25.29	20.46	*dredge being pushed by boat, stay in line
J-DRG-300-S	12:41	41°40.377'	70°54.889'	4.5	2.39	12.5	3.92	23.85	20.99	



When boat pushes on dredge to keep it in line / moving straight a plume forms from the motor esp in shallow areas - discom...



WOODS HOLE GROUP

Attachment 2
Water Quality Monitoring In situ Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area L
active debris removal (just stopped as we arrived)
R/V George Hampton
K. McCartney
M. Walsh
Sunny, wind out of NE

Date 7/9/09
Page 2 of 2

Tide Information table with columns for High, Low, High, Low and corresponding values.

Main data log table with columns: Station Name, Time, Latitude, Longitude, Water Depth, Sample Depth, Turbidity, DO, Salinity, Temp, Notes.

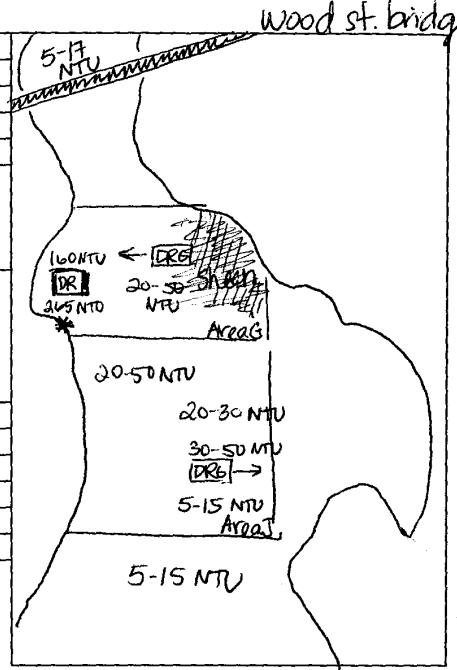


New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 7/14/09
Weather: Sunny, wind out of N
Tides:
low @ 0620
high @ 1320
low @ 1658

Monitoring Period:
From: 0930 To: 1400
Tidal Stages: HWS Ebb DWS Flood

Dredging Activity:
no activity in Area L
dredging in Area J
debris removal in Area G
preparing to dredge in Area G



Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
S reference, flood tide	2-15 NTU	0-9 ft
N reference, ebb tide	5-17 NTU	0-5 ft
300' S of dredge in J	5-15 NTU	0-3 ft
300' N of dredge in J	20-30 NTU	0-4 ft
200' N of DR in G	15-25 NTU	0-5 ft
300' S of DR in G	10-35 NTU	1-4 ft
50' S of DR in G (at *)	120-265 NTU	1-2 ft

↓ S reference
2-15 NTU

Oil Sheen/Debris:
Slight sheen in Area G - PCB's oil spill from dredge

Wildlife Observations:
many swans, comb jellies (ptinophors)

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: turbidity plume caught in a pool South of barge for DR in G. very high spikes (265 NTU seen) steady around 150 NTU but not moving from where it was caught b/w barge and shore.

Sampling Crew: K. McGarvey M. Walsh
Chief Scientist Signature: *Justin McCauley*



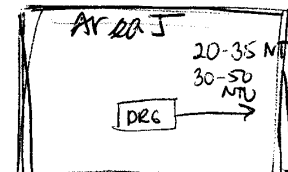
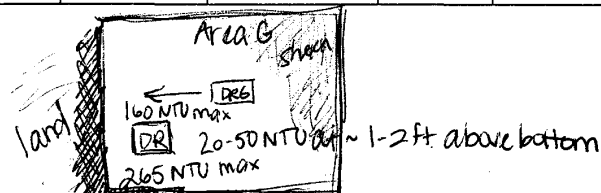
Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location Area G
Dredging Description debris removal in Area G
Survey Vessel R/V George Hampton
Chief Scientist K. McCartney
Sampling Technician -
Vessel Captain M. Walsh
Other Personnel -
Weather Conditions Sunny, breeze out of North

Date 7/14/09
Page 2 of 2

Tide Information	
High	0053
Low	0620
High	1320
Low	1858

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
G-DR-300-NW	11:46	41°40.597	70°54.927	3.8	0.45	19.1	11.75	19.84	22.99	
"	11:47	"	"	3.8	1.43	30.3	6.49	22.30	22.51	
"	11:48	"	"	3.8	2.44	19.9	4.92	23.16	22.43	
G-DR-50-S	12:09	41°40.540	70°54.989	3.4	1.21	155.1	4.77	19.75	22.41	
J-DR-75-N	12:35	41°40.478	70°54.876	5.5	1.82	45.8	6.50	22.41	22.70	
G-DR-300-S	12:58	41°40.496	70°54.947	7.7	1.92	34.9	8.08	22.08	22.86	300's of G
G-DR-300-S	13:02	"	"	7.7	4.52	11.8	5.00	24.93	22.25	before DR begins
"	13:15	"	"	7.7	2.04	23.2	6.79	22.60	22.70	15 min after DR begins
M-WA-100-N	13:26	41°40.840	70°55.042	5.9	0.55	4.8	8.23	3.79	20.95	also tide reference
"	13:27	"	"	5.9	2.48	12.8	5.48	22.45	22.62	"
"	13:30	"	"	5.9	4.61	16.8	0.86	23.05	22.26	"





New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 7/15/09
 Weather: Sunny, clear, winds out of w/sw
 Tides:

low	@	0706
high	@	1409
low	@	2008

Monitoring Period:

From: 09:30 To: 13:00

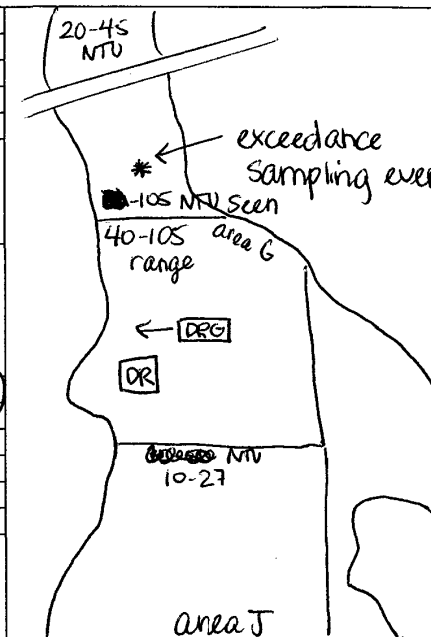
Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

dredging and debris removal in G(2)

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
100's of L	5-16 NTU	0-9 ft.
between Jan 6 (no activity)	10-27 NTU	0-3 ft.
300' N of G (DR & DRG)	40-105 NTU	0-3 ft.
700' N of G (DR & DRG)	20-45 NTU	0-3 ft.
300' N of G (before activity)	40-55 NTU	0-3 ft.
300' N of G (during activity)	65-105 NTU	0-3 ft.



sustained b/w
65-95 NTU
for >30 min

← 30 NTU before activity, 65-105 during DR
* ref. 5-16 NTU

Oil Sheen/Debris:

none

Wildlife Observations:

fish jumping south of Areal, shorebirds, swans

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L) WQ-TSS-001-071509 Turbidity (1L) WQ-TUR-001-071509 + dup (1)
 Total PCB (1L) WQ-TPC-001-071509 Dissolved PCB (2x1L) WQ-PCB-001-071509 + MS/MSD (2)
 Toxicity (5 gal) WQ-TOX-001/002-071509 Metals (500ml) WQ-MET-001-071509 + dup (1)

Notes:

exceedance was seen 300' N of dredging / 350' N of debris removal in area G (2). Spikes as high as 105 NTU consistently 65-95 NTU arriving in waves/phases at ~1.5' depth associated w/ Debris removal. Continued to monitor after debris

Sampling Crew:

K. McCarthy, H. Clark, M. Walsh

Chief Scientist Signature:

Paul J. McCarthy

removal was stopped

(after exceedance sampling event) and turbidity levels dropped to 20-30 NTU within one hour.



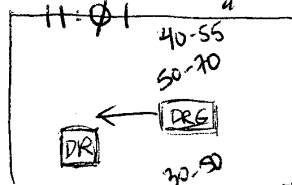
Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L, Area J, Area G
 Dredging Description: debris removal & dredging in G
 Survey Vessel: R/V George Hampton
 Chief Scientist: K. McCartney
 Sampling Technician: M. Walsh
 Vessel Captain: H. Clark
 Other Personnel:
 Weather Conditions: Sunny, Wind out of N - changing

Date: 7/15/09
 Page: 1 of 2

Tide Information	
High	0142
Low	0706
High	1409
Low	2008

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
L-NA-1000-S	09:32	41° 39.788'	70° 54.997'	11.1	0.52	6.8	9.63	18.49	22.07	Flood tide reference
"	09:34	"	"	11.1	3.42	5.8	4.63	29.66	21.53	no current activity
"	09:35	"	"	11.1	6.33	8.9	4.05	30.02	21.41	in any areas
"	09:36	"	"	11.1	9.32	13.9	4.05	30.05	21.39	—
"	09:38	"	"	11.1	9.92	15.8 15.8	4.00	30.06	21.39	big fish jumping
J/G-NA	09:58	41° 40.510'	70° 54.931'	4.0	0.48	11.6 11.6	8.97	13.14	22.03	at boundary of J/G
"	09:59	"	"	4.0	2.63	22.5	4.31	27.89	22.19	no activity
"	10:01	"	"	4.0	1.01	26.2	8.16	20.55	22.43	(15-30 NTU!)
G-DR-250-N	10:31	41° 40.610'	70° 54.981'	3.0	0.69	53.5	5.80	19.43	22.41	250' N of DR, 150' N of DR
"	10:33	"	"	3.0	1.65	55.4	4.17	23.08	22.37	"
"	10:45	"	"	3.0	1.66	49.2	3.76	23.62	22.46	"
G-DR-300-N	10:54	41° 40.635'	70° 54.985'	4.0	0.10	42.9	7.34	7.92	21.04	profiling at 300' for
"	10:55	"	"	4.0	1.06	43.9	6.46	20.54	22.56	exceedance
"	10:55	"	"	4.0	2.09	38.3	3.36	24.37	22.39	
"	10:56	"	"	4.0	3.00	33.6	2.85	25.89	22.26	
"	11:01	"	"	4.0	1.29	105.2	1.67	—	—	Sampling



exceedances will be > 65 NTU - seen 11:00 - 12:00



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	Area 6
Dredging Description	dredging, debris removed, boat traffic
Survey Vessel	R/V George Hampton
Chief Scientist	K. McCartney
Sampling Technician	
Vessel Captain	M. Walsh
Other Personnel	H. Clark
Weather Conditions	Sunny, wind out of north west / SW

Date	7/15/09
Page	2 of 2

Tide Information	
High	
Low	
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
6-DR6-300-N	12:00	"	"	4.0	0.90	66.4	5.20	—	—	after sampling
"	12:01	"	"	4.0	0.92	74.9	5.51	—	—	event from
"	12:02	"	"	4.0	0.94	84.0	5.39	—	—	exceedance
"	12:02	"	"	4.0	0.90	92.4	5.53	—	—	range: 65-105
6-DR6-700-N	12:08	41°40.734	70°55.423	4.8	0.98	42.1	5.88	19.69	22.80	at NBH-NORTH
"	12:10	"	"	4.8	0.20	20.5	7.58	8.03	22.01	
"	12:11	"	"	4.8	1.15	42.3	5.86	20.93	22.74	
"	12:11	"	"	4.8	2.18	39.4	4.34	23.40	22.56	✓ 20-50
"	12:12	"	"	4.8	3.11	23.1	2.75	25.45	22.50	NTU
6-DR6-300-N	12:29	41°40.646	70°55.985	4.0	0.08	8.5	7.86	3.68	22.36	
"	12:30	"	"	4.0	1.08	24.0	8.12	23.26	23.36	
"	12:31	"	"	4.0	2.09	28.6	7.02	24.39	23.16	
"	12:32	"	"	4.0	3.08	52.2	4.97	25.61	20.80	
"	12:34	"	"	4.0	1.64	23.3	6.14	24.36	23.32	



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 7-16-07

Weather: Partly cloudy early; then high winds + rain

Tides:

low	@	_____
high	@	_____
low	@	_____

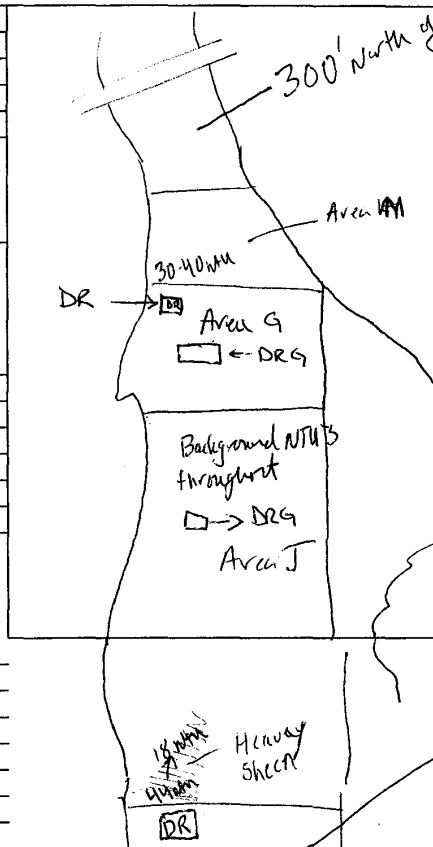
Monitoring Period:

From: 08:50 To: 15:30

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

Debris removal in Area L, Dredging
in Area J, Dredging + Debris Removal
in Area G



Turbidity Summary:

Location	South	Turbidity range (NTU)	Sensor/water Depth (ft)	
Area L	Boundary	6-7	1.15 / 4	
Area L	75' from DR	44.3	1.55 / 6.1	
Area L	200' from DR	18.1	1.86 / 6.3	
(50' N of DR)	Area G	Northern Boundary	30-40	1.5 / 4.5
(300' N of DR)	Area G	" "	6.1-16.4	2.5-3.55 / 5.5
Area J	Center	6-15	2.5 / 3.4	

Oil Sheen/Debris:

Heavy oil sheen associated with debris removal in Area L. Dissipated with time.

Wildlife Observations:

Few seagulls, heron (green and blue heron), Kingfisher

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Area G: Monitored for quite a while in area where exceedance was seen yesterday. At 300' N of DR consistently saw 7-30 NTU (low to high teens average) during DR.

Slightly Elevated turbidity occurred after DR stopped + DRG began. Levels ranged from 40-60 NTU. Turbidity was seen at about 2.5 ft. depth but not below, or above.

Area J: minimal dredging activity. Turbidity levels were low (7-15 NTU)
→ Toxicity test results from ~~July 15~~ July 15 exceedance sampling showed no acute toxicity.

Sampling Crew:

Heidi Clark, Mike Walsh

Chief Scientist Signature:



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	Area J
Dredging Description	Minimal DREDGING ACTIVITY
Survey Vessel	R/V George Hanson
Chief Scientist	Heidi Clewley
Sampling Technician	
Vessel Captain	Mike Walsh
Other Personnel	
Weather Conditions	Partly Sunny wind SW 10-20 kt

Date	07-16-09
Page	2 of

Tide Information	
High	
Low	09:03
High	15:05
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
100' N of DREG	09:59			3.4	1.63	17.4	6.61	18.23	22.05	

Area-wide turbidity levels range from 7-15 NTU even during dredging. 10:31 within 75' of DREG continually monitored; Saw ranges 7-15 NTU. One spike of 30-40 NTU in close proximity to dredge. This dropped off quickly. Would have been redundant to keep taking profiles.



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L
 Dredging Description: Debris Removal only - No active dredging in Am
 Survey Vessel: R/V George Hampson
 Chief Scientist: Heidi Clark
 Sampling Technician:
 Vessel Captain: Mike Walsh
 Other Personnel:
 Weather Conditions: Part Sun Wind SW 10-20KT

Date: 07-16-07
 Page: 1 of

Tide Information Low at 08:03 - Flood tide
 High: 02:36
 Low: 08:03
 High: 15:05
 Low: 21:31

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
1000 REF	09:04			9.1	0.39	5.8	7.92	23.69	23.04	Saw sheen on water nearby. BUT moved away from sheen to sample.
"	09:05			9.1	2.40	6.1	5.22	27.33	22.76	
"	09:06				4.38	5.4	4.45	29.48	22.16	
"	09:07				6.01	9.6	4.12	29.77	21.91	
"	09:08				7.99	17.6	3.96	29.93	21.79	
					8					
W-Corner ↳ Dredge Boundary L	09:20			4'	1.15	6.7	7.76	23.60	22.87	300' South of DR
(Down-current)										
75' from DR	09:31			6.1	1.55	44.3	5.91	23.43	23.11	
	09:32				2.83	16.4	3.87	27.56	22.78	
200' from DR	09:34			6.3	1.86	18.1	6.15	23.61	23.15	Strong H ₂ S odor + chemical smell during active DR
↳ 1' N DR										

→ Area L - Northwest Corner DR only 09:20 No Active dredging on arrival at nearfield area (just down current of DR) noted heavy sheen. Turbidity appears low.



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

G
Debris removal (No dredging) middle-NW corner of G
RV George Hampson
Heidi Clark
Miles Walsh
Part sun SW wind 10-20 kts

Date 07-16-09
Page 3 of

Tide Information
High
Low 08:03
High
Low

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
DL 100'S	10:57			4.5	6.17	20.5	7.15	4.17	22.57	
DL 100'S	10:59			4.5	1.15	25.8	7.81	6.73	22.95	
DL 50'N	11:06			4.5	1.50	33.1	6.88	5.24	22.36	DL 50' North
DL 50'N	11:08			4.5	2.05	45.6	4.91	3.85	22.33	
DL 300'N	11:16			5.5	0.53	6.1	6.67	2.35	22.59	
"	11:16			"	1.75	8.0	5.99	3.91	22.39	
"	11:17			"	2.77	10.3	1.92	25.17	22.94	
"	11:18			"	3.55	16.4	0.97	26.17	22.89	

Northern boundary G

At DL 300'N, consistently ~ 7-30 NTU (low to high teens, average) during DR. Elevated turbidity just after DL stopped and DRG started ~ 11:45 levels ranging 40-60 NTU one spike at 71 NTU. Turbidity "lense" observed at ~ 2.5 ft depth. When dredging stopped at 12:30 turbidity levels dropped to mid. 30's NTU

Attachment 1

Water Quality Monitoring Field Log Sheet (example for dredge area)



Daily Field Summary Sheet for Water Quality Monitoring

Date: 07-17-09
 Weather: Sunny, Light SW Wind (0-5kts)
 Tides:
 Low @ 09:08
 High @ 16:07
 Low @ 22:44

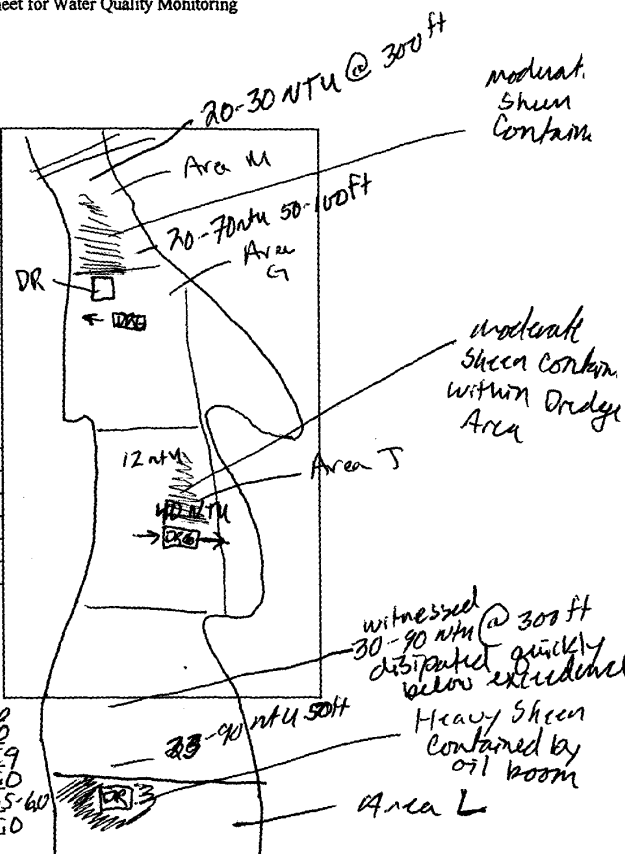
Monitoring Period:
 From: 0900 To: 1530

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:
 Area L stop + Go Debris Removal
 Area J Active Dredging
 Area G Dredging + Debris Removal in Afternoon

Turbidity Summary:

Location	Turbidity range (NTU)	Sensor/water Depth (ft)
Area L 50' N DR	23-90	0.88-4.56 / 7.10
Area L 300' N DR	30-90	0.50-2.16 / 4.0
Area J 100' N DR	30-40	1.31-2.8 / 5.9
Area J 100' N DRG	12-25	0.8-2.5 / 5.0
Area G 50' 100' N DR	20-70	0.5-3.5 / 4.5-6.0
Area G 300' N DR	20-30	1.5-2.5 / 5.0



Oil Sheen/Debris:
 Heavy Sheen NW corner of Area L Contained

Wildlife Observations:
 Numerous Fish Jumps, Green Heron, Egrets, Swallows, Swans

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: High NTU's 30-90 associated with DR in area. Noticed for short period from 50'-300' north of DR. Values dropped quickly and were not sustained. DR Activity stopped and valves dropped to 15-30 NTU - no noticeable NTU issues associated with dredging in Area J - Area G DR/DRG activity in close proximity produced elevated readings

Sampling Crew: H. Clark, M. Walsh
 Chief Scientist Signature: *[Signature]* throughout water column 20-70 ntu

Field Sampling Plan 26
 New Bedford Harbor-Water Quality Sampling

May 2009

Monitoring at the 300' level showed varied levels 20-30 NTU but nothing sustained. The stop + Go activity of Debris Removal seems helpful in keeping water column from becoming too saturated.



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	Area L
Dredging Description	Stop + Go Debris Removal
Survey Vessel	R/V George Hampson
Chief Scientist	M. Crank
Sampling Technician	
Vessel Captain	M. Walsh
Other Personnel	
Weather Conditions	Sunny No wind HOT!

Date	7-17-09
Page	1 of 5

Tide Information	
High	03:36
Low	09:27
High	16:07
Low	22:44

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
REF100S	09:29			9.9	0.46	4.9	6.68	23.25	23.33	
"	09:30			"	1.57	4.0	6.20	26.97	22.71	
"	09:31			"	2.56	4.8	5.42	28.20	22.89	
"	09:32			"	3.69	6.3	5.42	29.68	22.49	
"	09:33			"	5.71	10.2	5.19	30.19	22.01	
"	09:34			"	7.20	19.5	4.57	30.24	21.95	
"	09:36			"	8.12	24.2	4.66	30.30	21.90	
50'S DR	09:57			4.2	1.17	9.6	4.43	26.82	23.09	Light-Moderate Sheen on water
"	09:52			"	2.48	13.4	4.52	29.95	22.35	
50'N DR	10:05			7.6	0.88	98.5	5.00	26.23	22.79	
"	10:06				2.49	48.9	3.85	29.48	22.44	
"	10:07				4.56	23.5	4.24	29.97	22.26	

2 ← started 10:20 change hydrology with good veer angled

locate any of

increased. Moved to downcurrent (North) side. Here, turbidity spiked at surface but dropped off deeper. Near-surface turbidity ranging 30-90 NTU. DR stopped. ~~DR stopped.~~



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location Area G
Dredging Description Dredging + Debris Removal
Survey Vessel R/V George Hampson
Chief Scientist K. Cease
Sampling Technician
Vessel Captain M. Walsh
Other Personnel
Weather Conditions sin. light SSW ≈ 5kt

Date 7-17-09
Page 4 of 5

Tide Information	
High	03:36
Low	09:08
High	16:07
Low	22:24

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
50' N DR	13:23			3.9	0.32	16.7	9.73	5.67	28.21	
"	13:24			"	1.65	21.2	9.94	10.78	22.88	
"	13:24			"	2.25	26.1	9.83	11.46	26.83	
300' N DR	14:00			5.8	0.81	8.6	9.02	4.44	27.76	Heavy Sheen
"	14:01			"	2.13	34.1	9.73	8.80	27.05	on water
"	14:02				3.42	23.2	4.87	23.02	23.54	
"	14:03				4.32	34.1	2.05	25.69	23.24	↓
	14:04				4.85	12.2	1.57	26.22	23.16	

Constant monitoring at 100' N of debris removal. Monitoring throughout water column.
 Turbidity range 20-30 NTU; jumped up to 40-50NTU after about 10 min. of Debris Removal.
 One-time spike of 70 NTU just after DR stopped.



**New Bedford Harbor Water Quality Monitoring
Daily Field Report**

Date: 7/22/09

Weather: overcast morning turning to sun, wind S-10 kts

Tides:

low	@	02:27
high	@	08:36
low	@	14:07

Monitoring Period:

From: 0730 To: 1500 (servicing YSI

Tidal Stages: (HWS) Ebb (LWS) Flood moorings 10:00 - 13:30)

Dredging Activity:

- debris removal in Area G
- debris removal and dredging in Area J
- dredging in Area L

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' S of L (ref flood)	9-20	4.2-4.7	0.5-11.5
1000' N of G (ref ebb)	3-45	7.0-2.2	0.5-5.0
300' S of J	10-15	4.1-2.6	0.7-4.1
300' N of L	10-40	5.1-2.5	0.4-3.5
300' S of L	6-22	6.5-3.4	0.3-2.2
at tox sample	170-220		1-3.5
at ref sample	7-9		0.5-2.5

Oil Sheen/Debris: light/moderate sheen in Area J

Wildlife Observations:

fish jumping near Area L

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L) DS-TUR-001 → 005-072209
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal) DS-TOX-001 → 005-072209	Metals (500ml)

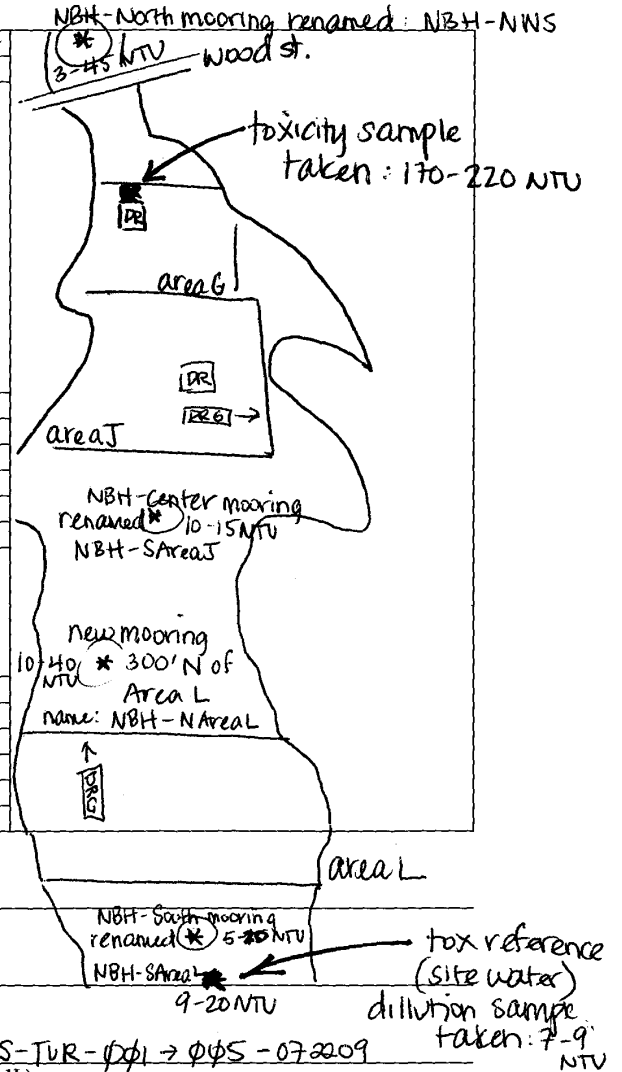
Notes: new mooring 300' N of Area L - all YSI mooring renamed due to addition of new mooring: NBH-North = NBH-NWS; NBH-Center = NBH-SAreaJ; NBH-South = NBH-SAreaL and new mooring at 300' N of Area L = NBH-NAreaL

Sampling Crew:

K. McCartney, D. Walsh, P. Trincherro, T. Gay, M. Walsh

Chief Scientist Signature:

Kathleen McCarty





Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: AREA G, ~~AREA G~~
 Dredging Description: DR AREA G
 Survey Vessel: R/V GEORGE HAMPSON
 Chief Scientist: D. WALSH
 Sampling Technician: K. McCartney
 Vessel Captain: M. Naish
 Other Personnel: P. Trinchero
 Weather Conditions: Overcast, calm, w 0-5 knots, southwest

Date: 7/22/09
 Page: 1 of 2

Tide Information	
High	08:36
Low	02:27
High	21:00
Low	14:07

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
Swm REF	0744			14.1'	0.62'	10.1	4.38	28.07	22.54	UPSTREAM/FLOOD REFERENCE 1000' SOUTH OF AREA L
REF	0745			10.0	10.06'	11.8	4.49	28.81	22.53	"
REF	0746				4.44'	10.5	4.56	29.02	22.52	"
REF	0747				6.69'	9.9	4.60	29.50	22.52	"
REF	0748			11.8'	11.71'	20.2	4.55	29.06	22.52	"
	0820			7.1'	1.85'	154.1	4.27	18.26	21.88	LOCATION OF TOXICITY SAMPLES BEFORE SAMPLE COLLECTION IN AREA G
	0822			7.1'	3.94'	21.5	3.24			
NORTH-REF	0902			6.0'	0.51'	3.6	6.95	1.85	19.89	UPSTREAM/EBB REFERENCE 1000' NWS BRIDGE
	0903			6.0'	1.67'	9.7	5.13	9.88	20.86	"
	0904			6.0'	2.48'	22.0	2.74	23.39	22.35	"
	0905			6.0'	3.95'	33.9	2.28	25.25	22.50	"
N.REF	0906			6.0'	5.03'	46.3	2.14	25.45	22.54	"
S. REF	0939			13.9'	0.39'	4.9	5.61	18.05	22.23	REFERENCE STATION 1000' SOUTH OF AREA L
"	0941			13.9'	3.97'	7.4	4.69	28.87	22.58	"
"	0942			13.9'	8.17'	17.1	4.28	28.94	22.52	"
"	0943			13.9'	11.16'	23.2	4.23	28.97	22.53	"



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area L
dredging in Area L
George Hampson
K. McArthur
M. Walsh
T. Bay
Sunny, wind 5-10 S/SW

Date: 7/22/09
Page: 2 of 2

Tide Information	
High	08:36
Low	02:27
High	21:00
Low	14:07

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300'S of J	13:54	41°40.374'	70°54.960'	6.6	0.73	15.7	4.09	14.11	23.13	at deployment of YSI mooring
"	13:55	"	"	6.6	2.48	13.4	2.73	28.84	22.77	at NBH center / NBH struts
"	13:57	"	"	6.6	4.06	11.6	2.64	29.05	22.72	"
300' N of L	14:08			3.8	0.38	11.4	5.08	14.13	25.40	active DRG, at new mooring site
"	14:10			3.8	1.73	19.3	2.96	27.17	23.23	"
"	14:11			3.8	2.87	31.4	2.58	27.48	23.16	"
"	14:12			3.8	3.49	36.4	2.49	27.46	23.07	"
"	14:21			3.8	1.19	26.2	3.39	17.59	24.74	at depth of YSI mooring
300' S of L	14:34	41°39.914'	70°55.018'	3.3	0.32	6.8	6.52	11.92	26.00	active DRG, at NBH south
"	14:36	"	"	3.3	0.91	7.1	6.30	13.55	25.42	now called NBH Street
"	14:37	"	"	3.3	2.00	14.6	3.65	22.08	24.01	
"	14:39	"	"		2.17	21.1	3.40	25.63	23.51	



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 7/24/09
 Weather: overcast turning partly sunny, gusty wind 15-20 kts
 Tides: out of NN

low	@	0357
high	@	1021
low	@	1600

YSI deployed
NBH-NNS

Wood st.

Monitoring Period:

From: 0930 To: 1500

Tidal Stages: HWS Dbb LWS Flood

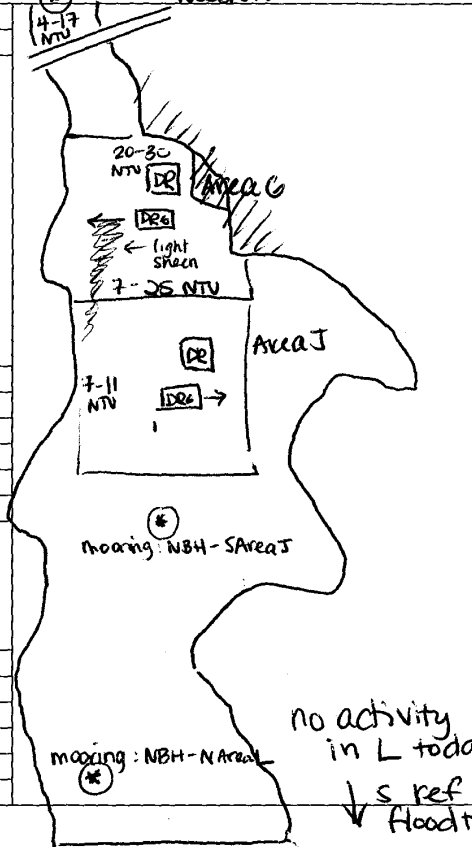
Dredging Activity:

active debris removal and dredging in Area G

active (off and on) debris removal in Area J

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
S of L (float ref)	3-13	6.2-4.7	0.5-11
N of G (ebb ref)	4-17	6.6-3.3	0.5-5.5
50' S of DR in G	20-30	4.5-3.0	1-3
200' S of DR in G	7-25	4.6-3.6	1-3.5
600' S of DR/DR in G	7-11	3-4	1-6.5



Oil Sheen/Debris:

Spotty light sheen in J near DR. light/moderate sheen in G moving S with current off of head of dredge (raised white workers, left for a break)

Wildlife Observations:

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Retrieved YSI from mooring NBH-NAreaL and moved it to NBH-NNS (north of Wood st) at ~10 am. Monitored dredging and debris removal in Area G until workers stopped at ~11:45 am. Continued to monitor in Area G/J for ~half an hour. Returned to prepare YSI for deployment at NBH-NAreaL - deployed at 2:45 pm. Four moorings currently deployed and logging data.

Sampling Crew:

K. McCartney, M. Walsh

Chief Scientist Signature:

fallen McCar



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

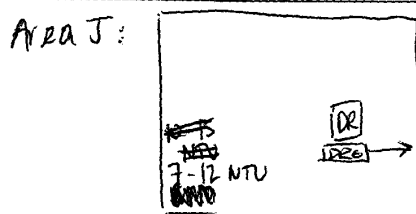
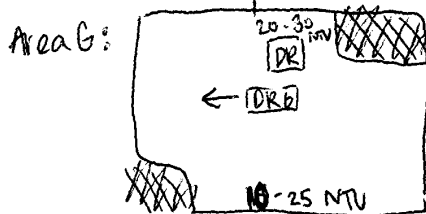
July 15-17 NTU

Dredging Location: Area J Area 6
 Dredging Description: debris removal in J, dredging and debris removal in G
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCarthy
 Sampling Technician:
 Vessel Captain: M. Walsh
 Other Personnel:
 Weather Conditions: overcast, wind 15-20 kt out of NW

Date: 7/24/09
 Page: 1 of 2

Tide Information	
High	1021
Low	0857
High	2243
Low	1600

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
S flood ref	0930	41°39.777	70°54.991'	15.3	0.23	3.7	6.13	17.81	21.33	1000' S of L
"	0933	"	"	15.3	1.72	3.8	5.97	18.02	21.36	"
"	0934	"	"	15.3	3.52	3.6	5.04	27.07	22.31	"
"	0935	"	"	15.3	6.01	4.6	4.89	27.53	22.37	"
"	0937	"	"	15.3	9.01	6.4	4.77	27.62	22.39	"
"	0938	"	"	15.3	10.95	12.9	4.71	27.63	22.40	"
Nebb ref	1027	41°40.722	70°55.026'	7.1	0.32	4.2	6.58	2.80	19.47	NWS - 1000' N of G
"	1028	"	"	7.1	2.11	10.9	4.36	20.50	21.78	"
"	1029	"	"	7.1	3.47	15.3	3.52	25.04	22.47	"
"	1030	"	"	7.1	5.24	17.1	3.31	25.47	22.54	"
50' NDR-G	1045	41°40.622	70°54.970'	-	2.51	28.3	3.70	25.48	22.50	
200' SPR-G	11:18	41°40.532	70°54.962'	5.7	1.81	14.7	3.99	19.37	21.67	
"	11:19	"	"	5.7	0.91	9.5	4.38	20.12.09	20.67	
"	11:20	"	"	5.7	1.92	8.7	3.67	21.64	21.94	
"	11:21	"	"	5.7	1.82	19.3	3.99	20.75	21.91	



Strong surface flow /
 current south
 (rain water, wind, tide)



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 7/29/09

Weather: Overcast, wind 5-10 kts out of S/SE

Tides:

high	@	0212
low	@	0777
high	@	1448
low		2136

Monitoring Period:

From: 10:15 To: 14:45

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

No Activity in Area L
 dredging and debris removal in J (10:30-12:30)
 dredging and debris removal in G (12:30 and on)
 no dredging this afternoon - clogged pipe.

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' S of L (Headref)	2-8	1000-2.5-6.6	0.5-9.0
75' N of DR in J	5-20	2.7- 7.2 6.9	1.5-3.5
75' N of DR in J	5-70	1.0-7.2	1.5-4.0
200' N of DR in J	5-30	7.2-7.9	1.5-3.0
150' N of DR in G	2-110 ^{one brief spike}	7.0-8.15	0.5-3.0
300' N of DR in G	2-25	0.1-7.7	1.0-5.5

see notes

Oil Sheen/Debris:

light sheen associated w/ DR in J

Wildlife Observations:

egrets near J, fish jumping N of wood st. near shoreline

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

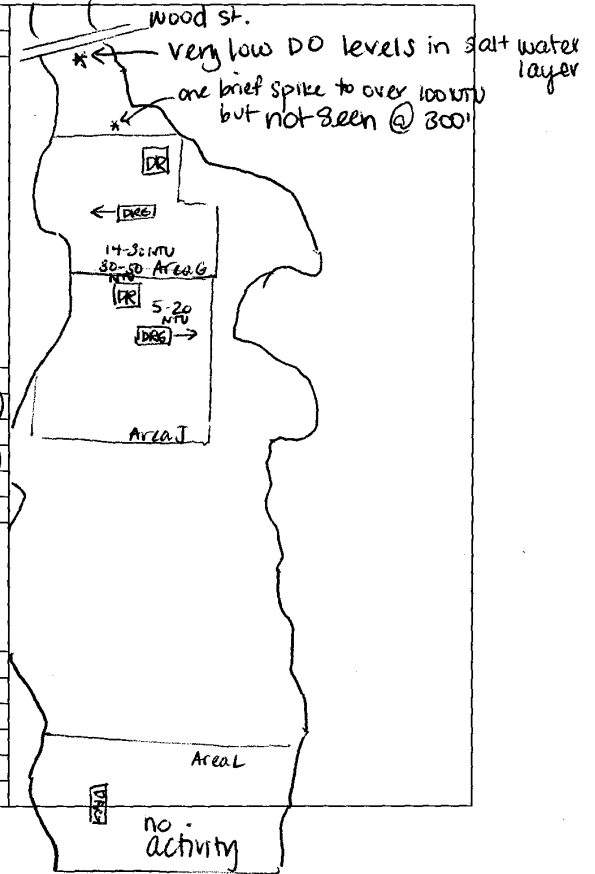
Notes: one brief turbidity spike > 100 NTU @ 150' N (downstream) of DR in G. Not seen at 300'. However very low DO levels were seen during flood tide - fresh water layer to ~ 4 ft deep was DO rich (3-8 mg/L) but deeper than 4 ft (where salinity was higher) DO dropped as low as 0.12 mg/L.

Sampling Crew:

K. McCartney, M. Walsh

Chief Scientist Signature:

Salipha...



* today's background turbidity: 2-8 NTU



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L
 Dredging Description: no activity 10:00-
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCarthy
 Sampling Technician: -
 Vessel Captain: M. Walsh
 Other Personnel: -
 Weather Conditions: overcast, wind 5-10 kts out of S/SE

Date: 7/29/09
 Page: 1 of 5

Tide Information	
High	0212
Low	0727
High	1448
Low	2136

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
L-S-1000	10:18	41° 39.792'	70° 55.001'	10.6'	0.78	2.1	6.57	8.15	25.31	Flood ref 1000' S of L
"	10:19	"	"	"	3.08	1.8	3.25	24.81	23.79	.. (no activity)
"	10:20	"	"	"	5.05	2.0	2.79	25.59	23.58	"
"	10:21	"	"	"	7.03	2.6	2.69	26.07	23.45	"
"	10:22	"	"	"	8.92	8.1	2.47	26.31	23.36	"



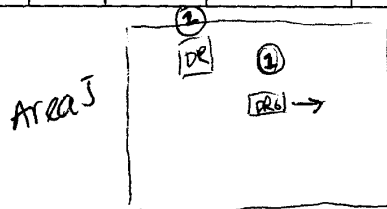
Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area J
 Dredging Description: active dredging and debris removal
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCartney
 Sampling Technician: —
 Vessel Captain: M. Walsh
 Other Personnel: —
 Weather Conditions: —

Date: 7/29/09
 Page: 2 of 5

Tide Information	
High	0212
Low	0727
High	1448
Low	2136

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
J-DRG-75-N	10:52	41°40.497	70°54.891"	5.1	1.71	6.6	6.90	2.34	23.89	flood tide, 75' N of DR6, 75' of J
"	10:55	"	"	5.1	2.64	15.2	6.42	3.71	23.77	"
"	10:55	"	"	5.1	3.17	18.5	3.88	6.93	23.62	"
J-DR-75-N	10:59	41°40.517	70°54.933'	5.5	1.47	4.3	7.19	1.78	23.84	flood, 75' N of DR (2)
"	11:01	"	"	5.5	2.78	9.0	5.55	3.38	23.73	"
"	11:02	"	"	5.5	3.10	33.7	2.76	10.98	23.53	"
"	11:02	"	"	5.5	3.33	26.6	1.06	7.74	23.50	"
"	11:03	"	"	5.5	2.90	59.9	4.11	8.89	23.55	spikes to 80 NTU
"	11:07	"	"	5.5	2.88	70.1	5.80	2.69	23.79	flashing: generally 30-50 NTU
J-DR-200-N	11:17	41°40.553	70°54.936'	3.0	1.63	5.5	7.85	1.68	24.19	200' N of DR in J
"	11:19	"	"	3.0	2.31	15.2	7.81	1.80	24.19	"
"	11:22	"	"	3.0	2.48	22.0	7.60	1.86	24.13	"
"	11:30	"	"	3.0	2.54	11.9	7.28	1.87	23.98	"
"	11:42	"	"	3.0	2.56	6.8	7.50	1.87	24.12	"
"	11:45	"	"	3.0	1.94	12.7	7.68	1.72	24.18	"





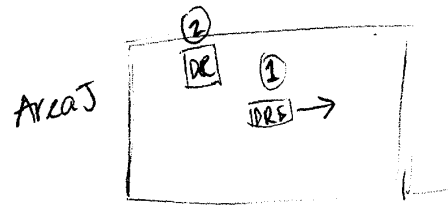
Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area J
 Dredging Description: active debris removal
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCartney
 Sampling Technician: -
 Vessel Captain: M. Walsh
 Other Personnel: -
 Weather Conditions: overcast wind 5-10 kts out of S / SE

Date: 7/29/09
 Page: 3 of 5

Tide Information	
High	<u>0212</u>
Low	<u>0727</u>
High	<u>1448</u>
Low	<u>2136</u>

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
J-DR-200-N	11:49	41°40.553'	70°54.936'	3.0	1.99	7.5	7.82	1.74	24.22	200' downstream ^(4.5) of DR
"	11:50	"	"	3.0	2.76	6.1	7.75	1.89	24.20	"
"	12:02	"	"	3.0	2.74	12.8	7.59	1.89	24.26	"
J-DR6-100-N	12:07	41°40.509'	70°54.894'	5.7	1.70	11.2	7.48	2.18	24.27	back to spot (2), 100' ds
"	12:08	"	"	5.7	2.80	7.1	7.43	2.71	24.51	"
"	12:09	"	"	5.7	1.35	6.3	7.73	2.37	24.42	"
"	12:11	"	"	5.7	0.93	6.8	7.51	2.31	24.32	"
"	12:17	"	"	5.7	1.84	6.3	7.75	2.54	24.53	"





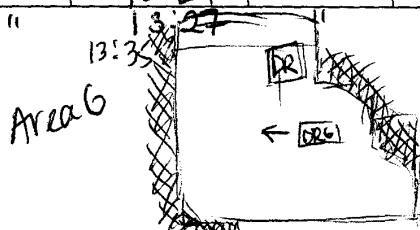
Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	Area 6
Dredging Description	active debris removal
Survey Vessel	R/V George Hampson
Chief Scientist	K. McCarthy
Sampling Technician	-
Vessel Captain	M. Walsh
Other Personnel	-
Weather Conditions	-

Date	7/29/09
Page	4 of 5

Tide Information	
High	0212
Low	0727
High	1448
Low	2136

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
G-DR-150-N	12:51	41°40.649	70°54.993'	4.3	1.28	2.6	8.15	0.50	23.90	150' N of DR in 6
"	12:52	"	"	"	0.49	2.6	8.04	0.45	23.73	"
"	12:53	"	"	"	2.15	2.1	7.77	0.51	23.65	"
"	12:59	"	"	"	2.90	2.9	7.05	0.79	23.44	"
"	13:03	"	"	"	2.90	9.1	8.14	1.25	23.85	"
"	13:10	"	"	"	2.37	112.3	7.50	0.79	24.04	spike of turb. seen
G-DR-200-N	13:13	41°40.659	70°54.992	4.5	2.73	6.5	7.17	0.49	23.22	200' N of DR in 6
"	13:15	"	"	"	2.70	1.7	7.25	0.52	23.78	"
G-DR-300-N	13:17	41°40.678	70°55.000'	6.9	1.07	1.4	7.37	0.22	23.49	300' N of DR in 6
"	13:18	"	"	"	2.40	2.0	7.74	0.50	23.80	"
"	13:19	"	"	"	3.56	2.6	6.36	1.02	22.94	"
"	13:20	"	"	"	4.40	12.8	1.02	18.41	23.57	"
"	13:21	"	"	"	4.41	18.0	0.62	18.87	23.62	"
"	13:22	"	"	"	5.42	15.4	0.26	21.12	23.73	"
"	13:24	"	"	"	5.43	15.2	0.16	20.96	23.74	"
"	13:27	"	"	"	4.08	5.3	2.59	3.10	23.18	"
"	13:35	"	"	"	4.35	9.7	0.69	10.67	23.39	"





Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area G
 Dredging Description: debris removal
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCartney
 Sampling Technician: -
 Vessel Captain: M. Walsh
 Other Personnel: -
 Weather Conditions: overcast wind 5-10 kts. out of S/SE

Date: 7/29/09
 Page: 5 of 5

Tide Information	
High	0212
Low	0727
High	1448
Low	2136

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
6-DR-300-N	13:39	41°40.678'	70°55.000'	6.9	4.36	14.5	0.85	13.41	23.35	300' N of DE (no activity since 13:25)
"	13:42	"	"	"	4.35	18.0	0.91	13.93	23.44	"
"	13:46	"	"	"	4.37	16.8	0.49	15.16	23.43	"
"	13:47	"	"	"	4.38	21.4	0.49	13.67	23.34	"
"	13:48	"	"	"	4.89	15.7	0.22	20.36	23.74	"
"	13:49	"	"	"	2.97	10.1	6.95	0.61	23.48	"
"	13:55	"	"	"	3.87	50.1	5.06	1.88	23.63	"
"	13:58	"	"	"	3.85	21.1	4.19	4.68	23.23	"
"	14:03	"	"	"	4.81	18.4	0.31	19.95	23.69	"
"	14:06	"	"	"	5.34	16.8	0.13	20.77	23.71	"
very low DO levels during flood tide in thin (~1ft) salt water layer along the bottom in shallow areas (Area M, N of wood st)										



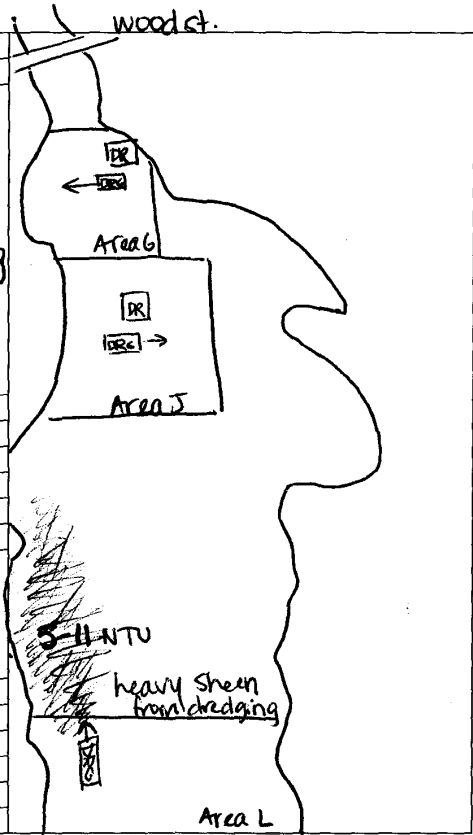
**New Bedford Harbor Water Quality Monitoring
Daily Field Report**

Date: 7/31/09
 Weather: overcast, hazy, winds 10-15 kts from South
 Tides:
 high @ 0408
 low @ 0929
 high @ 1650

Monitoring Period:
 From: 0830 To: 1310 - thunder/lightening

Tidal Stages: (HWS) Ebb, LWS Flood

Dredging Activity:
dredging in Area L
debris removal in Area J



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' S of L (ref)	3-11 NTU	2.1-8.8	0.5-8.5
150' N of DR in L	5-11 NTU	1.0-7.9	0.5-5.5
150' N of DR in J	8-20 NTU	9.9-	~1-2
in J before DR	8-11 NTU	9.3-9.7	0.5-2.5

Oil Sheen/Debris: heavy sheen blown by wind N from dredge in Area L ref: 3-11 NTU

Wildlife Observations: blue heron, egrets, swans, osprey, tiny fish w/ other small fish feeding on them next to dock.

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: A heavy sheen was associated w/ dredging in NW corner of L, carried North outside the oil boom. Spotty during times when cable was being moved and dredge was stopped but very heavy when dredge was in operation. No turbidity plume associated with activity. Quick observations of debris removal before thunderstorm @ 13:00

Sampling Crew: K. McCartney, M. Walsh
 Chief Scientist Signature: [Signature]

* background turbidity today = 3-11 NTU



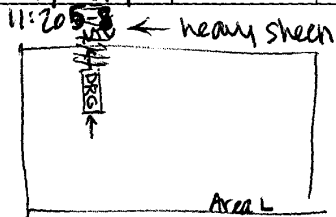
Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L
 Dredging Description: dredging begins at 09:30
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCartney
 Sampling Technician: _____
 Vessel Captain: M. Walsh
 Other Personnel: _____
 Weather Conditions: hazy, hot, wind 15-16 kts out of S/SE

Date: 7/31/09
 Page: 1 of 2

Tide Information	
High	0408
Low	0929
High	1650
Low	2328

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
L-1000-S	08:37	41° 39.790	70° 55.005	9.8	0.60	5.2	8.79	5.92	25.00	no activity in Area L: still ebb tide but no
"	08:37	"	"	"	2.63	3.7	4.02	20.51	24.66	access N of wood
"	08:39	"	"	"	5.02	3.8	2.14	25.22	23.87	so checking ref. turb here
"	08:41	"	"	"	8.52	10.9	2.40	27.22	23.55	→ turb is background
L-PR6-100-N	09:54	41° 40.084	70° 55.101	6.10	0.65	6.2	7.88	7.16	25.36	~100' N of boundary of L in line w/ active dredge
"	09:54	"	"	"	2.01	6.6	7.29	8.30	25.23	
"	09:57	"	"	"	5.46	4.5	1.03	25.24	23.84	sheen developing to heavy during dredging
"	09:58	"	"	"	2.40	7.8	2.47	14.01	24.52	moving north, back to spotty → intermediate
"	10:11	"	"	"	2.46	5.8	7.77	8.42	25.35	
"	10:14	"	"	"	3.20	6.0	2.86	16.12	24.43	
"	10:16	"	"	"	4.77	5.3	1.30	23.00	24.08	
"	10:18	"	"	"	6.00	10.0	0.88	25.33	23.84	
"	10:20	"	"	"	1.27	6.9	7.89	7.47	25.40	
"	10:27	"	"	"	3.17	9.8	1.97	18.16	24.37	
"	10:44	"	"	"	2.71	7.6	2.33	13.23	24.77	
					2.78	11.6	4.77	15.19	24.79	



NOTES:
 Spotty sheen outside of Northern boom
 turning light/moderate as dredging continues → turning very heavy



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area J
 Dredging Description:
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCartney
 Sampling Technician: -
 Vessel Captain: M. Walsh
 Other Personnel: -
 Weather Conditions: hazy/overcast, wind 10-15 kts out of S/SE

Date: 7/31/09
 Page: 2 of 2

Tide Information	
High	<u>0408</u>
Low	<u>0929</u>
High	<u>1650</u>
Low	<u>2328</u>

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
<u>J-NA-00</u>	<u>11:56</u>	<u>41° 40.512'</u>	<u>70° 54.937'</u>	<u>3.6</u>	<u>0.32</u>	<u>10.3</u>	<u>9.38</u>	<u>3.74</u>	<u>25.20</u>	<u>no activity, next to debris</u>
<u>"</u>	<u>11:58</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>2.48</u>	<u>9.5</u>	<u>9.33</u>	<u>3.91</u>	<u>25.11</u>	<u>barge in Area J</u>
<u>"</u>	<u>12:00</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>1.87</u>	<u>9.1</u>	<u>9.72</u>	<u>3.85</u>	<u>25.23</u>	<u>checking wa here</u>
<u>J-DR-200-N</u>	<u>12:56</u>			<u>3.3</u>	<u>1.32</u>	<u>8.3</u>	<u>9.85</u>	<u>4.21</u>	<u>25.37</u>	
		<u>thunder = lightning - heading in</u>								



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 03 Aug 2009
 Weather: Sunny 71°F NW 1 knot wind
 Tides: low @ 12:41 AM
High @ 6:56 AM
low @ 12:07 PM
High @ 7:23 PM

Monitoring Period:
 From: 0818 To: 1350

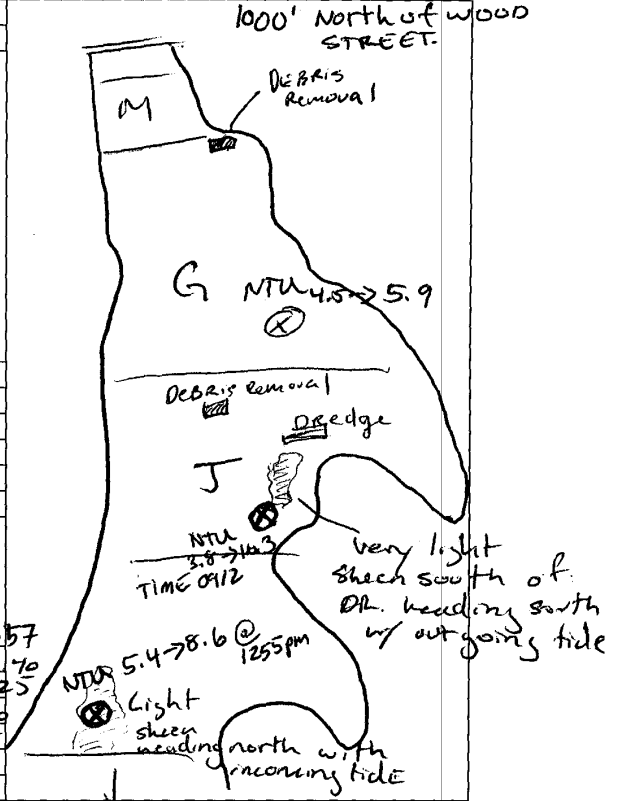
Tidal Stages: HWS (Ebb) LWS Flood

Dredging Activity:
0904 DEBRIS REMOVAL IN J STOPPED
ACTIVE DREDGING CONTINUED IN J
Active dredging in L

NWS Ref NTU 2.9-7.2

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
NWS REF	2.9-7.2	0.75-5.72	45-3.57
100' North DR J	4.5-5.9	2.35-4.29	0.55-2.27
100' South DR J	3.8-16.3	2.5-3.0	0.5-4.25
250' South DR J	3.6-7.9	2.4-2.6	0.59-3.06
100' South DR L	8.1-16.1	2.5-2.77	0.36-2.75
125' North DR L	5.4-8.6	2.66-10.14	0.71-4.75



Oil Sheen/Debris:

Wildlife Observations:

OSPREYS SITED fishing, Swans and hatchlings SEEN North of wood st.

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)		Turbidity (1L)	
Total PCB (1L)	<u>N/A</u>	Dissolved PCB (2x1L)	<u>N/A</u>
Toxicity (5 gal)		Metals (500ml)	

Notes:

Generally low turbidity READINGS THROUGHOUT ALL DREDGE AREAS BACKGROUND READINGS (2.5 to 25 NTU)

Sampling Crew:

M. WAISH M. POTTER

Chief Scientist Signature:

[Signature]



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: DR AREA J
 Dredging Description: ACTIVE DREDGING AREA J
 Survey Vessel: R/V GEORGE HAMPSON
 Chief Scientist: MARTIN POTTER
 Sampling Technician:
 Vessel Captain: M. WALSH
 Other Personnel:
 Weather Conditions: SUNNY 0-5 knots wind south

Date: 03AUG09
 Page: 1 of 2

Tide Information	
High	0656
Low	0041
High	1927 1923
Low	1207

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
NWS REF	0846			4.5 ft	0.45	2.9	5.72	22.88	22.73	
"	0848			4.5	2.50	6.6	1.05	22.29	24.27	
"	0849			4.5	3.57	7.2	0.75	22.50	24.50	
100' NORTH of DR J	0900			4.2	0.58	5.9	4.29	15.87	22.22	
"	0901			4.2	2.40	4.6	2.35	24.63	24.74	
100' SOUTH of DR J	0912			6.0	0.68	16.3	2.93	21.87	24.68	
"	0914			6.0	2.48	6.3	2.71	24.57	24.72	
"	0915			6.0	4.25	3.8	2.53	25.66	24.62	
250' SOUTH of DR J	1029			3.6	0.59	7.9	2.55	22.31	24.90	Slight to (PATCHY)
"	1031			3.6	1.42	6.6	2.40	24.19	24.80	Moderate shear
"	1032			3.6	3.00	3.6	2.59	25.61	24.67	
100' South of dredge	1122			3.5	0.36	16.1	2.77	20.91	25.26	
"	1123			3.5	1.30	8.1	2.53	23.92	24.97	
"	1125			3.5	2.75	12.8	2.5 2.5	25.69	24.71	

NWS Ref. 1000' North



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
 Dredging Description
 Survey Vessel
 Chief Scientist
 Sampling Technician
 Vessel Captain
 Other Personnel
 Weather Conditions

SITE L
Active Dredging
R/V GEORGE HAMPSON
MARTIN POTTER
MIKE WALSH
Sunny SSW 5-10 KTS

Date	03 AUG 09
Page	2 of 2

Tide Information	
High	0656
Low	0041
High	1923
Low	1207

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
125' North of Oregon	12:55			6.1	0.71	5.4	10.14	13.24	27.07	
"	12:57			6.1	2.45	5.4	7.45	24.03	25.95	
"	12:57			6.1	4.29	7.4	3.25	25.16	25.07	
"	12:58			6.1	4.75	8.6	2.66	25.35	24.98	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 8/6/09
Weather: Sunny, wind out of N/NE 5-10 mph
Tides: Switching to S/SE
high @ 08:52
low @ 14:28
high @ 21:09

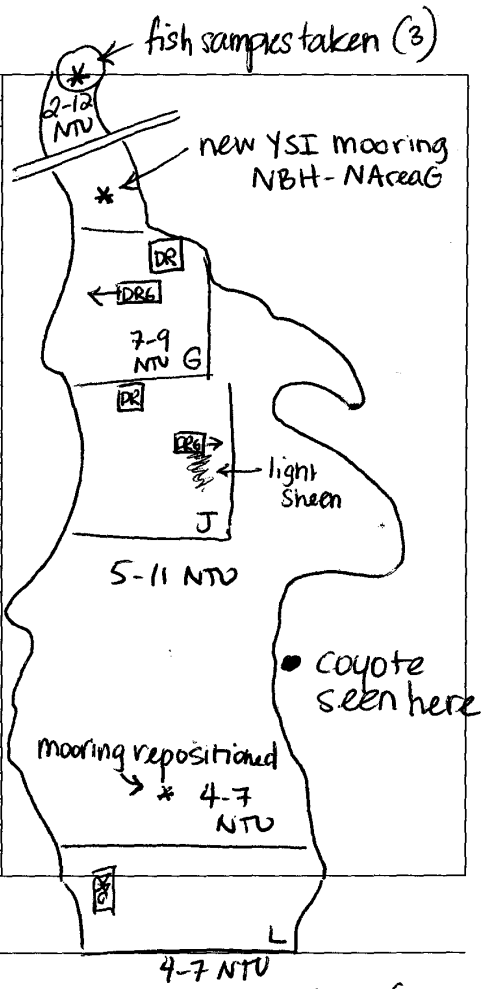
Monitoring Period:
From: 08:30 To: 13:15

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:
dredging in area J
debris removal in area G
no activity in area L

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' N of G (ebbret)	2-12	1.0-6.6	0.3-4.4
NBH-NWS	3-7	2.3-5.3	0.5-4.6
300' S of DR in G	6-9	3.2-5.1	0.8-3.5
NBH-NAreaG	2-7	2.4-5.4	0.3-3.0
NBH-SAreaL	4-10	4.3-13.4	0.4-3.9
NBH-NAreaL	4-7	3.8-11.7	0.4-3.0
NBH-SAreaJ	5-11	2.6-4.7	0.4-6.5



Oil Sheen/Debris: Slight sheen near dredge in Area J

Wildlife Observations: stressed/dying/dead fish north of wood St. - sampled 3 dead fish (~ a dozen) * COYOTE on shore b/w areas L & J at low tide / visibly struggling near surface

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)	many more seagulls & egrets than usual
Total PCB (1L)	Dissolved PCB (2x1L)	
Toxicity (5 gal)	Metals (500ml)	

Notes: recovered, cleaned, recalibrated and redeployed 4 WQ moorings and deployed new WQ mooring 300' N of Area G (inside of Area M) NBH-NAreaG. Saw a lot of fish activity north of wood St and found a few stressed & dying fish. Sampled 3 dead fish.

Sampling Crew: K. McCormey, M. Walsh
Chief Scientist Signature: Phillip McCarty

reference turbidity today: 2-12 NTU



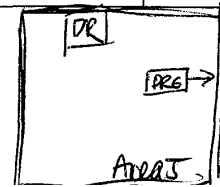
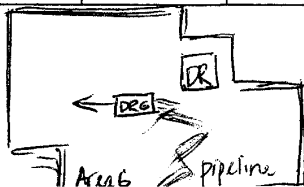
Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area J / Area G
 Dredging Description: active dredging @ 0840 in Area J, active debris removal in G @ 10:00
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCartney
 Sampling Technician: M. Walsh
 Vessel Captain:
 Other Personnel:
 Weather Conditions: Sunny

Date: 8/6/09
 Page: 1 of 2

Tide Information	
High	0852
Low	0225
High	2109
Low	1423

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
ebb ref	09:43	41° 40.844	70° 55.043	5.4	0.32	2.4	6.59	3.25	23.20	1000' N of M 16/J
"	09:44	"	"	"	1.35	3.9	3.69	19.51	25.52	"
"	09:45	"	"	"	2.33	8.5	2.85	20.21	25.51	"
"	09:46	"	"	"	3.35	11.9	1.45	20.91	25.39	"
"	09:48	"	"	"	4.40	10.1	1.06	21.23	25.34	"
6-DR-800S	10:14	41° 40.555	70° 54.929	4.9	0.76	4.0	5.06	20.30	25.92	300's of DR in G
"	10:15	"	"	"	1.47	7.6	4.47	21.71	25.80	"
"	10:16	"	"	"	2.48	7.3	4.25	22.14	25.74	"
"	10:17	"	"	"	3.50	9.0	3.24	22.32	25.66	"
"	10:42	"	"	"	2.09	8.5	3.54	22.06	25.79	"
"	10:52	"	"	"	2.08	6.6	3.78	22.21	25.76	"
"	11:00	"	"	"	2.08	8.1	3.64	22.16	25.72	"





Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

log during YSI mooring deployment: all areas
R/V George Hampson
K. McCourtney
M. Walsh
Sunny

Date 8/6/09
Page 2 of 2

Tide Information	
High	
Low	
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
NBH-NWS	09:09	41°40.723'	70°55.023'	5.8	0.59	3.9	5.25	16.55	25.32	at mooring NWS
"	09:10	"	"	"	2.55	4.3	3.67	20.78	25.52	"
"	09:11	"	"	"	4.61	6.8	2.37	21.65	25.44	"
NBH-N Area 6	11:21	41°40.657'	70°54.987'	4.0	0.32	2.2	5.34	6.04	24.23	at mooring in Area M
"	11:22	"	"	"	1.37	4.1	3.36	21.23	25.67	(~300' N of 6)
"	11:23	"	"	"	3.02	7.3	2.44	22.01	25.61	"
NBH-S Area L	14:27	41°39.914'	70°55.018'	4.7	0.40	4.1	13.35	19.14	25.60	at mooring 300's of L
"	14:28	"	"	"	1.41	9.5	22.32	22.32	26.16	"
"	14:29	"	"	"	3.88	9.6	4.36	27.33	25.42	"
NBH-N Area L	14:44	41°40.104'	70°55.035'	3.9	0.46	4.7	11.65	20.97	25.85	at mooring 300' N of L
"	14:45	"	"	"	1.44	6.1	8.84	24.27	26.18	" during active
"	14:46	"	"	"	2.95	7.1	3.88	27.60	25.42	" dredging in L
NBH-S Area S	14:54	41°40.374'	70°54.960'	7.4	0.44	10.9	6.28	24.48	26.17	at mooring 300' S of S
"	14:55	"	"	"	1.45	9.7	4.66	25.49	26.00	"
"	14:56	"	"	"	3.42	5.5	3.05	27.36	25.41	"
"	14:57	"	"	"	6.50	9.9	2.65	27.86	25.17	"

300' S of L



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 10 AUG 09
Weather: Sunny light SE BREEZE
Tides: High @ 1119
Low @ 0421
High @ 2340
Low @ 1054

Monitoring Period:

From: 0915 To: 1435

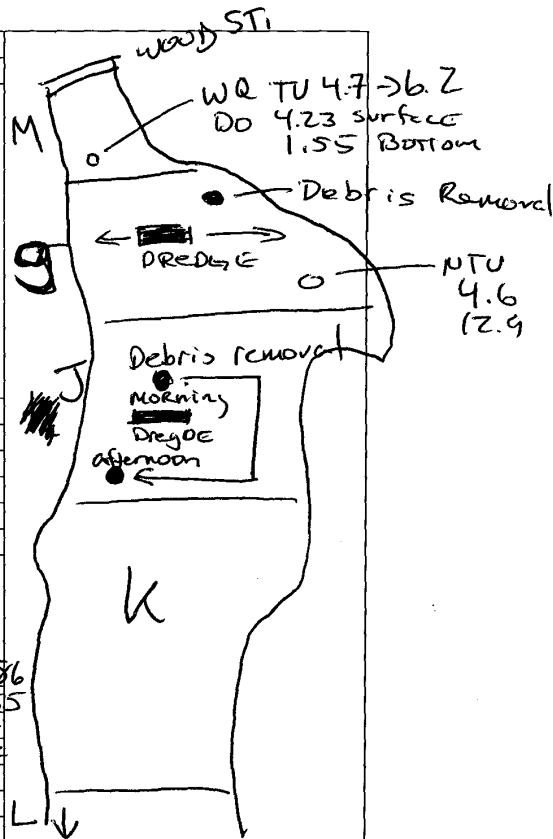
Tidal Stages: HWS (Ebb) LWS (Flood)

Dredging Activity:

Debris Removal + dredging
in areas J and G

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
300' NWS	5.1-8.9	0.63-2.42	0.43-4.86
1000' South Ref	2.2-6.0	3.55-3.72	0.61-8.55
500' North Dredge G	4.7-6.7	1.55-4.23	0.37-4.54
250' South Dredge in G	4.6-12.9	2.88-5.83	0.40-8.92
300' South DRS in G	7.5-8.8	2.18-3.79	0.61-4.08



Oil Sheen/Debris:

NONE SITED

Wildlife Observations:

large population of wildlife NWS
dead fish 2" Fish (1 DOZEN APPROX) N of Wood St. only!!
OSPREY Blue herring Numerous
Swans

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

turbidity IN ALL AREAS RANGED FROM 2.2 -> 20 NTU
EXCEPT IN CLOSE proximity to DR/DRG
DO levels ABOVE WOOD STREET EXTREMELY low through out WATER COLUMN

Sampling Crew:

M. WALSH M. Potter

Chief Scientist Signature:

Martin Potter

DO 0.06 -> 2.5 mg/L

DO levels rebounded
in area M and SOUTHWARD RANGING FROM 1.5 -> 5.8 mg/L



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	AREA G Dredging + DEBRIS AREAS Debris Removal	Date	10 AUG 2009
Dredging Description		Page	1 of
Survey Vessel	R/V GEORGE HAMPSON	Tide Information	
Chief Scientist	MARTIN POTTER	High	1119 AM
Sampling Technician		Low	0431 AM
Vessel Captain	MIKE WAISH	High	1140 PM
Other Personnel		Low	0454 PM
Weather Conditions	SUNNY light SE WIND CHANCE THUNDER STORMS PM		

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
1000' South REFERENCE	0923			12.1	0.61	2.2	3.66	28.28	23.71	
"	0925			"	3.04	2.2	3.72	29.74	23.36	
"	0926			"	6.02	2.4	3.65	29.91	23.26	
"	0928			"	8.55	6.0	3.55	30.04	23.18	
300' North WOOD ST.	1049			5.8	0.43	5.1	2.42	9.25	21.97	
"	1051			"	1.39	8.7	0.45	24.89	23.80	
"	1052			"	3.05	7.2	0.67	25.89	23.79	
"	1053			"	4.86	8.9	0.63	26.06	23.85	
150' North DRAG G	1104			6.0	0.34	4.7	4.23	12.43	23.47	
"	1105			"	1.52	6.0	3.85	24.93	23.67	
"	1106			"	2.99	6.0	2.90	26.79	23.79	
"	1106			"	4.54	6.2	1.55	27.23	23.90	
250' South OF DRAG G	1143			4.6	0.40	4.6	5.83	13.65	24.42	
"	1147			"	1.40	12.9	3.89	24.77	23.95	
"	1148			"	3.92	6.5	2.88	27.13	23.75	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 8/13/09
Weather: light rain, wind 0-5 kts NE
Tides:
high @ 01:17
low @ 06:28
high @ 12:42

Monitoring Period:

From: 08:40 To: 14:40

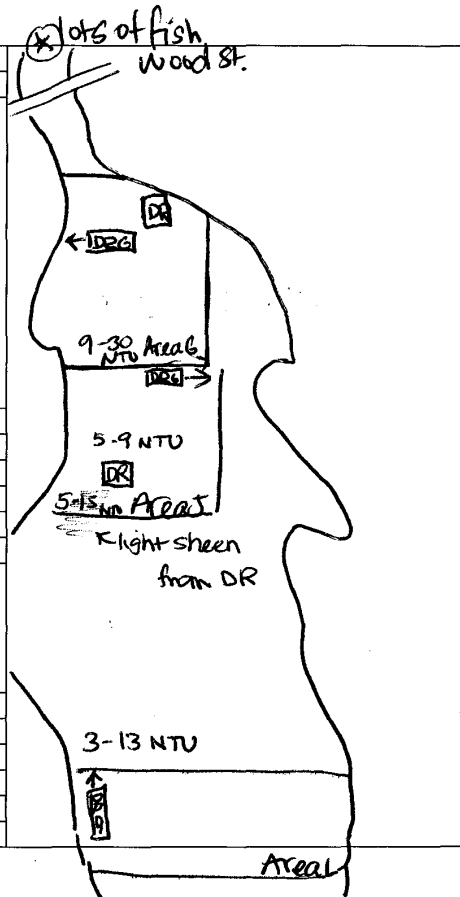
Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

Morning dredging in Area L
late morning through afternoon debris
and dredging in Area J
afternoon dredging and debris removal
in Area G

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' S of L (ref)	1.8-6.7	3.2-4.6	0.3-7.7
300' N of DR6 in L	3.2-13	2.7-3.7	1.0-7.5
300' N of DR in J (flood)	5.4-9.0	1.4-1.8	1.4-3.5
300' S of DR in J (ebb)	6.0-15.3	2.7-3.4	0.5-6.5
300' N/NW of DR6 in J	9.0-30	2.0-2.8	1.0-4.0
300' S of DR6/DR in G	11.3-41.5	2.3-3.4	



Oil Sheen/Debris:

light sheen from debris removal in Area J

Wildlife Observations:

many small fish in schools swimming north of wood st. many ~~fish~~ birds feeding on the fish

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Mummichog (fundguls), menhaden, silversides, etc. (small fish) in large schools swimming around north of wood st. bridge. water was thick with them. Great blue heron, egrets, cormorants, herons, osprey, seagulls, terns feeding.

Sampling Crew:

K. McCarthy, D. Bailey, M. Avakian

Chief Scientist Signature:

Jaelyn McCann



New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area J
 Dredging Description: debris removal (after 10:30) dredging
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCarty
 Sampling Technician: D. Bailey
 Vessel Captain: M. Avakian
 Other Personnel:
 Weather Conditions: overcast intermittent rain

Date: 8/13/09
 Page: 2 of 3

Tide Information	
High	01:17
Low	06:25
High	13:42
Low	19:31

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
J-N-DR-300	10:39	41°40.526'	70°55.940'	4.3	1.95	5.4	1.76	28.92	24.05	300' N of DR in J
"	10:41	"	"	"	2.76	5.6	1.57	28.95	24.06	"
"	10:46	"	"	"	3.46	6.2	1.43	28.95	24.05	"
"	10:54	"	"	"	1.40	9.0	1.60	28.78	24.02	"
J-NW-DR-300	12:47	41°40.535'	70°54.928'	5.8	0.91	27.6	2.74	28.59	23.75	300' NW of DR in J
"	12:49	"	"	"	2.55	11.7	2.20	28.92	23.85	(300' N of DR → no activity)
"	12:50	"	"	"	3.83	9.5	2.09	28.95	23.87	(~300' S of → DR in Area G)
"	12:52	"	"	"	5.26	9.0	2.07	28.95	23.87	but recent DR in G & J
"	12:54	"	"	"	0.74	14.3	2.69	28.52	23.72	all (Area G & J) activity stopped
J-NA	13:16	"	"	"	4.19	9.8	2.39	28.99	23.71	"
"	13:16	"	"	"	2.93	13.9	2.36	28.96	23.75	"
"	13:17	"	"	"	1.83	16.6	2.36	28.86	23.74	"
"	13:22	"	"	"	0.37	13.0	3.15	27.48	23.45	"
J-S-DR-300	14:15	41°40.430'	70°54.945'	6.9	0.47	6.0	3.43	28.72	23.53	just after high tide
"	14:16	"	"	"	2.94	6.7	3.06	29.36	23.59	(ebb)
"	14:17	"	"	"	5.30	7.0	2.80	29.47	23.60	300' S of DR in J
"	14:18	"	"	"	6.49	15.3	2.77	29.48	23.48	



New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area G
 Dredging Description: debris removal (11:45-12:35) dredging (13:35 on)
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCartney
 Sampling Technician: D. Bailey
 Vessel Captain: M. Avakian
 Other Personnel:
 Weather Conditions: Overcast, light rain

Date: 8/13/09
 Page: 3 of 3

Tide Information	
High	01:17
Low	06:28
High	13:42
Low	19:31

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
G-NN-DR-300	11:52	41°40.616	70°54.970	3.2	0.90	4.9	2.51	27.95	23.99	300' NW of DR in G
"	11:53	"	"	"	1.69	4.1	2.27	28.50	24.07	
"	11:55	"	"	"	2.57	8.4	2.01	28.80	24.09	also 600' N of DR in J
"	11:59	"	"	"	0.48	13.6	2.42	27.83	23.98	"
"	12:01	"	"	"	2.97	14.2	1.98	28.80	24.09	"
"	12:30	"	"	"	2.05	6.7	2.07	28.60	24.00	"
"	12:36	"	"	"	2.13	14.2	2.25	28.60	23.97	"
G-S-DRG-300	13:40	41°40.535	70°54.928	6.5	0.39	13.5	3.44	26.76	23.52	300'S @ high tide from DR in Area G
"	13:43	"	"	"	1.98	11.3	3.18	28.81	23.64	"
"	13:45	"	"	"	4.09	27.5	2.62	29.02	23.69	"
"	13:46	"	"	"	5.30	35.4	2.50	29.02	23.69	"
"	13:48	"	"	"	6.24	41.2	2.39	28.82	23.70	"



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 8/17/09
 Weather: Sunny, wind 8-10 knots out of SW
 Tides:

<u>High</u>	@	<u>0530</u>
<u>Low</u>	@	<u>1059</u>
<u>High</u>	@	<u>1802</u>

* boys fishing, catching bluefish

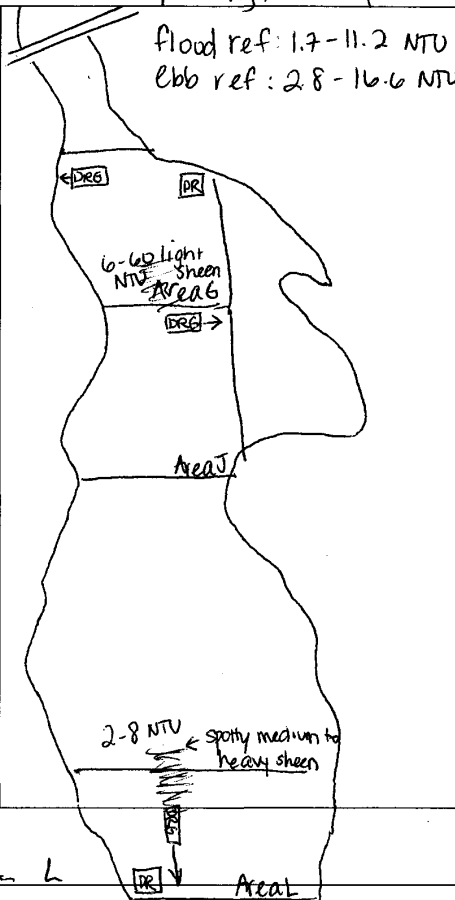
Monitoring Period:

From: 09:00 To: 15:20

Tidal Stages: HWS (Ebb) (LWS) (Flood)

Dredging Activity:

- Morning through afternoon debris and dragging in Area L
- Afternoon dredging in Area J



Flood ref: 1.7-11.2 NTU
 Ebb ref: 2.8-16.6 NTU

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
NBH-S Area J (ref)	2.8-16.6	7.35-10.00	0.5-6.7
NBH-NA Area L	1.8-9.8	8.1-10.2	0.6-3.0
NBH-S Area L	1.6-5.6	8.5-11.0	0.5-3.6
NBH-N Area G	5.2-7.3	8.5-8.9	0.5-1.5
NBH-NA Area S	4.3-5.5	7.2-8.0	0.5-2.8
1000' S of L (Ref)	1.7-11.2	7.4-11.4	0.5-7.5
200' S of DRG/DR in L	1.8-10.1	8.0-11.5	0.5-4.0
250' N of DRG/DR in L	2.1-7.6	9.4-11.5	0.5-3.5

Oil Sheen/Debris:

Moderate to heavy sheen from dredging in Area L

Wildlife Observations:

Many Birds (Great Blue Heron, Egrets, Cormorants, Herons, Gulls, Terns). Kids on bank North of Wood Street catching small bluefish.

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

	<u>NTU</u>	<u>DO mg/L</u>	<u>Depth</u>
NBH-NA Area L 350' North of DR/DRG	6.5-13.1	6.5-12.04	0.5-4.9
NBH-NA Area S 75' N of DRG	6.2-57.4	11.3-12.8	0.3-0.9

Sampling Crew:

D. Bailey, K. McCartney, M. Welsh

Chief Scientist Signature:

Ralph M. Car



New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: profiles taken during YSI deployment - all 5 moorings
 Dredging Description: R/V George Hampson
 Survey Vessel: K. McCartney
 Chief Scientist: D. Bailey
 Sampling Technician: M. Walsh
 Vessel Captain:
 Other Personnel:
 Weather Conditions: Sunny, light wind from SW

Date: 8/17/09
Page: 1 of

Tide Information	
High	0530
Low	1059
High	1802
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
NBH-SArcaas	09:32	41°40.374	70°54.960	7.8 ft.	0.51	2.8	9.26	13.13	25.7	no activity in J or E
"	09:33	"	"	"	1.55	3.9	10.00	26.43	26.41	
"	09:34	"	"	"	3.49	4.9	9.06	28.32	25.87	
"	09:35	"	"	"	6.66	16.6	7.35	28.51	25.68	
NBH-NArcaal	09:47	41°40.104	70°55.035	4.5 ft.	0.59	1.8	10.20	17.68	26.00	debris removal dredging in L stopped
"	09:48	"	"	"	1.65	4.4	9.63	27.39	26.16	
"	09:49	"	"	"	3.05	9.8	8.14	28.39	25.85	
NBH-SArcaal	10:11	41°39.914	70°55.018	4.4 ft.	0.57	1.6	11.04	18.46	26.47	no activity anywhere
"	10:12	"	"	"	1.58	2.2	10.76	25.90	26.37	
"	10:13	"	"	"	2.63	5.6	9.32	28.35	25.78	
"	10:13	"	"	"	3.66	10.8	8.46	28.52	25.68	
NBH-NArcaal	14:34	41°40.657	70°54.987	3.5 ft.	0.51	7.3	8.88	7.26	31.00	dredging in Area J
"	14:35	"	"	"	1.49	5.2	8.53	7.38	30.33	"
NBH-NWS	14:44	41°40.724	70°55.091	3.8 ft.	0.55	4.3	7.53	4.89	29.85	at NWS
"	14:45	"	"	"	1.50	5.5	8.03	7.04	30.35	
"	14:46	"	"	"	2.81	5.1	7.23	18.95	27.41	

ref. = 2-11



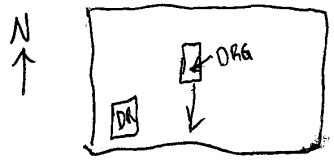
New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	DRG southwest middle L., working north to south
Dredging Description	DR southwest corner L.
Survey Vessel	R/V George Hampson
Chief Scientist	K. McCarney
Sampling Technician	D. Bailey
Vessel Captain	M. Walsh
Other Personnel	
Weather Conditions	Sunny

Date	8/17/09
Page	2 of

Tide Information	
High	0530
Low	1059
High	1802
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
NBH-1000'S Ref	10:37	41°39.783	70°55.008	8.3	0.48	1.7	11.35	20.21	26.57	
"	10:38	"	"	"	2.59	3.6	9.66	28.26	25.90	
"	10:39	"	"	"	4.04	4.1	8.63	28.62	25.60	
"	10:41	"	"	"	7.49	11.2	7.36	29.01	25.01	
NBH-200'S DRG	10:58	41°39.959	70°55.071	5.0	0.51	1.8	11.50	-	-	
S Area L	10:59	"	"	"	1.64	5.6	10.30	22.91	26.50	
"	11:00	"	"	"	2.80	8.5	8.92	28.38	25.82	
"	11:01	"	"	"	4.04	10.1	8.06	28.54	25.65	
NBH-175'S Area L Debris Remot	11:12	41°39.936	70°55.100	2.0	0.78	4.1	12.41	17.05	27.72	
NBH-250' NA Area L	11:42	41°40.067	70°55.077	4.4	0.55	2.1	11.55	16.41	27.63	Light to moderate shear
"	11:45	"	"	"	1.57	4.7	10.68	24.91	26.73	Moderate to heavy shear
"	11:46	"	"	"	2.54	4.6	10.36	27.76	26.30	
"	11:47	"	"	"	3.53	7.6	9.35	28.27	25.99	





New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

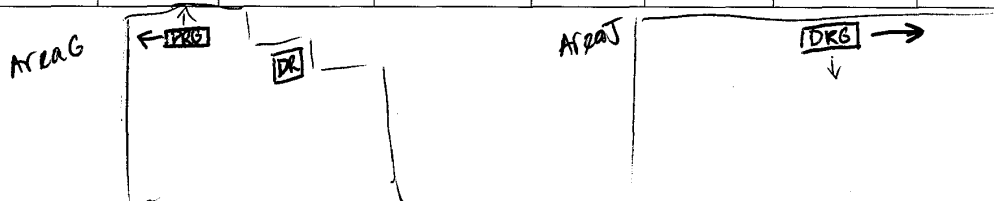
Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area **J**, northern boundary moving ~~west~~ to ~~east~~
dredging
R/V George Hampson
K. McCarthy
D. Bailey
M. Walsh
Sunny, wind 10 kts SW

Date 8/17/09
Page 4 of

Tide Information	
High	0530
Low	1059
High	1802
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
J-NBH-75-N-DRG	13:40	41°40.53S	70°54.916	1.6	0.34	6.2	11.33	10.20	29.35	75' N/NW of DRG
"	13:45	"	"	"	0.63	7.3	11.46	10.35	29.38	"
"	13:48	"	"	"	0.62	8.7	11.53	10.62	29.35	"
"	13:51	"	"	"	0.91	40.6	11.96	11.53	29.25	Short-lived plume from push boat
"	13:54	"	"	"	0.04	40.2	11.79	11.70	29.26	"
"	14:00	"	"	1.9	0.52	57.4	11.33	11.86	29.30	during active dredging
"	14:03	"	"	"	0.39	28.5	11.77	11.10	29.52	"
"	14:05	"	"	"	0.40	16.8	12.04	11.24	29.51	"
"	14:09	"	"	"	0.38	13.9	12.89	11.51	29.53	"
"	14:15	"	"	"	0.40	22.5	11.90	11.02	29.74	"



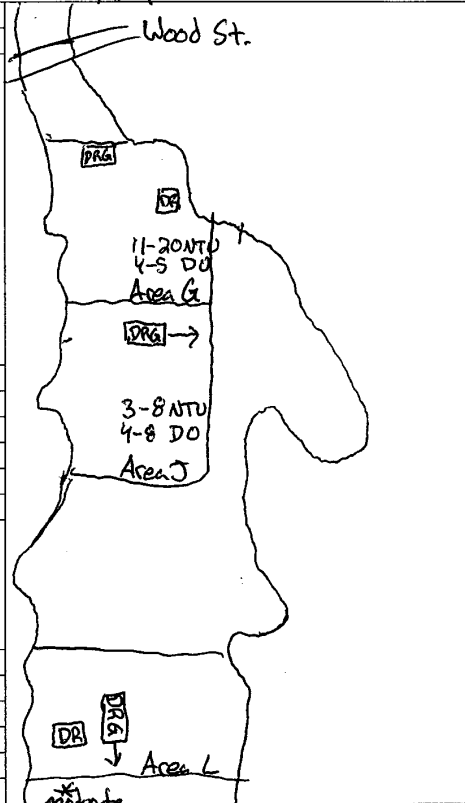


New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 8/20/09
 Weather: Sunny, Wind 8-10 Kts SW
 Tides:
 Low @ 0700
 High @ 0818
 Low @ 1359

* Dead fish
 - Many birds feeding

Monitoring Period:
 From: 0830 To: 1410
 Tidal Stages: HWS Ebb LWS Flood
 Dredging Activity:
Morning Debris Removal in Area G and
Dredging in Area J
Afternoon Debris Removal and Dredging in
Area L



Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' NWS (Ref)	3.7-5.8	1.6-2.8	0.5-5.8
100' S of DR in G	11.2-20.2	3.8-5.0	0.5-2.6
300' S of DRG in J	3.3-8.7	4.0-7.5	0.5-6.8
300' S of DRG/DR in L	3.6-27.2	4.4-7.2	0.5-2.4

Oil Sheen/Debris:
Moderate sheen 300' south of debris removal in Area L

Wildlife Observations:
A dozen small fish (Menhaden) dead NWS, Many birds NWS

Samples Collected for Laboratory Analysis - Sample IDs:	
TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Birds = Great Blue Heron, Egrets, Cormorants, Green Herons, Osprey, Gulls, and Terns
Dead fish = Menhaden

Sampling Crew: D. Bailey, M. Walsh
 Chief Scientist Signature: [Signature]



New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: DR NE corner of G, DR6 NE corner of J
 Dredging Description: Dredging W to E
 Survey Vessel: R/V George Thompson
 Chief Scientist: D. Bailey
 Sampling Technician:
 Vessel Captain: M. Welsh
 Other Personnel:
 Weather Conditions: Sunny, Wind 3-7 kts SW

Date: 8/20/09
 Page: 1 of 2

Tide Information	
High	0818
Low	0200
High	2130
Low	1359

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
NWS 1000' Ref	9:09	41°40.838	70°55.041	6.8	0.54	3.7	1.62	16.41	26.38	
	9:09	"	"	"	1.55	5.1	1.95	25.29	27.45	
	9:10	"	"	"	2.99	5.8	2.61	26.98	27.25	
	9:12	"	"	"	5.76	5.2	2.80	27.35	27.11	
100's of DR in Area G	9:32	41°40.557	70°54.885	4.7	0.55	11.2	5.04	24.87	27.07	
	9:34	"	"	"	2.63	20.2	3.81	28.14	26.66	
300's of DR6 in Area J	10:23	41°40.447	70°54.902	8.1	0.55	8.7	7.45	23.29	27.65	
	10:24	"	"	"	1.54	3.8	5.28	27.59	26.81	
	10:25	"	"	"	3.54	3.3	4.07	28.55	26.50	
	10:26	"	"	"	6.82	4.4	4.36	28.86	26.04	



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 08/24/09
 Weather: Overcast, winds variable 1-3 knts
 Tides:

Low	@	<u>0435</u>
High	@	<u>1137</u>
Low	@	<u>1715</u>

Monitoring Period:

From: 08:00 To:

Tidal Stages: (HWS) (Lb) LWS (Flood)

Dredging Activity:

Morning DRG in Area G, Northern Edge, moving E to W

Afternoon DRG in Area J, Northern Edge, moving E to W
- DR in Area G, Northeast corner

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' S Area L (Ref)	2.2-4.3	3.98-6.67	0.5-9.0
100' NWS	1.5-1.6	6.23-6.25	0.5-2.5
150' N DRG Area G	2.5-10.1	2.05-5.93	0.5-3.0
300' N DRG Area G	6.7-30.8	2.65-4.42	1.0-4.9
300' S DRG Area J	2.9-6.5	4.29-6.35	0.5-5.4
300' S DRG Area J	4.4-4.5	4.01-4.44	0.6-5.0
300' S DR Area G	14.3	4.07	1.5

Oil Sheen/Debris:

No sheen

Wildlife Observations:

Fish jumping North of Wood St., Many birds NWS and in Harbor

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Birds: Green Herons, Seagulls, Egrets, Cormorants, Osprey, Terns

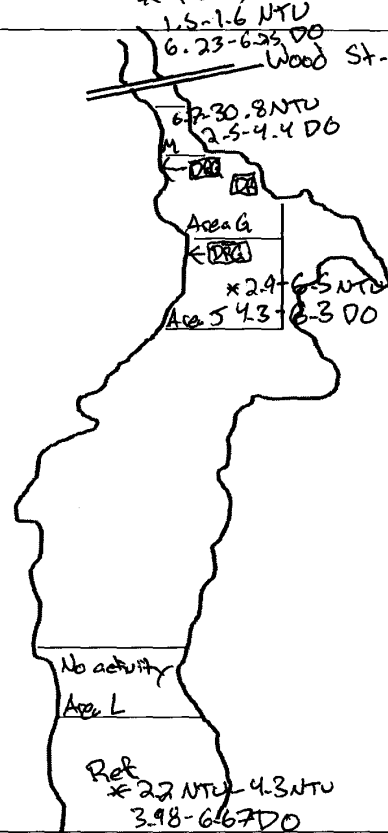
Sampling Crew:

D. Bailey, M. Walsh

Chief Scientist Signature:

[Signature]

* Fish jumping, many birds





New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

DRG Area G
DRG Northern edge of G, moving E to W
RV George Harpson
D. Bailey
M. Walsh
Overcast, Wind Variable 1-3 knts

Date 08/24/09
Page 1 of 2

Tide Information	
High	1137
Low	0435
High	2359
Low	1715

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
1000' Flood Ref	8:14	41°39.795	70°54.998	10.9	0.56	2.9	6.67	10.03	25.77	
"	8:15	"	"	"	3.13	2.2	3.98	27.54	26.73	
"	8:16	"	"	"	5.99	3.0	4.35	28.25	26.58	
"	8:17	"	"	"	9.09	4.3	4.25	28.33	26.55	
1000' NWS	9:20	41°40.833	70°55.037	3.7	0.55	1.5	6.25	0.05	23.44	
"	9:21	"	"	"	2.50	1.6	6.23	0.05	23.44	
150' N of DRG	9:55	41°40.636	70°54.982	3.9	0.51	2.5	5.93	0.42	23.75	
in Area G	9:55	"	"	"	1.58	10.1	4.24	20.08	26.23	
	9:56	"	"	"	2.98	9.0	2.05	25.07	26.59	
300' N of DRG	11:31	41°40.675	70°54.994	6.3	4.9	30.8	2.55	26.70	26.78	
in Area G	11:34	"	"	"	3.03	13.3	3.33	25.85	26.74	
	11:35				2.12	7.8	3.05	24.60	26.58	
	11:36				1.01	6.7	4.42	9.06	25.16	



New Bedford Harbor Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
 Dredging Description
 Survey Vessel
 Chief Scientist
 Sampling Technician
 Vessel Captain
 Other Personnel
 Weather Conditions

DRG Area J / DR in NE corner of Area G
 DRG Northern Edge Area J, moving E to W
 R/V George Harrison
 D. Bailey
 M. Walsh
 Slightly Overcast, NNW wind 1-3 knts

Date 08/24/09
 Page 2 of 2

Tide Information	
High	1137
Low	0435
High	2359
Low	1715

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300'S DRG Area J	11:55	41°40.435	70°54.935	6.9	0.86	6.5	6.35	21.53	26.56	
	11:56	"	"	"	3.02	2.9	5.09	27.15	26.63	
	11:57	"	"	"	5.36	4.4	4.29	27.92	26.61	
300'S DRG Area J	12:50	41°40.457	70°54.899	6.4	0.60	4.5	4.94	15.30	26.58	
	12:52	"	"	"	5.01	4.4	4.01	27.85	26.63	
100'S DRG Area J and 300'S DR Area G	13:36	41°40.478	70°54.913	7.9	1.50	14.3	4.07	25.99	26.81	



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 08/27/09

Weather: Sunny, Wind Variable 2-4 knts

Tides:

<u>Low</u>	@	<u>0638</u>
<u>High</u>	@	<u>1416</u>
<u>Low</u>	@	<u>2033</u>

Monitoring Period:

From: 0800 To: 1500

Tidal Stages: (HWS) (Ebb) LWS (Flood)

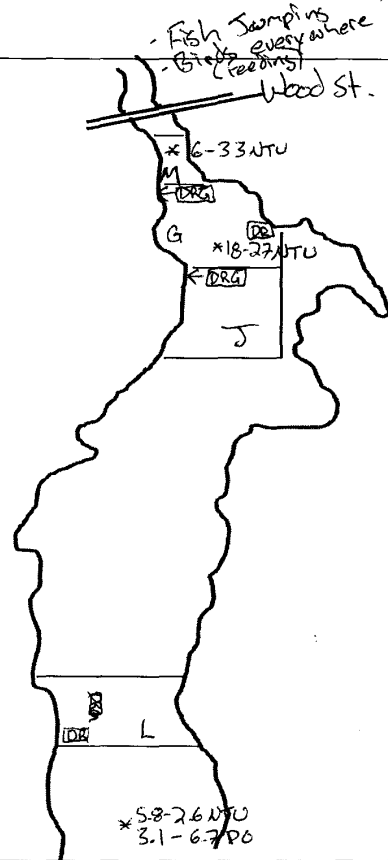
Dredging Activity:

Morning: Debris Removal SW corner of Area L
Dredging on N edge of Area J

Afternoon: Dredging on N edge of Area G
Debris Removal E corner of G

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
<u>1000' S Area L (Ref)</u>	<u>2.6-5.8</u>	<u>3.14-6.74</u>	<u>0.5-9.16</u>
<u>150' N DRG Area J</u>	<u>18.5-27.4</u>	<u>2.78-3.92</u>	<u>0.5-1.6</u>
<u>250' N DRG Area G +</u>	<u>6.3-33.0</u>	<u>2.36-5.00</u>	<u>0.5-4.1</u>
<u>350' N DR Area G</u>	<u>" "</u>	<u>" "</u>	<u>" "</u>



Oil Sheen/Debris:

No sheen

Wildlife Observations:

Fish jumping, Birds everywhere (on pipes, barges, feeding NWS)

Samples Collected for Laboratory Analysis - Sample IDs:

<u>TSS (1L)</u>	<u>Turbidity (1L)</u>
<u>Total PCB (1L)</u>	<u>Dissolved PCB (2x1L)</u>
<u>Toxicity (5 gal)</u>	<u>Metals (500ml)</u>

Notes: Bluefish feeding on Menhaden

Birds: ~~XXXXXX~~, Cormorants, Kingfishers, Egrets, Gulls, Terns, Herons

Sampling Crew:

D. Bailey, M. Walsh

Chief Scientist Signature:

[Signature]



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 08/31/09

Weather: Slightly Overcast

Tides:

High	@	0308
Low	@	1709
High	@	1814

Monitoring Period:

From: 0750 To: 1504

Tidal Stages: HWS (H) LWS (L) Flood

Dredging Activity:

Morning + Afternoon: Dredging in Area J and
Debris Removal in Area L

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
100' S Area L Flood (wet)	1.7-3.8	1.34-6.38	0.5-9.0
150' N of Dba in Area J	0.7-4.0	3.8-6.9	0.5-1.6
S Area L	2.9-4.4	3.8-6.4	0.5-3.0
N Area L	4.2-5.7	2.6-6.4	0.5-3.5
S Area J	3.4-6.3	0.5-6.3	0.5-4.5
N Area G	0.1-0.4	7-7.05	0.5-1.65
NWS	0.2-0.6	7-7.2	0.5-2.75

Oil Sheen/Debris:

Spotty Sheen south of Debris Removal in Area L

Wildlife Observations:

A few birds in the harbor (gulls, swans, cormorants, ducks). No birds NWS

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Retrieved mooring for cleaning, then redeployed in the afternoon

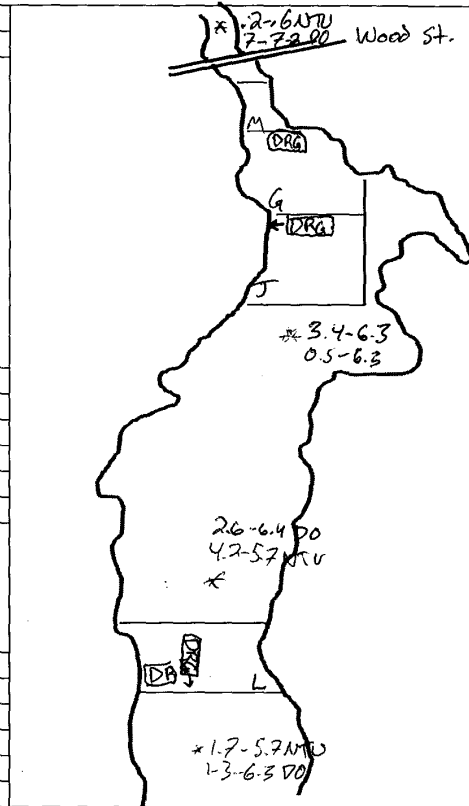
Sampling Crew:

D. Bailey, M. Walsh

Chief Scientist Signature:

[Signature]

~ Very low Salinity NWS





New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Dredging in Area J, Debris Removal in Area L
DRG in Area J moving east to west along N edge
R/V George Hampson
D. Bailey
M. Walsh
Slightly Overcast

Date 08/31/09
Page 1 of

Tide Information	
High	0308
Low	1109
High	1814
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
1000' S Area L	11:30	41°39.789	70°55.001	10.6	0.59	1.7	6.38	2.43	20.91	Spotty Sheen on surface
Flood Ref	11:32	"	"	"	3.01	2.2	4.15	9.82	21.02	
	11:33	"	"	"	6.00	3.7	1.34	22.43	22.82	
	11:35	"	"	"	9.02	5.8	1.91	26.04	23.10	
150' N of DRG	13:11	41°40.546	70°54.946	2.8	0.53	0.7	6.92	0.37	19.98	
In Area J	13:13	"	"	"	1.59	16.3	3.84	8.40	21.31	
"	13:22	"	"	"	0.52	2.5	6.57	0.75	19.99	
"	13:24	"	"	"	1.62	12.6	4.15	8.28	21.32	
"	13:27	"	"	"	1.59	40.0	3.49	8.80	21.28	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: Sept 3, 2009

Weather: Sunny

Tides:

<u>high</u>	@	<u>0746</u>
<u>low</u>	@	<u>1324</u>
<u>high</u>	@	<u>2005</u>

Monitoring Period:

From: 08:30 To: 14:30

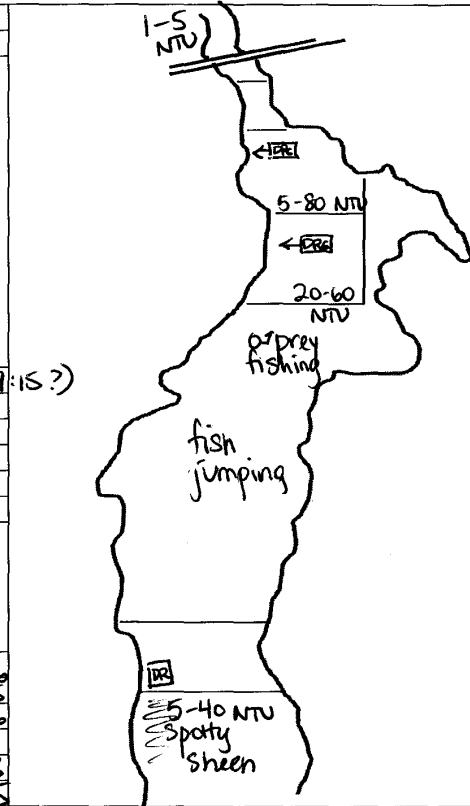
Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

dredging in Area G until after 09:00 (~9:15?)
dredging in Area J ~10:30 on
debris removal in Area L

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
<u>1000' N of G (ebbret)</u>	<u>1-4.5</u>	<u>1.5-7.4</u>	<u>0.5-3.7</u>
<u>(ebb) 300' S of DRG in G</u>	<u>2-7</u>	<u>1.9-3.5</u>	<u>0.5-3.6</u>
<u>(flood) 300' S of DRG in J</u>	<u>2-5.6</u>	<u>1.3-3.9</u>	<u>0.5-4.5</u>
<u>(ebb) 300' N of DRG in J</u>	<u>6-80</u>	<u>3.1-6.2</u>	<u>0.3-0.6</u>
<u>(ebb) 150' S of DRG in L</u>	<u>10-41.5</u>	<u>2.7-4.9</u>	<u>0.5-1.7</u>
<u>(flood) 250' S of DR in L</u>	<u>7.5-36.5</u>	<u>3.0-5.0</u>	<u>0.5-1.8</u>
<u>(flood) 300' N of DR in L</u>	<u>2.5-7.5</u>	<u>1.3-7.8</u>	<u>0.3-5.5</u>



Oil Sheen/Debris:

light spotty sheen S of DR in L, strong H₂S odor from dredge in J

Wildlife Observations:

schools of fish feeding & jumping between J and L, Osprey catching fish

Samples Collected for Laboratory Analysis - Sample IDs:

<u>TSS (1L)</u>	<u>Turbidity (1L)</u>
<u>Total PCB (1L)</u>	<u>Dissolved PCB (2x1L)</u>
<u>Toxicity (5 gal)</u>	<u>Metals (500ml)</u>

Notes:

Six or seven osprey seen fishing on schools feeding between J and L. Turbidity and DO looked good. Strong H₂S odor from dredge in J. Turbidity only high when using push boats.

Sampling Crew:

K. McCartney, M. Walsh

Chief Scientist Signature:

Ronald [Signature]



New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Active dredging in G-S-DRG-150
~~Active dredging in G-S-DRG-150~~
R/V George Hampson
K. McCartney
M. Walsh
Sunny

Date
Page

9/3/09
1 of 3

Tide Information

High 0746
Low 0116
High 2005
Low 1324

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
G-S-DRG-150	08:53	41°40.568	70°54.977	5.2	0.51	1.9	3.29	12.49	21.32	150' S of DRG in G (ebb)
"	08:53	"	"	"	2.02	1.8	2.21	21.67	23.04	"
"	08:54	"	"	"	3.60	3.5	1.15	23.07	23.04	"
NWS-1000'-ref	09:09	41°40.841	70°55.037	4.9	0.50	1.1	7.39	0.76	17.33	ebb ref. 1000' N of G
"	09:10	"	"	"	1.50	2.9	2.65	13.45	21.42	"
"	09:11	"	"	"	2.58	4.4	2.01	18.36	22.86	"
"	09:12	"	"	"	3.70	3.9	1.49	19.30	22.73	"
G-S-DRG-300	10:33	41°40.553	70°54.955	3.4	0.48	6.5	3.44	15.57	21.98	300's of DRG in G (ebb)
"	10:34	"	"	"	2.01	4.4	1.93	22.24	22.99	"
J-S-DRG-300	12:12	41°40.434	70°54.938	5.7	0.52	21.3	3.23	11.62	21.23	NO ACTIVITY ANYWHERE ON HARBOR for >20m
"	12:13	"	"	"	1.54	25.1	1.93	20.88	23.17	"
"	12:14	"	"	"	2.53	4.8	1.36	25.05	23.00	"
"	12:17	"	"	"	4.45	1.9	1.47	26.01	22.88	"
"	12:18	"	"	"	1.15	28.9	1.60	18.86	22.60	"
"	12:28	"	"	"	1.21	55.7	1.70	17.99	22.40	"

J-S-DRG-300 12:49 41°40.434 70°54.945 2.5 0.50 ← 9.5 3.86
 " 12:50 " " " 1.95 ← 8.6 1175 11.42 21.50 dredging resumed in:
 " " " " " " " 23.48 23.02 " " " "

← flipped @ 10:30 →

30-60 NTV Area J



New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Active debris removal in Area L
 Dredging Description:
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCarthy
 Sampling Technician:
 Vessel Captain: M. Walsh
 Other Personnel:
 Weather Conditions: Sunny

Date: 9/3/09
 Page: 7 of 3

Tide Information	
High	0746
Low	0116
High	2005
Low	1324

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
L-S-DR-150	10:55	41°39.947	70°55.091	3.2	0.54	11.8	4.92	9.75	21.43	150' S of DR in L (ebb)
"	10:56	"	"	"	1.68	41.5	2.75	16.77	22.53	"
L-S-DR-250	11:02	41°39.924	70°55.093	3.8	0.55	7.5	4.99	12.05	22.01	250' S of DR in L (ebb)
"	11:03	"	"	"	1.53	36.4	3.02	18.05	22.75	"
"	11:04	"	"	"	2.48	9.3	2.35	20.90	23.10	"
"	11:25	"	"	"	1.76	16.7	3.35	19.03	22.92	"
"	11:33	"	"	"	1.53	14.9	3.21	18.29	23.02	"
"	11:41	"	"	"	1.50	13.7	3.50	16.74	22.93	"
L-N-DR-300	14:16	41°40.050	70°55.108	6.5	0.30	2.4	7.72	10.23	23.18	300' N of DR in L (flood)
"	14:17	"	"	"	1.49	7.5	5.79	12.51	23.02	"
"	14:18	"	"	"	3.60	4.3	3.02	22.04	23.10	"
"	14:19	"	"	"	4.58	2.8	1.93	23.78	22.99	"
"	14:21	"	"	"	5.51	6.5	1.30	25.56	22.97	"



New Bedford Harbor Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Active dredging in Area J
R/V George Hampson
K. McCarthy
M. Walsh
Sunny

Date
Page

9/3/09
3 of 3

Tide Information

High	0746
Low	0116
High	2005
Low	1324

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
J-S-DRG-300	12:58	40°40.437	70°55.945	2.5	1.73	13.5	1.20	22.27	22.98	300' S of DRG in J (ebb)
" ↑	13:01	"	"	2.5	1.75	12.0	1.24	22.59	23.02	"
east of ↑	13:15	40°40.436	70°55.910	5.7	1.37	15.2	1.68	18.57	22.70	back @ the spot of ↑ turb
"	13:16	"	"	"	1.40	35.8	1.37	20.68	22.90	"
J-N-DRG-100	13:27	40°40.525	70°55.933	2.2	0.59	6.4	6.03	5.88	21.48	100' N of DRG in J (flood)
"	13:30	"	"	"	0.60	14.0	6.17	5.17	21.94	"
"	13:43	"	"	"	0.39	22.6	4.55	9.33	21.60	
"	13:46	"	"	"	0.40	78.9	3.10	15.24	22.16	



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: Sept 8, 2009

Weather: Overcast

Tides:

<u>Low</u>	@	<u>03:57</u>
<u>High</u>	@	<u>10:48</u>
<u>Low</u>	@	<u>16:32</u>

Monitoring Period:

From: 08:15 To: 15:00

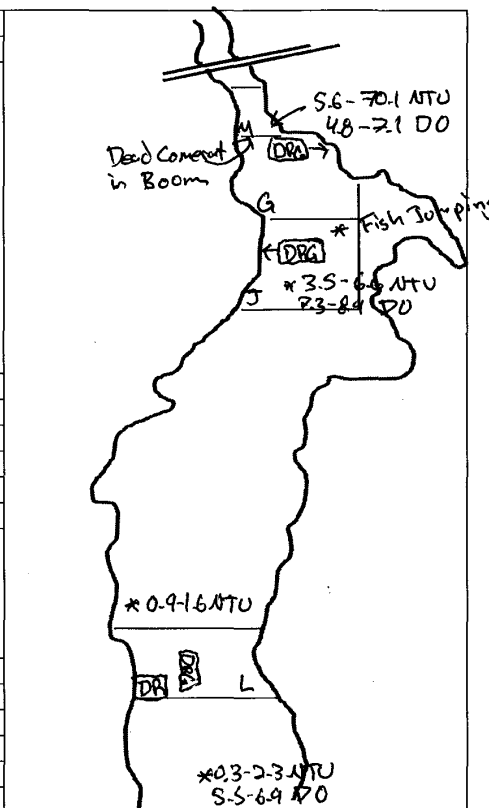
Tidal Stages: (HWS) (Ebb) LWS (Flood)

Dredging Activity:

- Debris Removal in Area L, Morning and afternoon
- Dredging in Area J early morning and afternoon
- Dredging in Area G late morning and early afternoon

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' S Area L (Flood Ref)	0.3-2.3	5.5-6.9	0.5-10.01
500' N of DR in Area L	0.9-1.6	5.5-7.6	0.5-7.5
400' N of DRG in Area G	5.6-39.1	4.9-7.1	0.5-2.6
100' N of DRG in Area G	70.1	4.87	2.6
300' S of DRG in Area G	2.0-6.9	6.2-8.3	0.5-4.5
300' S of DRG in Area J	3.5-6.6	7.3-8.9	0.5-2.8
200' S of DR in Area L	2.4-2.8	7.3-8.6	0.4-2.03



Oil Sheen/Debris:

Moderate sheen around dredge in Area G, Spotty sheen south of J

Wildlife Observations:

Many birds south of Wood St., very few birds North of Wood St., fish jumping in Area J

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Birds = Osprey, Blue Herons, Gulls, Comenents, Egrets

- Dead Comenent in boom north of G

Sampling Crew:

D. Bailey, M. Walsh

Chief Scientist Signature:

[Signature]



New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Debris Removal SW corner of Area L DRG in Area G
 Dredging Description: Dredging in Area G moving W to E
 Survey Vessel: R/V George Hampson
 Chief Scientist: D. Bailey
 Sampling Technician:
 Vessel Captain: M. Walsh
 Other Personnel:
 Weather Conditions: Overcast

Date: 09/08/09
 Page: 1 of 2

Tide Information
 High: 10:48
 Low: 03:57
 High: 23:16
 Low: 16:32

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
1000' S Area L	08:24	41°39.794	70°55.006	11.4	0.53	0.3	6.96	26.66	21.42	
Flood Ref	08:25	" "	" "	"	2.00	0.6	5.92	28.06	21.79	
"	08:27	" "	" "	"	6.04	1.5	5.51	28.57	21.82	
"	08:28	" "	" "	"	10.01	2.3	5.48	28.58	21.82	
500' N DR in Area L	08:51	41°40.066	70°55.102	9.5	0.53	0.9	7.62	26.19	22.01	
"	08:54	" "	" "	"	4.02	1.2	5.88	28.42	22.10	
"	08:55	" "	" "	"	7.52	1.6	5.58	28.54	22.10	
400' N of DRG in Area G	10:09	41°40.646	70°54.980	4.6	0.50	5.6	7.13	24.54	22.23	
"	10:10	" "	" "	"	1.57	9.4	6.56	26.34	22.72	
"	10:12	" "	" "	"	2.50	11.7	5.45	26.87	22.72	
"	10:52	" "	" "	"	2.63	39.1	4.96	27.02	22.74	
100' N of DRG in Area G	10:59	41°40.646	70°54.980	4.6	2.60	70.1	4.87	27.08	22.73	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 09/10/09
 Weather: Overcast, wind 10-15 knts out of the East
 Tides:

Low	@	04:35
High	@	11:42
Low	@	17:16

Monitoring Period:

From: 08:25 To: _____

Tidal Stages: (HWS) (EB) LWS (Flood)

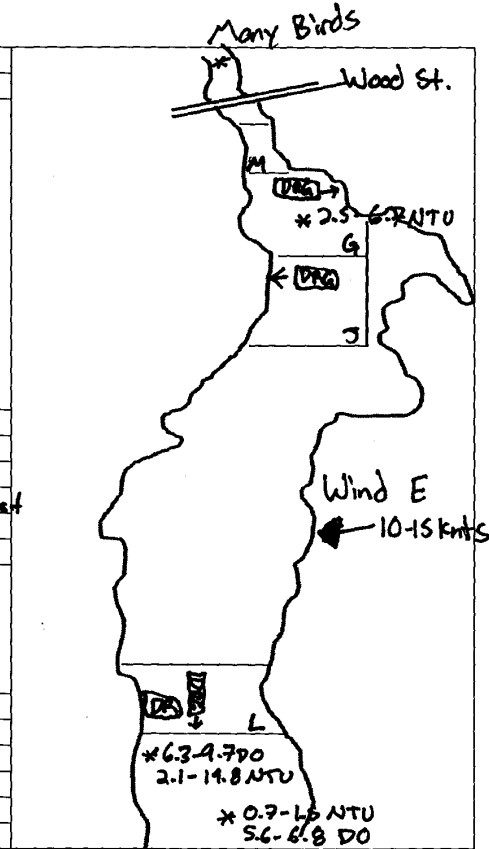
Dredging Activity:

Morning: Debris Removal in Area L along Western Edge
- Dredging in Area J moving East to West

Afternoon: Dredging in Area G moving West to East
- Debris Removal in Area L along western Edge

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' S Area L (Flood Ref)	0.7-1.5	5.6-6.8	0.5-9.8
300' N of DRG Area J	9.3-25.5	5.7-6.3	0.5-2.5
300' N of DRG Area G	11.5-14.4	5.5-7.5	0.5-3.9
300' S of DR Area L	2.4-19.8	6.5-8.8	0.5-5.5
300' S of DRG Area G	2.5-6.7	6.3-9.6	0.5-5.5
300' S of DR Area L	2.1-5.0	6.3-9.7	0.5-4.0



Oil Sheen/Debris:

No Sheen

Wildlife Observations:

Birds throughout Harbor

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

Birds: Blue Herons, Egrets, Ducks, Gulls, Swans, Osprey

Sampling Crew:

D. Bailey, M. Walsh

Chief Scientist Signature:

[Signature]



New Bedford Harbor Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

DR in Area L DRG in Area J moving E to W
DRG in Area G moving W to E
R/V George Hampson
D. Bailey
M. Walsh
Partly Cloudy

Date 09/10/09
Page 1 of 2

Tide Information	
High	11:42
Low	04:35
High	
Low	17:16

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
1000' S Area L	08:32	41°39.787	70°54.997	11.8	0.49	1.1	6.83	27.22	20.38	
Flood Ref	08:33	" "	" "	"	3.05	0.7	6.12	28.33	21.28	
" "	08:34	" "	" "	"	5.99	1.0	5.79	28.43	21.35	
" "	08:35	" "	" "	"	9.75	1.5	5.60	28.50	21.44	
300' N of DRG	09:09	41°40.562	70°54.889	3.8	0.50	11.7	6.27	25.90	21.59	
In Area J	09:09	" "	" "	"	1.55	9.3	6.09	26.84	21.87	
" "	09:10	" "	" "	"	2.49	10.2	5.77	27.25	21.99	
" "	10:01	" "	" "	4.6	1.37	25.5	6.01	26.86	21.73	
300' N of DRG	11:32	41°40.643	70°54.985	4.7	0.53	11.5	7.58	26.20	22.05	
In Area G	11:33	" "	" "	"	1.88	13.0	6.38	26.95	22.03	
" "	11:34	" "	" "	"	3.91	14.4	5.54	27.28	22.00	
300' S of DRG	12:42	41°39.941	70°55.099	6.6	0.51	4.3	8.82	25.40	21.07	
In Area L	12:43	" "	" "	"	2.99	3.5	6.64	27.99	21.32	
" "	12:44	" "	" "	"	5.55	2.4	6.59	28.51	21.29	
" "	12:55	" "	" "	"	2.09	19.8	7.52	25.80	21.18	



New Bedford Harbor Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

DRG in Area G moving West to East
R/V George Herpson
D. Bailey
M. Wash
Overcast, Wind 10-15 Knts E

Date 09/10/09
Page 2 of 2

Tide Information
High 11:42
Low 04:35
High -
Low 17:16

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300'S of DRG In Area G	13:19	41°30.547	70°54.929	6.3	0.53	6.7	9.58	26.16	22.23	
" "	13:20	" "	" "	"	3.08	2.5	7.66	27.94	21.84	
" "	13:21	" "	" "	"	5.49	3.6	6.36	28.13	21.87	
300'S of DR In Area L	14:37	41°39.128	70°55.013	5.9	0.49	2.1	9.74	24.78	21.70	
" "	14:38	" "	" "	"	2.00	2.7	9.32	27.08	21.52	
" "	14:40	" "	" "	"	4.08	5.0	6.82	28.51	21.39	



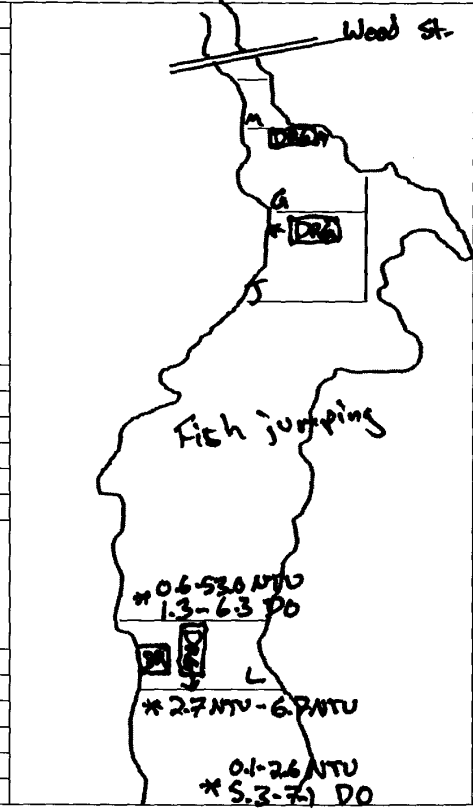
New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 09/14/09
 Weather: Sunny, Wind Variable
 Tides:
Low High @ 0452
low @ 0955
High @ 1652

Monitoring Period:
 From: 0820 To: 1445

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:
Early Morning: Dredging in J, Debris Removal in L
09:00 to 1445 Dredging in J and Debris Removal in L



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' S Ref Site	0.1-2.6	5.3-7.1	0.3-8.7
300' S of DRG in L	2.7-6.4	4.1-5.7	0.6-2.1
300' N of DRG in L	0.6-22.3	1.3-6.3	0.3-5.3
300' N of DRG in L	10.7-53.0	4.7-5.5	0.4-2.4
460' N of DRG in L	2.5-12.4	3.7-5.5	0.6-6.9

Oil Sheen/Debris: Slight sheen North of Debris Removal in L

Wildlife Observations: Fish jumping throughout harbor, few birds throughout harbor

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Birds: (Swans, Egrets, Cormorants, Gulls)

Sampling Crew: D. Bailey R. Reynolds
 Chief Scientist Signature: [Signature]



New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: DR in Area L, DRG in Area L
 Dredging Description: DRG in L moving N to S
 Survey Vessel: R/V George Hampson
 Chief Scientist: D. Bailey
 Sampling Technician: —
 Vessel Captain: R. Reynolds
 Other Personnel: —
 Weather Conditions: Sunny

Date: 09/14/09
 Page: 1 of

Tide Information	
High	0422
Low	0955
High	1652
Low	2259

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300' S of Area L DRG	09:20	41°39.941	70°55.090	3.8	0.61	3.0	5.76	21.74	21.04	
"	09:21	"	"	"	1.39	2.7	5.19	22.61	21.21	
"	09:22	"	"	"	2.10	6.4	4.12	24.86	21.18	
300' N of Area L DRG	10:15	41°40.057	70°55.099	6.3	0.30	3.7	6.28	17.80	21.04	
"	10:16	"	"	"	1.50	0.9	5.49	23.54	21.19	
"	10:17	"	"	"	2.35	0.6	4.44	25.17	21.34	
"	10:19	"	"	"	3.51	1.0	3.55	26.78	21.20	
"	10:21	"	"	"	5.33	4.6	2.24	28.17	21.03	
"	10:44	"	"	"	5.30	2.3	1.33	27.71	21.07	
300' N of Area L DRG	12:00	"	"	6.9	0.65	17.5	5.71	22.09	21.41	
300' N of DRG in Area L	12:36	41°40.065	70°55.118	5.8	0.47	53.0	5.50	22.3	21.50	
"	12:37	"	"	"	1.40	27.8	5.60	23.3	21.43	
"	12:38	"	"	"	2.40	10.7	4.73	25.1	21.41	



New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

DRG in Area L, moving N to S
R/V George Herpeton
D. Bailey
B. Reynolds
Sunny, Wind 3-5 knts variable

Date 09/14/09
Page 1 of 1

Tide Information	
High	0422
Low	0955
High	1652
Low	2259

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
400' N of DRG in Area L	1357	41°40.0SS	70°55.100	8.2	0.60	4.3	5.54	24.24	21.61	
" "	1358	" "	" "	" "	2.00	3.9	5.01	26.43	21.40	
" "	1359	" "	" "	" "	4.00	12.4	3.87	27.49	21.08	
" "	1401	" "	" "	" "	6.40	2.5	3.69	28.01	20.97	
1000'S of Area L (Ref site)	1428	41°39.770	70°55.015	10.5	8.70	2.6	5.32	28.63	20.96	
" "	1429	41°39.770	" "	" "	6.05	1.4	5.31	28.63	20.96	
" "	1431	" "	" "	" "	2.03	0.1	5.87	28.62	20.47	
" "	1432	" "	" "	" "	0.30	0.1	7.11	21.22	22.36	



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 09/17/09
 Weather: Overcast, Wind N to NE 15 knts
 Tides:

High	@	07:08
Low	@	12:49
High	@	19:33

Monitoring Period:

From: 08:15 To: 14:20

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

- Debris Removal in the NW corner of L, in the Morning
- Dredging in G in the Morning
- Dredging in L in Afternoon
- Dredging in J mid-afternoon

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
NWS 1000' N of G (RA)	3.2-7.1	3.0-4.2	0.75-3.47
600'S of DRG in G	10.4-13.6	4.1-7.0	0.60-2.80
300'S of DRG in G	2.4-8	5.2-8	0.75
NWS mooring	3.2-7.1	3.0-4.2	0.75-3.47
N Area G mooring	2.9-22.0	3.08-4.51	0.6-3.3
S Area J mooring	5.4-8.8	5.45-6.58	0.61-2.9
N Area L mooring	4.8-6.3	6.48-7.15	0.05-2.34
S Area L mooring	2.8-3.4	6.61-7.08	0.75-2.51

Oil Sheen/Debris:

Large Sheen coming from Debris Removal in Area L, extended from top of L to dock ca 100'

Wildlife Observations:

Fish jumping between L and J, not many birds on the harbor

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

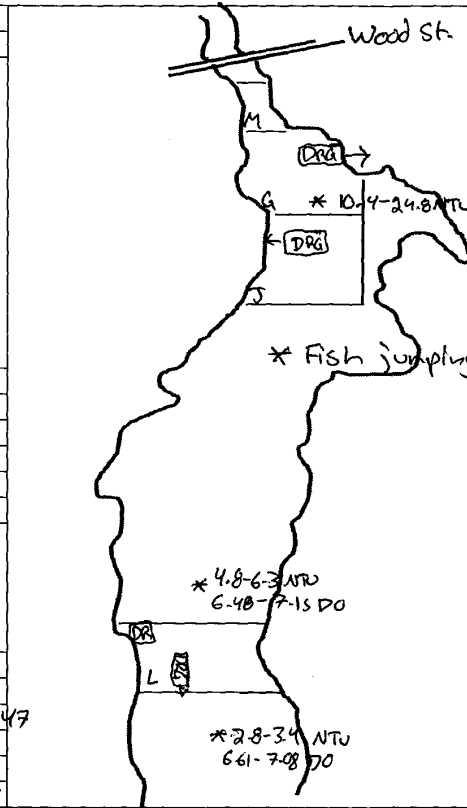
Sampling Crew:

D. Bailey, M. Walsh

Chief Scientist Signature:

[Signature]

3.2-7.1 NTU
 * 3.0-4.2 DO





New Bedford Harbor
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: DRG in J+G, DR in L
 Dredging Description: DRG in J moving E to W, DRG in G moving W to E
 Survey Vessel: R/V George Hampson
 Chief Scientist: D. Bailey
 Sampling Technician: -
 Vessel Captain: M. Walsh
 Other Personnel: -
 Weather Conditions: Overcast, Wind N to NE 15 KTS

Date: 09/17/09
 Page: 1 of 1

Tide Information
 High: 07:08
 Low: ~~07:08~~ 12:49
 High: 19:33
 Low: ~~19:33~~

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
NWS 1000' N	10:01	41°40.717	70°55.028	4.4	0.75	7.1	4.22	25.07		
Area A	10:02	" "	" "	"	1.78	3.2	3.46	26.02		
Ebb Ref	10:03	" "	" "	"	3.47	5.2	3.00	26.28		
800's of DRG	10:28	41°40.622	70°54.902	4.0	0.60	12.4	6.95	24.82	20.65	- Sheen on surf
in Area A	10:29	" "	" "	"	2.02	10.4	4.73	26.01	20.93	
	10:31	" "	" "	"	2.00	13.6	4.11	26.22	20.96	
300's of DRG	10:35	41°40.548	70°54.902	2.0	0.75	24.8	5.28	24.67	20.77	
in Area A										



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 7/21/2005
 Weather: SUNNY/CLEAR
 Tides:
HIGH @ 10:18
LOW @ 16:02

Monitoring Period:

From: 0920 To: 1600

Tidal Stages: (HWS) (Ebb) LWS (Flood)

Dredging Activity:

Debris Removal Area E and Area L around HWS
Dredging in Area E in morning
Dredging in Area J in afternoon

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
NWS REF	2-3	8-9	0-6
<u>AREAS - SOUTH OF DREDGE (ACTIVE)</u>	<u>6-13</u>	<u>9-10</u>	<u>~12</u>
<u>600' SOUTH OF J (FISH)</u>	<u>3-7</u>	<u>8-10</u>	<u>1-4'</u>
<u>300' SOUTH OF L</u>	<u>4-5</u>	<u>~11.5</u>	<u>1-3'</u>

Oil Sheen/Debris:

NO VISIBLE SHEEN OR OIL OBSERVED

Wildlife Observations:

*While transiting up-river to NWS reference schooling fish were observed adjacent to Aerovox. Approx 100+ fish; observed flashing & jumping. Jumping continued in channel all day.

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Continued from wildlife observ. above:

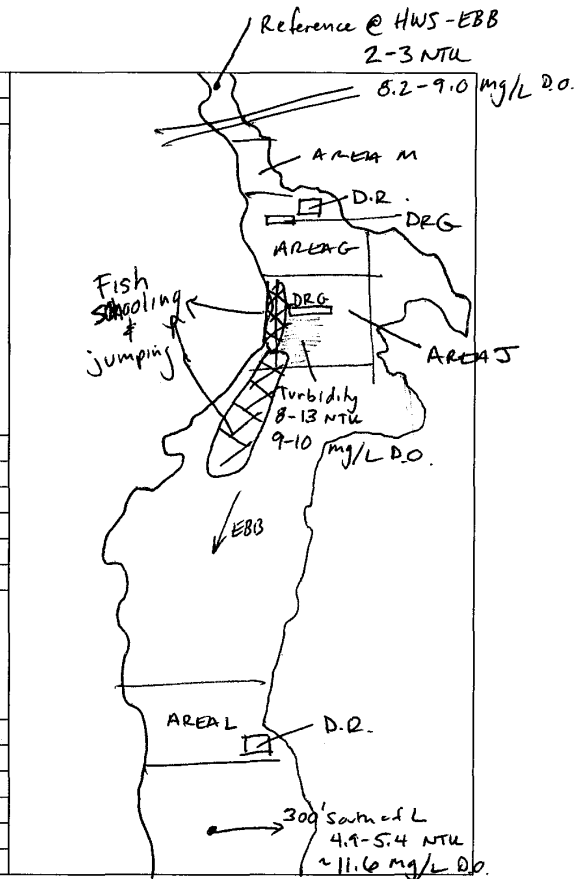
- Fish were approx 12-14" in size, very active, very numerous.
- Many BIRDS OBSERVED, Blue crabs (mating) on W&A moorings.

Sampling Crew:

DAVID WALSH

Chief Scientist Signature:

[Signature]





Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: AREA G
 Dredging Description: DREDGING AREA G
 Survey Vessel: R/V GEORGE HAMPTON
 Chief Scientist: D. WALSH
 Sampling Technician: D. WALSH
 Vessel Captain: L. Perry
 Other Personnel:
 Weather Conditions: SUNNY, CLEAR

Date: 9/21/2009
 Page: 1 of

Tide Information	
High	10:18
Low	16:02
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
Ebb Ref	1025	41 40.841'	70 55.040'	6.6'	6.6' 0.87	2.2	8.82	25.32	20.01	Ref station, 1000' NORTH OF WOOD STREET BRIDGE
Ebb Ref	1026	"	"	"	3.28	2.1	9.03	25.58	20.04	"
Ebb Ref	1027	"	"	"	6.02	3.2	8.28	25.66	20.07	"
300'SL	1420			4.6'	1.19	4.9	11.59	26.25	20.87	
300'SL	1422			"	3.7	5.4	11.56	27.39	20.19	
600'SJ	1436			5.9' 4.6	3.62	7.1	8.42	27.17	19.95	FISH JUMPING ALL AROUND
600'SJ	1438			4.6	1.57	3.7	9.51	25.26	20.72	
600'SJ	1439			4.6	0.69	4.9	9.74	24.58	21.07	
0'SJ	1448			3.6	2.00	18.5	9.13	26.02	20.47	@ SW CORNER of Area J Dredging origin J
0'SJ	1450			3.6	0.38' →	4.3	10.14	21.52	21.89	AREA J S-BOUNDARY
0'SJ	1452			3.6'	1.11	7.6	9.99	23.50	21.22	
J-DRG-150S	1501			3.4	1.13	6.8	10.54	20.33	21.96	SOUTH OF AREA J DRG. DRG REPOSITIONING, #
J-DRG-150SW	1507			3.4'	1.09	12.3 ⁸⁻¹³	9.78	22.01	21.32	@ Sheet pile # 48, DRG 5
J-DRG-150S	1513			3.4'	1.06	7.2	10.44	21.34	22.06	South of ACTIVE DRG
J-DRG-150S	1520			3.5'	1.19	4.7	10.13	22.05	21.09	@ AREA J W-BOUND, Adju F Aerovox

Turbidity varied between 3.1 and 13.3 NTU during active drg run 150' N of monitoring.



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 9/24/2009
 Weather: SUNNY/LOUDY WINDS LIGHT, N in AM; 10-15knots SW in PM.
 Tides:

HIGH	@	1248
LOW	@	1812

Monitoring Period:

From: 0915 To: 1500

Tidal Stages: HWS Ebb LWS Flood

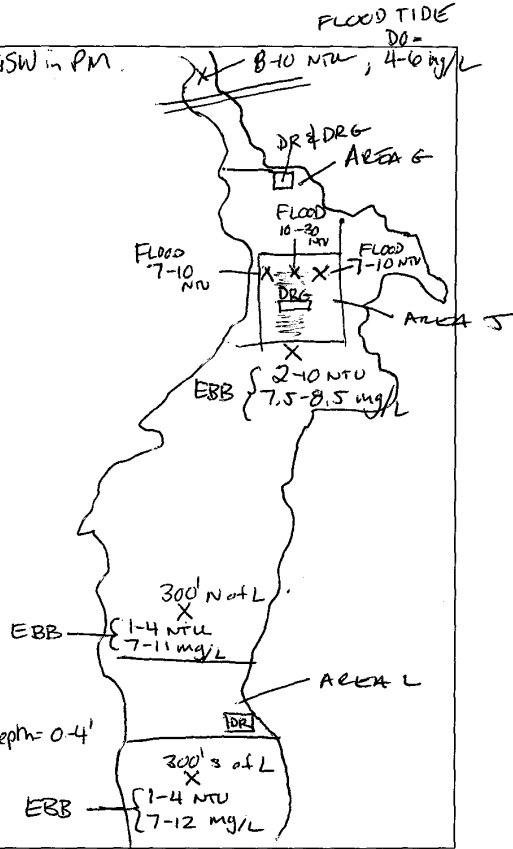
Dredging Activity:

DREDGE IN AREA J AM-PM
PIPE MAINTENANCE IN AREA G ~NOON
Debris Removal in AREA L ~NOON

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
NWS-FLOOD	6-11	3.6-5.8	0-4
AREA J-EBB	7-11	7-7.5	1-7
AREA J BOUNDARY (SOUTH)-EBB	Turb= 1.6-9.8, DO=7.6-8.6, Depth= 0-4'		
300' SOUTH OF AREA L-EBB	1.5-4.0	7.3-12.01	1-7'

South of DRG
100'



Oil Sheen/Debris: NONE OBSERVED

Wildlife Observations: FISH JUMPING & SCHOOLING SOUTH OF AREA J, WATER FOWL

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

Sampling Crew: DAVID WALSH

Chief Scientist Signature: [Signature]



New Bedford Harbor Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: AREA J
 Dredging Description: DRG IN AREA J, PIPELINE BLOCKING ACCESS UP RIVER OF AREA G
 Survey Vessel: R/V George Hampson
 Chief Scientist: D. WALSH
 Sampling Technician: " "
 Vessel Captain: L. Perry
 Other Personnel: -
 Weather Conditions: SUNNY, CLEAR, WIND N ~10 knots

Date: 9/24/2009
 Page: 1 of 2

Tide Information	
High	1248 PM
Low	1812 PM
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity NTU	DO mg/L	Salinity PPT	Temp °C	Notes
Area J-N-DRG-150	1015			6.9'	1.15	18.7	5.16	24.12	21.06	SHEET PILE 59
"	1019			6.9'	3.17	16.5	5.23	24.60	21.05	SHEET PILE 59 } DRG IN ACTIVE
"	1022			6.9'	5.36	12.6	5.36	24.97	21.04	SHEET PILE 59
"	1030			7.2'	5.24	7.5	5.42	25.11	21.04	" FLOOD TIDE
"	1032			7.2'	2.10	21.8	5.12	24.60	21.06	" FLOOD TIDE
MOORING NWS	1121			5.4'	0.84	10.5	5.83	22.55	21.18	MOORING SITE NWS
"	1124			5.4'	2.12	8.5	4.85	23.12	21.10	" "
"	1131			5.4'	3.88	9.4	4.27	23.58	21.07	" "
1000 NWS	1141			5.2'	3.11	6.6	3.62	22.81	20.95	
"	1143			5.2'	2.09	6.9	3.90	22.71	20.97	
"	1144			5.2'	8.70	10.8	5.03	22.31	21.11	
Area J-N-DRG-100	1305			8.6'	1.05	10.1	7.49	24.85	21.60	HWS, ACTIVE DRG 100' south
"	1306			8.6'	3.11	7.0	7.17	26.88	21.09	"
"	1308			8.6'	5.08	11.1	7.20	27.18	21.05	"
"	1310			8.4'	7.16	8.3	7.15	27.55	20.96	"



New Bedford Harbor Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: AREA J
 Dredging Description: DRG IN AREA J, DR IN AREA L
 Survey Vessel: R/V George Hampson
 Chief Scientist: D. WALSH
 Sampling Technician: D. WALSH
 Vessel Captain: L. Perry
 Other Personnel: _____
 Weather Conditions: OVERCAST WINDS S-SW 10-15 knots

Date: 9/24/2009
 Page: 2 of 2

Tide Information	
High	1248
Low	1812
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity NTU	DO	Salinity	Temp	Notes
Area J-S-0 (Band)	1345			6.8'	0.87'	9.8	8.58	23.31	21.86	AREA J, SOUTHERN BOUNDARY
"	1348			6.8'	2.21'	3.5	7.62	27.20	21.09	"
"	1350			6.8'	4.02'	2.1	7.64	27.89	20.84	"
NORTH OF AREA L 300'	1420			6.7'	0.76'	4.3	11.03	23.04	22.43	300' NORTH OF AREA L
"	1426			6.7'	3.09'	1.6	9.15	28.25	20.70	"
"	1428			6.7'	5.08'	1.7	7.41	28.35	20.59	"
SOUTH OF AREA L 300'	1458			7.9'	1.15'	4.0	11.98	23.86	22.22	300' SOUTH OF AREA L
	1459			7.9'	3.09'	1.5	9.07	28.22	20.75	"
	1500			7.9'	5.13'	1.5	7.81	28.42	20.52	"
	1501			7.9'	7.01'	3.2	7.33	28.46	20.47	"



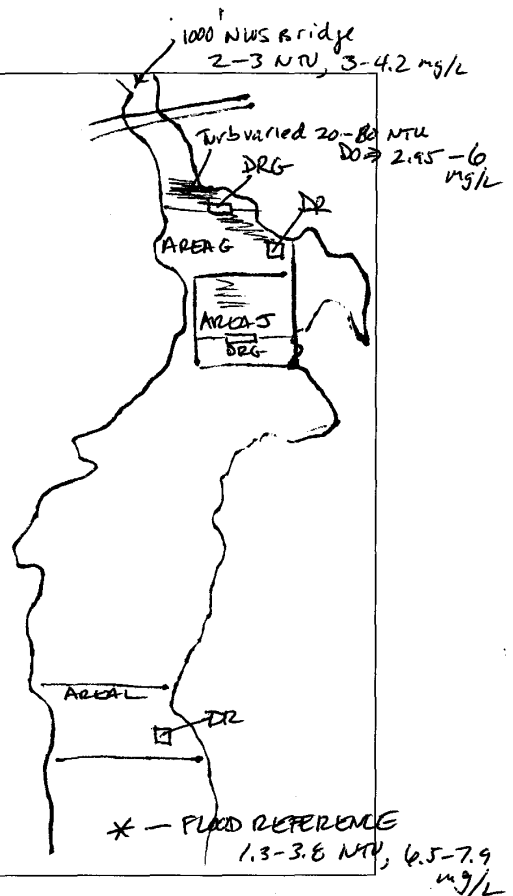
New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 9/28/2009
 Weather: Sunny, clear, WINDS S-SW 15-20 mph
 Tides:
 Low @ 0953
 High @ 1642

Monitoring Period:
 From: 0930 To: 1700
 Tidal Stages: HWS Ebb (LWS) Flood

Dredging Activity:
DRG IN AREA S during morning
DRG IN AREA G NOON - 1700
DR IN AREA G 14 - 1700
DR IN AREA L ~1700 (LATE AFTERNOON)

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
[FLOOD TIDE]			
FLOOD REF, 1000'S OF AREA L	1.3-3.8	6.5-7.9	0-6.5
1000' N of Wood St. Bridge	2.9-3.4	3.1-4.2	0-2.5
* Area G - N-DRG 75'	14-120 NTU	2.95-5.2	2'
AREA G - N-DRG/DR 75'	10-60 NTU	4.5-6.0	2'



Oil Sheen/Debris:
NONE OBSERVED

Wildlife Observations:
FISH jumping, Blue crabs swimming/mating, WATER FOWL

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:
 *Turbidity varied, AVERAGE RANGE was 20-80 NTU, AVG around 50 NTU. Max turbidity of 120 NTU was observed in short bursts/plumes, only once. Remainder of time turbidity decreased to within 20-50 NTU range - with both Dredging & Debris removal active, and tide level higher.

Sampling Crew: DWARSH, C. Perry (TRB)
 Chief Scientist Signature: [Signature]



New Bedford Harbor Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: ~~DRG AREA #5~~ ALL AREAS
 Dredging Description: DRG AREA J, G;
 Survey Vessel: R/V George Hampson
 Chief Scientist: D. WALSH
 Sampling Technician: "
 Vessel Captain: C. Perry
 Other Personnel: "
 Weather Conditions: Sunny, clear, winds S-SW 15-18 knots

Date: 9/28/2009
 Page: 1 of 2

Tide Information	
High	0953
Low	1642 0953
High	1642
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
REF: 1000' SL	1027			7.9'	0.82	1.4	7.86	25.74	18.98	Reference station for FLOOD TIDE
Ref South of L	1028			7.9'	3.20	1.3	7.05	27.41	18.77	Located 1000' south of Area L
Ref "	1030			7.9'	6.45	3.8	6.47	28.11	18.73	
1000' NWS Bridge	1224			4.0'	0.66	2.9	4.22	19.04	18.78	1000' NWS Bridge
"	1226			4.0'	2.38	3.4	3.08	25.39	19.49	"
Area G - DRG-75	1252			2.1'	0.09'	16.3	7.64	3.30	20.26	75' north of DRG in Area G, DRG ACTIVE
"	1256			2.1'	0.08'	14.4	7.39	5.68	20.08	" - vessel spudded
"	1305			5.5'	2.90'	14.3	3.06	24.99	19.53	moved vessel to deeper water, DRG INACTIVE
"	1346			5.8'	2.17'	47.3	3.96	18.47	19.40	DRG INACTIVE
"	1348			5.8'	2.17'	31.8	3.52	20.90	19.42	" "
"	1405			5.9'	2.16'	40.4	3.59	22.09	19.46	" "
"	1406			5.9'	2.17'	26.2	3.35	21.15	19.41	" - spudded @ Area M/G
"	1409			5.9'	2.15'	56.4	3.37	21.61	19.39	" "
"	1417			5.9'	2.16'	98.1	3.19	20.34	19.40	DRG ACTIVE turb v 30-8
"	1419			5.9'	2.25	113.4	3.06	21.12	19.43	"
"	1420			5.9'	2.25	120.2	2.95	22.22	19.43	" 100+ NTU show bursts only.
"	1439				2.14	23.6	5.18	19.02	19.29	DRG inactive



New Bedford Harbor Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: All AREAS - MONITORING
 Dredging Description: DRG in Area G; DR in Area J
 Survey Vessel: R/V George Hammond
 Chief Scientist: D. WALSH
 Sampling Technician: D. WALSH
 Vessel Captain: C. Perry
 Other Personnel: _____
 Weather Conditions: Sunny, clear, windy (SW 15-20 knots)

Date: 9/20/2009
 Page: 2 of 2

Tide Information	
High	
Low	<u>0953</u>
High	<u>1642</u>
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
<u>Area G-N-DRG-75</u>	<u>1443</u>			<u>5.2'</u>	<u>2.14</u>	<u>61.4</u>	<u>4.49</u>	<u>19.23</u>	<u>19.53</u>	<u>DRG ACTIVE (SPUR)</u> <u>D.R. ACTIVE @ 1000</u> <u>Bo</u>
"	<u>1503</u>			<u>5.4'</u>	<u>2.12</u>	<u>25.3</u>	<u>4.90</u>	<u>19.98</u>	<u>19.71</u>	" "
"	<u>1536</u>			<u>5.5'</u>	<u>2.15</u>	<u>45.2</u>	<u>6.09</u>	<u>18.79</u>	<u>20.01</u>	" "
"	<u>1648</u>			<u>6.2</u>	<u>1.01</u>	<u>34.9</u>	<u>7.61</u>	<u>12.34</u>	<u>20.70</u>	} <u>DRG & DR ACTIVE</u> <u>in AREA G.</u> <u>HIGH TIDE</u>
"	<u>1650</u>			<u>6.2</u>	<u>2.03</u>	<u>35.6</u>	<u>6.90</u>	<u>18.99</u>	<u>20.04</u>	
"	<u>1651</u>			<u>6.2</u>	<u>3.5</u>	<u>16.2</u>	<u>4.53</u>	<u>24.25</u>	<u>19.50</u>	



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 10/01/09

Weather: Partly Cloudy, Wind 3-7 knts WNW

Tides:

High	@	0631
Low	@	1224
High	@	1850

Monitoring Period:

From: 0800 To: 1330

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

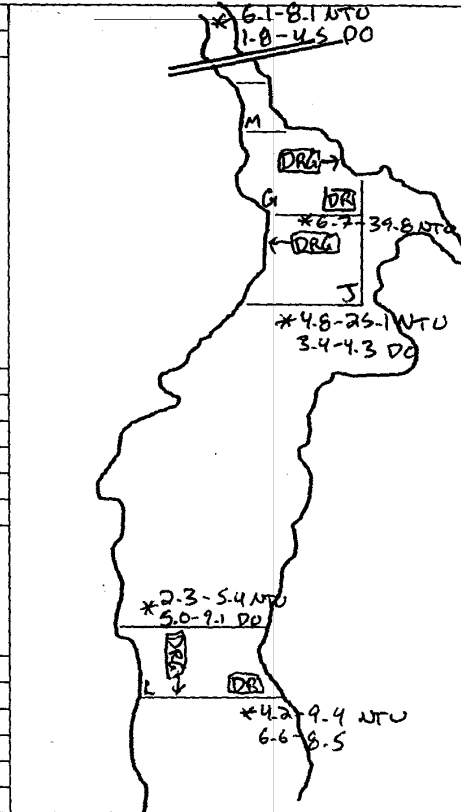
Morning: Debris Removal in Area G
Dredging in Area G

Late Morning: Dredging in Area J

Afternoon: Debris Removal in Area L
Dredging in Area L

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' N of G (Ebb Ref)	6.1-8.1	1.8-4.5	0.5-3.7
600' S of DRG in G	6.7-39.8	2.7-5.4	0.5-4.5
300' S of DRG in J	4.8-25.1	3.4-4.3	0.5-3.6
300' S of DR in L	4.2-9.4	6.6-8.5	0.5-3.0
300' S of DRG in L	4.5-4.7	7.2-7.3	0.5-2.0
300' N of DRG in L	2.3-5.4	5.0-9.1	0.5-5.2



Oil Sheen/Debris:

None

Wildlife Observations:

Fish jumping throughout harbor; No birds NWS, birds feeding south of Wood St.

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

Birds = Osprey, Swans, Gulls, Egrets

Sampling Crew:

D. Bailey, M. Walsh

Chief Scientist Signature:



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

DR in Area G, DRG in Area G+S, DR in Area L
DRG in Area G facing W to E, DRG in Area S facing E+W
R/V George Hampson
D. Bailey
M. Walsh
Sunny, Clear

Date Oct. 1, 2009
Page 1 of 1

Tide Information	
High	06:31
Low	00:12
High	18:50
Low	12:24

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
100' S of G (Ref)	08:54	41°40.719	70°55.023	4.7	0.52	6.3	4.45	19.21	17.43	
	08:55	"	"	"	2.16	8.1	2.82	24.74	19.79	
	08:56	"	"	"	3.67	6.1	1.83	25.33	19.71	
300's of DRG in G		41°40.532	70°54.923	4.0						
600's of DRG in G	09:37	41°40.501	70°54.894	5.9	0.51	39.8	5.37	15.49	16.99	
	09:37	70°54.894	"	"	1.48	15.5	4.15	24.26	19.22	
	09:38	"	"	"	3.08	7.1	3.13	26.17	19.61	
	09:39	"	"	"	4.52	6.7	2.71	26.32	19.56	
300's of DRG in S	10:12	41°40.408	70°54.934	4.5	0.52	25.1	4.31	15.20	17.23	
	10:13	"	"	"	2.52	11.1	3.44	26.26	19.37	
	10:13	"	"	"	3.57	4.8	3.40	26.70	19.33	
300's of DR in L	11:00	41°39.917	70°54.996	4.3	0.49	9.4	8.45	17.04	16.19	
	11:01	"	"	"	1.50	4.2	6.72	23.52	19.26	
	11:02	"	"	"	2.98	4.7	6.56	27.70	19.09	



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: DRG in Area L
 Dredging Description: DRG moving N to S
 Survey Vessel: R/V George Harpsen
 Chief Scientist: D. Bailey
 Sampling Technician: -
 Vessel Captain: M. Walsh
 Other Personnel: -
 Weather Conditions: Cloudy, Wind NW 3-8 knts

Date: Oct 1, 2009
 Page: 2 of 2

Tide Information
 High: 06:31
 Low: 00:12
 High: 18:50
 Low: 12:24

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300'S of DRG in L	11:40	41°39.925	70°55.007	3.3	0.51	4.7	7.25	25.31	19.52	
DRG in L	11:41	" "	" "	" "	2.02	4.5	7.15	25.50	19.55	
300' N of DRG in L	12:53	41°40.069	70°55.108	6.4	0.48	5.4	9.06	25.99	19.85	
DRG in L	12:54	" "	" "	" "	3.02	4.4	7.44	26.97	19.62	
"	12:58	" "	" "	" "	5.14	2.3	5.03	27.89	19.16	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 10/5/09
Weather: sunny, winds 10-20 mph NW
Tides:
low @ 02:16
high @ 08:59
low @ 14:57

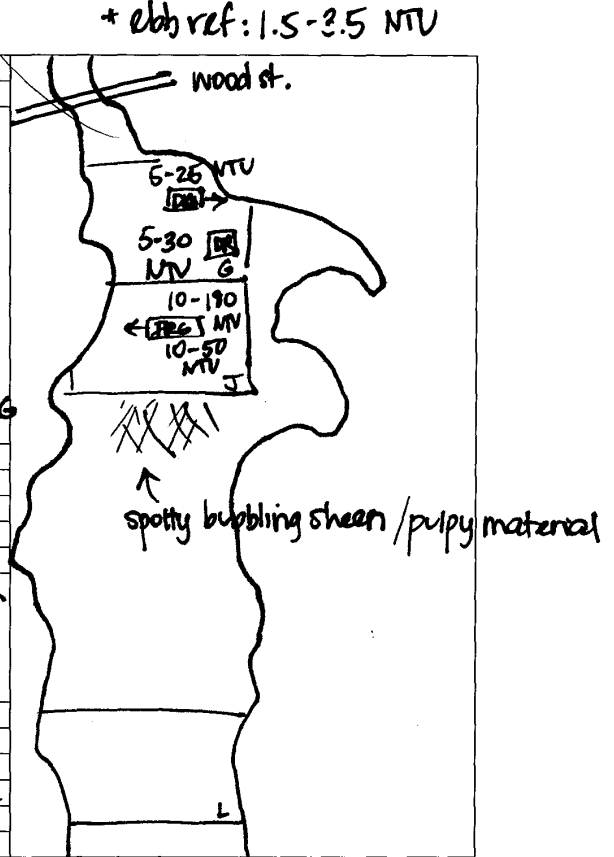
Monitoring Period:
From: 08:40 To: 14:10

Tidal Stages: ~~FWS~~ Ebb LWS Flood

Dredging Activity:
morning: dredging & debris removal in Area G
afternoon: dredging in Area G
dredging in Area J

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
flood ref	1.2-2.3	5.7-7.5	0.5-11
ebb ref	1.9-3.5	2.7-6.7	0.5-5
300' S of DRG	10-180	3.5-7.3	0.1-4.4
600' S of DRG	10-50	3.5-7.3	0.2-2.8
300' S of DRG	5-30	5.2-5.9	0.5-1.2



Oil Sheen/Debris: very light spotty sheen bubbling up to surface south of Area J w/ pulpy material floating
* flood ref: 1.0-2.5 NTU

Wildlife Observations: dead bird (duck?) in oil boom @ southern edge of Area J.

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: high turbidity seen associated with debris removal in Area G. Turbidity plume visible in layer 1-1.5 ft deep, between fresh and salt water layers. Ranged 10-180 NTU @ 300' downstream, 10-50 NTU @ 600'. Plume dissipated after activity slowed, ranging 5-35 NTU @ 300' downstream.

Sampling Crew: Kaitlyn McCartney, M. Walsh

Chief Scientist Signature: _____



Attachment 2

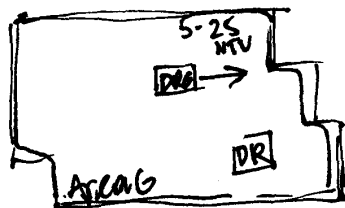
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area B
 Dredging Description: debris removal, dredging
 Survey Vessel: R/V Hampton
 Chief Scientist: K. McCarthy
 Sampling Technician: M. Walsh
 Vessel Captain: —
 Other Personnel: —
 Weather Conditions: Sunny, winds 10-20 NW

Date: 10/5/09
 Page: 1 of 3

Tide Information	
High	<u>08:59</u>
Low	<u>09:16</u>
High	<u>21:24</u>
Low	<u>14:57</u>

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
* Flood ref	08:46	41°39.779	70°54.989	13.3	0.52	1.5	7.43	9.89	16.51	1000'S of Area L
"	08:47	"	"	"	3.09	1.2	6.07	26.05	17.71	"
"	08:48	"	"	"	7.14	1.3	5.79	26.70	17.72	"
"	08:54	"	"	"	11.02	2.3	6.71	26.87	17.70	"
* ebbed	09:21	41°40.835	70°55.036	6.3	0.50	1.9	6.76	4.52	15.63	1000' N of Area C
"	09:22	"	"	"	2.54	3.5	3.36	19.84	17.92	"
"	09:23	"	"	"	4.90	2.5	2.79	21.01	17.89	"
100' N-DRG	09:40	41°40.610	70°54.911	—	0.91	22.7	6.08	20.65	17.95	100' upstream of DRG,
"	09:42	"	"	—	1.47	16.2	5.55	16.18	17.70	300' upstream of
"	09:43	"	"	—	2.15	11.0	3.84	22.21	17.97	"
300'S-DR	09:56	41°40.499	70°54.890	8.0	0.80	30.1	5.26	11.51	17.04	300' downstream of
"	09:57	"	"	"	0.42	10.0	6.63	10.44	17.66	600' downstream of
"	09:58	"	"	"	2.14	6.6	4.04	22.19	17.96	"
"	10:00	"	"	"	6.41	2.8	3.63	24.33	17.95	"
"	10:13	"	"	"	1.10	137.9	4.62	12.40	17.88	"



backing off to 600' to monitor: turbidity varying 6.7 - 48.3 NTU between 0.7 ft - 1.8 ft. 10:15 - 10:30



Attachment 2

Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area 6
 Dredging Description: dredging and debris removal
 Survey Vessel: R/V Hampton
 Chief Scientist: K. McCartney
 Sampling Technician: —
 Vessel Captain: M. Walsh
 Other Personnel: —
 Weather Conditions: Sunny, winds 10-20 mph NW

Date: 10/5/09
 Page: 2 of 3

Tide Information	
High	<u>08:59</u>
Low	<u>02:16</u>
High	<u>21:24</u>
Low	<u>14:57</u>

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300's-DR	10:33	41°40.493	70°54.890	8.0	1.17	42.8	3.99	20.58	17.79	20 min after DR
"	10:44	"	"	"	1.27	71.5	4.44	13.59	17.66	stopped, turb.
"	10:47	"	"	"	0.70	23.2	6.84	10.93	17.50	plume lingering
"	10:53	"	"	"	1.86	52.2	4.20	20.42	17.91	between 1-2 ft
"	11:11	"	"	"	0.52	6.5	7.24	4.71	17.30	debris removal
"	11:12	"	"	"	1.42	10.7	6.78	10.82	17.48	resumed
"	11:13	"	"	"	1.73	57.7	3.95	22.01	17.89	↓
"	11:16	"	"	"	1.50	27.2	4.41	20.82	17.63	↓
"	11:24	"	"	"	1.17	16.3	5.73	19.45	17.88	↓
"	11:25	"	"	"	3.12	13.4	3.37	23.16	17.95	↓
"	11:27	"	"	"	4.64	14.1	3.35	22.89	17.94	↓
"	11:28	"	"	"	1.21	23.0	3.64	21.37	17.92	↓
"	11:30	"	"	"	0.48	24.2	5.38	12.55	17.68	↓
"	11:36	"	"	"	1.59	9.1	4.25	21.76	17.93	↓



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area 6 // Area 5
 Dredging Description: dredging
 Survey Vessel: R/V Hampson
 Chief Scientist: K. McCartney
 Sampling Technician: —
 Vessel Captain: N. Walsh
 Other Personnel: —
 Weather Conditions: Sunny, winds 10-20 mph NNW

Date: 10/5/09
 Page: 3 of 3

Tide Information
 High: 08:59
 Low: 02:16
 High: 21:24
 Low: 14:57

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300'S DRG	12:35	41°40.529'	70°54.917'	2.4	0.61	17.5	5.81	14.43	18.06	300' downstream of 1
" 1n6	12:36	"	"	"	1.12	26.2	5.22	20.08	18.12	" 50' west of 1
"	12:37	"	"	"	0.59	18.6	5.83	14.62	18.14	in Area 6 //
300'S DRG	12:40	41°40.413'	70°54.933'	4.7	0.85	9.2	5.67	13.94	18.00	300' downstream of 1
1n5	12:49	"	"	"	1.74	8.6	3.97	22.68	17.97	in Area
"	12:50	"	"	"	3.07	2.8	4.41	24.95	17.90	↓
"	12:51	"	"	"	0.69	10.7	5.80	11.85	18.21	↓
"	12:59	"	"	"	1.27	13.1	4.46	22.30	18.00	↓
"	13:02	"	"	"	1.30	16.5	4.18	22.49	18:03	↓
"	13:08	"	"	"	0.68	13.0	5.15	17.69	18.13	↓
"	13:33	"	"	"	0.69	18.7	4.62	20.70	18.14	↓
"	13:54	"	"	"	0.67	11.2	4.57	20.81	18.06	↓



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: October 8, 2009
 Weather: Sunny, winds 20-30 mph NW
 Tides:
 low @ 04:09
 high @ 11:15
 low @ 17:02

* ebb ref: 4-6.5 NTU

Monitoring Period:

From: 08:20 To: 14:50 (09:15-11:45
 spent @ trailer
 cleaning/calibrating
 VSI moonings)

Tidal Stages: HWS Ebb LWS Flood

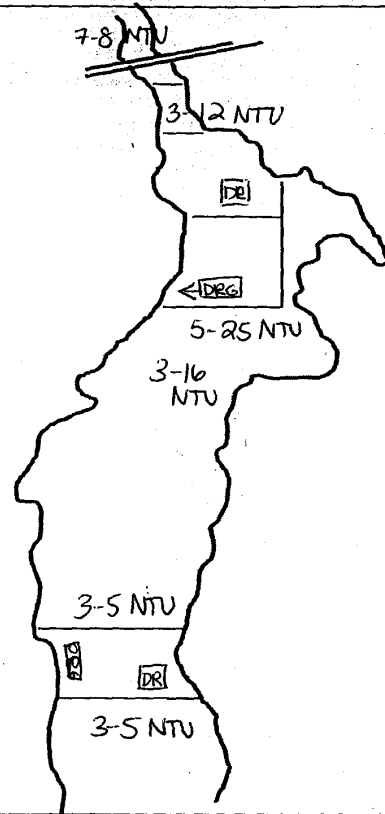
Dredging Activity:

Morning:
debris removal in Area L
Afternoon:
debris removal in Area G
dredging in Area J

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
@ S Area L	3-5 NTU	6.8-8.4	1-6
@ N Area L	3-5 NTU	7.2-9.8	1-6
@ S Area J	3-16 NTU	6.4-7.9	1-9
@ N Area G	3-12 NTU	5.8-6.0	1-3.5
@ NWS	7-8 NTU	5.2-6.8	1-4
ebb reference	4-6.5 NTU	4.6-5.2	1-3
300' S of DRG in J	5-25 NTU	6.8-8.7	0.3-4

/1000' S of DR in G



Oil Sheen/Debris:

none observed

Wildlife Observations:

>12 swans, fish jumping near dredge in J

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

many swans throughout harbor.
all 5 water quality moonings were recovered, cleaned and recalibrated in the morning and redeployed in the afternoon.

Sampling Crew:

K. McCormay, M. Walsh

Chief Scientist Signature:

Faith McCann



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

taken during WQ mooring deployments
RN George Hampson
K. McCartney
M. Walsh
Sunny, winds 20-30 mph NW.

Date
Page

8/10/09
1 of

Tide Information

High 11:15
Low 04:09
High 23:50
Low 17:02

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
SAReal	11:53	41°39.909	70°55.021	7.9	1.13	4.6	8.38	22.06	16.52	
"	11:56	"	"	"	3.21	3.1	8.05	24.04	16.49	
"	11:58	"	"	"	5.98	4.1	6.85	27.32	17.06	
NAReal	12:12	41°40.097	70°55.035	7.3	1.07	3.9	9.78	23.45	16.78	
"	12:13	"	"	"	3.11	4.1	9.73	23.53	16.79	
"	12:14	"	"	"	6.00	4.2	7.23	26.94	16.97	
SARealJ	12:26	41°40.368	70°54.960	10.0	1.11	15.1	7.85	20.61	16.82	
"	12:27	"	"	"	3.01	7.8	7.29	25.82	16.84	
"	12:28	"	"	"	6.02	3.6	6.71	26.60	16.94	
"	12:29	"	"	"	8.88	3.6	6.49	26.60	16.94	
NARealG	12:41	41°40.652	70°54.983	4.8	1.08	10.2	5.95	22.83	16.75	
"	12:42	"	"	"	3.21	3.6	5.86	24.36	16.68	
NWS	12:50	41°40.717	70°55.028	5.4	0.99	7.5	6.73	22.16	17.22	
"	12:51	"	"	"	4.01	7.9	5.22	23.76	16.50	



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area J / Area G
Dredging in Area J, debris removal in Area G
R/V George Hampson
K. McCartney
M. Walsh
Sunny winds 20-30 mph NW

Date: 10/8/09
Page: 2 of

Tide Information
High: 11:15
Low: 04:09
High: 23:50
Low: 17:02

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
ebb ref	12:57	41°40.835	70°55.036	4.2	1.03	4.3	5.12	20.12	16.65	ebb ref 1000' N
"	12:58	"	"	"	3.05	6.5	4.61	22.95	16.76	"
300'S-DRG J	13:19	41°40.410	70°54.937	6.3	1.02	9.9	7.69	21.23	16.94	300's of inactive dr. in Area J
"	13:20	"	"	"	3.15	4.5	7.36	26.35	16.94	before dr started
"	13:21	"	"	"	4.06	3.6	6.79	26.52	16.94	
"	13:46	"	"	"	1.10	9.9	8.71	23.48	16.98	dredging in J active
"	13:50	"	"	"	1.13	7.8	8.63	23.98	16.98	active DR in G (v1 No)
"	13:51	"	"	"	1.56	5.2	8.47	25.25	16.91	
"	13:52	"	"	"	0.31	7.6	7.80	20.94	16.98	
"	14:00	"	"	"	0.82	6.9	7.65	21.31	16.99	
"	14:05	"	"	"	0.79	10.3	7.53	20.95	16.98	
"	14:12	"	"	"	1.55	5.3	7.33	24.87	16.95	
"	14:22	"	"	"	0.98	13.5	7.47	22.92	16.98	
"	14:23	"	"	"	0.99	18.7	7.44	21.99	16.99	dredge pass by spud located
"	14:26	"	"	"	0.82	22.3	7.43	22.56	17.00	dredge head up something stuck washing head at into ebbing water



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 10/13/09

Weather: Rainy, Wind Variable, 5-10 knts

Tides:

High	@	0403
Low	@	0955
High	@	1633

Monitoring Period:

From: 0900 To: 1500

Tidal Stages: HWS ~~Ebb~~ LWS Flood

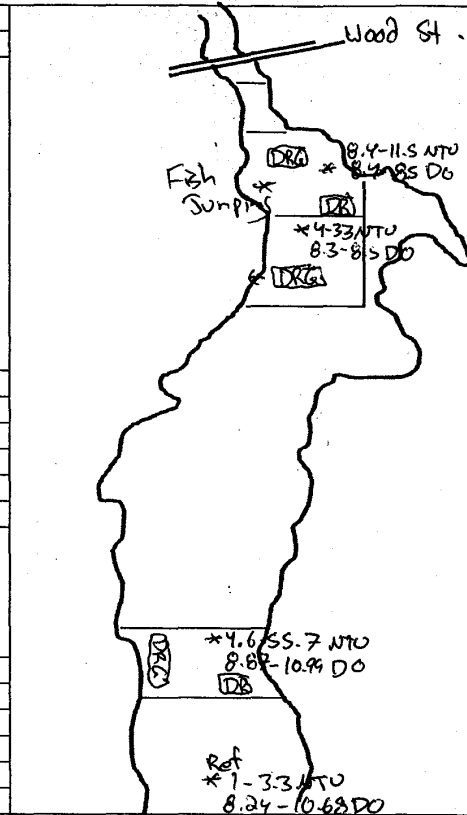
Dredging Activity:

Morning: Dredging in Area J
Debris Removal in Area L

Afternoon: Dredging in Area J
Debris Removal in Area L and G

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
300 N of DR in J	4.2-33.1	8.38-8.53	1-4.3
300 N of DR in L	4.6-55.7	8.87-10.99	1-4.9
300 N of DR in G	8.4-11.5	8.43-8.59	0.7-1.7
1000 S of DR in L (Ref)	1.0-3.3	8.24-10.68	1-7.98



Oil Sheen/Debris:

Slight sheen north of dredging in J

Wildlife Observations:

Fish jumping, many birds

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Birds = Swans, Gulls, Egrets, Cormorants

Sampling Crew:

D. Bailey, M. Walsh

Chief Scientist Signature:



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

(Fall River)
829 Robeson St Fall River
505-673-1822

Dredging Location: DRG in Area J
 Dredging Description: DRG in J moving E to W
 Survey Vessel: R/V George Hanson
 Chief Scientist: D. Bailey
 Sampling Technician: -
 Vessel Captain: M. Welsh
 Other Personnel: -
 Weather Conditions: Raining Wind SSW 4-8 kts

Date: 10/3/09
 Page: 1 of 1

Tide Information
 High: 09:03
 Low: 09:55
 High: 16:33
 Low: 22:44

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
200' N of PR in Area J	9:29	41°40.506	70°54.926	5.3	1.02	4.2	8.53	21.09	14.76	
"	9:29	" "	" "	" "	3.06	6.6	8.39	24.46	15.87	
"	9:31	" "	" "	" "	4.31	6.3	8.45	25.55	15.66	
"	9:42	" "	" "	" "	1.54	12.8	8.47	22.40	15.01	
"	9:51	" "	" "	" "	2.23	33.1	8.38	23.66	15.27	
300' N of PR Area J	14:11	41°40.025	70°55.041	7.9	1.02	6.6	10.99	25.10	15.06	
"	14:12	" "	" "	" "	3.11	4.6	10.49	25.42	15.01	
"	14:14	" "	" "	" "	5.02					
"	14:14	" "	" "	" "	4.95	55.7	8.87	26.23	15.07	
300' N of PR in G	14:32	41°40.569	70°54.905		1.73	11.5	8.43	23.47	15.32	
"	14:33				0.76	8.4	8.89	22.88	15.22	
1000' Ref Flood	14:45	41°39.795	70°54.989	10-20	1.02	3.3	10.68	26.22	15.26	
"	14:46	" "	" "	" "	4.06	1.9	9.62	26.93	15.37	
"	14:48	" "	" "	" "	7.98	1.0	8.24	27.27	15.44	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: October 19, 2009
 Weather: Sunny, 45° winds 10-15 N
 Tides:

low	@	02:05
high	@	09:07
low	@	14:55

Monitoring Period:

From: 08:40 To: 15:20

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

debris removal in Area L (am) (stopped at ~09:00)
dredging in Area J (am) (began again at ~14:00)
debris removal in Area G (pm)

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
<u>flood ref</u>	<u>0.2-1.0</u>	<u>8.4-9.1</u>	<u>1-11.5</u>
<u>ebb ref</u>	<u>2.6-3.5</u>	<u>7.3-10.0</u>	<u>1-4.8</u>
<u>300' S of DRG in J</u>	<u>5-35</u> ↳ max: 50 NTU	<u>8.3-9.6</u>	<u>0.4-5.3</u>
<u>300' S of DR in L</u>	<u>10-60</u> ↳ slightly east (~DA) 5-20 NTU ↳ slightly west (~10A) 5-20 NTU	<u>9.0-10.5</u>	<u>0.1-2.0</u>
<u>600' S of DR in L</u>	<u>10-30</u>	<u>~10.4</u>	<u>0.5-1.0</u>

Oil Sheen/Debris:

light spotty sheen south of dredge in Area J

Wildlife Observations:

many birds south of J (gulls, terns), swans fighting

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: light sheen outside oil boom in Area J. Turbidity ranged 5-35 NTU average with a max of 50 NTU seen. Water temperatures dramatically colder than last week. Visible plume of turbidity south of debris removal in Area L: ~20-30' wide, moving south on ebb tide (strong N winds). Max of 60 NTU seen, highest turbidity seen in surface layer 0-0.5' deep.

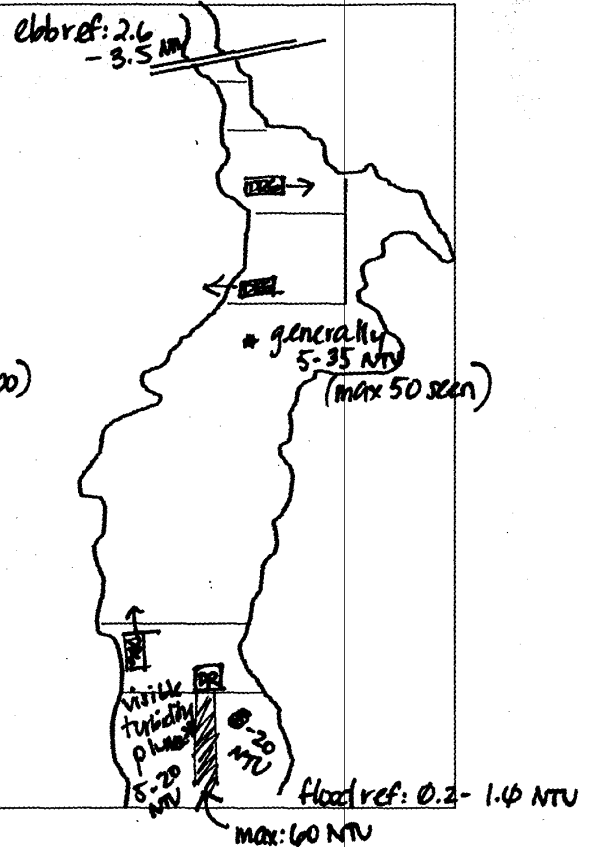
Sampling Crew:

K. McCartney, M. Walsh

Chief Scientist Signature:

Karl W. McCarroll

at 600' S, turbidity was 10-30 NTU, still visible





Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

debris removal in Area L, dredging in Area J
R/V George Hampson
K. McCarmey
M. Walsh
Sunny, 45° wind 15-10 N

Date: 10/19/09
Page: 1 of 3

Tide Information	
High	09:07
Low	02:05
High	21:28
Low	14:55

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
flood ref	08:56	41°39.784	70°54.992	12.6	1.15	1.0	9.05	18.28	9.46	1000' e of L, flood tide
"	08:57	"	"	"	6.05	0.2	8.48	24.99	11.10	"
"	08:58	"	"	"	11.45	0.9	8.48	24.82	11.11	"
ebb ref	09:25	41°40.935	70°55.034	6.0	1.05	2.6	10.01	4.30	8.17	1000' N of M, ebb tide
"	09:26	"	"	"	3.00	3.5	7.92	22.01	10.70	"
"	09:27	"	"	"	4.75	2.8	7.37	22.50	11.04	"
300's - DRG-J	10:28	41°40.384	70°54.944	7.9	0.98	5.0	9.06	19.02	10.48	300's of DRG in J DRG stop for 15'
"	10:30	"	"	"	3.01	1.6	8.47	24.01	11.03	"
"	10:31	"	"	"	6.50	1.9	8.32	24.47	11.15	"
300's DRG-J	11:40	41°40.391	70°54.954	6.2	1.02	12.3	8.68	19.17	10.87	DRG resumed in J
"	11:40	"	"	"	3.03	3.7	8.59	23.64	11.00	" light screen
"	11:41	"	"	"	5.30	1.5	8.58	24.55	11.22	"
"	11:55	"	"	"	0.90	6.6	9.07	16.72	10.51	"
"	11:58	"	"	"	0.42	50.7	8.73	18.50	10.83	DRG directly N of us
"	11:59	"	"	"	2.07	12.1	8.37	23.16	11.02	"
"	12:00	"	"	"	0.93	21.0	—	—	—	"



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area J - active dredging
 Dredging Description: _____
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCartney
 Sampling Technician: _____
 Vessel Captain: M. Walsh
 Other Personnel: _____
 Weather Conditions: sunny, 45° wind 10-15 N

Date: 10/19/09
 Page: 2 of 3

Tide Information
 High: 09:07
 Low: 02:05
 High: 21:28
 Low: 14:55

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300's DRG	12:16	41°40.391	70°54.954	6.2	1.02	12.2	8.58	22.41	10.98	300's of DRG in J
"	12:19	"	"	"	0.45	4.9	9.26	15.31	10.56	"
"	12:20	"	"	"	1.98	15.9	8.49	23.20	11.05	"
"	12:25	"	"	"	1.17	7.5	8.71	23.00	10.99	"
"	12:29	"	"	"	0.67	6.5	8.86	22.61	10.99	"
"	12:38	"	"	"	0.64	20.8	9.64	17.02	10.66	"
"	12:45	"	"	"	0.93	5.3	9.48	21.56	10.94	"
"	12:57	"	"	"	0.92	14.5	8.83	21.00	11.00	"
"	13:21	"	"	"	0.90	25.2	8.74	21.15	11.03	"
"	13:24	"	"	"	0.86	9.6	9.01	21.56	10.63	"
"	13:26	"	"	"	0.79	4.7	9.15	12.59	10.40	"
"	13:27	"	"	3.9	1.70	9.0	8.49	23.48	11.14	"
"	13:30	"	"	"	2.31	4.7	8.57	24.04	11.15	"
"	13:33	"	"	"	1.12	16.3	8.47	23.17	11.15	"
"	13:45	"	"	"	1.07	31.2	8.37	22.70	11.14	"
"	13:48	"	"	"	1.10	43.9	8.36	21.37	11.09	"
"	13:51	"	"	"	0.59	20.0	8.82	14.11	10.58	"
"	13:54	"	"	"	0.97	25.3	8.63	14.89	10.76	"



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area J - dredging, Area L - debris removal
R/V George Hampson
K. McCarty
M. Walsh
Sunny, 45° 10-15 mph N winds

Date 10/19/09
Page 3 of 3

Tide Information	
High	09:07
Low	02:05
High	21:28
Low	14:58

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300's DR-J	13:59	41°42'39.1	70°54'9.54	3.9	0.92	14.9	9.04	13.16	10.55	300's of DR in J
300's DR-L	14:35	(41°39'8.94	70°55'02.6)	—	0.26	56.3	10.13	20.07	11.65	300's of DR in L
"	14:36	taking east-west		—	0.41	32.1	10.15	20.35	11.57	"
"	14:38	transsect profile		—	0.57	49.3	10.09	20.06	11.63	in plane
"	14:39	"	"	—	0.09	56.8	10.09	20.02	11.63	"
"	14:40	"	"	—	1.68	21.0	10.22	22.61	11.45	east edge of plane
"	14:45	"	"	—	0.47	37.0	10.52	20.19	11.67	in plane
"	14:46	"	"	—	0.37	7.8	10.31	20.42	11.59	west edge
"	14:48	"	"	—	0.50	41.3	10.30	20.66	11.51	inside visible plane
"	14:51	"	"	—	0.27	9.0	10.41	20.56	11.62	west edge of plane
"	14:52	"	"	—	0.38	43.6	10.33	20.66	11.71	in plane
"	14:53	"	"	—	0.24	14.1	10.61	20.48	11.69	east edge of plane
"	14:54	"	"	—	0.12	28.2	10.52	20.38	11.70	in plane
"	14:55	"	"	—	0.84	19.3	10.40	20.33	11.66	in plane
"	14:56	"	"	—	1.98	5.7	10.10	23.04	11.45	in plane
"	14:59	"	"	—	0.29	24.3	10.63	20.03	11.71	in plane
600's DR-L	15:02			—	0.60	15.9	10.44	21.00	11.74	600's of DR in L
"	15:02			—	0.63	28.6	10.46	21.30	11.67	"
"	15:05			—	1.38	11.0	10.64	20.93	11.66	"



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 10/23/09

Weather: Overcast, Wind 8-12 N

Tides:

<u>Low</u>	@	<u>04:54</u>
<u>High</u>	@	<u>12:05</u>
<u>Low</u>	@	<u>17:42</u>

Monitoring Period:

From: 08:00 To: 15:00

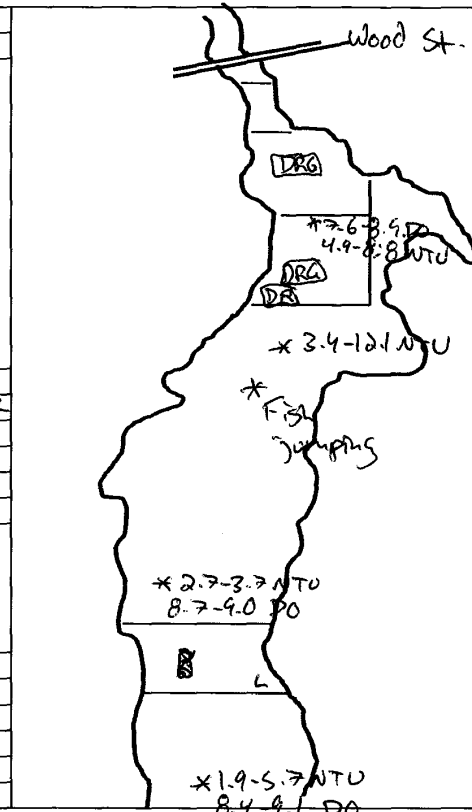
Tidal Stages: (HWS) (Ebb) LWS (Flood)

Dredging Activity:

Morning DRG in Area L, moving North to South
Mid-Morning DRG+DR in Area J, moving East to West
Afternoon = DRG in Area L, moving North to South
DR in J

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
<u>1000' S Area L</u>	<u>1.9-5.7</u>	<u>8.4-9.1</u>	<u>0.5-6.0</u>
<u>300' N of DRG Area L</u>	<u>2.7-3.7</u>	<u>8.7-9.0</u>	<u>0.5-4.5</u>
<u>200' N of DR+DRG in J</u>	<u>4.9-8.8</u>	<u>8.6-8.9</u>	<u>0.7-5.5</u>
<u>300' S of DR+DRG in J</u>	<u>3.4-12.1</u>	<u>8.5-9.0</u>	<u>0.4-9.7</u>
<u>300' S of DRG in L</u>	<u>0.2-3.2</u>	<u>8.6-9.7</u>	<u>0.3-6.4</u>



Oil Sheen/Debris:

Slight sheen in Area J

Wildlife Observations:

Fish jumping between L and J, Birds swimming/feeding

Samples Collected for Laboratory Analysis - Sample IDs:

<u>TSS (1L)</u>	<u>Turbidity (1L)</u>
<u>Total PCB (1L)</u>	<u>Dissolved PCB (2x1L)</u>
<u>Toxicity (5 gal)</u>	<u>Metals (500ml)</u>

Notes:

Birds: Swans, Cormorants

Sampling Crew:

D. Bailey, Mark TA+B

Chief Scientist Signature:



Josh
916-1719
802-2147

Attachment 2

Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

DRG in Area L, DR + DRG in Area S
R/V George Hempson
D. Bailey
Mert
Overcast, Wind 8-12 N

Date 10/23/09
Page 1 of 2

Tide Information	
High	-
Low	04:54
High	12:05
Low	17:42

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
1000' S Area (Ret)	08:47	41°39.797	70°55.033	7.1	0.47	2.0	9.11	20.26	12.34	
	08:48	" "	" "	"	2.64	1.9	9.03	20.23	12.35	
	08:49	" "	" "	"	4.65	3.4	8.83	21.29	12.45	
	08:50	" "	" "	"	6.02	5.7	8.40	23.73	12.62	
300' N of DRG in L	09:30	41°40.064	70°55.081	5.8	0.49	3.0	9.05	21.63	12.12	
	09:31	" "	" "	"	1.72	3.0	8.88	21.65	12.12	
	09:32	" "	" "	"	2.78	2.7	8.89	21.63	12.10	
	09:34	" "	" "	"	4.52	3.7	8.65	22.46	12.56	
200' N of DRG in S	10:13	41°40.470	70°54.922	7.9	0.93	5.2	8.70	15.45	11.70	
	10:16	" "	" "	"	2.07	6.6	8.44	18.94	11.81	
	10:17	" "	" "	"	3.55	5.3	8.31	20.43	12.05	
	10:19	" "	" "	"	5.47	4.9	7.66	21.23	12.30	
+ DR	11:48	" "	" "	"	0.73	8.8	8.93	15.80	11.91	



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

DR + DRG in Area J, DRG in Area L
R/V George Hampson
D. Bailey
—
Mark
—
Over cast wind 8-12 knts N

Date 10/23/09
Page 2 of 2

Tide Information	
High	
Low	
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300's of	12:42	41°40.370	70°54.970	11.5	0.42	12.1	10.05	18.84	12.07	
DR + DRG in J	12:43			"	2.31	9.6	9.17	21.34	12.19	
	12:44			"	5.61	5.1	8.87	22.94	12.29	
	12:45			"	8.78	3.4	8.61	23.47	12.34	
	12:46			"	9.72	11.0	8.54	23.50	12.35	
300's of	13:26	41°39.9a1	70°55.073	7.3	0.37	3.2	9.76	19.61	12.03	
DRG in L	13:27	" "	" "	"	1.93	2.6	9.40	21.63	12.08	
	13:29	" "	" "	"	4.09*	1.7	8.91	22.87	12.19	
	13:31	" "	" "	"	6.46	0.2	8.63	24.36	12.25	



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 10/26/09
 Weather: Sunny = Wind 6-8 knts N then switched to S
 Tides:

Low	@	07:39
High	@	02:50
Low	@	09:06

Monitoring Period:

From: 0830 To: 1300

Tidal Stages: HWS Ebb LWS Flood

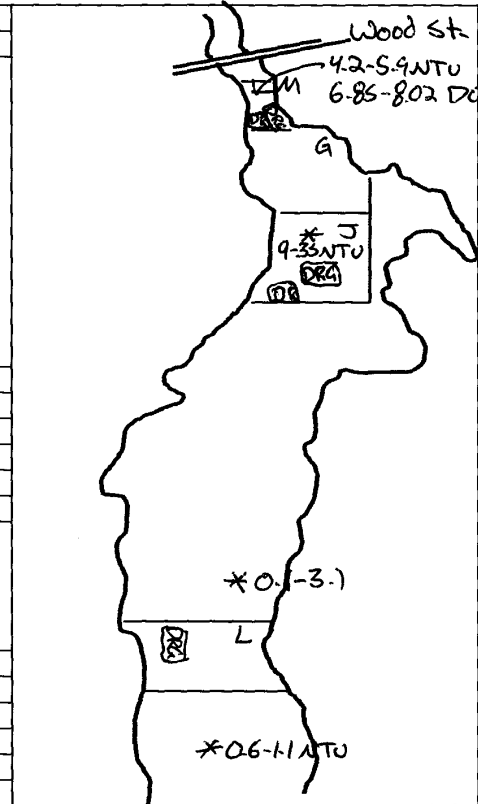
Dredging Activity:

Morning: DR + DRG in SW corner of J

Afternoon: DRG in J, then DRG + DR in M

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
<u>S Area L (Flood Ref)</u>	<u>0.6-1.6</u>	<u>7.11-8.85</u>	<u>0.8-6.9</u>
<u>300' N of DR + DRG in J</u>	<u>15.9-19.9</u>	<u>6.33-7.47</u>	<u>0.3-2.6</u>
<u>300' N of DRG in J</u>	<u>4.0-35.4</u>	<u>6.25-7.63</u>	<u>0.8-4.3</u>
<u>100' N of DR in M</u>	<u>4.2-5.9</u>	<u>6.85-8.02</u>	<u>0.7-2.6</u>
<u>+300' N of DRG in M</u>			



Oil Sheen/Debris:

None

Wildlife Observations:

Fish jumping in Areas M + G, Birds swimming throughout harbor

Samples Collected for Laboratory Analysis - Sample IDs:

<u>TSS (1L)</u>	<u>Turbidity (1L)</u>
<u>Total PCB (1L)</u>	<u>Dissolved PCB (2x1L)</u>
<u>Toxicity (5 gal)</u>	<u>Metals (500ml)</u>

Notes:

Sampling Crew:

D. Bailey, M. Avakian

Chief Scientist Signature:



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

DR + DRG in SW corner of Area J
R/V George Hampson
D. Bailey
M. Anken
Sunny, Wind 6-8 knts W

Date 10/26/09
Page 1 of

Tide Information	
High	09:22
Low	07:39
High	02:50
Low	04:06

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
Area L	09:57	41°39.833	70°55.013	8.7	0.88	1.6	8.85	12.44	12.76	
1000 Ref	09:58	" "	" "	"	2.81	1.5	7.53	21.19	13.70	
	10:00	" "	" "	"	4.58	0.6	7.22	23.89	13.01	
	10:00	" "	" "	"	6.99	1.1	7.11	24.42	12.89	
300' N of	12:25	41°40.480	70°54.938	4.2	0.28	16.9	7.47	14.31	13.61	
DR + DRG in S	12:26	" "	" "	"	1.49	19.9	6.74	19.89	13.68	
	12:27	" "	" "	"	2.63	15.4	6.33	21.42	13.81	
300' N of	13:11	41°46.476	70°54.935	4.7	0.83	9.0	7.63	9.13	13.54	
DRG in S	13:12	" "	" "	"	2.91	16.9	6.38	21.71	13.72	
	13:13	" "	" "	"	4.31	17.6	6.25	21.82	13.70	
	13:15	" "	" "	"	0.89	35.4	6.46	13.57	13.84	
100' W of DR	13:58	41°40.643	70°54.987	3.6 3.6	0.65	4.2	8.02	9.16	13.12	
in M, 300' W	13:59	" "	" "	"	1.62	5.7	7.37	17.22	13.90	
of DRG	14:00	" "	" "	"	2.64	5.9	6.85	20.14	14.04	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: October 29, 2009
 Weather: Overcast, winds 10-15 kts N
 Tides:
 high @ 05:04
 low @ 11:13
 high @ 17:27

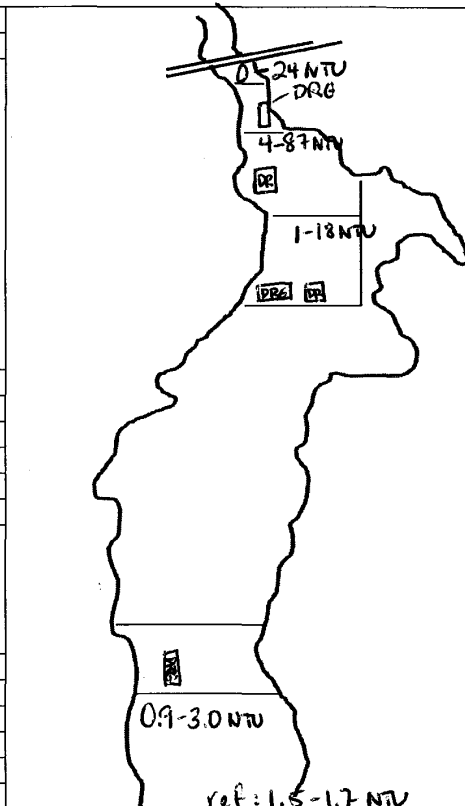
Monitoring Period:
 From: 08:20 To: 15:00

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:
Morning: dredging in Area M
dredging in Area L
afternoon: debris removal in Area J
dredging in Area M

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Flood ref (1000's of L)	1.5-1.7	7.0-8.0	0.5-6.5
300' S of DRG in M (ebb)	4-87	6.2-7.3	0-3.0
300' N of DR in J (Flood)	1-18	6.6-7.7	0.6-4.8
300' S of DRG in L (ebb)	0.9-3	7.0-8.6	0-5.3
300' N of DRG in M (Flood)	0.3-24	6.4-8.5	0.3-4.8



Oil Sheen/Debris: heavy sheen from dredge in Area M, light sheen seen south of J during dredging in M and no activity in J or G.

Wildlife Observations: Fish jumping throughout harbor, water foul

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: 300' S of dredge in M: max of 87 NTU seen averaged 20 NTU - 40 NTU during active dredging on an ebb tide w/ wind out of North.

Sampling Crew: K. McCartney, P. Trinchero, L. Perry
 Chief Scientist Signature: [Signature]



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area M (am)
 Dredging Description: active dredging
 Survey Vessel: R/V George Hampton
 Chief Scientist: K. MCCARTNEY
 Sampling Technician: -
 Vessel Captain: L. Perry
 Other Personnel: P. Trinchero (USACE)
 Weather Conditions: OVERCAST, winds 10-15 N, low 40s °F

Date: Oct. 29, 2009
 Page: 1 of 4

Tide Information	
High	0504
Low	1113
High	1727
Low	2316

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300-S-DR6-M	09:06	41° 40.588	70° 54.954	3.5	0.72	8.8	7.07	12.60	11.64	300' S of DR6 in V
"	09:08	"	"	"	1.06	14.5	6.45	20.74	12.19	"
"	09:09	"	"	"	1.54	6.8	6.25	23.67	12.51	"
"	09:10	"	"	"	1.96	5.6	6.30	24.49	12.57	"
"	09:11	"	"	"	2.47	4.3	6.58	24.90	12.50	"
"	09:12	"	"	"	3.05	18.0	6.65	25.07	12.50	"
"	09:14	"	"	"	0.97	12.2	6.59	18.64	12.18	"
"	09:16	"	"	"	0.98	15.3	6.44	19.99	12.28	"
"	09:21	"	"	"	0.50	26.8	6.59	14.02	11.78	"
"	09:22	"	"	"	0.40	31.3	6.85	14.63	11.78	dredging backing
"	09:24	"	"	"	0.46	40.6	6.84	15.54	11.85	4200' north of
"	09:28	"	"	"	0.39	25.3	6.60	19.02	12.12	"
"	09:30	"	"	"	0.89	16.2	6.44	21.49	12.40	"
"	09:32	"	"	"	1.59	9.8	6.27	23.98	12.50	"
"	09:37	"	"	"	0.01	28.6	7.24	10.02	11.39	"

Significant sheen emanating from dredging activity in Area M.
 " 09:41 " " " 0.32 59.2 6.93 8.85 11.41 " "
 " 09:42 " " " 0.30 87.0 7.23 9.46 11.38 " "
 " 09:44 " " " 0.27 32.5 6.94 14.89 11.78 " "



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Areal
 Dredging Description: active dredging
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McClamley
 Sampling Technician: —
 Vessel Captain: L. Perry
 Other Personnel: P. Trinchero
 Weather Conditions: overcast, windy

Date: Oct 29, 2009
 Page: 2 of 4

Tide Information	
High	0504
Low	1113
High	1727
Low	2316

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300'S-DRG-L	10:25	41°39.930	70°55.067	6.5	0.04	1.7	7.67	20.00	11.85	300'S of DRG in L
"	10:29	"	"	"	0.45	1.5	7.55	20.23	11.86	"
"	10:30	"	"	"	1.15	1.7	7.51	20.97	11.94	"
"	10:31	"	"	"	2.54	1.8	7.44	22.09	12.03	"
"	10:32	"	"	"	3.87	0.9	7.21	24.41	12.23	"
"	10:34	"	"	"	5.25	1.7	7.04	26.57	12.40	"
"	10:39	"	"	"	0.82	2.0	7.44	20.82	11.92	"
"	10:49	"	"	"	0.78	1.9	7.53	20.84	11.93	"
"	10:58	"	"	"	0.76	2.7	7.50	20.73	11.93	"
"	11:20	"	"	"	1.00	2.2	7.49	21.31	12.00	"
"	11:23	"	"	"	0.49	2.9	7.62	20.86	11.95	"
"	11:30	"	"	"	0.56	3.1	7.54	21.01	11.96	"
flood ref	11:36	41°39.800	70°55.038	7.2	0.60	1.6	7.99	21.44	11.91	flood ref
"	11:37	"	"	"	2.45	1.5	7.64	21.60	11.92	"
"	11:38	"	"	"	3.60	1.7	7.56	21.78	11.92	"
"		"	"	"	6.35	1.7	7.08	25.93	12.36	"



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
 Dredging Description
 Survey Vessel
 Chief Scientist
 Sampling Technician
 Vessel Captain
 Other Personnel
 Weather Conditions

Area J
 debris removal
 R/V George Hampson
 K. McCartney
 L. Perry
 overcast, wind 15-10 N

Date Oct. 29, 2009
 Page 3 of 4

Tide Information	
High	0504
Low	1113
High	1727
Low	2316

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300' N-DR-J	12:31	41°40.504	70°54.916	6.1	0.60	1.3	7.73	12.01	11.49	300' N of DR in J
"	12:34	"	"	"	0.97	2.2	7.17	23.64	12.34	"
"	12:38	"	"	"	1.86	2.6	6.76	25.75	12.49	"
"	12:40	"	"	"	2.60	3.0	6.64	25.77	12.49	"
"	12:41	"	"	"	3.18	13.2	6.66	25.91	12.48	"
"	12:42	"	"	"	3.68	14.6	6.69	25.95	12.48	"
"	12:43	"	"	"	4.83	11.3	6.65	26.21	12.50	"
"	12:49	"	"	"	2.00	7.0	6.64	25.74	12.48	"
"	12:56	"	"	"	2.03	15.5	6.68	25.78	12.48	"
"	12:59	"	"	"	2.63	18.3	6.69	25.81	12.48	"
"	13:11	"	"	"	2.64	3.6	6.56	25.82	12.49	"



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: 11/02/09
 Weather: Overcast, Rainy, Wind NE S-8knts
 Tides:

High	@	06:59
Low	@	12:52
High	@	19:18

Monitoring Period:

From: 08:15 To: 15:15

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

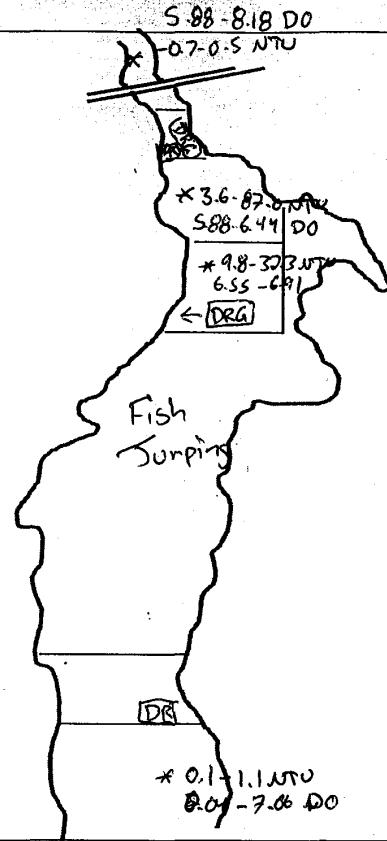
Debris Removal + Dredging in Area M, in the morning

Debris Removal in Area L all day

Dredging in Area J in the afternoon

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
NWS 1000 (ref site)	-0.7-0.5	5.88-8.18	0.5-4.8
300'S of DR+DRG in M	3.6-87.0	5.88-6.44	0.6-4.4
300'S of DR in Area L	0.5-1.1	6.87-7.06	0.4-4.4
300'N of DRG in J	9.8-32.3	6.55-6.91	0.6-3.57



Oil Sheen/Debris:

Slight sheen south of Area M, sheen bubbles coming from the bottom in Area J

Wildlife Observations:

Fish jumping between Areas J+L, Birds throughout harbor

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes: Birds = Herons, geese, swans, gulls, cormorants

Sampling Crew:

D. Bailey, M. Walsh

Chief Scientist Signature:

[Signature]



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location DR + DRG in Area M
Dredging Description
Survey Vessel R/V George Hampson
Chief Scientist D. Bailey
Sampling Technician
Vessel Captain M. Walsh
Other Personnel
Weather Conditions Slightly Overcast, Raining, Wind NE 5-7 knts

Date 11/2/09
Page 1 of

Tide Information	
High	06:59
Low	00:07
High	19:18
Low	12:52

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
NWS (Ebb Ref)	08:44	41°40.716	70°55.031	5.9	0.49	-0.7	8.18	3.51	10.86	
	08:45	" "	" "	"	2.59	-0.5	6.13	22.67	13.38	
	08:46	" "	" "	"	4.80	0.5	5.88	23.67	13.35	
300's of DR + DRG in Area M	09:05	41°40.566	70°54.981	5.4	0.59	16.5	6.21	20.89	12.95	
	09:06	" "	" "	"	2.05	9.8	6.21	24.49	13.07	
	09:07	" "	" "	"	4.45	3.6	6.44	25.80	12.98	
300's of DR in Area L	09:31	" "	" "	"	0.629	82.0	5.88	22.39	13.19	
	10:29	41°39.910	70°55.003	5.6	0.41	1.1	7.04	19.61	12.69	
	10:30	" "	" "	"	3.01	0.1	6.87	26.77	12.83	
300's of DRG in J	10:31	" "	" "	"	4.46	0.5	7.06	27.09	12.71	
	14:04	41°40.467	70°54.942	4.4	1.92	9.8	6.91	20.69	12.64	
	14:04	" "	" "	"	1.92	32.3	6.55	25.92	12.91	
	14:05	" "	" "	"	3.57	21.6	6.55	26.21	12.92	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: November 5, 2009
 Weather: Overcast, wind 0-5 ESE (am) / W (pm)
 Tides:
09:09 @ high
15:10 @ low
21:41 @ high

Monitoring Period:

From: 08:05 To: 15:05 : WQ moorings cleaned / recalibrated @ trailer from 08:45-10:05

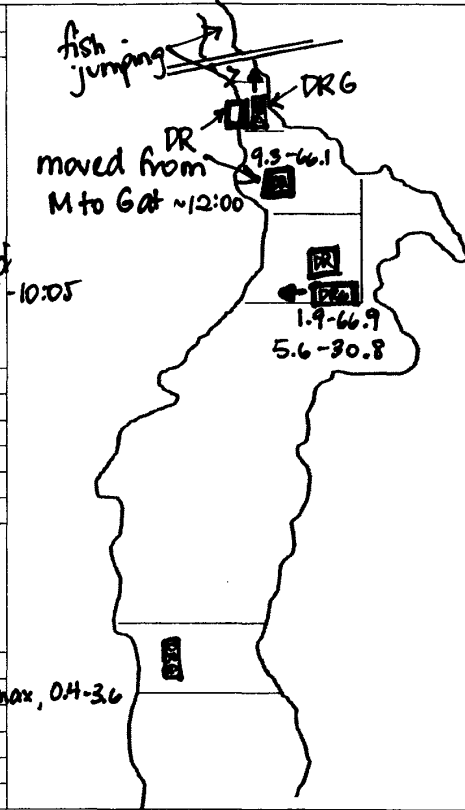
Tidal Stages: (HWS) Ebb LWS Flood

Dredging Activity:

300'S
active dredging in Area M (am)
active debris removal in Area M, G & J
active dredging in Area J (pm)

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
<u>Older Net (1000' N of M)</u>	<u>2.7-9.8</u>	<u>6.2-7.1</u>	<u>1-3.5</u>
<u>300'S of DR in M</u>	<u>9.3-66.1</u>	<u>6.5-7.1</u>	<u>0.1-3.5</u>
<u>300'S of DR in J</u>	<u>1.9-16.9 (max)</u>	<u>6.7-7.2</u>	<u>~1.3-1.5 max, 0.4-3.6</u>
<u>300'S of DR6 in M</u>	<u>18.1-77.4 (max)</u>	<u>6.4-6.7</u>	<u>~1.2</u>
<u>300'S of DR6 in J</u>	<u>5.6-30.8</u>	<u>6.6-7.0</u>	<u>1.2-1.5</u>



Oil Sheen/Debris:

light sheen south of M in G, light sheen south of J outside oil boom
slight H₂S odor at low tide in Area J

Wildlife Observations:

fish jumping north and south of Wood St. bridge, many swans

~~Samples Collected for Laboratory Analysis - Sample IDs:~~

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

High turbidity (~60 NTU above background) seen south (ebb tide) of debris removal in Areas M and J. Nothing above 70 NTU seen, but averaged ~40 NTU in both locations. High turbidity seen south (ebb) of dredge in Area M, as high as ~70 NTU above background. Averaged between 20-30 NTU during work

Sampling Crew:

K. McCartney, M. Walsh

Chief Scientist Signature:

Robert McCann



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

WQ profiles taken during redeployment of moorings
R/V George Harrison
K. McCarthy
M. Walsh
overcast, wind 05 kts ESE turned to W

Date 11/5/09
Page 1 of 3

Tide Information	
High	0909
Low	0208
High	2141
Low	1510

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
S Area L	10:30	41°39.915	70°55.020	9.6	1.07	0.0	7.84	24.33	11.93	
"	10:31	"	"	"	4.09	-0.6	7.79	27.27	11.92	
"	10:33	"	"	"	8.01	-0.1	7.79	27.43	11.95	
N Area L	10:45	41°40.102	70°55.036	7.6	1.00	0.6	7.88	24.47	12.37	
"	10:46	"	"	"	3.50	-0.4	7.80	26.79	11.93	
"	10:47	"	"	"	6.40	-0.2	7.76	27.04	11.93	
S Area J	10:58	41°40.371	70°54.960	9.5	1.05	1.0	7.47	25.85	12.18	
"	11:00	"	"	"	4.51	0.2	7.48	26.49	12.10	
"	11:01	"	"	"	8.85	0.4	7.42	26.68	12.08	
N Area G	11:15	41°40.682	70°55.004	5.6	0.99	3.0	7.85	19.11	11.37	
"	11:17	"	"	"	6.25 2.50	9.2	6.42	24.86	12.56	
"	11:19	"	"	"	4.55	15.5	6.21	25.53	12.51	
NWS	11:30	41°40.722	70°55.027	5.5	1.05	2.4	7.20	21.37	11.91	
"	11:32	"	"	"	4.01	7.1	6.31	25.37	12.54	



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area M, Area J
Active debris removal in M and J, active dredging in M
R/V George Hampson
K. McCabney
M. Walsh
Overcast, wind 0-5 kts ESE (pm) w (pm)

Date 11/5/09
Page 2 of 3

Tide Information	
High	0909
Low	0208
High	2141
Low	1510

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
ebb ref	11:40	41°40.835	70°55.037	5.0	1.03	2.7	7.07	24.57	11.86	1000' N of M
"	11:41	"	"	"	2.53	6.2	6.46	24.72	12.55	"
"	11:41	"	"	"	3.55	9.8	6.18	25.03	12.56	"
300'S-DR-M	11:49	41°40.576	70°54.980	6.4	1.46	49.8	6.67	25.00	12.42	300'S of DR in M
"	11:50	"	"	"	1.49	66.1	6.55	24.14	12.35	"
"	11:51	"	"	"	0.17	35.1	7.06	19.19	11.70	"
"	11:52	"	"	"	3.50	9.3	6.65	26.11	12.29	"
"	11:53	"	"	"	1.49	14.0	6.70	24.44	12.42	"
300'S-DR-J	12:05	41°40.405	70°54.927	6.1	1.35	7.2	7.13	25.78	12.29	300'S of DR in J
"	12:08	"	"	"	1.24	16.6	6.95	25.07	12.36	"
"	12:15	"	"	"	1.32	17.8	6.98	25.98	12.29	"
"	12:18	"	"	"	1.29	5.4	7.10	26.27	12.23	"
"	12:20	"	"	"	1.30	24.4	7.04	26.19	12.31	"
"	12:27	"	"	"	1.33	2.9	7.06	26.34	12.24	"
"	12:38	"	"	"	1.31	66.9 66.9	6.75	25.84	12.35	"



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area J, Area M
active debris removal in J, active dredging in M & J
R/V George Hampson
K. McCartney
M. Walsh
overcast, 0-5 kts ESE (am) w (pm)

Date 11/5/09
Page 3 of 3

Tide Information	
High	0909
Low	0209
High	2141
Low	1510

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
300's-DR-J	12:44	41°40.408	70°54.924	61	0.42	18.1	6.74	23.05	12.41	300's of DR in J
"	12:45	"	"	"	1.41	43.6	6.71	25.72	12.40	"
"	12:46	"	"	"	3.59	10.7	6.91	26.42	12.20	"
"	12:47	"	"	"	4.37	20.8	7.07	26.52	12.17	"
"	12:53	"	"	"	1.49	27.8	6.87	26.04	12.38	"
300's-DR6-M	13:00	"	"	3.2	1.18	25.1	6.66	24.41	12.37	300's of DR6 in M
"	13:04	"	"	"	1.22	77.4	6.44	24.34	12.34	"
"	13:05	"	"	"	1.22	26.0	6.44	24.94	12.36	"
"	13:07	"	"	"	1.20	18.1	6.55	24.53	12.35	"
300's-DR6-J	13:17	41°40.380	70°54.947	5.9	1.25	30.8	6.63	25.20	12.48	300's of DR6 in J
"	13:23	"	"	"	1.24	11.5	6.60	25.47	12.54	"
"	13:33	"	"	"	1.39	13.7	6.69	25.12	12.44	"
"	13:44	"	"	"	1.30	29.5	6.63	24.44	12.47	"
"	13:46	"	"	"	1.41	15.8	6.61	25.13	12.45	"
"	13:55	"	"	"	1.39	10.0	6.88	25.58	12.33	"
"	14:15	"	"	"	1.32	5.6	6.93	25.27	12.32	"
"	14:47	"	"	"	1.35	6.3	6.91	25.66	12.34	"



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: NOV. 9, 2009

Weather: SUNNY, CLEAR, WINDS SSW 10-15 knots (higher later)

Tides:		
<u>Low</u>	@	<u>0607</u>
<u>High</u>	@	<u>1307</u>
<u>Low</u>	@	<u>1859</u>

Monitoring Period:

From: 0830 To: 1400

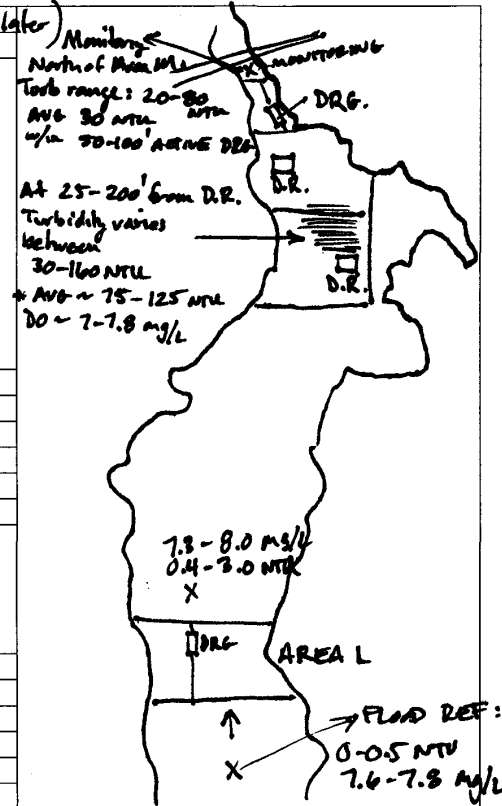
Tidal Stages: (HWS) (Ebb) LWS (Flood)

Dredging Activity:

Debris Removal - Area J
Dredging - Area L
Dredging - Area M
Debris Removal - Area G

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
<u>FLOOD REF (off Area L)</u>	<u>0-0.5</u>	<u>7.6-7.8</u>	<u>1-9'</u>
<u>Area J D.R. (≤200')</u>	<u>30-160, AVG 100</u>	<u>7-7.8</u>	<u>1-3'</u>
<u>Area L DRG (≤250')</u>	<u>0.3-3.0</u>	<u>7.3-7.8</u>	<u>1-5'</u>
<u>Area M DRG (≤100') (w/ACTIVE DR in Areas J & G)</u>	<u>20-80 (AVG 30)</u>	<u>7.2-9.6</u>	<u>1-4'</u>



Oil Sheen/Debris:

Slight sheen near debris removal ops. in Area J - near sunken vessel.

Wildlife Observations:

fish jumping, heron, swans and other water fowl

Samples Collected for Laboratory Analysis - Sample IDs:

<u>TSS (1L)</u>	<u>Turbidity (1L)</u>
<u>Total PCB (1L)</u>	<u>Dissolved PCB (2x1L)</u>
<u>Toxicity (5 gal)</u>	<u>Metals (500ml)</u>

Notes:

Sampling Crew:

D. WALSH, M. WALSH

Chief Scientist Signature:

[Signature]



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location	Area S, Area L
Dredging Description	Debris Removal Area S (sunken vessel location), Dredging AREA L
Survey Vessel	R/V GEORGE HAMPSON
Chief Scientist	D. WALSH
Sampling Technician	" "
Vessel Captain	M. WALSH
Other Personnel	-
Weather Conditions	SUNNY, CLEAR, CALM

Date	11/9/09
Page	1 of 2

Tide Information	
High	
Low	0550 / 0607
High	1259 / 1307
Low	1948 / 1859

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
FLOOD REFERENCE	0835			10.5'	1.02	0.0	7.78	25.19	10.88	FLOOD TIDE REFERENCE 1000' SOUTH OF AREA L
	0838			10.5'	4.01	-0.5	7.67	27.14	11.09	" " "
	0839			10.5'	9.01	0.5	7.60	27.36	11.12	
Area S DR-N-200'	0921			5.5'	1-3'	30-160	6.96	22.02	10.68	Debris Removal in Area S @ sunken vessel location Turbidity RANGED FROM 30-160 NTU WITHIN pl - AVG 175 NTU SUSTAINED in surface layer (0-2' deep) - plume DISSIPATED TO W and beyond 200'. AREA L SHALLOWS BLOCKED PLUME
AREA S DR-N-25'	0937	41 40.475'	70 54.890'	3.4'	0.52'	112.8	6.83	22.06	10.51	} 25' from INACTIVE D.R. BARGES. SUSTAINED
	0937	"	"	3.4'	2.04	15.3	6.91	25.34	10.92	
Area S DR-N-10'	0942			-	0.8'	137				10' from inactive D.R. H ₂ O BARGE BUMPING BOTTOM?
Area L DRG-N-250	0953			6.3'	1.05	0.7	7.81	26.29	11.10	OUTSIDE OF AREA L: ACTIVE DREDGE RUNNING N-S.
"	0954			6.3'	3.13	0.4	7.60	26.96	11.14	
	0956			6.3'	5.02	3.0	7.39	27.15	11.21	



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L Dredging, Area M Dredging
 Dredging Description: "
 Survey Vessel: R/V George Thompson
 Chief Scientist: D. WALSH
 Sampling Technician: "
 Vessel Captain: M. WALSH
 Other Personnel: NA
 Weather Conditions: BUNNY, CLEAR, WINDS S SW 10 knots.

Date: 11/9/2009
 Page: 2 of 2

Tide Information	
High	
Low	0607
High	1307
Low	1059

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
Area L - DR6 - S-200	1026				0.2	0.2-0.4	7.52	26.86	11.17	
Area M - N-50	1130			5.1'	1.04	1.8	9.58	21.58	9.94	FLOOD TIDE wa profile @ location North of Area M, south of Wood St. Bridge.
"	1131			5.1'	2.51	1.8	7.65	23.38	10.68	
"	1132			5.1'	4.05	3.2	6.87	25.22	11.06	
"	1210			5.1'	1.11	19.0	8.56	10.85	10.43	
"	1211			5.1'	2.49	10.6	7.86	20.11	10.66	Repeat profile w/ ACTIVE DRG.
"	1213			5.1'	3.87	8.2	7.27	24.34	10.95	
	1216			5.1'	1.12	73.4	8.61	20.00	10.36	" , Turbidity ^{max} range 73-86 Area
	1305			5.9'	1.12	35.2	8.31	14.52	10.56	AVG sustained ~ 30 w/m



New Bedford Harbor Water Quality Monitoring Daily Field Report

Date: Nov 12, 2009

Weather: CLOUDY, WINDS 15-25 knots, gusts higher *

Tides:

<u>HIGH</u>	@	<u>0340</u>
<u>LOW</u>	@	<u>1007</u>
<u>HIGH</u>	@	<u>1607</u>

Monitoring Period:

From: 0830 To: 1430

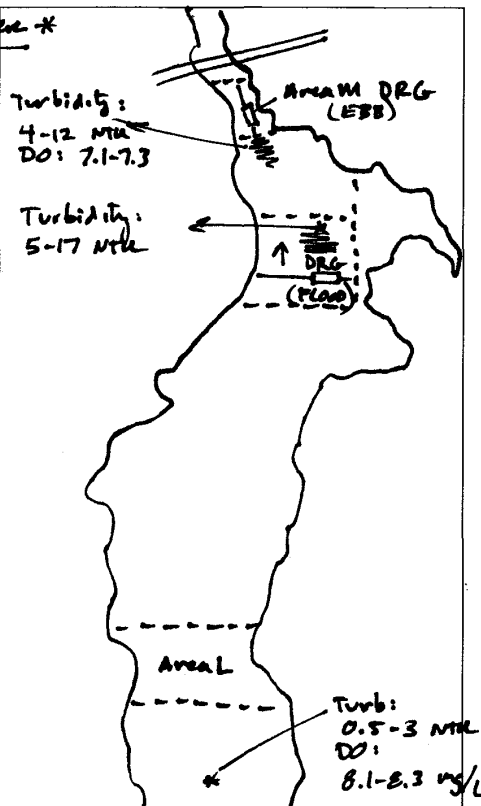
Tidal Stages: HWS (Ebb) (LWS) Flood

Dredging Activity:

Area M Dredging → 0945 end
Area J Dredging 0945-1430

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor water Depth (ft)
<u>Reference</u>	<u>0.4-3</u>	<u>8.1-8.3</u>	<u>1-7.5</u>
<u>Area M DRG 250</u>	<u>4-12</u>	<u>7.1-7.3</u>	<u>0-3</u>
<u>Area J DRG 250</u>	<u>5-17</u>		<u>~1'</u>



Oil Sheen/Debris:

NA - winds caused chop, too rough to observe sheen.

Wildlife Observations:

FISH jumping, many SWANS, Kingfisher, ducks,

Samples Collected for Laboratory Analysis - Sample IDs:

<u>TSS (1L)</u>	<u>Turbidity (1L)</u>
<u>Total PCB (1L)</u>	<u>Dissolved PCB (2x1L)</u>
<u>Toxicity (5 gal)</u>	<u>Metals (500ml)</u>

Notes:

- Very windy today; majority of monitoring performed before, during, after Low TIDE. Low tide water levels & high winds seemed to caused uniform turbidity throughout estuary. All mooring data collected.

Sampling Crew:

D. WALSH, M. WALSH

Chief Scientist Signature:

[Signature]



New Bedford Harbor Water Quality Monitoring
Daily Field Report

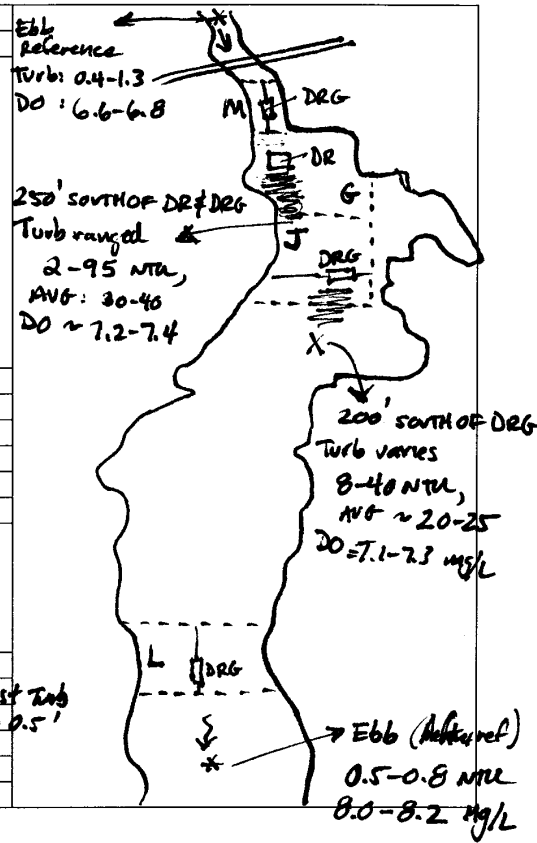
Date: 11/16/2009
 Weather: SUNNY, CLEAR, WINDS 10-15 knots NW
 Tides:
High @ 0657
Low @ 1316
High @ 1916

Monitoring Period:
 From: 0835 To: 1500
 Tidal Stages: HWS LWS Flood

Dredging Activity:
Dredge - Area M 830-1130
Debris Removal - Area G 830-1130
Dredge - Area J 1145-1330
Dredge - Area L 1330-1500

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
<u>Ebb Ref (NWS)</u>	<u>0.4-1.3</u>	<u>6.69-6.83</u>	<u>0-3.3</u>
<u>Area J, 250' south of DR & DRG</u>	<u>2-95 ntu</u>	<u>7.1-7.4</u>	<u>0-5', next 200' in 0.5'</u>
<u>Area J, 200' south of DRG</u>	<u>8-40</u>	<u>7.4-7.9</u>	<u>0-1'</u>
<u>Area L, 200' north DRG</u>	<u>2.1-2.2</u>	<u>8.0-8.1</u>	<u>0-3'</u>



Oil Sheen/Debris: HEAVY SHEEN ON WATER SURFACE NEAR Debris Removal Active in Area G

Wildlife Observations: MANY FISH JUMPING in Area G/J, SWANS, HERONS, WATER FOWL

Samples Collected for Laboratory Analysis - Sample IDs:

<u>TSS (1L)</u>	<u>Turbidity (1L)</u>
<u>Total PCB (1L)</u>	<u>Dissolved PCB (2x1L)</u>
<u>Toxicity (5 gal)</u>	<u>Metals (500ml)</u>

Notes:
 - High turbidity range south (down current) of active DR & DRG is thought to be caused by D.R. barge being grounded due to low water. High turbidity readings (>70 ntu) occurred in short lived pulses, not sustained. AVG turbidity range was approx 30-40 ntu.

Sampling Crew: D. WARSF, M. WARSF
 Chief Scientist Signature: [Signature]



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area M, Area J, Area G
 Dredging Description: Dredge Area M
 Survey Vessel: R/V George Hampson
 Chief Scientist: D. WALSH
 Sampling Technician: D. WALSH
 Vessel Captain: M. WALSH
 Other Personnel: _____
 Weather Conditions: SUNNY, CLEAR WINDS W-NW 5-10

Date: 11/16/2009
 Page: 1 of 2

Tide Information	
High	0657
Low	1310
High	1916
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
EBB REF	0919			4.3'	1.01	0.4	6.83	24.77	11.99	1000' N of Wood St. Bri
EBB REF	0920			4.3'	3.32	1.3	6.69	26.30	11.92	" "
L-S-1000	1030			10.5'	1.04	0.8	8.20	26.02	11.86	1000' south of Area L (FLOOD REF SITE)
"	1031			10.5'	4.08	0.7	8.08	26.56	11.73	"
"	1034			10.5'	8.55	0.5	8.06	28.35	11.32	" E
J-S-DR-250	1056			6.2'	1.07	3.9	7.24	26.41	11.99	} 250' south/downcur of DR in Area G, an ACTIVE DR in Area
"	1057			6.2'	3.20	2.4	7.30	27.11	11.74	
"	1058			6.2'	5.06	2.2	7.43	27.30	11.71	
"	1107				0.26	28.4	7.30	23.10	12.28	THOMAS SHEEN & Peter small DR very b
"	1110				0.26	32.0	7.19	24.26	12.22	- HAD NOT MOVED SIM
"	1110				0.26	55.0	7.15			Monitoring starts @ 1 spudded.
"	1113				0.26	95.0	7.18			- ephemeral pulses of T
"	1125				0.46	15.2	7.33	21.04	12.35	- DR INACTIVE, low w
J-S-DRG-200	1254			3.8	0.52	18.5	7.97	22.36	12.52	- Spudded south of Area J 200' downcurrent of ACTIVE DR. - Turb values @ 1-10 N REF = 15-30.



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: Area L
 Dredging Description: Dredge L
 Survey Vessel: R/V George Hampson
 Chief Scientist: D. WALSH
 Sampling Technician: D. WALSH
 Vessel Captain: M. WALSH
 Other Personnel: —
 Weather Conditions: sunng clear, winds NW 10-15 knots

Date: 11/16/09
 Page: 2 of 2

Tide Information	
High	<u>0657</u>
Low	<u>1316</u>
High	<u>1916</u>
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
<u>Area L-DRG N-500'</u>	<u>1426</u>			<u>4.9</u>	<u>0.75</u>	<u>2.2</u>	<u>8.12</u>	<u>25.33</u>	<u>12.52</u>	} FLOOD TIDE, DRG MANHOLES JUST NORTH of Area L BOUNDARY.
<u>"</u>	<u>1427</u>			<u>4.9</u>	<u>3.02</u>	<u>2.1</u>	<u>8.01</u>	<u>26.59</u>	<u>12.10</u>	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 11/19/09

Weather: Overcast, Wind N 1-3 knts

Tides:

Low	@	02:12
High	@	09:05
Low	@	15:01

Monitoring Period:

From: 07:20 To: 13:50

Tidal Stages: (HWS) (Ebb) LWS (Flood)

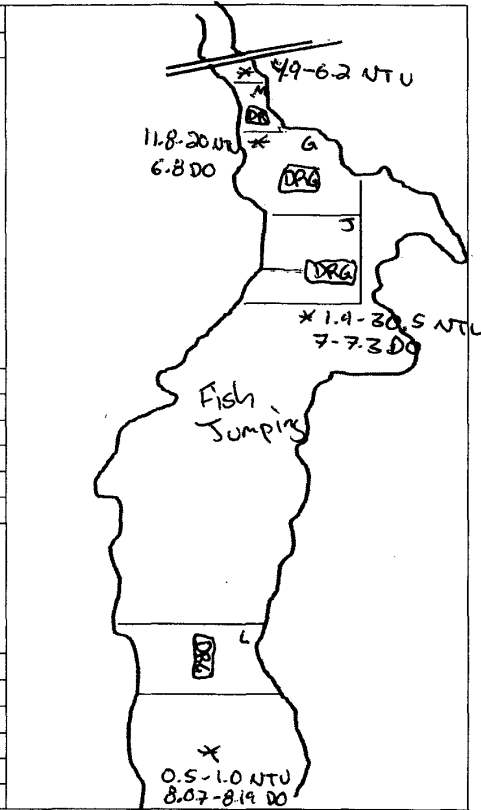
Dredging Activity:

Debris Removal in Area M

Dredging in Area J

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' S of L (Ref)	0.5-1.0	8.07-8.19	1.0-10.1
300' N of DR in M	4.9-6.2	6.62-6.92	0.7-4.0
300' S of DR in J	1.9-30.5	7.02-7.38	1.0-8.5
300' S of DR in M	11.8-20.2	6.75-6.80	1.0-2.6



Oil Sheen/Debris:

Moderate sheen south of dredging in Area J

Wildlife Observations:

Fish jumping south of J

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (5 gal)	Metals (500ml)

Notes:

People fishing south of Area L

Sampling Crew:

D. Bailey, M. Walsh

Chief Scientist Signature:



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: DR in Area M, DRG in Area J
 Dredging Description: DRG moving W to E
 Survey Vessel: R/V George Hampson
 Chief Scientist: D. Bailey
 Sampling Technician: -
 Vessel Captain: M. Welsh
 Other Personnel: -
 Weather Conditions: Overcast, Wind N

Date: 11/19/09
 Page: 1 of 1

Tide Information	
High	09:05
Low	15:01
High	21:27
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
100's of L	7:41	41°39.782	70°55.007	12.2	1.00	0.7	8.19	26.03	9.88	
Ref.	7:42	" "	" "	"	5.72	0.5	8.07	28.09	10.75	
" "	7:43	" "	" "	"	10.08	1.0	8.07	28.12	10.75	
300's of DR	8:36	41°40.667	70°54.001	7.5	0.70	6.2	6.92	24.07	10.77	
" "	8:36	" "	" "	"	3.51	5.4	6.70	26.83	11.39	
" "	8:39	" "	" "	"	4.01	4.9	6.62	26.86	11.46	
300's of DRG in S	9:41	41°40.425	70°54.904	10.7	1.01	10.2	7.38	25.94	11.09	
" "	9:41	" "	" "	"	4.07	2.9	7.33	27.26	11.22	
" "	9:43	" "	" "	"	8.51	1.9	7.36	27.45	11.20	
300's of DR in M	11:13	41°40.560	70°54.983	4.2	1.05	20.2	6.80	26.05	11.34	
" "	11:15	" "	" "	"	2.55	11.8	6.75	27.86	11.32	
300's of DRG in S	11:54	41°40.421	70°54.908	4.5	1.15	30.5	7.02	26.17	11.39	



New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: November 30 2009
 Weather: overcast, wind 15-25 mph SSW
 Tides: light rain in the afternoon
 high @ 05:39
 low @ 11:52
 high @ 18:07

Monitoring Period:

From: 08:10 To: 14:20

Tidal Stages: HWS (Ebb) LWS Flood

Dredging Activity:

morning: dredging in Area G
late morning/afternoon: dredging in Area L

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
<u>Ob ref, 1000' N of G</u>	<u>0.8-1.0 NTU</u>	<u>7.9-10.6 mg/L</u>	<u>1.0-2.5'</u>
<u>~300' S of DRG in G</u>	<u>1-60 NTU</u>	<u>8.3-10.5 mg/L</u>	<u>0.3-1.6'</u>
<u>~300' S of DRG in L (ebb tide)</u>	<u>0.6-1.2 NTU</u>	<u>8.0-10.5 mg/L</u>	<u>0.4-4.5'</u>
<u>~300' N of DRG in L (flood tide)</u>	<u>1.2-5.3 NTU</u>	<u>7.7-10.5 mg/L</u>	<u>0.6-4.0'</u>

Oil Sheen/Debris:

no sheen observed

Wildlife Observations:

many swans, water fowl, no fish seen

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (1L)	Dissolved PCB (2x1L)
Toxicity (1 gal)	Metals (500ml)

Notes:

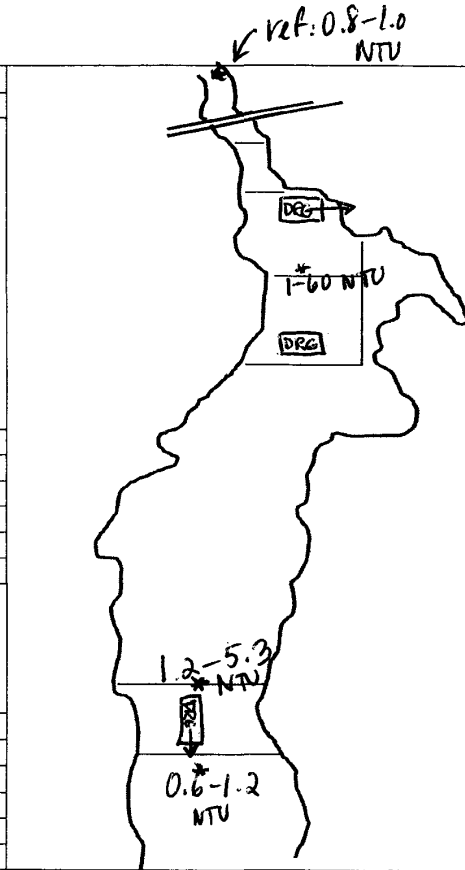
elevated turbidity seen close to bottom 300' S of intermittently active dredge in Area G. Averaged ~40 NTU, max 60 NTU seen

Sampling Crew:

K. McCartney, M. Walsh

Chief Scientist Signature:

Kathleen Carr





Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Area G // Area L
Active dredging
R/V George Halpinson
K. McCloskey
M. Walsh
Overcast w/ showers wind 15-25 USIN

Date: 11/30/09
Page: 1 of 2

Tide Information	
High	05:39
Low	11:52
High	18:07
Low	23:32

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
ddy ref.	09:04	41°40.835'	70°55.035'	3.7	1.0	1.0	10.57	0.40	7.64	1000' N of M/G
"	09:05	"	"	"	2.5	0.8	7.87	21.92	9.70	300' S of DR6 in G
300'S-DR6-G	09:29	41°40.521	70°54.898	3.2	0.35	1.8	10.65	1.91	7.98	300' S of DR6 in G
"	09:30	"	"	"	2.03	35.1	8.36	19.47	9.23	dredge inactive
"	09:33	"	"	"	1.75	44.9	9.33	7.36	8.61	"
"	09:37	"	"	"	1.78	59.8	8.82	8.27	8.71	"
"	09:43	"	"	"	1.76	42.4	8.47	11.98	8.81	"
"	09:46	"	"	"	1.77	35.3	8.81	7.05	8.84	"
"	10:22	"	"	"	1.57	8.3	10.41	2.10	8.41	dredge active
"	10:23	"	"	"	1.60	32.6	10.54	2.09	8.37	"
"	10:32	"	"	"	1.61	18.4	—	—	—	"
S-DR6-L	11:38	41°39.946	70°55.058	5.6	0.54	1.2	10.51	10.0	9.13	dredge active
"	11:39	"	"	"	2.51	0.6	9.03	19.78	9.29	"
"	11:40	"	"	"	4.48	0.8	8.05	24.48	9.70	"
"	12:07	"	"	"	0.45	0.7	10.25	12.48	9.37	"



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: ARCAL
 Dredging Description: active dredging
 Survey Vessel: R/V George Hampson
 Chief Scientist: K. McCarthy
 Sampling Technician: —
 Vessel Captain: M. Walsh
 Other Personnel: —
 Weather Conditions: overcast wind 15-25 SSW

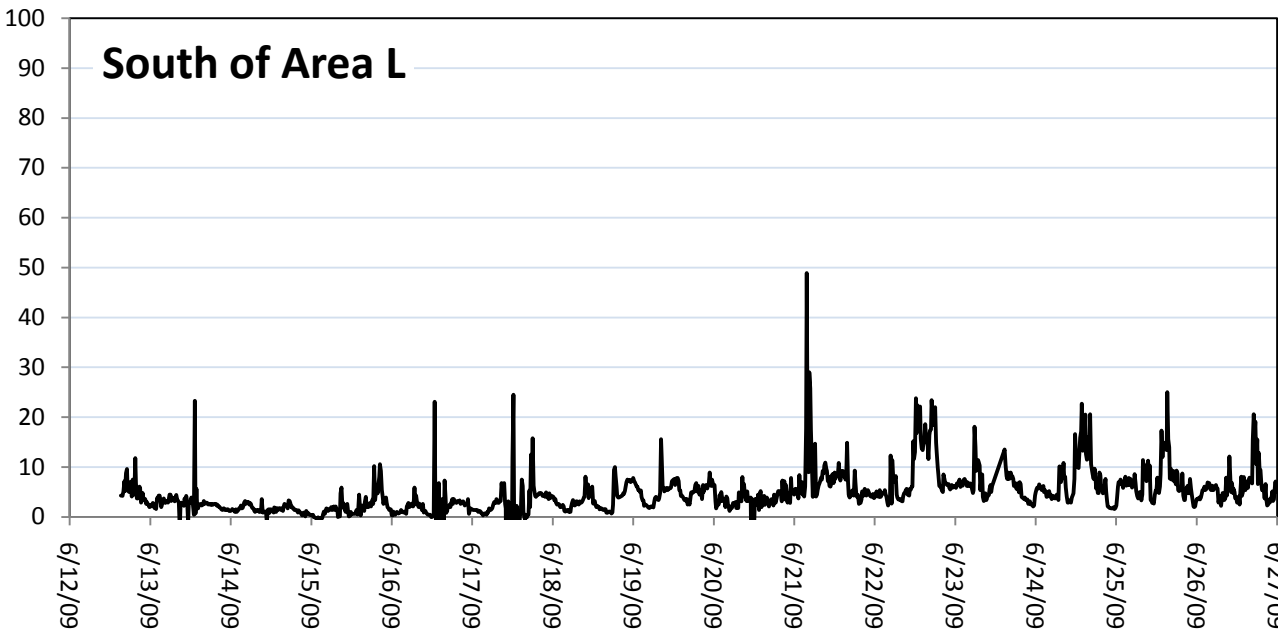
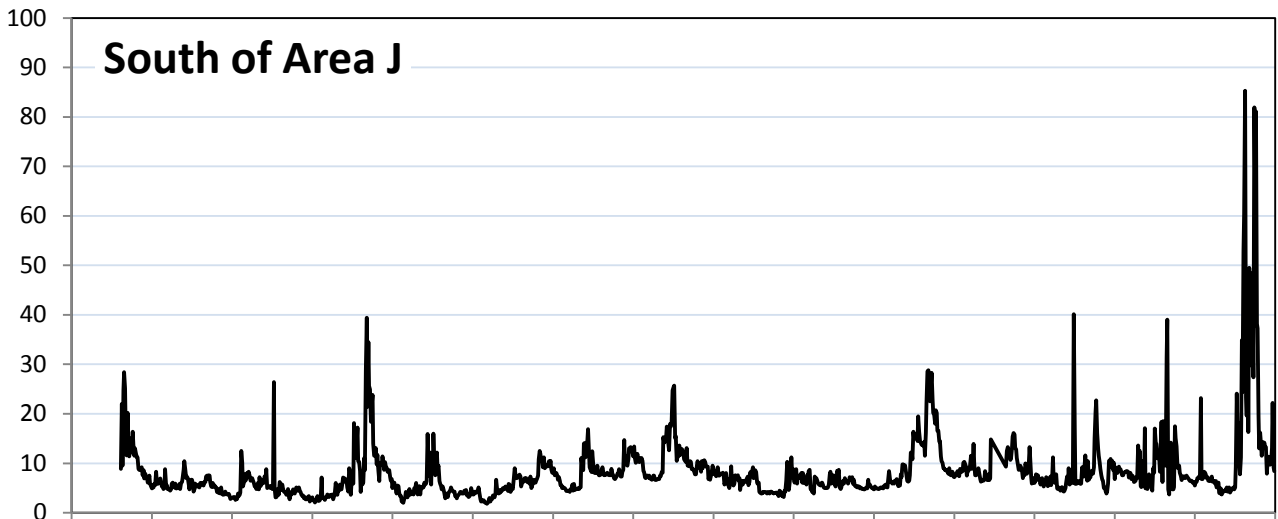
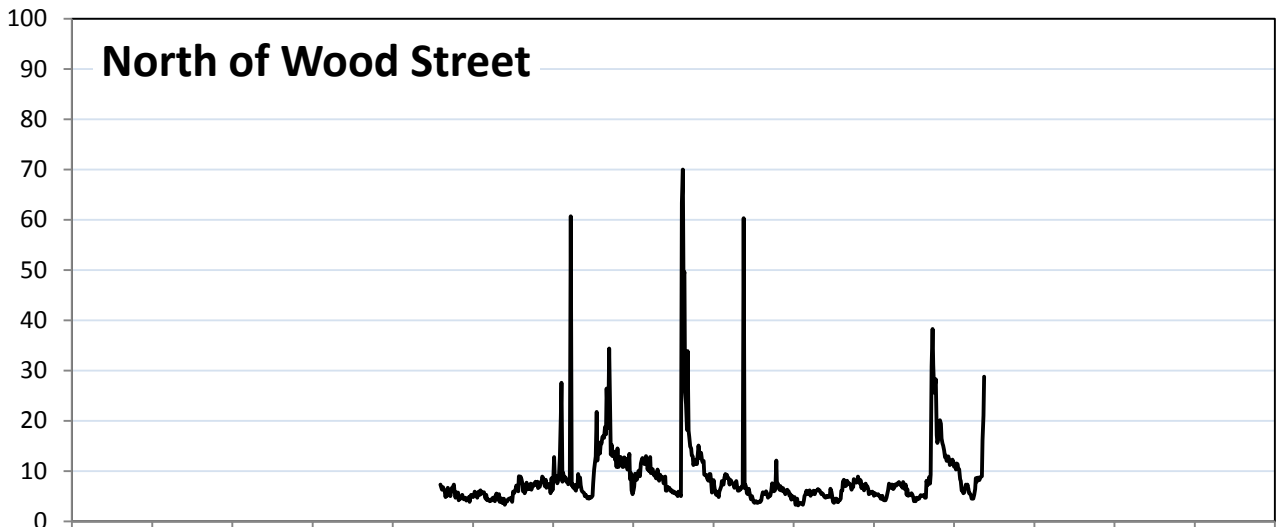
Date: 11/30/07
 Page: 2 of 2

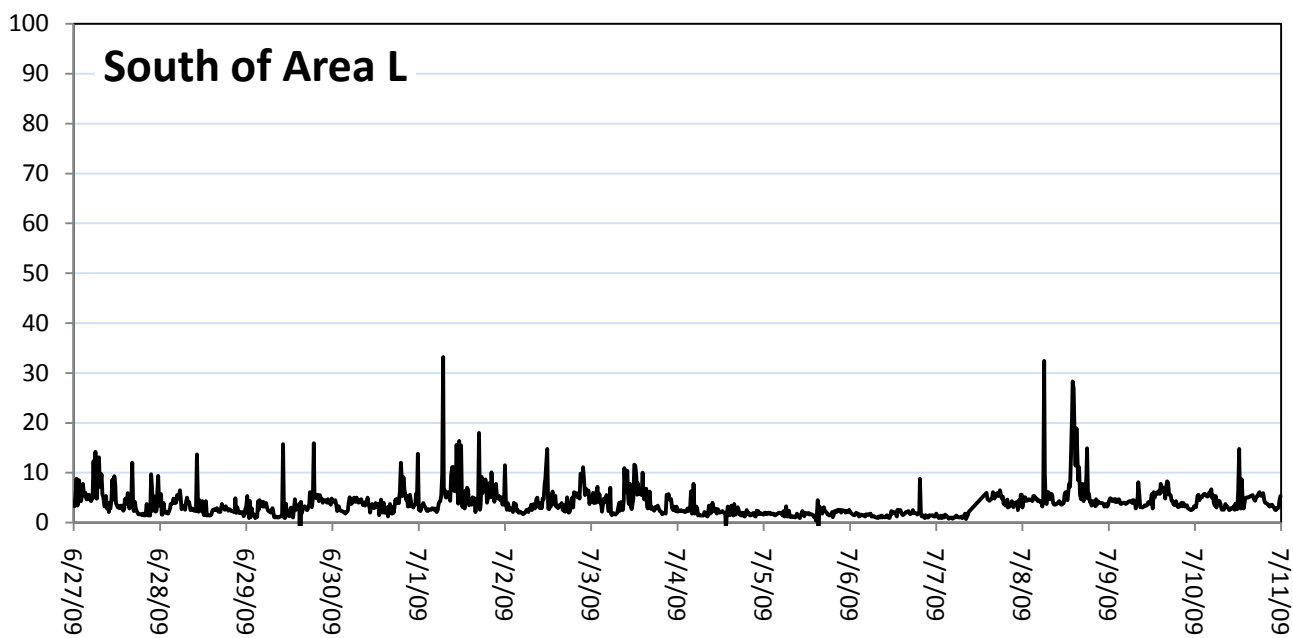
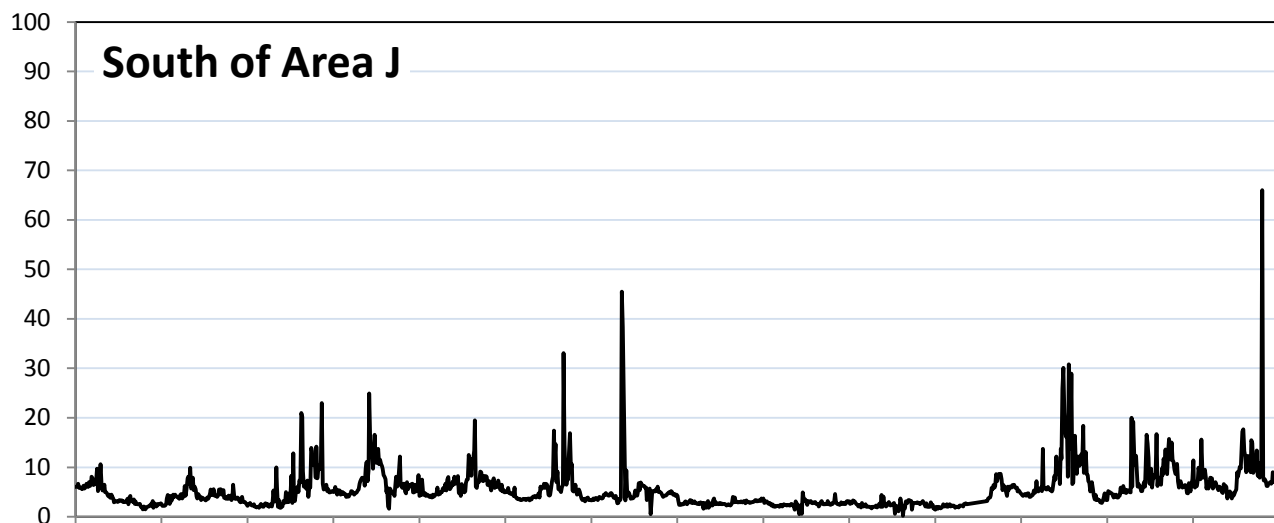
Tide Information	
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Low	<u>11:52</u>
High	<u>18:07</u>
Low	<u>23:32</u>

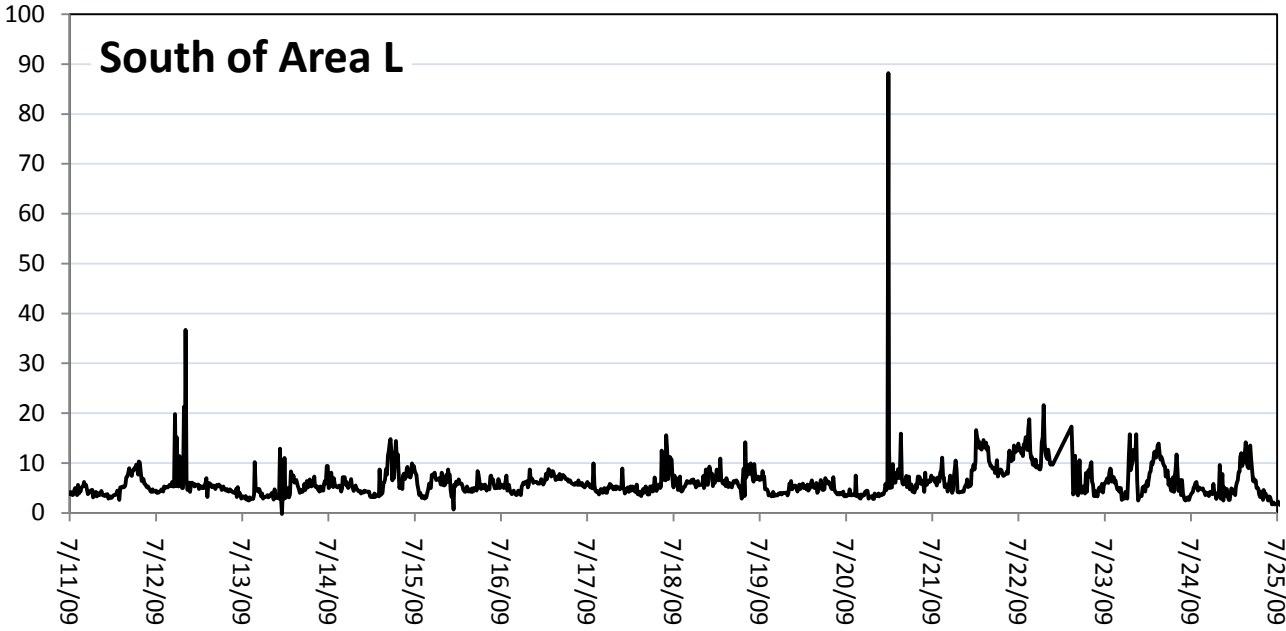
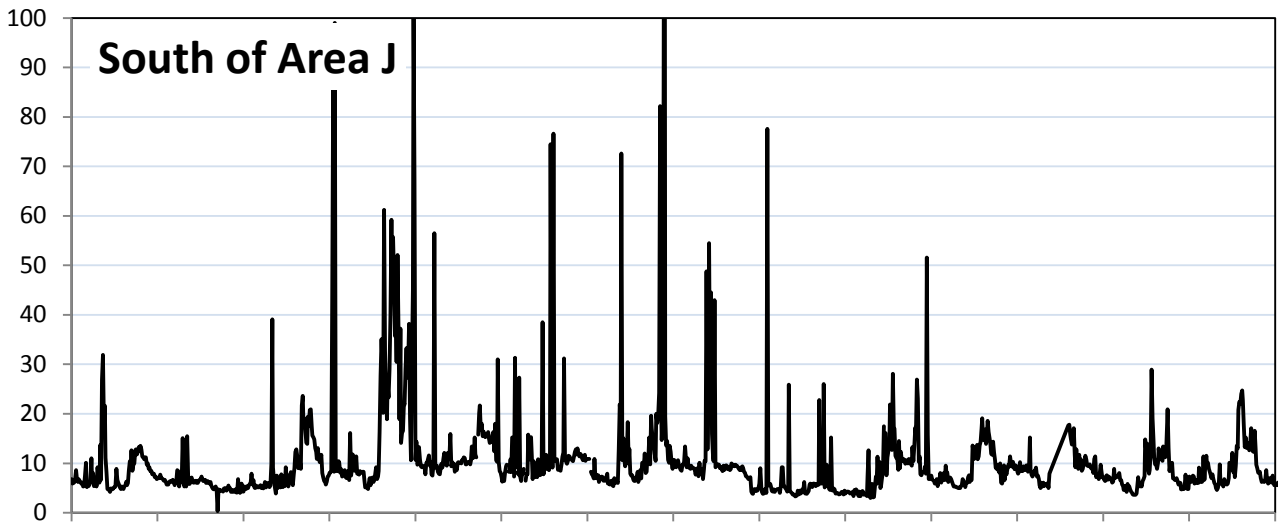
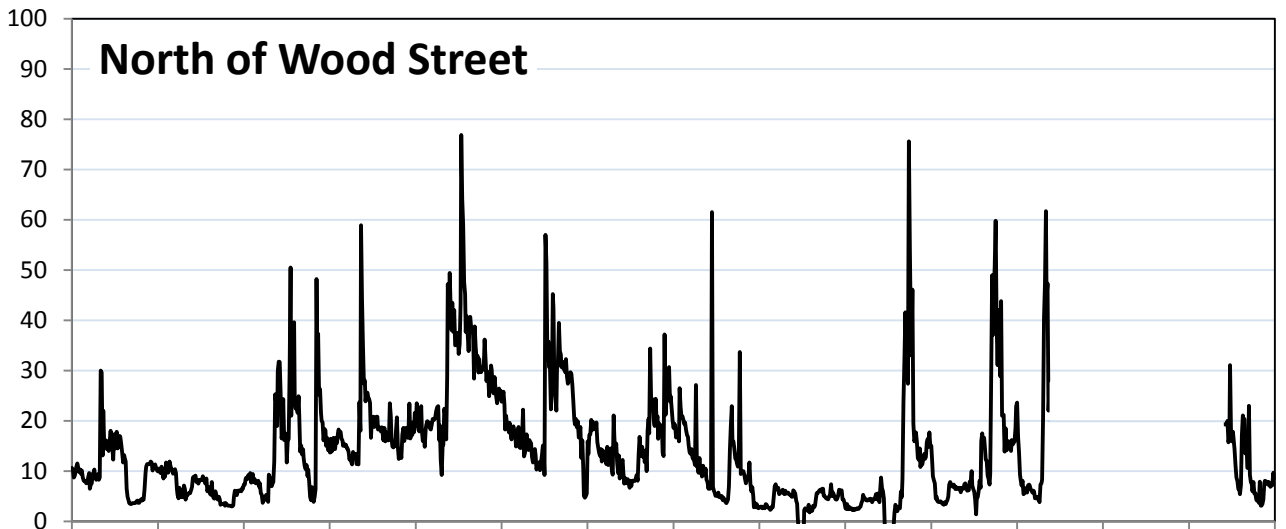
Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
N-DRG-L	12:38	41°40.056	70°55.059	5.4	0.60	1.4	10.47	9.05	9.24	300' N of DRG in 1
"	12:40	"	"	"	2.52	1.7	8.40	21.60	9.55	"
"	12:41	"	"	"	4.01	1.7	7.79	23.88	9.68	"
"	12:43	"	"	"	2.33	3.6	8.00	20.01	9.44	"
"	12:53	"	"	"	2.35	5.3	7.97	19.37	9.43	"
"	13:02	"	"	"	2.34	2.4	7.84	20.66	9.47	"
"	13:25	"	"	"	2.31	3.9	7.71	21.23	9.54	"
"	14:15	"	"	"	2.32	2.2	—	—	—	"

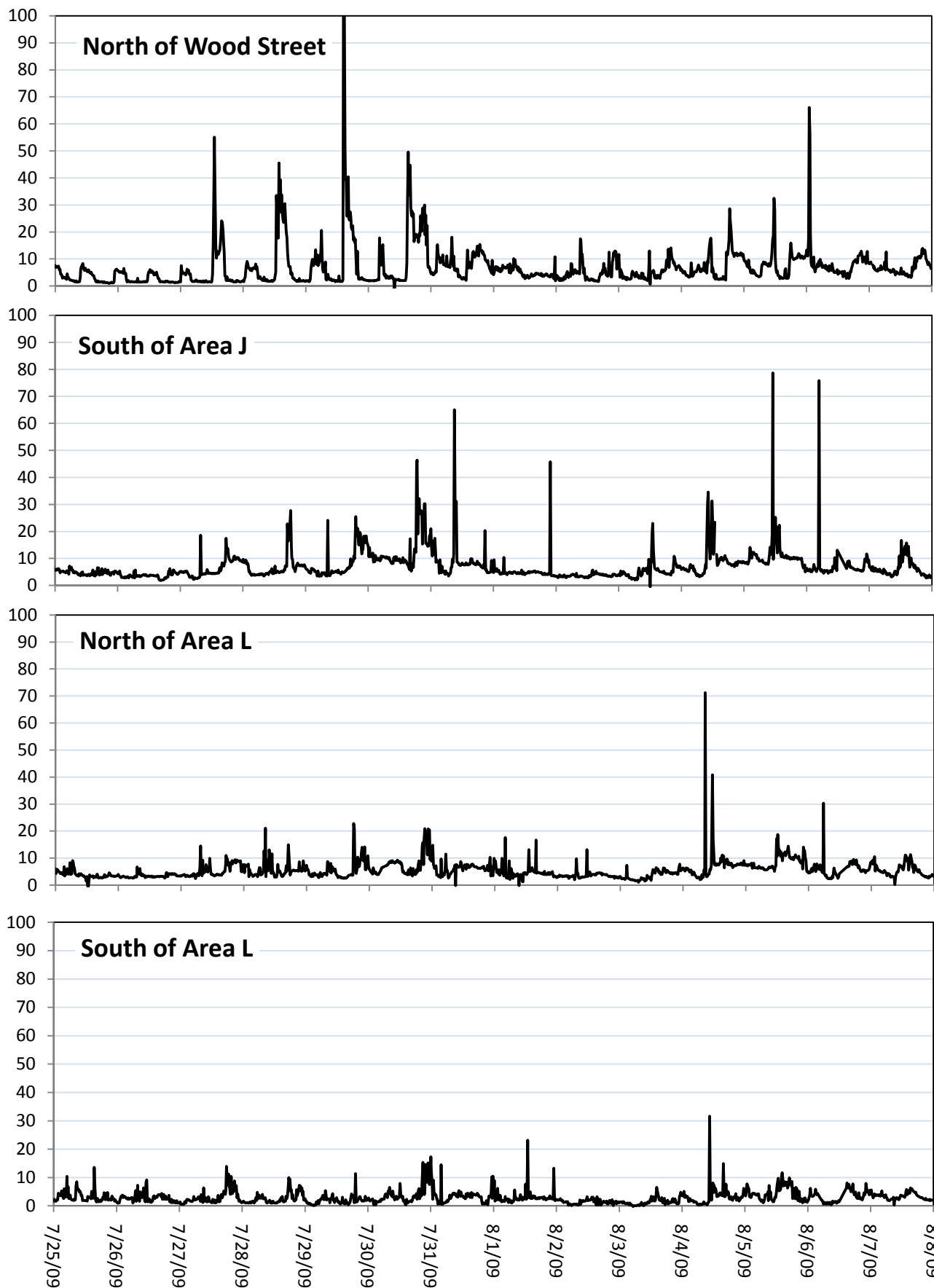
**APPENDIX B: CONTINUOUS *IN-SITU* FIXED STATION WATER
QUALITY DATA**

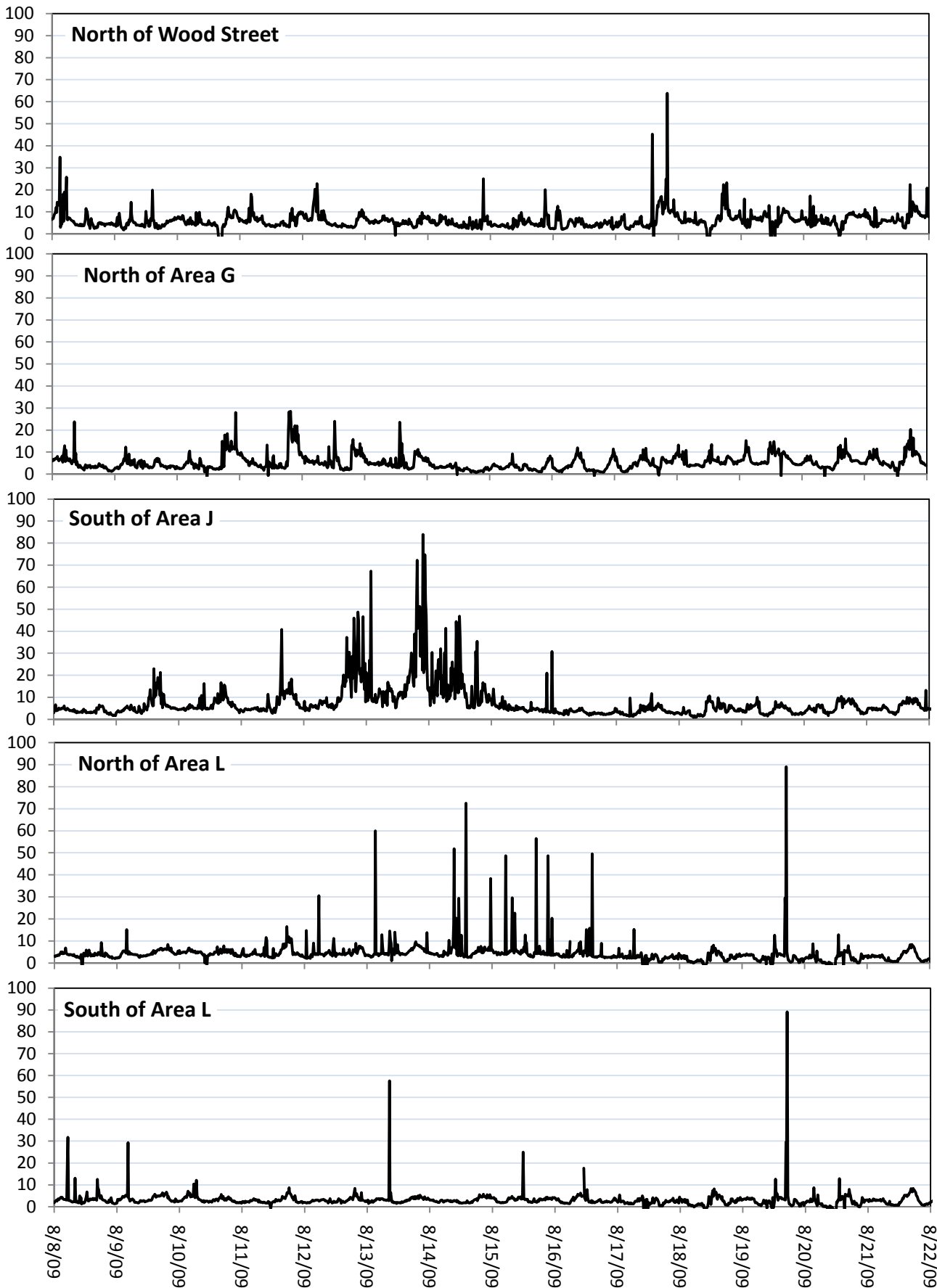
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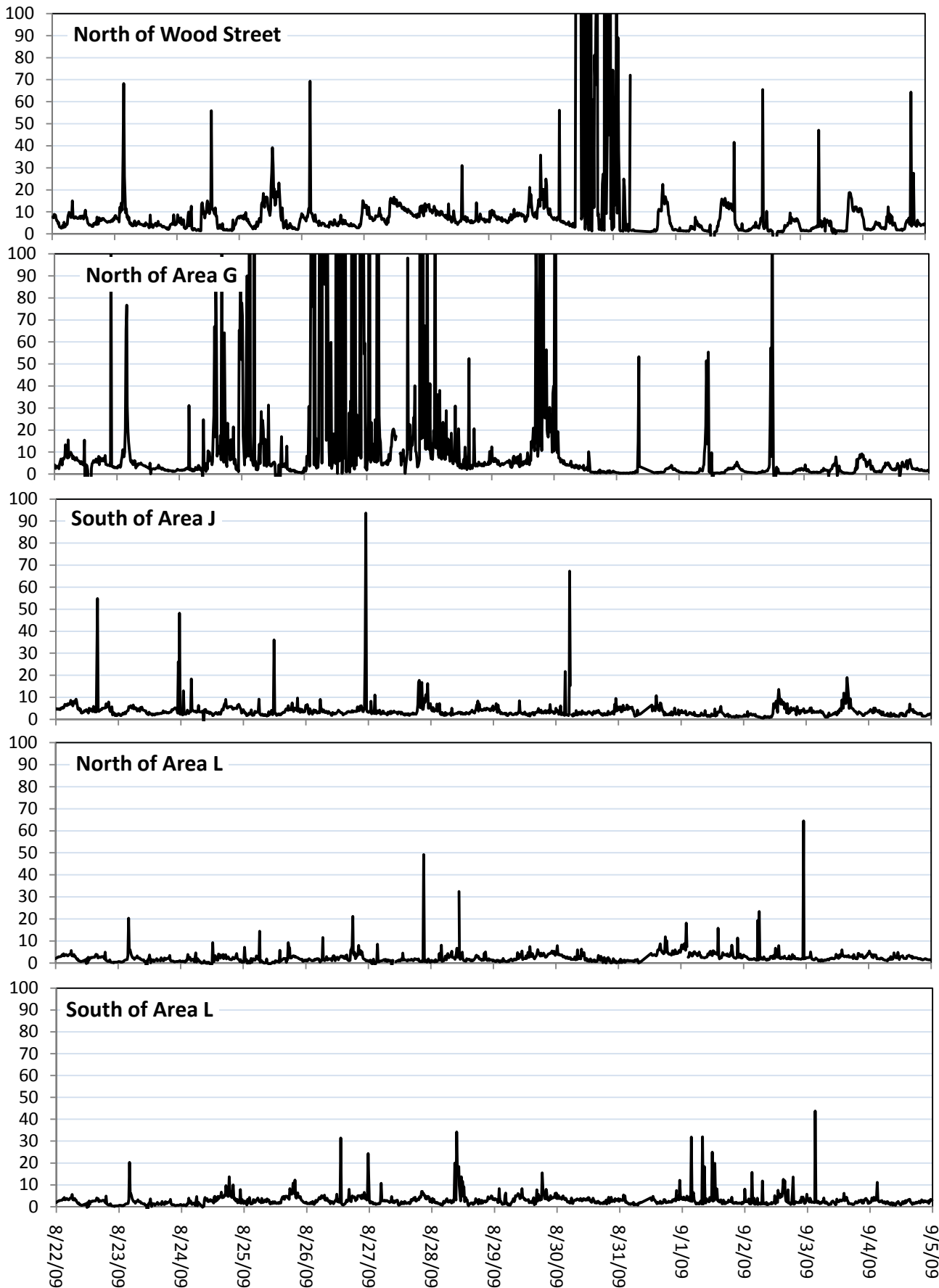


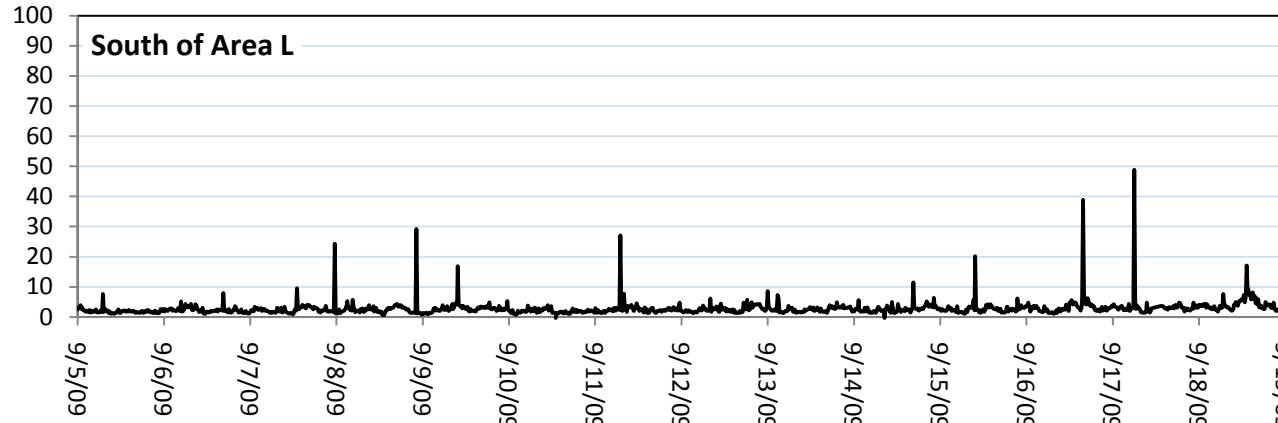
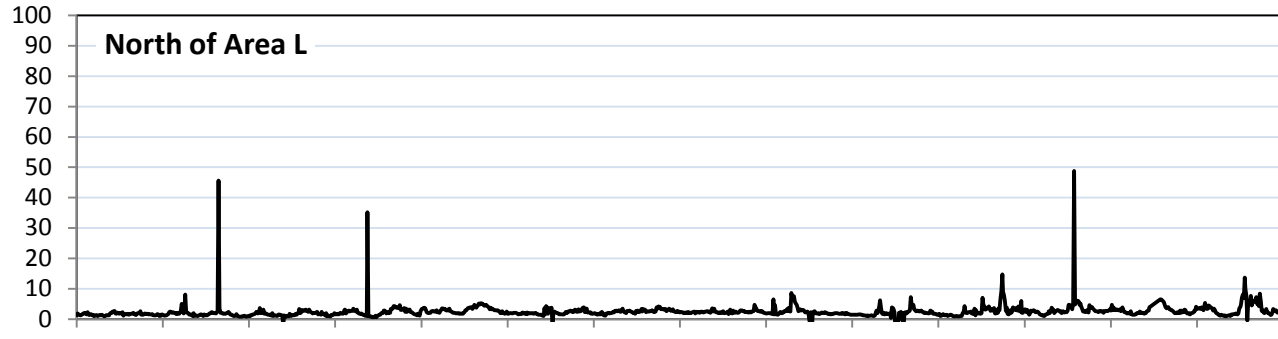
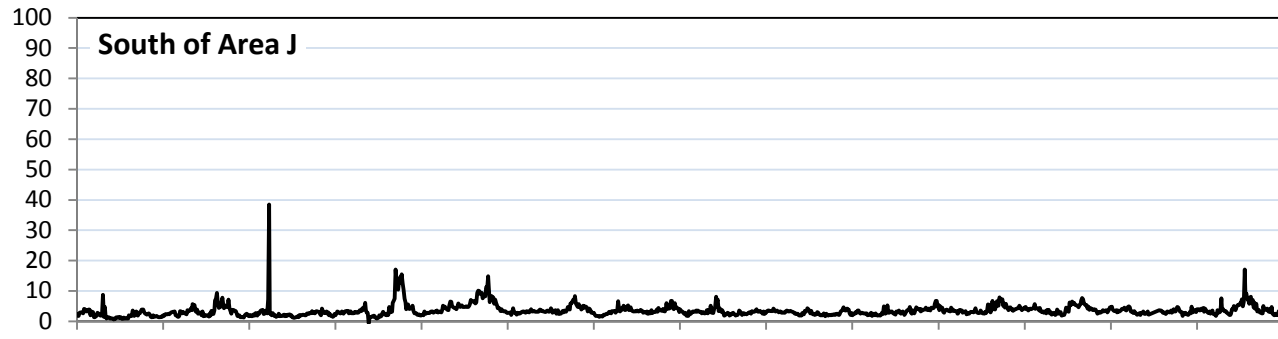
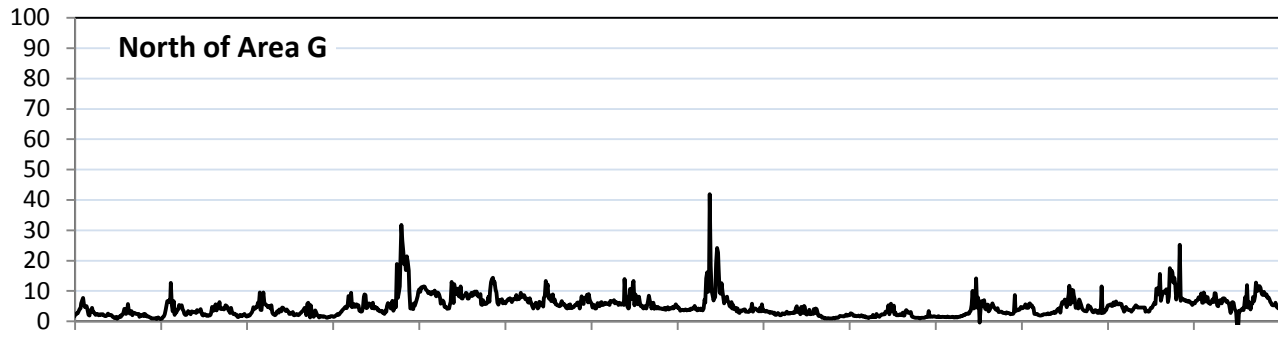
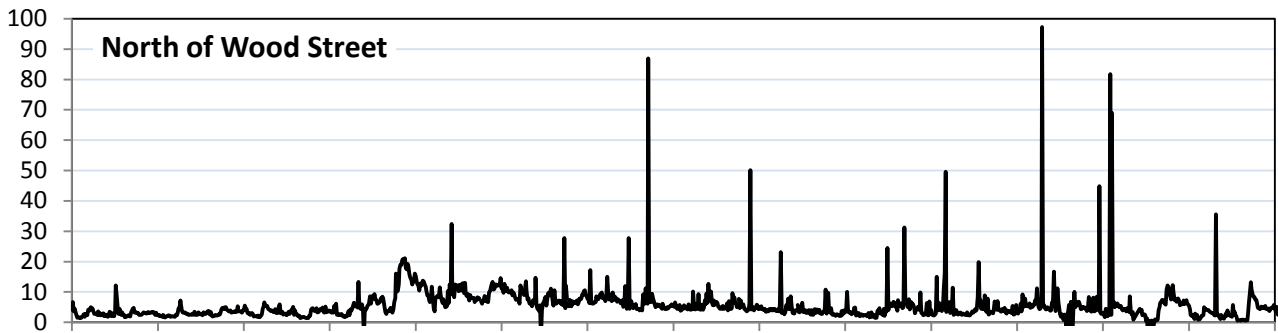


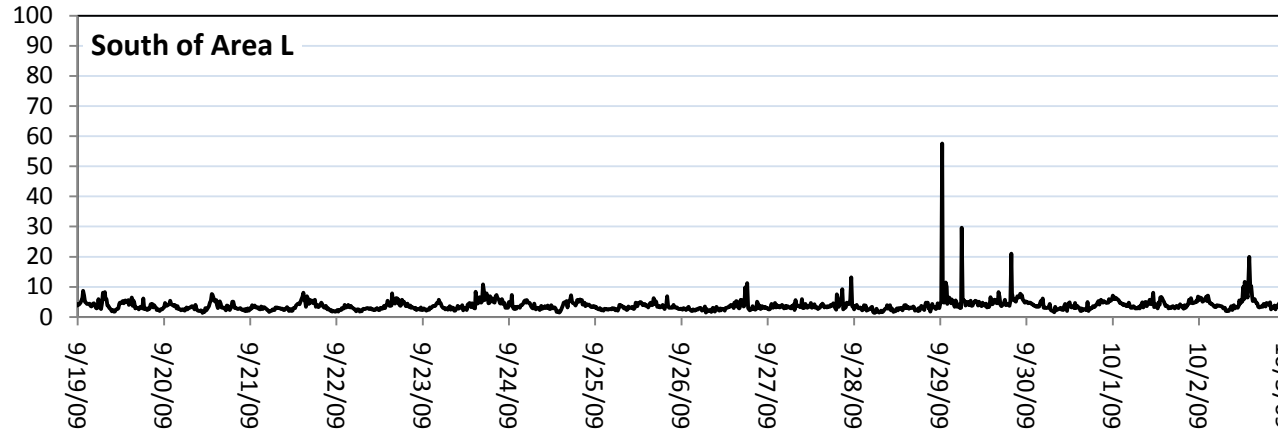
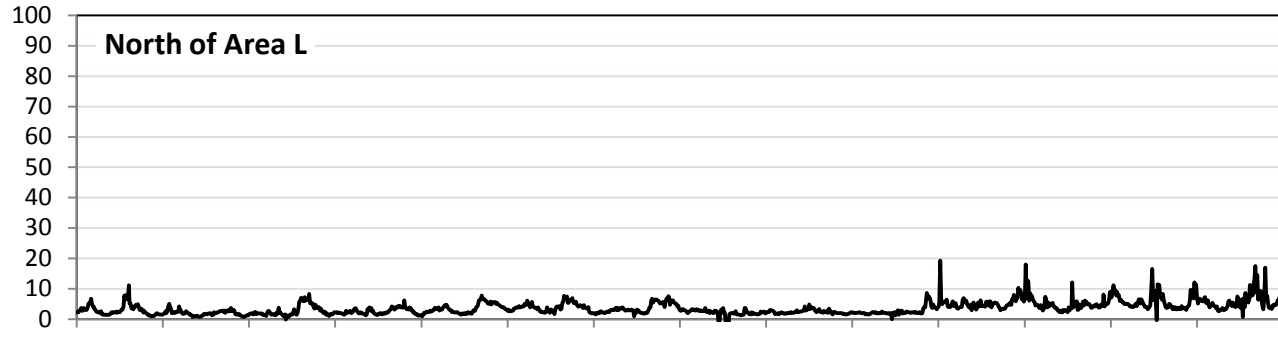
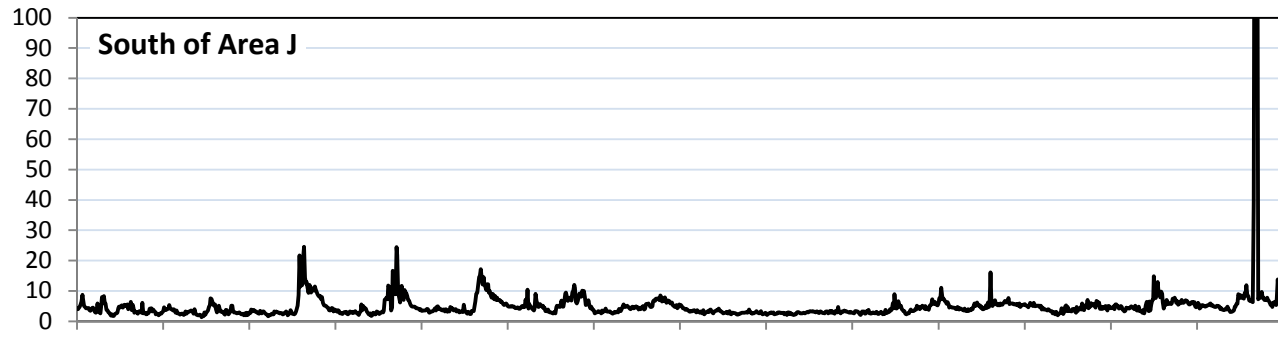
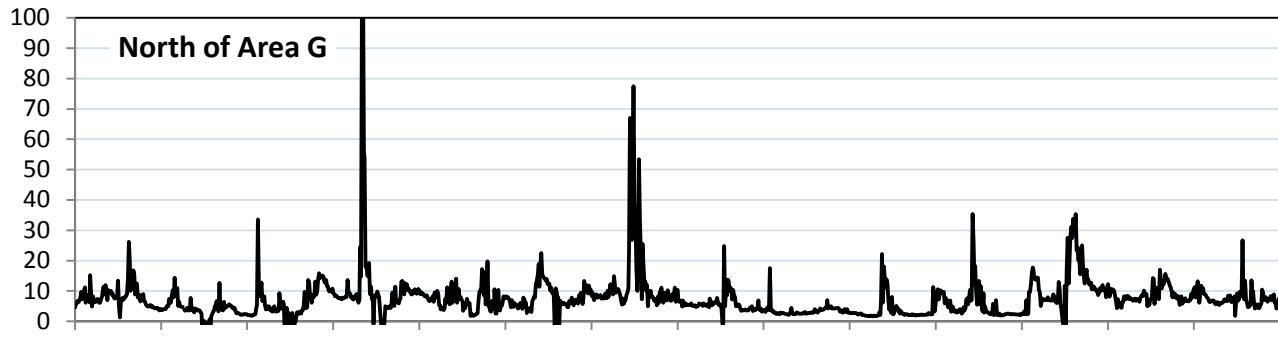
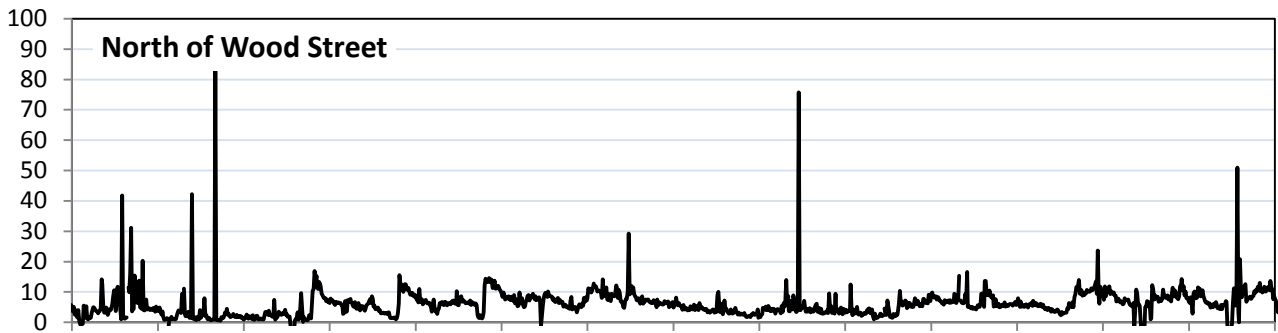


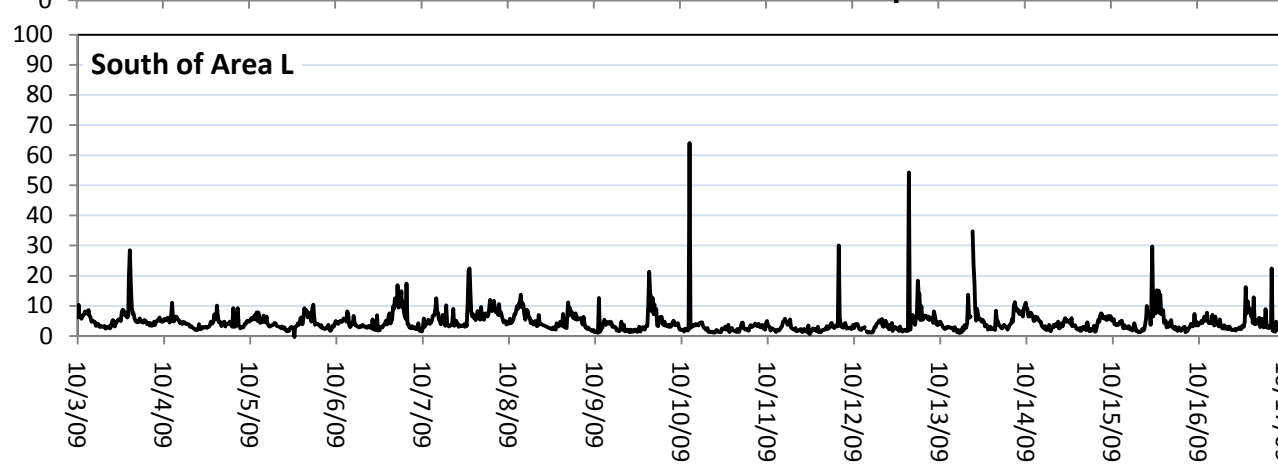
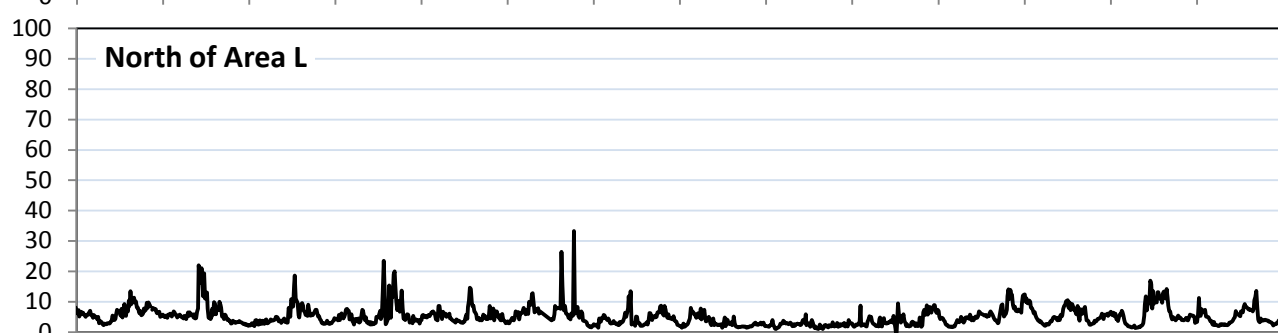
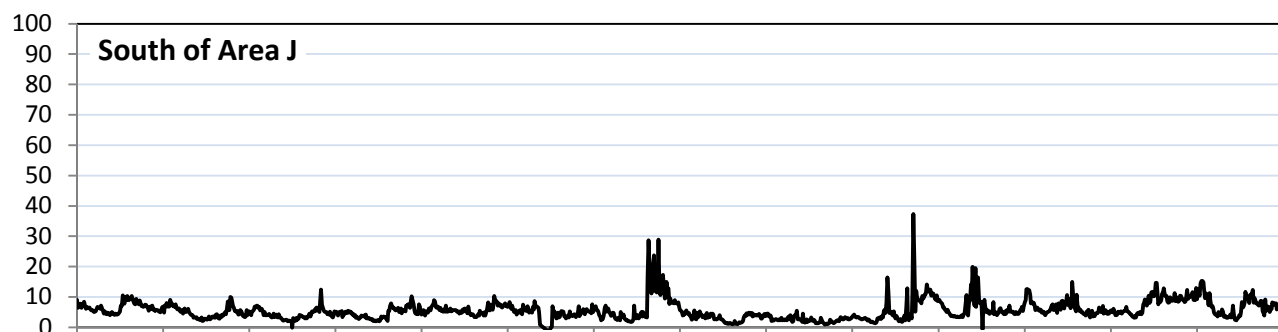
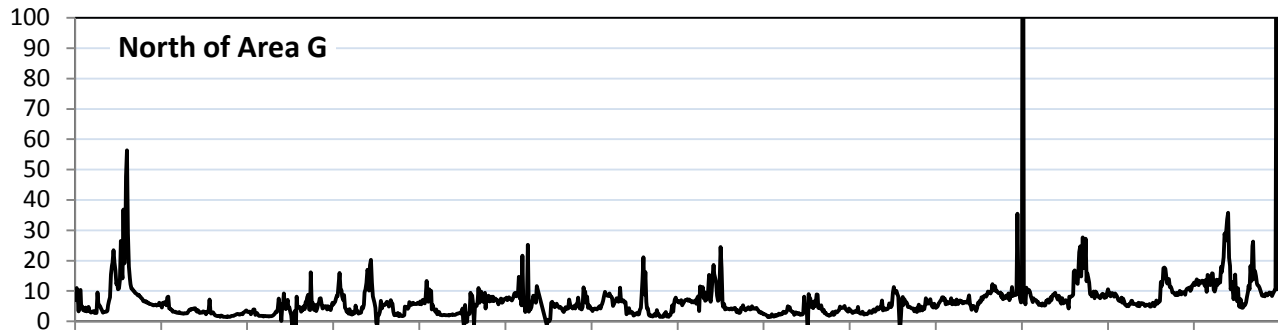
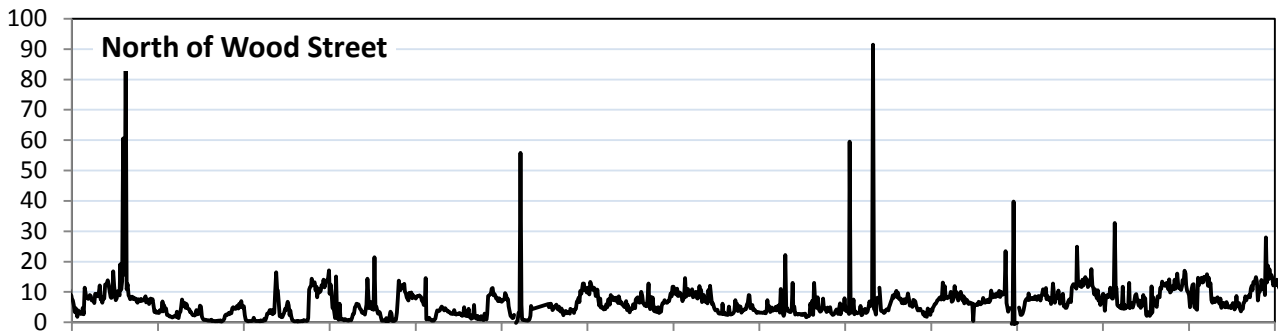


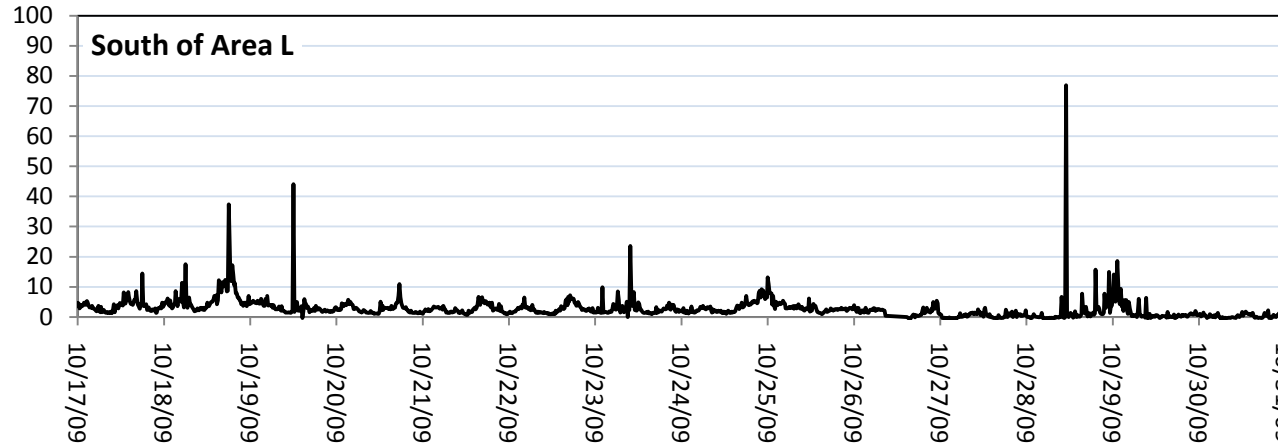
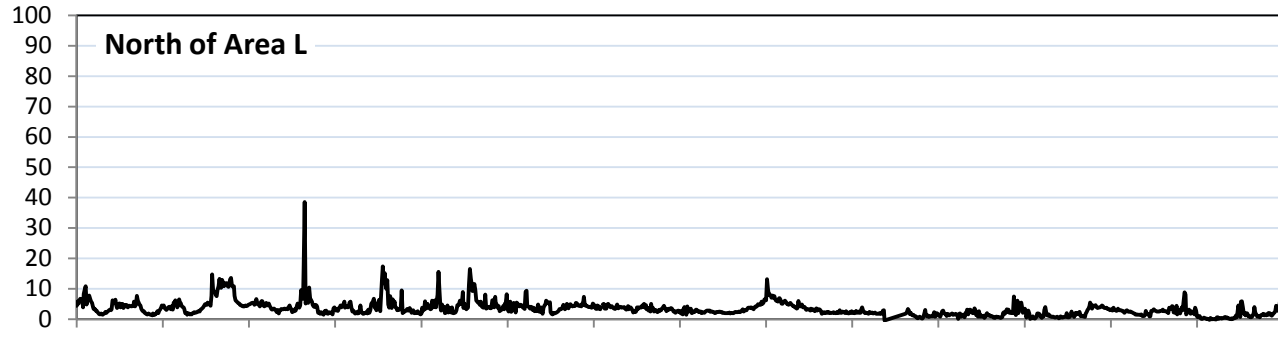
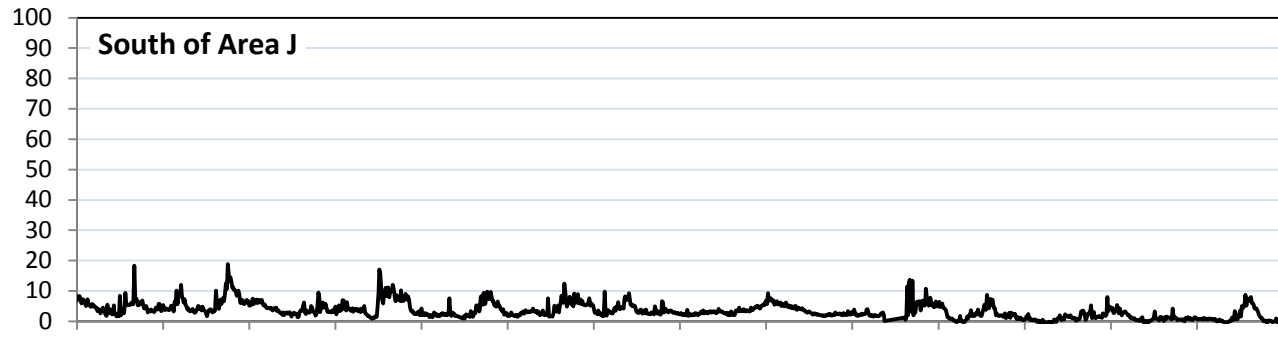
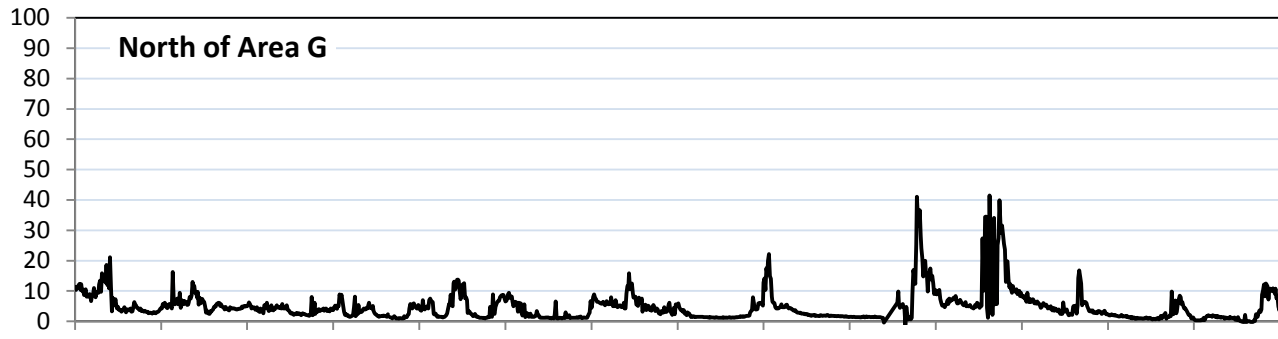
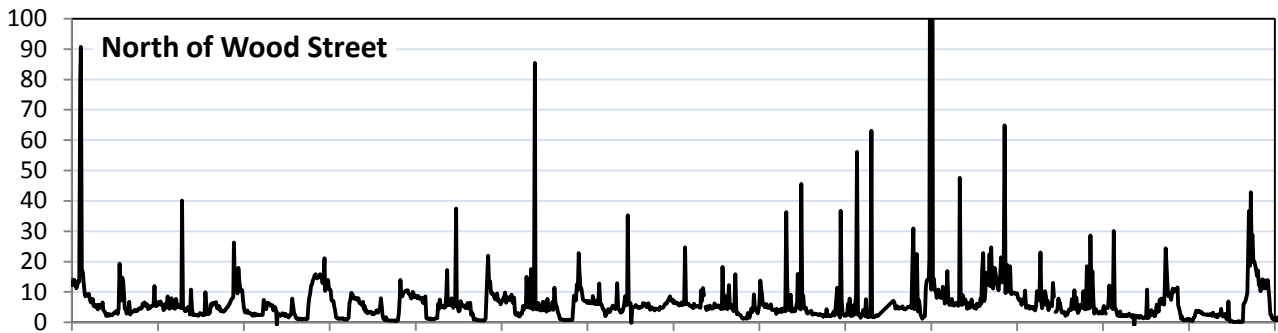


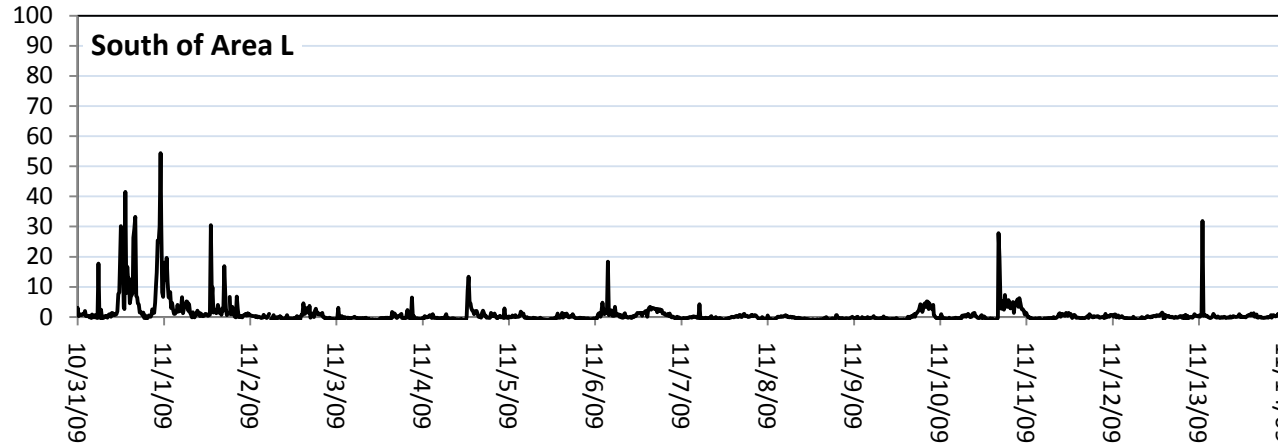
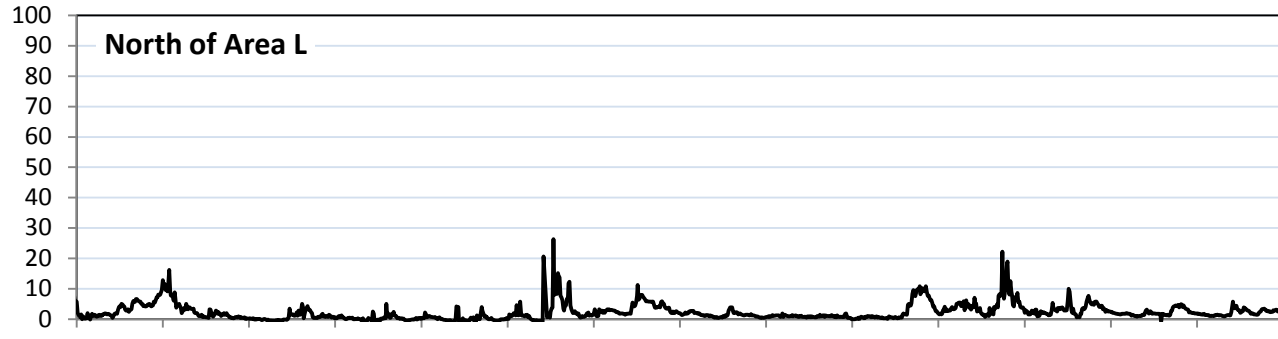
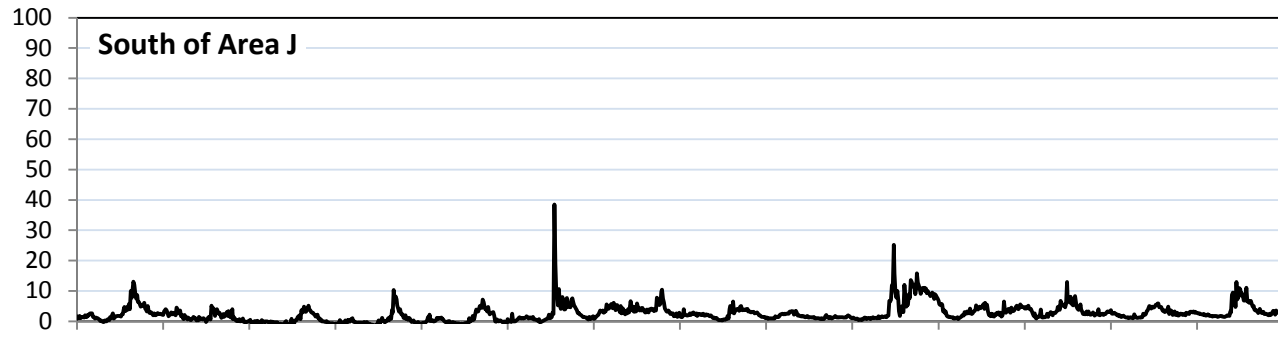
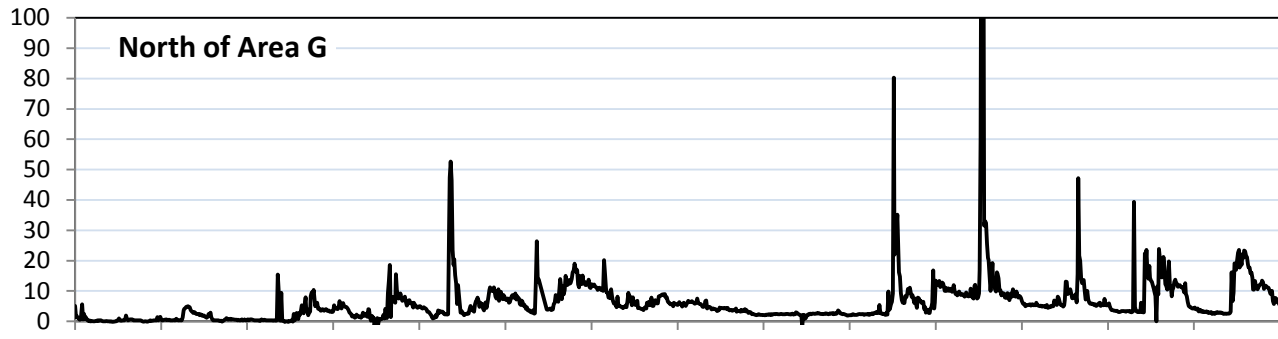
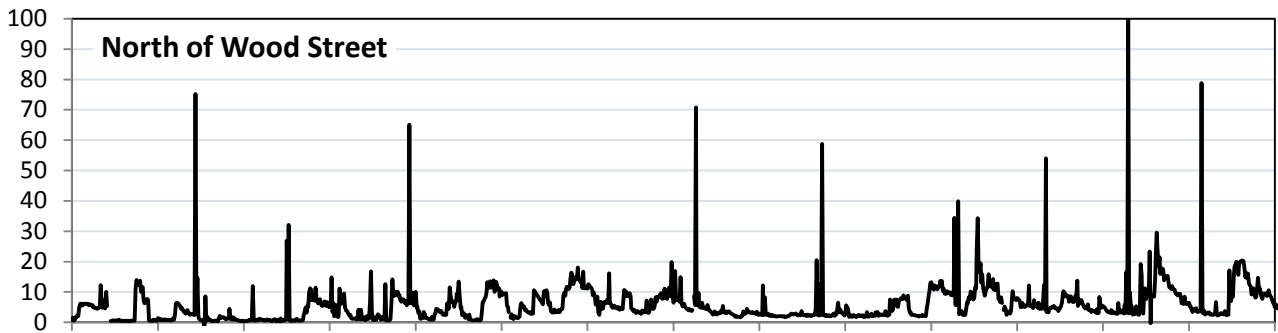


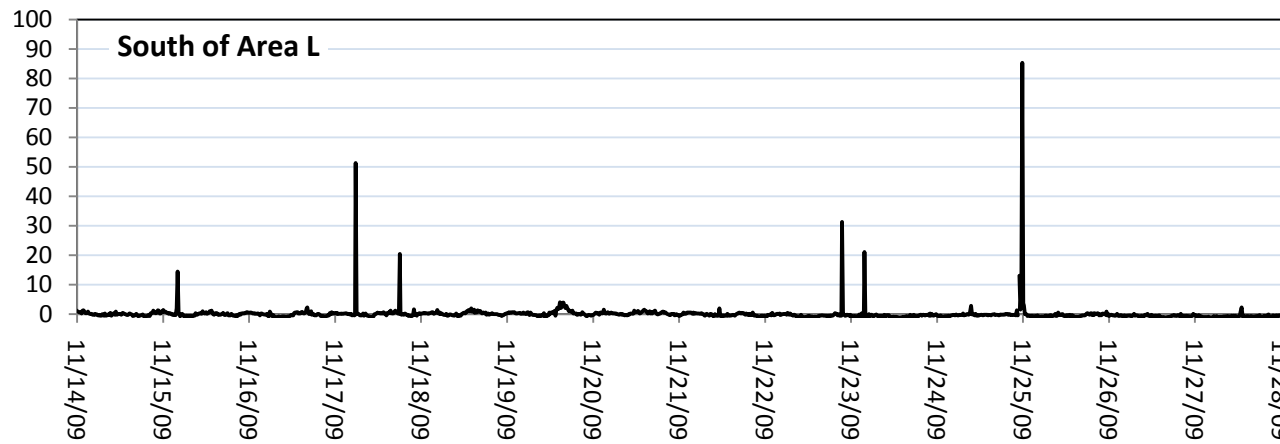
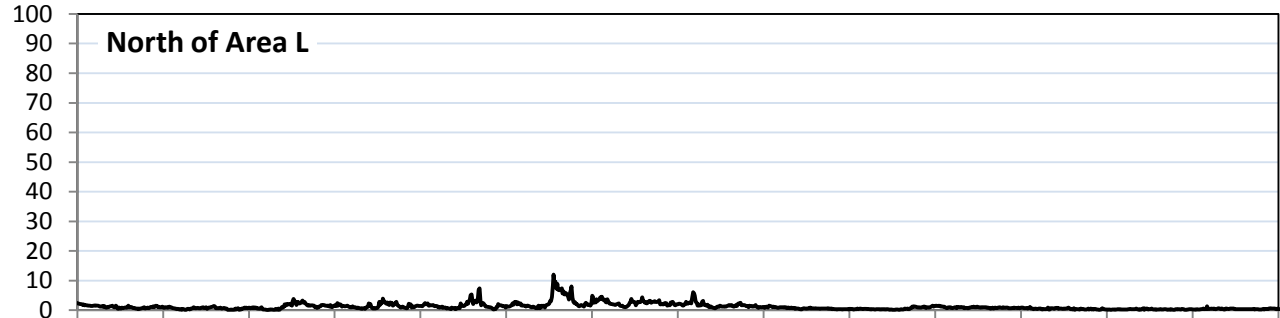
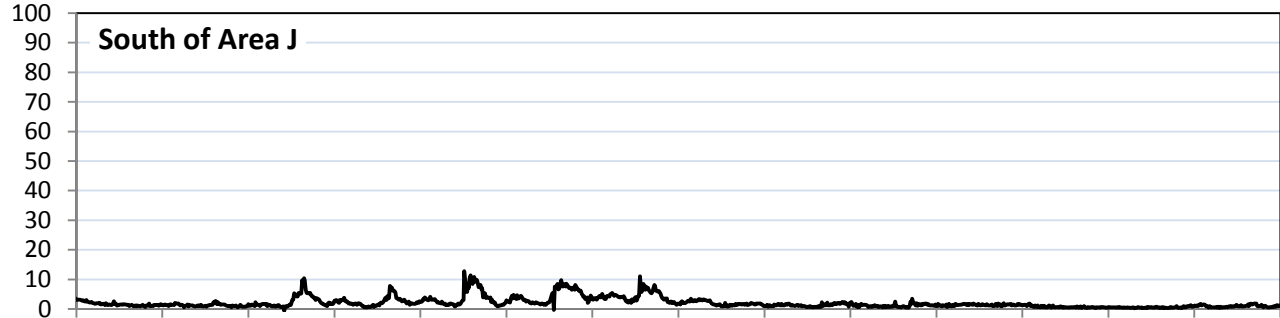
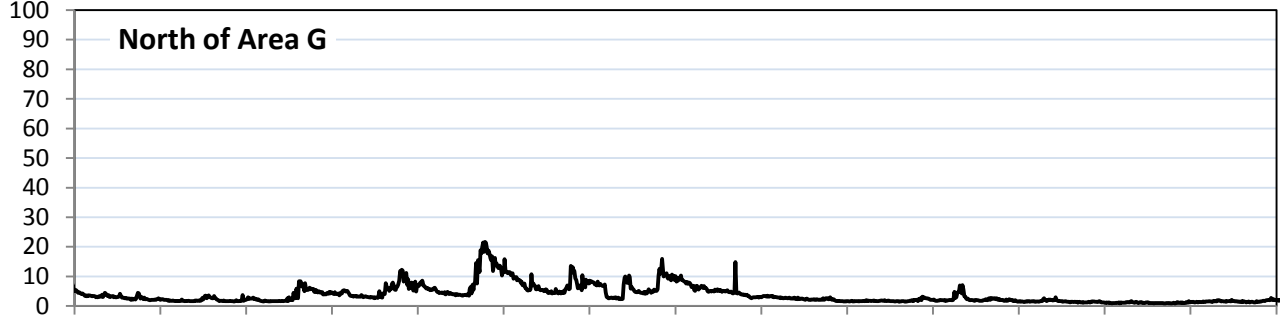
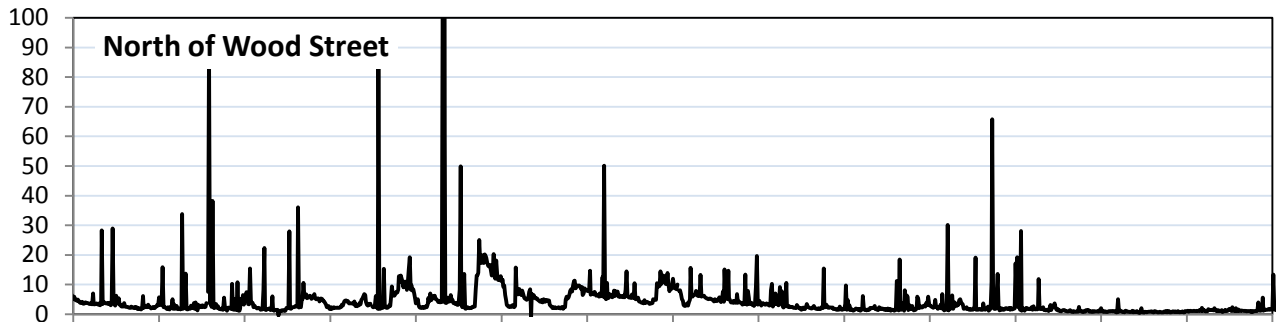


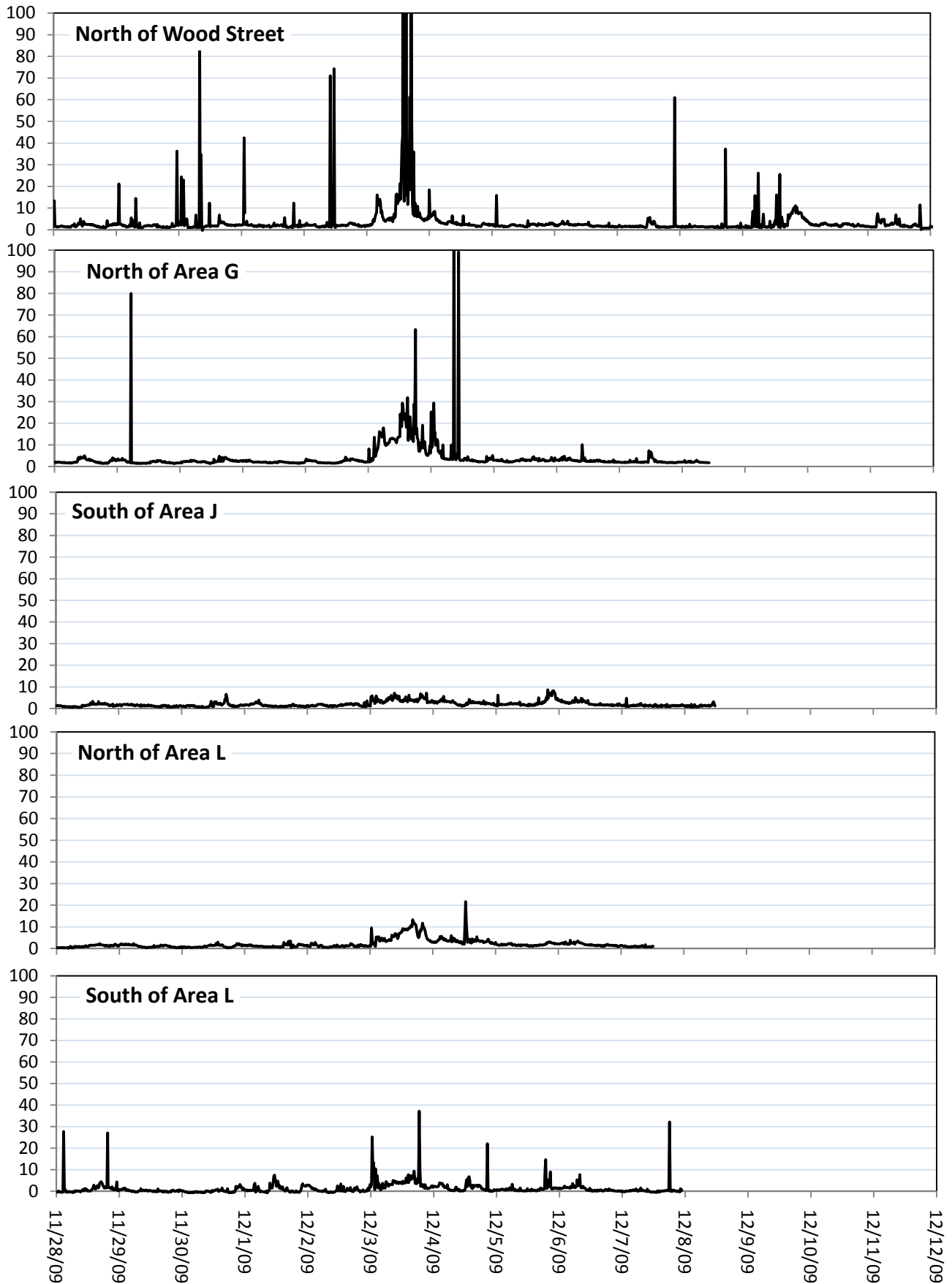


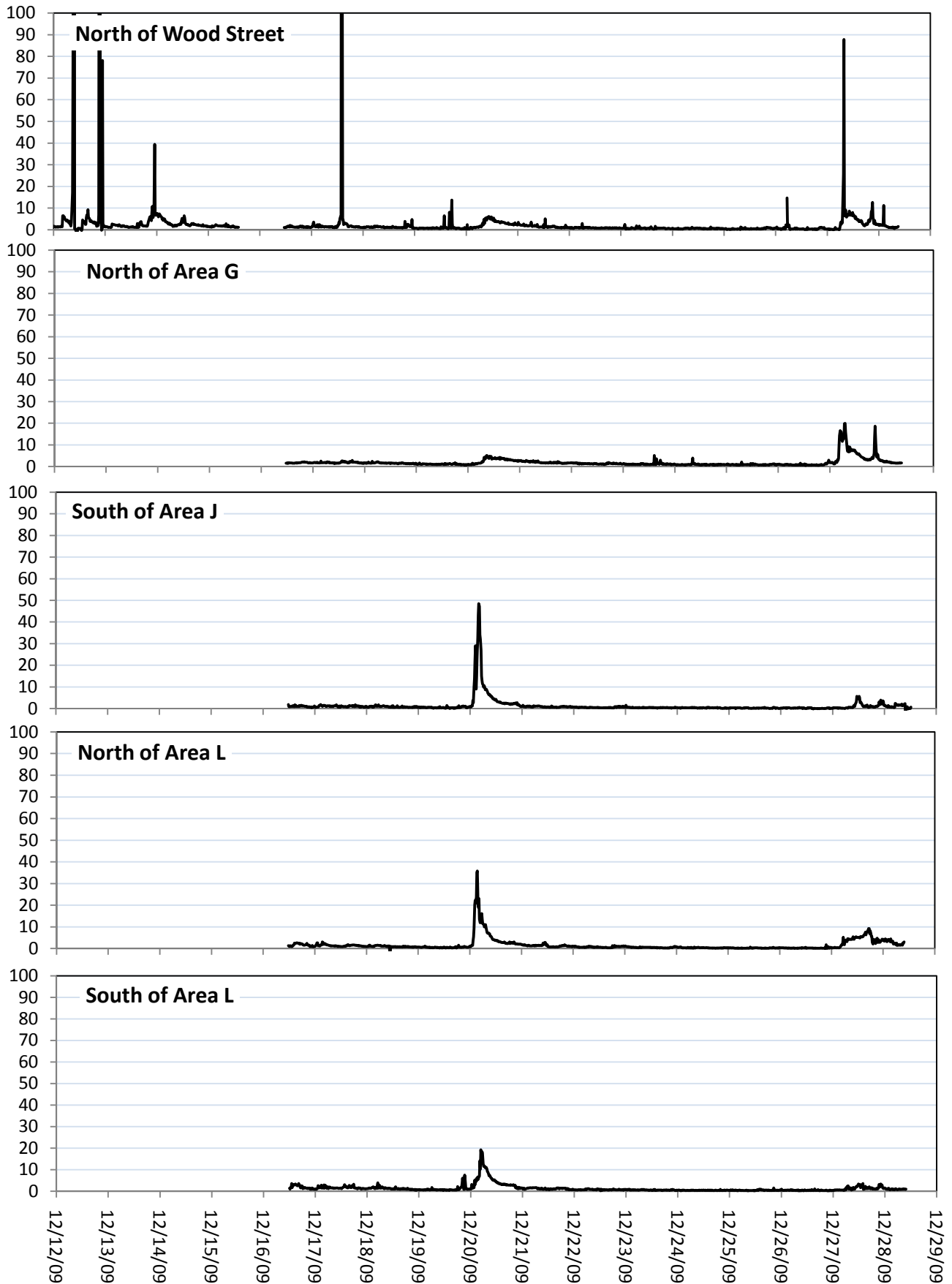












**APPENDIX C: ALPHA ANALYTICAL LABORATORIES REPORTS AND
ANALYTICAL DATA**

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ANALYTICAL REPORT

Lab Number:	L0908585
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Bob Hamilton
Project Name:	NEW BEDFORD HARBOR
Project Number:	NB HARBOR TASK 2.0
Report Date:	07/21/09

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0908585-01	WQ-TPC-001-062409	MA	06/24/09 09:10
L0908585-02	WQ-TPC-002-062409	MA	06/24/09 10:20
L0908585-03	WQ-TPC-003-062409	MA	06/24/09 11:10
L0908585-04	WQ-TPC-004-062409	MA	06/24/09 11:40
L0908585-05	WQ-TPC-005-062409	MA	06/24/09 12:00
L0908585-06	WQ-DPC-001-062409	MA	06/24/09 09:10
L0908585-07	WQ-DPC-002-062409	MA	06/24/09 10:20
L0908585-08	WQ-DPC-003-062409	MA	06/24/09 11:10
L0908585-09	WQ-DPC-004-062409	MA	06/24/09 11:40
L0908585-10	WQ-DPC-005-062409	MA	06/24/09 12:00
L0908585-11	WQ-TSS-001-062409	MA	06/24/09 09:10
L0908585-12	WQ-TSS-002-062409	MA	06/24/09 10:20
L0908585-13	WQ-TSS-003-062409	MA	06/24/09 11:10
L0908585-14	WQ-TSS-004-062409	MA	06/24/09 11:40
L0908585-15	WQ-TSS-005-062409	MA	06/24/09 12:00
L0908585-16	WQ-TUR-001-062409	MA	06/24/09 09:10
L0908585-17	WQ-TUR-002-062409	MA	06/24/09 10:20
L0908585-18	WQ-TUR-003-062409	MA	06/24/09 11:10
L0908585-19	WQ-TUR-004-062409	MA	06/24/09 11:40
L0908585-20	WQ-TUR-005-062409	MA	06/24/09 12:00
L0908585-21	WQ-MET-001-062409	MA	06/24/09 09:10
L0908585-22	WQ-MET-002-062409	MA	06/24/09 10:20
L0908585-23	WQ-MET-003-062409	MA	06/24/09 11:10
L0908585-24	WQ-MET-004-062409	MA	06/24/09 11:40
L0908585-25	WQ-MET-005-062409	MA	06/24/09 12:00
L0908585-26	WQ-MET-006-062409	MA	06/24/09 00:00

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the report issued July 14, 2009. The report has been amended to include only the NOAA 18 Congeners.

Due to insufficient sample volume received, site specific QC (MS/MSD, Field Duplicate, Equipment Blank) were not performed for all parameters.

PCB Congeners

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

Case Narrative (continued)

L0908585-06 through L0908585-10 were filtered through a 1.0 micron filter prior to sample extraction.

L0908585-02, through 05, and 07 through 10 were re-analyzed on dilution in order to quantitate the samples within the calibration range. The results should be considered estimated, and are qualified with an E flag, for any compound that exceeded the calibration on the initial analysis. The re-analyses were performed only for the compounds that exceeded the calibration range.

L0908585-08 has elevated detection limits due to the limited sample volume available for extraction.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 07/21/09

ORGANICS



PCBS



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-01
 Client ID: WQ-TPC-001-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 15:50
 Analyst: JR

Date Collected: 06/24/09 09:10
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	ND		ug/l	0.001	1
Cl4-BZ#66	0.0450		ug/l	0.001	1
Cl5-BZ#101	ND		ug/l	0.001	1
Cl6-BZ#128	ND		ug/l	0.001	1
Cl6-BZ#138	0.0185		ug/l	0.001	1
Cl7-BZ#170	0.00297		ug/l	0.00103	1
Cl7-BZ#187	0.00598		ug/l	0.00103	1
Cl8-BZ#195	ND		ug/l	0.001	1
Cl9-BZ#206	ND		ug/l	0.001	1
Cl10-BZ#209	ND		ug/l	0.001	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	87		50-125
BZ 198	82		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-01
Client ID: WQ-TPC-001-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/08/09 15:50
Analyst: JR

Date Collected: 06/24/09 09:10
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	0.0398		ug/l	0.0031	1
CI3-BZ#18	0.0828		ug/l	0.001	1
CI3-BZ#28	0.0767		ug/l	0.001	1
CI4-BZ#52	0.0856		ug/l	0.001	1
CI5-BZ#105	0.0072		ug/l	0.001	1
CI5-BZ#118	0.0273		ug/l	0.001	1
CI6-BZ#153	0.0267		ug/l	0.001	1
CI7-BZ#180	0.00376		ug/l	0.00103	1

DBOB	87	50-125
BZ 198	82	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-02
 Client ID: WQ-TPC-002-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 16:31
 Analyst: JR

Date Collected: 06/24/09 10:20
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	0.253	E	ug/l	0.001	1
CI4-BZ#44	ND		ug/l	0.001	1
CI4-BZ#66	0.0672		ug/l	0.001	1
CI5-BZ#101	ND		ug/l	0.001	1
CI5-BZ#105	0.00588		ug/l	0.00103	1
CI6-BZ#128	0.00318		ug/l	0.00103	1
CI6-BZ#138	0.0188		ug/l	0.001	1
CI7-BZ#170	0.00299		ug/l	0.00103	1
CI7-BZ#187	0.00813		ug/l	0.00103	1
CI8-BZ#195	ND		ug/l	0.001	1
CI9-BZ#206	ND		ug/l	0.001	1
CI10-BZ#209	ND		ug/l	0.001	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	94		50-125
BZ 198	79		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-02
 Client ID: WQ-TPC-002-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 16:31
 Analyst: JR

Date Collected: 06/24/09 10:20
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	0.184		ug/l	0.003	1
Cl3-BZ#18	0.278	E	ug/l	0.001	1
Cl4-BZ#52	0.254	E	ug/l	0.001	1
Cl5-BZ#118	0.024		ug/l	0.001	1
Cl6-BZ#153	0.0294		ug/l	0.001	1
Cl7-BZ#180	0.00362		ug/l	0.00103	1
DBOB	94			50-125	
BZ 198	79			50-125	

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

07210914:25
Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-02
Client ID: WQ-TPC-002-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 15:43
Analyst: JR

Date Collected: 06/24/09 10:20
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	0.308		ug/l	0.002	2



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

07210914:25
Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-02
Client ID: WQ-TPC-002-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 15:43
Analyst: JR

Date Collected: 06/24/09 10:20
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	0.405		ug/l	0.002	2
Cl4-BZ#52	0.289		ug/l	0.002	2



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-03
 Client ID: WQ-TPC-003-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 17:11
 Analyst: JR

Date Collected: 06/24/09 11:10
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	1.62	E	ug/l	0.001	1
Cl3-BZ#28	1.94	E	ug/l	0.001	1
Cl4-BZ#52	2.48	E	ug/l	0.001	1
Cl4-BZ#66	ND		ug/l	0.001	1
Cl5-BZ#101	0.324	E	ug/l	0.001	1
Cl5-BZ#105	ND		ug/l	0.001	1
Cl5-BZ#118	0.160		ug/l	0.001	1
Cl6-BZ#128	0.026		ug/l	0.001	1
Cl6-BZ#138	ND		ug/l	0.001	1
Cl6-BZ#153	0.342	E	ug/l	0.001	1
Cl7-BZ#170	0.0261		ug/l	0.0011	1
Cl7-BZ#180	0.0366		ug/l	0.0011	1
Cl7-BZ#187	0.0661		ug/l	0.0011	1
Cl9-BZ#206	0.00936		ug/l	0.00105	1
Cl10-BZ#209	0.00267		ug/l	0.00105	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	80		50-125
BZ 198	66		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-03
 Client ID: WQ-TPC-003-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 17:11
 Analyst: JR

Date Collected: 06/24/09 11:10
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	0.784	E	ug/l	0.003	1
Cl4-BZ#44	0.655	E	ug/l	0.001	1
Cl8-BZ#195	0.007		ug/l	0.001	1

DBOB	80	50-125
BZ 198	66	50-125

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Project Name: NEW BEDFORD HARBOR

Lab Number: L0908585

Project Number: NB HARBOR TASK 2.0

Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-03
Client ID: WQ-TPC-003-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 16:24
Analyst: JR

Date Collected: 06/24/09 11:10
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	2.60		ug/l	0.021	20
CI5-BZ#101	0.575		ug/l	0.021	20



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Project Name: NEW BEDFORD HARBOR

Lab Number: L0908585

Project Number: NB HARBOR TASK 2.0

Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-03
Client ID: WQ-TPC-003-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 16:24
Analyst: JR

Date Collected: 06/24/09 11:10
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1.57		ug/l	0.063	20
Cl3-BZ#18	3.29		ug/l	0.021	20
Cl4-BZ#44	1.16		ug/l	0.021	20
Cl4-BZ#52	4.03		ug/l	0.021	20
Cl6-BZ#153	0.547		ug/l	0.021	20



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-04
 Client ID: WQ-TPC-004-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 17:52
 Analyst: JR

Date Collected: 06/24/09 11:40
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	0.753	E	ug/l	0.001	1
Cl4-BZ#52	0.952	E	ug/l	0.001	1
Cl4-BZ#66	ND		ug/l	0.001	1
Cl5-BZ#101	0.135		ug/l	0.001	1
Cl5-BZ#105	ND		ug/l	0.001	1
Cl6-BZ#128	0.0103		ug/l	0.001	1
Cl6-BZ#138	0.064		ug/l	0.001	1
Cl6-BZ#153	0.115		ug/l	0.001	1
Cl7-BZ#170	0.0104		ug/l	0.001	1
Cl7-BZ#187	0.0237		ug/l	0.001	1
Cl9-BZ#206	0.00302		ug/l	0.00103	1
Cl10-BZ#209	ND		ug/l	0.001	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	97		50-125
BZ 198	74		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-04
 Client ID: WQ-TPC-004-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 17:52
 Analyst: JR

Date Collected: 06/24/09 11:40
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	0.408	E	ug/l	0.003	1
Cl3-BZ#18	0.876	E	ug/l	0.001	1
Cl4-BZ#44	0.264	E	ug/l	0.001	1
Cl5-BZ#118	0.0621		ug/l	0.001	1
Cl7-BZ#180	0.0131		ug/l	0.001	1
Cl8-BZ#195	0.00324		ug/l	0.00103	1
DBOB	97			50-125	
BZ 198	74			50-125	

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

07210914:25
Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-04
Client ID: WQ-TPC-004-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 17:04
Analyst: JR

Date Collected: 06/24/09 11:40
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	1.04		ug/l	0.010	10



07210914:25

Project Name: NEW BEDFORD HARBOR

Lab Number: L0908585

Project Number: NB HARBOR TASK 2.0

Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-04
Client ID: WQ-TPC-004-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 17:04
Analyst: JR

Date Collected: 06/24/09 11:40
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	0.662		ug/l	0.031	10
Cl3-BZ#18	1.40		ug/l	0.010	10
Cl4-BZ#44	0.391		ug/l	0.010	10
Cl4-BZ#52	1.39		ug/l	0.010	10



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-05
 Client ID: WQ-TPC-005-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 18:32
 Analyst: JR

Date Collected: 06/24/09 12:00
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	0.752	E	ug/l	0.001	1
Cl3-BZ#28	0.650	E	ug/l	0.001	1
Cl4-BZ#52	0.828	E	ug/l	0.001	1
Cl4-BZ#66	0.188		ug/l	0.001	1
Cl5-BZ#101	0.110		ug/l	0.001	1
Cl6-BZ#128	0.00919		ug/l	0.00103	1
Cl6-BZ#138	0.0551		ug/l	0.001	1
Cl6-BZ#153	0.0987		ug/l	0.001	1
Cl7-BZ#170	0.00887		ug/l	0.00103	1
Cl9-BZ#206	0.00277		ug/l	0.00103	1
Cl10-BZ#209	ND		ug/l	0.001	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	97		50-125
BZ 198	73		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-05
 Client ID: WQ-TPC-005-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 18:32
 Analyst: JR

Date Collected: 06/24/09 12:00
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	0.355	E	ug/l	0.003	1
CI4-BZ#44	0.236	E	ug/l	0.001	1
CI5-BZ#105	0.0113		ug/l	0.001	1
CI5-BZ#118	0.0546		ug/l	0.001	1
CI7-BZ#180	0.0112		ug/l	0.001	1
CI7-BZ#187	0.020		ug/l	0.001	1
CI8-BZ#195	0.00276		ug/l	0.00103	1

DBOB	97	50-125
BZ 198	73	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

07210914:25
Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-05
Client ID: WQ-TPC-005-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 17:45
Analyst: JR

Date Collected: 06/24/09 12:00
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	0.772		ug/l	0.005	5



07210914:25

Project Name: NEW BEDFORD HARBOR

Lab Number: L0908585

Project Number: NB HARBOR TASK 2.0

Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-05
Client ID: WQ-TPC-005-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 17:45
Analyst: JR

Date Collected: 06/24/09 12:00
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	0.460		ug/l	0.016	5
Cl3-BZ#18	0.944		ug/l	0.005	5
Cl4-BZ#44	0.284		ug/l	0.005	5
Cl4-BZ#52	0.987		ug/l	0.005	5



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-06
 Client ID: WQ-DPC-001-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 19:13
 Analyst: JR

Date Collected: 06/24/09 09:10
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI4-BZ#52	0.0275		ug/l	0.0011	1
CI4-BZ#66	ND		ug/l	0.001	1
CI5-BZ#101	0.00382		ug/l	0.00105	1
CI6-BZ#128	ND		ug/l	0.001	1
CI7-BZ#170	ND		ug/l	0.001	1
CI7-BZ#180	ND		ug/l	0.001	1
CI7-BZ#187	ND		ug/l	0.001	1
CI8-BZ#195	ND		ug/l	0.001	1
CI9-BZ#206	ND		ug/l	0.001	1
CI10-BZ#209	ND		ug/l	0.001	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	76		50-125
BZ 198	71		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-06
 Client ID: WQ-DPC-001-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 19:13
 Analyst: JR

Date Collected: 06/24/09 09:10
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	0.0241		ug/l	0.0032	1
Cl3-BZ#18	0.0424		ug/l	0.0011	1
Cl3-BZ#28	0.0286		ug/l	0.0011	1
Cl4-BZ#44	0.0102		ug/l	0.0011	1
Cl5-BZ#105	0.00163		ug/l	0.00105	1
Cl5-BZ#118	0.00346		ug/l	0.00105	1
Cl6-BZ#138	0.00205		ug/l	0.00105	1
Cl6-BZ#153	0.00284		ug/l	0.00105	1

DBOB	76	50-125
BZ 198	71	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-07
 Client ID: WQ-DPC-002-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 19:53
 Analyst: JR

Date Collected: 06/24/09 10:20
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	0.112		ug/l	0.001	1
Cl4-BZ#66	0.0278		ug/l	0.0011	1
Cl5-BZ#105	0.00408		ug/l	0.00105	1
Cl6-BZ#128	ND		ug/l	0.001	1
Cl6-BZ#153	0.00516		ug/l	0.00105	1
Cl7-BZ#170	ND		ug/l	0.001	1
Cl7-BZ#180	ND		ug/l	0.001	1
Cl7-BZ#187	ND		ug/l	0.001	1
Cl8-BZ#195	ND		ug/l	0.001	1
Cl9-BZ#206	ND		ug/l	0.001	1
Cl10-BZ#209	ND		ug/l	0.001	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	92		50-125
BZ 198	75		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-07
 Client ID: WQ-DPC-002-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 19:53
 Analyst: JR

Date Collected: 06/24/09 10:20
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	0.142		ug/l	0.003	1
Cl3-BZ#18	0.242	E	ug/l	0.001	1
Cl3-BZ#28	0.120		ug/l	0.001	1
Cl4-BZ#44	0.0381		ug/l	0.0011	1
Cl5-BZ#101	0.0148		ug/l	0.0011	1
Cl5-BZ#118	0.00522		ug/l	0.00105	1
Cl6-BZ#138	0.00435		ug/l	0.00105	1

DBOB	92	50-125
BZ 198	75	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

07210914:25
Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-07
Client ID: WQ-DPC-002-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 18:25
Analyst: JR

Date Collected: 06/24/09 10:20
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	0.350		ug/l	0.002	2



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-08
 Client ID: WQ-DPC-003-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 20:34
 Analyst: JR

Date Collected: 06/24/09 11:10
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	0.366	E	ug/l	0.002	1
Cl5-BZ#105	0.00504		ug/l	0.00159	1
Cl6-BZ#128	0.00299		ug/l	0.00159	1
Cl6-BZ#138	0.0207		ug/l	0.0016	1
Cl7-BZ#170	0.00438		ug/l	0.00159	1
Cl7-BZ#180	0.00634		ug/l	0.00159	1
Cl8-BZ#195	ND		ug/l	0.002	1
Cl10-BZ#209	ND		ug/l	0.002	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	97		50-125
BZ 198	86		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-08
 Client ID: WQ-DPC-003-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 20:34
 Analyst: JR

Date Collected: 06/24/09 11:10
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	0.518	E	ug/l	0.005	1
CI3-BZ#18	0.802	E	ug/l	0.002	1
CI4-BZ#44	0.142		ug/l	0.002	1
CI4-BZ#52	0.478	E	ug/l	0.002	1
CI4-BZ#66	0.0884		ug/l	0.0016	1
CI5-BZ#101	0.0448		ug/l	0.0016	1
CI5-BZ#118	0.0212		ug/l	0.0016	1
CI6-BZ#153	0.0411		ug/l	0.0016	1
CI7-BZ#187	0.0103		ug/l	0.0016	1
CI9-BZ#206	0.00173		ug/l	0.00159	1

DBOB	97	50-125
BZ 198	86	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-08
 Client ID: WQ-DPC-003-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/10/09 19:06
 Analyst: JR

Date Collected: 06/24/09 11:10
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	0.725		ug/l	0.019	4
Cl3-BZ#18	1.13		ug/l	0.006	4
Cl3-BZ#28	0.496		ug/l	0.006	4
Cl4-BZ#52	0.602		ug/l	0.006	4

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-09
 Client ID: WQ-DPC-004-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 21:14
 Analyst: JR

Date Collected: 06/24/09 11:40
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	0.248	E	ug/l	0.001	1
CI4-BZ#66	0.052		ug/l	0.001	1
CI5-BZ#105	0.00494		ug/l	0.00104	1
CI6-BZ#128	ND		ug/l	0.001	1
CI6-BZ#138	0.00889		ug/l	0.00104	1
CI7-BZ#187	0.00384		ug/l	0.00104	1
CI8-BZ#195	ND		ug/l	0.001	1
CI9-BZ#206	ND		ug/l	0.001	1
CI10-BZ#209	ND		ug/l	0.001	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	106		50-125
BZ 198	86		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-09
 Client ID: WQ-DPC-004-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 21:14
 Analyst: JR

Date Collected: 06/24/09 11:40
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	0.304	E	ug/l	0.003	1
CI3-BZ#18	0.511	E	ug/l	0.001	1
CI4-BZ#44	0.0816		ug/l	0.001	1
CI4-BZ#52	0.279	E	ug/l	0.001	1
CI5-BZ#101	0.0256		ug/l	0.001	1
CI5-BZ#118	0.0123		ug/l	0.001	1
CI6-BZ#153	0.0144		ug/l	0.001	1
CI7-BZ#170	0.00135		ug/l	0.00104	1
CI7-BZ#180	0.00153		ug/l	0.00104	1

DBOB 106 50-125
 BZ 198 86 50-125

07210914:25

Project Name: NEW BEDFORD HARBOR

Lab Number: L0908585

Project Number: NB HARBOR TASK 2.0

Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-09
Client ID: WQ-DPC-004-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 19:46
Analyst: JR

Date Collected: 06/24/09 11:40
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	0.564		ug/l	0.004	4
Cl3-BZ#28	0.332		ug/l	0.004	4



07210914:25

Project Name: NEW BEDFORD HARBOR

Lab Number: L0908585

Project Number: NB HARBOR TASK 2.0

Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-09
Client ID: WQ-DPC-004-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 19:46
Analyst: JR

Date Collected: 06/24/09 11:40
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	0.395		ug/l	0.013	4
Cl4-BZ#52	0.340		ug/l	0.004	4



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-10
Client ID: WQ-DPC-005-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/08/09 21:55
Analyst: JR

Date Collected: 06/24/09 12:00
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	0.236	E	ug/l	0.001	1
Cl4-BZ#66	0.0462		ug/l	0.0011	1
Cl6-BZ#128	ND		ug/l	0.001	1
Cl6-BZ#138	0.00582		ug/l	0.00105	1
Cl7-BZ#170	ND		ug/l	0.001	1
Cl7-BZ#180	ND		ug/l	0.001	1
Cl7-BZ#187	0.00302		ug/l	0.00105	1
Cl8-BZ#195	ND		ug/l	0.001	1
Cl9-BZ#206	ND		ug/l	0.001	1
Cl10-BZ#209	ND		ug/l	0.001	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	102		50-125
BZ 198	86		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-10
 Client ID: WQ-DPC-005-062409
 Sample Location: MA
 Matrix: Water
 Analytical Method: 1,8082
 Analytical Date: 07/08/09 21:55
 Analyst: JR

Date Collected: 06/24/09 12:00
 Date Received: 06/24/09
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	0.287	E	ug/l	0.003	1
Cl3-BZ#18	0.422	E	ug/l	0.001	1
Cl4-BZ#44	0.0818		ug/l	0.0011	1
Cl4-BZ#52	0.281	E	ug/l	0.001	1
Cl5-BZ#101	0.0206		ug/l	0.0011	1
Cl5-BZ#105	0.00488		ug/l	0.00105	1
Cl5-BZ#118	0.00795		ug/l	0.00105	1
Cl6-BZ#153	0.0108		ug/l	0.0011	1

DBOB	102	50-125
BZ 198	86	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

07210914:25
Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-10
Client ID: WQ-DPC-005-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 20:27
Analyst: JR

Date Collected: 06/24/09 12:00
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	0.540		ug/l	0.004	4



07210914:25

Project Name: NEW BEDFORD HARBOR

Lab Number: L0908585

Project Number: NB HARBOR TASK 2.0

Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-10
Client ID: WQ-DPC-005-062409
Sample Location: MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/10/09 20:27
Analyst: JR

Date Collected: 06/24/09 12:00
Date Received: 06/24/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	0.387		ug/l	0.013	4
C13-BZ#28	0.332		ug/l	0.004	4
C14-BZ#52	0.349		ug/l	0.004	4



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/08/09 13:49
Analyst: JR

Extraction Method: EPA 3510C
Extraction Date: 07/01/09 15:49
Cleanup Method1: EPA 3630
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-10 Batch: WG369166-1				
Cl3-BZ#18	ND		ug/l	0.001
Cl3-BZ#28	ND		ug/l	0.001
Cl4-BZ#44	ND		ug/l	0.001
Cl4-BZ#52	ND		ug/l	0.001
Cl4-BZ#66	ND		ug/l	0.001
Cl5-BZ#101	ND		ug/l	0.001
Cl5-BZ#105	ND		ug/l	0.001
Cl5-BZ#118	ND		ug/l	0.001
Cl6-BZ#128	ND		ug/l	0.001
Cl6-BZ#138	ND		ug/l	0.001
Cl6-BZ#153	ND		ug/l	0.001
Cl7-BZ#170	ND		ug/l	0.001
Cl7-BZ#180	ND		ug/l	0.001
Cl7-BZ#187	ND		ug/l	0.001
Cl8-BZ#195	ND		ug/l	0.001
Cl9-BZ#206	ND		ug/l	0.001
Cl10-BZ#209	ND		ug/l	0.001

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	82		50-125
BZ 198	80		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 07/08/09 13:49
 Analyst: JR

Extraction Method: EPA 3510C
 Extraction Date: 07/01/09 15:49
 Cleanup Method1: EPA 3630
 Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-10 Batch: WG369166-1				
Cl2-BZ#8	ND		ug/l	0.003

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	82		50-125
BZ 198	80		50-125

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0908585

Project Number: NB HARBOR TASK 2.0

Report Date: 07/21/09

Parameter	LCS %Recovery	LCS D %Recovery	%Recovery Limits	RPD	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-10 Batch: WG369166-2 WG369166-3					
CI7-BZ#170	76	83	40-120	9	30
CI7-BZ#187	70	76	40-120	8	30

DBOB	80	81	50-125
BZ 198	77	82	50-125

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-10 Batch: WG369166-2 WG369166-3					
CI2-BZ#8	74	75	40-120	1	30
CI3-BZ#18	77	81	40-120	6	30
CI3-BZ#28	76	82	40-120	7	30
CI4-BZ#44	77	81	40-120	5	30
CI4-BZ#52	76	79	40-120	4	30
CI4-BZ#66	79	82	40-120	5	30
CI5-BZ#101	76	80	40-120	5	30
CI5-BZ#105	85	91	40-120	7	30
CI5-BZ#118	80	84	40-120	5	30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0908585

Project Number: NB HARBOR TASK 2.0

Report Date: 07/21/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-10 Batch: WG369166-2 WG369166-3					
Cl6-BZ#128	81	84	40-120	4	30
Cl6-BZ#138	79	85	40-120	7	30
Cl6-BZ#153	79	82	40-120	4	30
Cl7-BZ#180	76	85	40-120	10	30
Cl8-BZ#195	82	88	40-120	7	30
Cl9-BZ#206	86	93	40-120	8	30
Cl10-BZ#209	75	81	40-120	8	30

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
DBOB	80		81		50-125
BZ 198	77		82		50-125

INORGANICS & MISCELLANEOUS



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-11
 Client ID: WQ-TSS-001-062409
 Sample Location: MA
 Matrix: Water

Date Collected: 06/24/09 09:10
 Date Received: 06/24/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	14.2		mg/l	1.00	1	-	06/30/09 17:30	4,160.2	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-12
 Client ID: WQ-TSS-002-062409
 Sample Location: MA
 Matrix: Water

Date Collected: 06/24/09 10:20
 Date Received: 06/24/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	11.7		mg/l	1.00	1	-	06/30/09 17:30	4,160.2	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-13
 Client ID: WQ-TSS-003-062409
 Sample Location: MA
 Matrix: Water

Date Collected: 06/24/09 11:10
 Date Received: 06/24/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	154		mg/l	1.00	1	-	06/30/09 17:30	4,160.2	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-14
 Client ID: WQ-TSS-004-062409
 Sample Location: MA
 Matrix: Water

Date Collected: 06/24/09 11:40
 Date Received: 06/24/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	20.0		mg/l	1.00	1	-	06/30/09 17:30	4,160.2	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-15
 Client ID: WQ-TSS-005-062409
 Sample Location: MA
 Matrix: Water

Date Collected: 06/24/09 12:00
 Date Received: 06/24/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	24.0		mg/l	1.00	1	-	06/30/09 17:30	4,160.2	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-16
 Client ID: WQ-TUR-001-062409
 Sample Location: MA
 Matrix: Water

Date Collected: 06/24/09 09:10
 Date Received: 06/24/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	5.4		NTU	0.40	1	-	06/24/09 21:12	8,180.1	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-17
 Client ID: WQ-TUR-002-062409
 Sample Location: MA
 Matrix: Water

Date Collected: 06/24/09 10:20
 Date Received: 06/24/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	6.6		NTU	0.40	1	-	06/24/09 21:12	8,180.1	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-18
 Client ID: WQ-TUR-003-062409
 Sample Location: MA
 Matrix: Water

Date Collected: 06/24/09 11:10
 Date Received: 06/24/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	77		NTU	0.40	1	-	06/24/09 21:12	8,180.1	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-19
 Client ID: WQ-TUR-004-062409
 Sample Location: MA
 Matrix: Water

Date Collected: 06/24/09 11:40
 Date Received: 06/24/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	12		NTU	0.40	1	-	06/24/09 21:12	8,180.1	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

SAMPLE RESULTS

Lab ID: L0908585-20
 Client ID: WQ-TUR-005-062409
 Sample Location: MA
 Matrix: Water

Date Collected: 06/24/09 12:00
 Date Received: 06/24/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	15		NTU	0.40	1	-	06/24/09 21:12	8,180.1	ES



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0908585**Project Number:** NB HARBOR TASK 2.0**Report Date:** 07/21/09

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 16-20 Batch: WG368632-1									
Turbidity	ND		NTU	0.40	1	-	06/24/09 21:12	8,180.1	ES
General Chemistry - Mansfield Lab for sample(s): 11-15 Batch: WG369053-1									
Solids, Total Suspended	ND		mg/l	1.00	1	-	06/30/09 17:30	4,160.2	ES



Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0908585

Project Number: NB HARBOR TASK 2.0

Report Date: 07/21/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 16-20 Batch: WG368632-2					
Turbidity	107	-	90-110	-	10
General Chemistry - Mansfield Lab Associated sample(s): 11-15 Batch: WG369053-2					
Solids, Total Suspended	101	-	80-120	-	20

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0908585
Report Date: 07/21/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 16-20 QC Batch ID: WG368632-3 QC Sample: L0908585-16 Client ID: WQ-TUR-001-062409					
Turbidity	5.4	5.5	NTU	2	10
General Chemistry - Mansfield Lab Associated sample(s): 11-15 QC Batch ID: WG369053-3 QC Sample: L0908585-11 Client ID: WQ-TSS-001-062409					
Solids, Total Suspended	14.2	14.8	mg/l	4	20

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
N/A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0908585-01A	Amber 1000ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-02A	Amber 1000ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-03A	Amber 1000ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-04A	Amber 1000ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-05A	Amber 1000ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-06A	Amber 1000ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-06B	Glass 100ml unpreserved	N/A	N/A		Y	Absent	FILTER()
L0908585-07A	Amber 1000ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-07B	Glass 100ml unpreserved	N/A	N/A		Y	Absent	FILTER()
L0908585-08A	Amber 1000ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-08B	Glass 100ml unpreserved	N/A	N/A		Y	Absent	FILTER()
L0908585-08C	Amber 500ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-09A	Amber 1000ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-09B	Glass 100ml unpreserved	N/A	N/A		Y	Absent	FILTER()
L0908585-10A	Amber 1000ml unpreserved	A	7	2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L0908585-10B	Glass 100ml unpreserved	N/A	N/A		Y	Absent	FILTER()
L0908585-11A	Plastic 1000ml unpreserved	B	7	2	Y	Absent	A2-TSS-160(7)
L0908585-12A	Plastic 1000ml unpreserved	B	7	2	Y	Absent	A2-TSS-160(7)
L0908585-13A	Plastic 1000ml unpreserved	B	7	2	Y	Absent	A2-TSS-160(7)
L0908585-14A	Plastic 1000ml unpreserved	B	7	2	Y	Absent	A2-TSS-160(7)
L0908585-15A	Plastic 1000ml unpreserved	B	7	2	Y	Absent	A2-TSS-160(7)
L0908585-16A	Plastic 500ml unpreserved	B	7	2	Y	Absent	A2-TURBIDITY-180.1(2)
L0908585-17A	Plastic 500ml unpreserved	B	7	2	Y	Absent	A2-TURBIDITY-180.1(2)
L0908585-18A	Plastic 500ml unpreserved	B	7	2	Y	Absent	A2-TURBIDITY-180.1(2)
L0908585-19A	Plastic 500ml unpreserved	B	7	2	Y	Absent	A2-TURBIDITY-180.1(2)
L0908585-20A	Plastic 500ml unpreserved	B	7	2	Y	Absent	A2-TURBIDITY-180.1(2)
L0908585-21A	Plastic 500ml unpreserved	B	7	2	Y	Absent	HOLD(14)
L0908585-22A	Plastic 500ml unpreserved	B	7	2	Y	Absent	HOLD(14)

*Hold days indicated by values in parentheses

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0908585-23A	Plastic 500ml unpreserved	B	7	2	Y	Absent	HOLD(14)
L0908585-24A	Plastic 500ml unpreserved	B	7	2	Y	Absent	HOLD(14)
L0908585-25A	Plastic 500ml unpreserved	B	7	2	Y	Absent	HOLD(14)
L0908585-26A	Plastic 500ml unpreserved	B	7	2	NA	Absent	HOLD(14)

Container Comments

L0908585-11A USED ENTIER SAMPLE

*Hold days indicated by values in parentheses

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCS D	- Laboratory Control Sample Duplicate: Refer to LCS.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MS D	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	- Not detected at the reported detection limit for the sample.
NI	- Not Ignitable.
RDL	- Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

*	- The batch duplicate RPD exceeds the acceptance criteria. This flag is not applicable when the sample concentrations are less than 5x the RDL. (Metals only.)
A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
N	- The matrix spike recovery exceeds the acceptance criteria. This flag is not applicable when the sample concentration is greater than 4x the spike added. (Metals only.)
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0908585
Report Date: 07/21/09

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.
- 8 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. 19th Edition. 1995.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised June 17, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SM2320B, 4500NH3-F, EPA 120.1, SM2510B, 2340B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, 420.1, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. *NELAP Accredited.*

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. *NELAP Accredited via LA-DEQ.*

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. *NELAP Accredited.*

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7471. Organic Parameters: EPA 8015, 8270.)

U.S. Army Corps of Engineers

Certificate/Approval Program Summary

Last revised July 7, 2009 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Haloacetic Acids, Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB).)

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Calcium Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: Lead in Paint, pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), Reactivity. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3,3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9221E, 9222B, 9222D, 9223B, EPA 150.1, 180.1, 300.0, 353.2, SM2130B, 2320B, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1. Organic Parameters: 504.1, 524.2, SM 6251B.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500CI-D, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water

Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)

(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Nitrite-N, Fluoride, Sulfate)

353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, EPA 150.1, SM4500H-B.

Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)

(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), SM6251B, 314.0.

Non-Potable Water

Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)

(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Tl,Ti,V,Zn,Ca,Mg,Na,K)

245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-

BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Nitrate-N, SM4500NO3-F, 353.2 for Nitrate-N,

SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM

5210B, 5310C, 4500CN-CE, 2540D, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)

(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCB-Water)

600/4-81-045-PCB-Oil

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.*Drinking Water*

Microbiology Parameters: SM9215B; MF-SM9222B; ENZ. SUB. SM9223; EC-SM9221E; MF-SM9222D; ENZ. SUB. SM9223;

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 110.2, 120.1, 150.1, 300.0, 325.2, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 150.1, 300.0, 305.1, 310.1, 325.2, 340.2, 350.1, 350.2, 351.1, 353.2, 354.1, 365.2, 375.4, 376.2, 405.1, 415.1, 420.1, 425.1, 1664A, SW-846 9010, 9030, 9040B, EPA 160.1, 160.2, 160.3, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, 331.0, 110.2, SM2120B, 2510B, 5310C, EPA 150.1, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.1, SM5220D, 4500CI-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.2/.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

New York Department of Health Certificate/Lab ID: 11148. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 8215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 331.0, SM2320B, EPA 300.0, 325.2, 110.2, SM2120B, 4500CN-E, 4500F-C, EPA 150.1, SM4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, EPA 405.1, SM5210B, EPA 410.4, SM5220D, EPA 305.1, SM2310B-4a, EPA 310.1, SM2320B, EPA 200.7, 300.0, 325.2, LACHAT 10-117-07-1A or B, SM4500CI-E, EPA 340.2, SM4500F-C, EPA 375.4, SM15 426C, EPA 350.1, 350.2, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO30F, EPA 354.1, SM4500-NO2-B, EPA 365.2, SM4500P-E, EPA 160.3, EPA 160.1, SM2540C, EPA 160.2, SM2540B, SM2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, 110.2, SM2120B, 335.2, LACHAT 10-204-00-1-A, EPA 150.1, 9040B, SM4500-HB, EPA 1664A, EPA 415.1, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, EPA 376.2, SM4500S-D, EPA 425.1, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, 8021B, EPA 3510C, 5030B, 9010B, 9030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 8021B, 3540C, 3545, 3580, 5030B, 5035.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 3510C, 625, 608, 8081A, 8082, 8151A, 8270C, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. NELAP Accredited via NY-DOH.

Page 66 of 76 Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NY-DOH Certificate for Potable and Non-Potable Water.

Utah Department of Health Certificate/Lab ID: AAMA. **NELAP Accredited.**
Non-Potable Water (Inorganic Parameters: Chloride EPA 300.0)

07210914:25



CHAIN OF CUSTODY

PAGE 2 OF 3

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Dr.
Falmouth, MA
Phone: 508-540-8081
Fax:
Email: kmccartney@whgrp.com

Project Information

Project Name:
Project Location: New Bedford Harbor
Project #:
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)
Date Due: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Date Rec'd in Lab:

ALPHA Job #: 10908585

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS	SAMPLE HANDLING		TOTAL # BOTTLES
	Filtration	Preservation	
TSS turbidity	<input type="checkbox"/> Done	<input type="checkbox"/> Lab to do	
	<input type="checkbox"/> Not needed	<input type="checkbox"/> Lab to do	
	(Please specify below)		
	Sample Specific Comments		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials									
		Date	Time											
10908585-11	WQ-TSS-001-062409	6/24/09	0910		kgk	X								
12	WQ-TSS-002-062409	"	1020		"	X								
13	WQ-TSS-003-062409	"	1110		"	X								
14	WQ-TSS-004-062409	"	1140		"	X								
15	WQ-TSS-005-062409	"	1200		"	X								
16	WQ-TUR-001-062409	"	0910		"	X								
17	WQ-TUR-002-062409	"	1020		"	X								
18	WQ-TUR-003-062409	"	1110		"	X								
19	WQ-TUR-004-062409	"	1140		"	X								
20	WQ-TUR-005-062409	"	1200		"	X								

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
<u>Kathryn McCormey</u>	<u>6/24, 1349</u>	<u>MARTIN POTTER</u>	<u>6/24, 1349</u>
<u>MARTIN POTTER</u>	<u>6/24, 1440</u>	<u>[Signature]</u>	<u>6/24/09 1440</u>

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORMNO: 01-01 (rev. 30-JUL-07)

07210914:25



CHAIN OF CUSTODY

PAGE 3 OF 3

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: **10908585**

Client Information

Client: **Woods Hole Group**
Address: **81 Technology Park Dr.
Falmouth, MA**
Phone: **508-540-8080**
Fax:
Email: **kmccartney@whgrp.com**
 These samples have been previously analyzed by Alpha

Project Information

Project Name:
Project Location: **New Bedford Harbor**
Project #:
Project Manager: **Dave Walsh**
ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		

10908585-21	WQ-MET-001-062409	6/24/09	0910		KGM	X
22	WQ-MET-002-062409	"	1020		"	X
23	WQ-MET-003-062409	"	1110		"	X
24	WQ-MET-004-062409	"	1140		"	X
25	WQ-MET-005-062409	"	1200		"	X

ANALYSIS
Metal (archive)

SAMPLE HANDLING
Filtration
 Done
 Not needed
 Lab to do
 Preservation
 Lab to do
(Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

archive
↓

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
<i>Kathryn McCartney</i>	6/24 1349	<i>MARTIN POTTER</i>	6/24 1349
<i>MARTIN POTTER</i>	6/24 1440	<i>[Signature]</i>	6/24/09 1440

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORM NO: 01-01 (rev. 30-JUL-07)



ANALYTICAL REPORT

Lab Number:	L0909939
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Bob Hamilton
Project Name:	NEW BEDFORD HARBOR
Project Number:	NB HARBOR TASK 2.0
Report Date:	07/23/09

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0909939-01	DS-TUR-001-072209	MA	07/22/09 08:26
L0909939-02	DS-TUR-002-072209	MA	07/22/09 09:52
L0909939-03	DS-TUR-003-072209	MA	07/22/09 09:51
L0909939-04	DS-TUR-003-072209 REP	MA	07/22/09 09:51
L0909939-05	DS-TUR-004-072209	MA	07/22/09 09:51
L0909939-06	DS-TUR-005-072209	MA	07/22/09 09:49

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 07/23/09

INORGANICS & MISCELLANEOUS



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

SAMPLE RESULTS

Lab ID: L0909939-01
 Client ID: DS-TUR-001-072209
 Sample Location: MA
 Matrix: Seawater

Date Collected: 07/22/09 08:26
 Date Received: 07/22/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	190		NTU	0.40	1	-	07/22/09 19:30	8,180.1	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

SAMPLE RESULTS

Lab ID: L0909939-02
 Client ID: DS-TUR-002-072209
 Sample Location: MA
 Matrix: Seawater

Date Collected: 07/22/09 09:52
 Date Received: 07/22/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	140		NTU	0.40	1	-	07/22/09 19:30	8,180.1	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

SAMPLE RESULTS

Lab ID: L0909939-03
 Client ID: DS-TUR-003-072209
 Sample Location: MA
 Matrix: Seawater

Date Collected: 07/22/09 09:51
 Date Received: 07/22/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	110		NTU	0.40	1	-	07/22/09 19:30	8,180.1	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

SAMPLE RESULTS

Lab ID: L0909939-04
 Client ID: DS-TUR-003-072209 REP
 Sample Location: MA
 Matrix: Seawater

Date Collected: 07/22/09 09:51
 Date Received: 07/22/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	110		NTU	0.40	1	-	07/22/09 19:30	8,180.1	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

SAMPLE RESULTS

Lab ID: L0909939-05
 Client ID: DS-TUR-004-072209
 Sample Location: MA
 Matrix: Seawater

Date Collected: 07/22/09 09:51
 Date Received: 07/22/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	92		NTU	0.40	1	-	07/22/09 19:30	8,180.1	ES



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

SAMPLE RESULTS

Lab ID: L0909939-06
 Client ID: DS-TUR-005-072209
 Sample Location: MA
 Matrix: Seawater

Date Collected: 07/22/09 09:49
 Date Received: 07/22/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Turbidity	7.2		NTU	0.40	1	-	07/22/09 19:30	8,180.1	ES



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0909939**Project Number:** NB HARBOR TASK 2.0**Report Date:** 07/23/09

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 01-06 Batch: WG372023-1									
Turbidity	ND		NTU	0.40	1	-	07/22/09 19:30	8,180.1	ES



Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-06 Batch: WG372023-2					
Turbidity	100	-	90-110	-	10

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0909939
Report Date: 07/23/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG372023-3 QC Sample: L0909939-01 Client ID: DS-TUR-001-072209					
Turbidity	190	200	NTU	5	10

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0909939-01A	Plastic 500ml unpreserved	A	8	2	Y	Absent	A2-TURBIDITY-180.1(2)
L0909939-02A	Plastic 500ml unpreserved	A	8	2	Y	Absent	A2-TURBIDITY-180.1(2)
L0909939-03A	Plastic 500ml unpreserved	A	8	2	Y	Absent	A2-TURBIDITY-180.1(2)
L0909939-04A	Plastic 500ml unpreserved	A	8	2	Y	Absent	A2-TURBIDITY-180.1(2)
L0909939-05A	Plastic 500ml unpreserved	A	8	2	Y	Absent	A2-TURBIDITY-180.1(2)
L0909939-06A	Plastic 500ml unpreserved	A	8	2	Y	Absent	A2-TURBIDITY-180.1(2)

*Hold days indicated by values in parentheses

Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCS D	- Laboratory Control Sample Duplicate: Refer to LCS.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MS D	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	- Not detected at the reported detection limit for the sample.
NI	- Not Ignitable.
RDL	- Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

*	- The batch duplicate RPD exceeds the acceptance criteria. This flag is not applicable when the sample concentrations are less than 5x the RDL. (Metals only.)
A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
N	- The matrix spike recovery exceeds the acceptance criteria. This flag is not applicable when the sample concentration is greater than 4x the spike added. (Metals only.)
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: NB HARBOR TASK 2.0

Lab Number: L0909939
Report Date: 07/23/09

REFERENCES

- 8 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. 19th Edition. 1995.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised June 17, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SM2320B, 4500NH3-F, EPA 120.1, SM2510B, 2340B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, 420.1, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. *NELAP Accredited.*

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. *NELAP Accredited via LA-DEQ.*

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. *NELAP Accredited.*

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7471. Organic Parameters: EPA 8015, 8270.)

U.S. Army Corps of Engineers


07230910:39

Delivery Order-0010
July 2010

C-91

Water Quality Monitoring Summary Report
W912WJ-09-D-0001

Page 19 of 19



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab:

ALPHA Job #: L0909939

Project Information

Report Information - Data Deliverables

Billing Information

Project Name: NBH Water Quality Monitoring

Project Location: New Bedford Harbor

Client: WOODS HOLE GROUP

Address: 81 TECHNOLOGY PARK DR.
E. PALMATH, MA 02356

Phone: 508-540-8080

Fax: 508-540-1001

Email: dwalsh@whgrp.com

These samples have been previously analyzed by Alpha

Project #: NBH TASK 2.0 WQ

Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)
1-day

Date Due: 7/23/09 Time:

FAX EMAIL

ADEX Add'l Deliverables

Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: Fed Criteria:

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?

Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS	SAMPLE HANDLING	TOTAL # BOTTLES	
		Date	Time						
<u>L0909939-1</u>	<u>DS-TUR-001-072209</u>	<u>7/22/09</u>	<u>0826</u>	<u>SW</u>	<u>KGM</u>	Turbidity	Filtration <input type="checkbox"/> Done <input checked="" type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do <small>(Please specify below)</small>	1	
<u>2</u>	<u>DS-TUR-002-072209</u>	<u>7/22</u>	<u>0952</u>	<u>SW</u>	<u>KGM</u>			1	
<u>3</u>	<u>DS-TUR-003-072209</u>	<u>7/22</u>	<u>0951</u>	<u>SW</u>	<u>KGM</u>			1	
<u>4</u>	<u>DS-TUR-003-072209REP</u>	<u>7/22</u>	<u>0951</u>	<u>SW</u>	<u>KGM</u>			1	FIELD DUPLICATE
<u>5</u>	<u>DS-TUR-004-072209</u>	<u>7/22</u>	<u>0951</u>	<u>SW</u>	<u>KGM</u>			1	
<u>6</u>	<u>DS-TUR-005-072209</u>	<u>7/22/09</u>	<u>0949</u>	<u>SW</u>	<u>KGM</u>			1	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By: [Signature]
MAREN POTTER

Date/Time: 7/22/09 1535

Container Type: P

Preservative: A

Received By: [Signature]
[Signature]

Date/Time: 7/22/09 1535

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORM NO: 01-01 (rev. 30-JUL-07)

**APPENDIX D: ENVIROSYSTEMS, INC. REPORTS AND ANALYTICAL
DATA**

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July 10, 2009

Mr. Dave Walsh
Woods Hole Group, Inc.
81 Technology Park
Falmouth, MA 02536

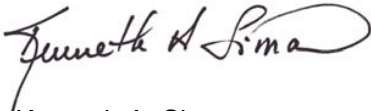
Dear Mr. Walsh;

Enclosed please find two (2) copies of our report evaluating the toxicity of samples received as part of the New Bedford Harbor surface water quality monitoring program for the 2009 sampling period. This report evaluates results of four (4) acute and chronic exposure toxicity tests conducted with the mysid shrimp, *Americamysis bahia*, plus chronic exposure assays conducted with the sea urchin, *Arbacia punctulata*, and red macro algae, *Champia parvula*. A fifth sample collected as part of the field effort was not analyzed as per specification.

Please do not hesitate to call me, Reneé McIsaac or Petra Karbe should you have any questions regarding the report.

Sincerely,

EnviroSystems, Incorporated



Kenneth A. Simon
President

Enclosure

Report; Two (2) Copies
Study Number 18661-09-07

**Biomonitoring of Surface Water Samples
New Bedford Harbor
New Bedford, Massachusetts**

June 24, 2009 Sampling Event

NED ACOE Job Number: TO-0010

Task Order No.: ESI0002

Prepared for

Woods Hole Group, Inc.
81 Technology Park
Falmouth, MA 02536

Prepared by

EnviroSystems, Incorporated
1 Lafayette Road
Hampton, New Hampshire 03843

June 2009

Reference Number: Woods Hole Group, Inc. 18661-09-07

Page 1 of 9

Biomonitoring of Surface Water Samples New Bedford Harbor, New Bedford, Massachusetts

June 24, 2009 Sampling Event
NED ACOE Job Number: TO-0010

1.0 INTRODUCTION

This report provides a summarization of data generated from acute and chronic exposure screening assays evaluating surface water samples collected from New Bedford Harbor in New Bedford, Massachusetts. Toxicity tests were conducted on grab surface water samples collected from the specified areas in the harbor. Assay design included a laboratory control treatment and one or more surface water samples. Samples were evaluated "As Received" without dilutions. Assays were conducted based on water quality levels in the vicinity of dredging operations. Samples were collected under the supervision of Woods Hole Group, Inc. personnel from the Falmouth, Massachusetts office. Testing was based on programs and protocols developed by the US EPA (2002) and included the following assays; modified 2 day acute and 7 day chronic assays conducted with the mysid shrimp, *Americamysis bahia*, and the red macro alga, *Champia parvula*, and 60 minute chronic fertilization assays conducted with the purple sea urchin, *Arbacia punctulata*. All mysid and urchin fertilization assays and the acute survival portion of the algal assays were conducted by ESI at its Hampton, New Hampshire facility. Additionally, the algal assays were also conducted by Aquatox Testing & Consulting, Inc. (Aquatox), Guelph, Ontario, Canada in order to provide data in the event that the assay conducted by ESI failed to meet the target endpoints.

2.0 MATERIALS AND METHODS

2.1 General Methods

Toxicological and analytical protocols used in this program followed procedures primarily designed by the EPA to provide standard approaches for the evaluation of toxicological effects of discharges on aquatic organisms, and for the analysis of water samples.

2.2 Test Species

A. bahia were obtained from cultures maintained by Aquatic Research Organisms (ARO), Hampton, New Hampshire. Juvenile shrimp were collected daily, isolated, and placed in a rearing tank for up to 6 days. Holding tanks were maintained in a flow-through culture mode at a temperature of $25 \pm 2^\circ\text{C}$. At the start of the assays the mysids were 7 days old. Juveniles were fed ≤ 24 hour old brine shrimp on a daily basis. Water temperature, salinity, and pH were monitored on a daily basis. Prior to testing, organisms were siphoned from the rearing tanks to a holding vessel, and then transferred to test chambers using a large bore pipet, minimizing the amount of water added to test solutions.

A. punctulata adults were from cultures maintained by ESI. Original stock was obtained from commercial supply. Male and female urchins are maintained in separate chambers as recommended by protocol (EPA 2002) and ESI. Adult urchins were induced to spawn by the injection of a potassium chloride solution. The viability of gametes obtained was determined prior to their addition to the test solutions. Eggs and/or sperm that would not result in a fertilized egg were rejected from the pool of gametes used in the assay.

C. parvula were from cultures maintained by Aquatox Testing & Consulting Inc. The male and female plants are maintained in separate culture vessels under sterile conditions. Algal cultures were maintained on an orbital shaker (100 rpm) at $23 \pm 2^\circ\text{C}$ under 16 hour light : 8 hours dark at 40 to 75 foot candles light intensity. Cultures are "cropped" and transferred to fresh nutrient solutions on a weekly basis.

2.3 Surface Water Samples and Laboratory Control Water

Grab surface water samples were collected by Woods Hole Group, Inc. staff on one occasion in New Bedford Harbor, as shown in Table 1. Samples were placed in polyethylene cubitainers for shipment to the laboratory. One, 5.0 gallon cubitainers were collected for each of the chronic assays. Prior to testing, samples

were evaluated to document salinity, conductivity, and total residual chlorine. Total residual chlorine was measured by amperometric titration (MDL 0.02 mg/L). Prior to use in the assays, the salinity of the samples was adjusted, as necessary, to predetermined levels using artificial sea salts for *A. bahia* and *A. punctulata* assays, and GP-2 salts (EPA 2002) for the *C. parvula* assays. When necessary, the salinity of samples for the *A. bahia* acute and chronic exposure assays were adjusted to $25\pm 2\%$ while samples used for the *A. punctulata* and *C. parvula* assays were adjusted to $30\pm 2\%$. Samples with "as received" salinity above these levels were not adjusted. A summary of compositing and "As Received" data are summarized in Tables 2 and 3, respectively.

Laboratory control water used for the mysid and sea urchin assays was collected from the Hampton/Seabrook Estuary. This water is classified as SA-1 and has been used to culture marine test organisms since 1981. The laboratory control water used in the algal assay (48 hour acute portion), collected from Hampton Harbor, New Hampshire, is the same water used in culture maintenance. Prior to use, seawater used in the algal assays was filtered through glass fiber filters and sterilized. Control water used in the algal assays conducted by AquaTox (acute and chronic portions) was natural seawater collected from the West Coast of Canada. Salinity of the surface water samples was adjusted, as required, using commercial sea salts.

2.4 Bioassays

2.4.1 *Americamysis bahia* Modified Acute and Chronic Exposure Bioassays

Endpoints for the *A. bahia* bioassay were survival (acute and chronic) and growth. Modified acute and chronic exposure screening assays were conducted in a static renewal test mode with renewals made at 24-hour intervals. The 7 day assays were conducted at a temperature of $26\pm 1^\circ\text{C}$ with a photoperiod of 16:8 hours light:dark. Mysids were maintained in 250 mL beakers containing 150 mL of test solution. Approximately 100 mL of the test solution were replaced each day. The assay incorporated 8 replicates with 5 organisms/replicate. Survival and dissolved oxygen were measured daily in each replicate prior to test solution renewal. Salinity, temperature and pH were recorded in a composite sample of the "old" test solution and in the "new" test solution prior to being added to the test chamber. Incubator temperatures were also recorded on a daily basis.

During the test, mysids were fed ≤ 24 hour old *Artemia* nauplii. On Day 7 of the assay, surviving mysids were removed from test solutions, rinsed to remove any surface detritus and salts, and transferred to tared foils and dried for 24 hours at 103°C . Foils were weighed to the nearest 0.01 mg. Mean dry weights per individual were obtained by dividing the net dry weight of all surviving organisms by the number of organisms added at the start of the assay.

2.4.2 *Arbacia punctulata* Chronic Exposure Fertilization Assays

The endpoint for the *A. punctulata* bioassay was fertilization. Gametes were obtained by potassium chloride injection to induce spawning. Sperm were collected dry, diluted to achieve a concentration of approximately 5.0×10^7 sperm/mL in the surface water treatments. Actual sperm concentrations are provided on laboratory bench sheets in Appendix A. Sperm solutions were added to 5 mL aliquots of each sample being evaluated and allowed to remain in the test solutions for 60 minutes before the addition of unfertilized eggs. Each treatment incorporated a total of four (4) replicates. After 20 minutes exposure, the assay was terminated by the addition of 0.2 mL of preservative. Aliquots of preserved solution were counted to determine numbers of fertilized and unfertilized eggs. Fertilization was accepted based on the presence or absence of a fertilization membrane around the egg.

2.4.3 *Champia parvula* Modified Acute and Chronic Exposure Assays

The target endpoints for the acute *C. parvula* bioassay were coloration and necrosis. Endpoints for the chronic *C. parvula* bioassay were survival and cystocarp development. The 7 day red algae assay was conducted with a 2 day exposure period to the surface waters and laboratory control treatments. Each treatment used four replicates with five female branches and one male branch per replicate. Temperature was maintained at $23\pm 1^\circ\text{C}$. The light source was cool white and fluorescent bulbs set on a 16:8 hours light:dark cycle, with a light intensity of 40 to 75 foot candles. Light intensity was checked at the start of each assay.

Temperatures were monitored on a daily basis. Test chambers were 200 mL borosilicate glass fleakers. After 2 days exposure, female branch tips were transferred to approximately 100 mL of recovery medium with added nutrients and allowed to recover and mature for 5 days. During transfer, plants were examined to determine the physical condition of the individual branches. Branches showing signs of degeneration were noted and used to establish an acute endpoint. After the recovery period, the number of cystocarps (reproductive bodies) on each female branch were counted. Data for the acute endpoints was generated by ESI while data for acute and chronic exposure endpoint was generated by AquaTox.

2.5 Data Analysis

Statistical analysis of acute and chronic exposure data was completed using CETIS, Comprehensive Environmental Toxicity Testing System, software. The program computes acute and chronic exposure endpoints based on EPA decision tree guidelines specified in individual test methods. For chronic exposure endpoints statistical significance was accepted at $\alpha < 0.05$.

2.6 Quality Control

As part of the laboratory quality control program, standard reference toxicant assays are conducted on a regular basis for each test species. These results, summarized in Table 5, provide relative health and response data while allowing for comparison with historic data sets.

2.7 Protocol Deviations and Unacceptable Assays

Review of data collected from the assays conducted during the monitoring period documented no protocol deviations.

3.0 RESULTS SUMMARY

Table 2 provides a summary of test acceptability for the assays conducted during this monitoring period. Table 3 provides summaries of survival, growth, development and reproduction endpoints and associated statistical analyses. Table 4 provides a summary of water quality data associated with the assays. Support data, including copies of laboratory bench sheets, are provided in Appendix A.

For this round of sample analysis two (2) reference site samples, Composite 001 (WQTOX-001 / WQTOX-002) and Composite 002 (WQTOX-003 / WQTOX004), were provided. Composites 001 and 002 served as Flood and Ebb tide reference sites, respectively. Composite 005, WQTOX-009 and WQTOX-010, was not evaluated based on client specification.

3.1 *Americamysis bahia* Acute and Chronic Exposure Bioassay

Minimum test acceptability criteria for the acute exposure bioassay require $\geq 90\%$ survival in the control concentrations. Minimum test acceptability criteria for the chronic exposure bioassay require $\geq 80\%$ survival and a minimum weight of 0.2 mg per individual in the control concentrations. Achievement of these results indicate that healthy test organisms were used. See Table 4 for test acceptability and data summary.

3.2 *Arbacia punctulata* Chronic Fertilization Bioassay

Protocol specifies a 70% to 90% fertilization rate for *Arbacia punctulata* (EPA 2002). Achievement of these results indicate that healthy test organisms were used. See Table 4 for test acceptability and data summary.

3.3 *Champia parvula* Modified Acute and Chronic Exposure Bioassay

The modified acute exposure bioassay was considered to be acceptable if no notable branch necrosis was observed and appropriate coloration of test species was achieved in the laboratory control treatment. Minimum test acceptability criteria for the chronic exposure bioassay require $\geq 80\%$ survival and an average of 10 cystocarps per plant in the control concentrations. Achievement of these results indicate that healthy test organisms were used. See Table 4 for test acceptability and data summary.

4.0 REFERENCES

- APHA. 1998. *Standard Methods for the Examination of Water and Wastewater*, 20th edition. Washington D.C.
- US EPA. 2002. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms*. Fourth Edition. EPA-821-R-02-012.
- US EPA. 2002. *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*. Fourth Edition. EPA-821-R-02-013.

Table 1. Sample Receipt Summary. New Bedford Harbor Surface Water Quality Monitoring June 24, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Field ID	ESI Reference	Matrix	Collection		Receipt	
			Date	Time	Date	Time
WQTOX-001-062409	18661-001	Water	06/24/09	0910	06/24/09	1730
WQTOX-002-062409	18661-002	Water	06/24/09	0910	06/24/09	1730
WQTOX-003-062409	18661-003	Water	06/24/09	1020	06/24/09	1730
WQTOX-004-062409	18661-004	Water	06/24/09	1020	06/24/09	1730
WQTOX-005-062409	18661-005	Water	06/24/09	1110	06/24/09	1730
WQTOX-006-062409	18661-006	Water	06/24/09	1110	06/24/09	1730
WQTOX-007-062409	18661-007	Water	06/24/09	1140	06/24/09	1730
WQTOX-008-062409	18661-008	Water	06/24/09	1140	06/24/09	1730
WQTOX-009-062409	18661-009	Water	06/24/09	1200	06/24/09	1730
WQTOX-010-062409	18661-010	Water	06/24/09	1200	06/24/09	1730

Table 2 Sample Compositing Summary. New Bedford Harbor Surface Water Quality Monitoring June 24, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Composite Name	Components	ESI Code	Final Volume	Composite Date / Time	
Composite 001	WQTOX-001, WQTOX-002	18661-016	5 gallons	06/24/09	1745
Composite 002	WQTOX-003, WQTOX-004	18661-017	5 gallons	06/24/09	1750
Composite 003	WQTOX-005, WQTOX-006	18661-018	5 gallons	06/24/09	1755
Composite 004	WQTOX-007, WQTOX-008	18661-019	5 gallons	06/24/09	1800
Composite 005*	WQTOX-009, WQTOX-010	18661-020	5 gallons	06/24/09	1805

Table 3 Summary of "As Received" Sample Physical and Chemical Characteristics. New Bedford Harbor Surface Water Quality Monitoring June 24, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Field ID	ESI Code	Ammonia (mg/L)	pH (SU)	Salinity (‰)	Total Residual Chlorine (mg/L)
WQTOX-001, WQTOX-002	18661-016	<0.1	7.65	27.5	<0.02
WQTOX-003, WQTOX-004	18661-017	<0.1	7.53	26.2	<0.02
WQTOX-005, WQTOX-006	18661-018	0.12	7.56	26.7	<0.02
WQTOX-007, WQTOX-008	18661-019	<0.1	7.54	25.0	<0.02
WQTOX-009, WQTOX-010	18661-020	0.14	7.56	26.3	<0.02

NOTE:

* Composite 005, WQTOX-009, WQTOX-010, was not tested as per client specification.

Table 4. Endpoint Summary Table - New Bedford Harbor Surface Water Quality Monitoring June 24, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Sample ID	Reps	Mean	Min	Max	CV	Significant Difference vs					
						p Value	Lab	p Value -001	p Value -002		
<i>Arbacia punctulata</i>											
Portion Fertilized											
Lab Control		96.4%	95.2%	98.1%	1.25%	-	-	-	-	-	-
Flood Ref -001		93.4%	92.5%	94.3%	1.15%	0.0070	YES	-	-	-	-
Ebb Ref - 002	4	86.3%	81.0%	90.5%	4.76%	0.0008	YES	0.0099	YES	-	-
WQ-TOX-003		94.1%	91.9%	98.0%	2.94%	0.1174	NO	0.7012	NO	0.9887	NO
WQ-TOX-004		85.2%	85.5%	89.2%	3.34%	0.0001	YES	0.0006	YES	0.3322	NO
<i>Americamysis bahia</i>											
Day 2 Survival											
Lab Control		100.0%	100.0%	100.0%	0.00%	-	-	-	-	-	-
Flood Ref -001		95.0%	60.0%	100.0%	14.89%	0.3372	NO	-	-	-	-
Ebb Ref - 002	8	97.5%	80.0%	100.0%	7.25%	0.3372	NO	0.9591	NO	-	-
WQ-TOX-003		100.0%	100.0%	100.0%	0.00%	0.5000	NO	0.6395	NO	0.6395	NO
WQ-TOX-004		100.0%	100.0%	100.0%	0.00%	0.5000	NO	0.6395	NO	0.6395	NO
Day 7 Survival											
Lab Control		100.0%	100.0%	100.0%	0.00%	-	-	-	-	-	-
Flood Ref -001		92.5%	60.0%	100.0%	16.09%	0.2209	NO	-	-	-	-
Ebb Ref - 002	8	97.5%	80.0%	100.0%	7.25%	0.3605	NO	0.6454	NO	-	-
WQ-TOX-003		100.0%	100.0%	100.0%	0.00%	0.4796	NO	0.7791	NO	0.6395	NO
WQ-TOX-004		97.5%	80.0%	100.0%	7.25%	0.3605	NO	0.6395	NO	0.4796	NO
Day 7 Dry Weight Biomass - mg											
Lab Control		0.298	0.266	0.396	14.10%	-	-	-	-	-	-
Flood Ref -001		0.314	0.274	0.358	10.11%	0.7981	NO	-	-	-	-
Ebb Ref - 002	8	0.287	0.208	0.352	18.97%	0.3399	NO	0.2586	NO	-	-
WQ-TOX-003		0.436	0.268	0.790	42.74%	0.9700	NO	0.9555	NO	0.9758	NO
WQ-TOX-004		0.297	0.230	0.362	13.76%	0.4858	NO	0.1875	NO	0.6504	NO
<i>Champia parvula</i>											
Day 2 Survival											
Lab Control		100.0%	100.0%	100.0%	0.00%	-	-	-	-	-	-
Flood Ref -001		100.0%	100.0%	100.0%	0.00%	0.5000	NO	-	-	-	-
Ebb Ref - 002	4	100.0%	100.0%	100.0%	0.00%	0.5000	NO	0.5000	NO	-	-
WQ-TOX-003		100.0%	100.0%	100.0%	0.00%	0.5000	NO	0.5000	NO	0.5000	NO
WQ-TOX-004		100.0%	100.0%	100.0%	0.00%	0.5000	NO	0.5000	NO	0.5000	NO
Day 7 Mean # Cystocarps											
Lab Control		45.9	42.8	51.6	7.27%	-	-	-	-	-	-
Flood Ref -001		44.9	43.2	48.0	5.93%	0.3443	NO	-	-	-	-
Ebb Ref - 002	4	38.3	38.0	38.6	0.80%	0.0035	YES	0.0065	YES	-	-
WQ-TOX-003		0.5	0.4	0.6	24.74%	0.0000	YES	0.0000	YES	0.0000	YES
WQ-TOX-004		24.9	23.6	25.8	4.57%	0.0000	YES	0.0003	YES	0.0000	YES

Table 5 Reference Toxicant Summary. New Bedford Harbor Surface Water Quality Monitoring June 24, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Date	Endpoint	Value	Historic Mean/ Central Tendency	Acceptable Range	Reference Toxicant
<i>A. bahia</i>					
06/17/09	Survival	LC-50	23.8	20.8	16.2 - 25.4 SDS (mg/L)
05/27/09	Survival	C-NOEC	15.0	10.0	5.0 - 15.0 SDS (mg/L)
05/27/09	Growth	C-NOEC	5.0	5.0	2.5 - 10.0 SDS (mg/L)
.....					
<i>A. punctulata</i>					
06/18/09	Fertilization	C-NOEC	<1	10.0	1.0 - 5.0 Copper (µg/L)
06/18/09	Fertilization	IC-25	1.0	19.9	0 - 66.1 Copper (µg/L)
.....					

Mean and Acceptable Ranges based on most recent 20 reference toxicant assays (NELAP standard)

APPENDIX A
SUPPORT DATA

Contents	# Pages
Methods Summary	1
Study 18661: Sample Date 06/24/09	
<i>A. bahia</i> Bench Sheets & Statistical Analysis Report	33
<i>A. punctulata</i> Bench Sheets and Statistical Analysis Report	12
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Water Quality Bench Sheets and Dilution Prep Sheets	4
Analytical Chemistry Report	1
Sample Receipt Records	1
Chain of Custody and Organism Shipping Information	3
Total Appendix Pages	69

METHODS USED IN NPDES PERMIT BIOMONITORING TESTING

Parameter	Method
Acute Exposure Bioassays:	
<i>Ceriodaphnia dubia, Daphnia pulex</i>	EPA-821-R-02-012
<i>Pimephales promelas</i>	EPA-821-R-02-012
<i>Americamysis bahia</i>	EPA-821-R-02-012
<i>Menidia beryllina, Cyprinodon variegatus</i>	EPA-821-R-02-012
Chronic Exposure Bioassays:	
<i>Ceriodaphnia dubia</i>	EPA-821-R-02-013 1002.0
<i>Pimephales promelas</i>	EPA-821-R-02-013 1000.0
<i>Cyprinodon variegatus</i>	EPA-821-R-02-014 1004.0
<i>Menidia beryllina</i>	EPA-821-R-02-014 1006.0
<i>Arbacia punctulata</i>	EPA-821-R-02-014 1008.0
<i>Champia parvula</i>	EPA-821-R-02-014 1009.0
Trace Metals:	
Trace Metals	EPA 200.7/SW 6010 and EPA 200.8/SW 6020
Hardness	Standard Methods 20 th Edition - Method 2340 B
Wet Chemistries:	
Alkalinity	EPA 310.2
Chlorine, Residual	Standard Methods 20 th Edition - Method 4500CLD
Total Organic Carbon	Standard Methods 20 th Edition - Method 5310C
Specific Conductance	Standard Methods 20 th Edition - Method 2510B
Nitrogen - Ammonia	Standard Methods 20 th Edition - Method 4500NH3G
pH	Standard Methods 20 th Edition - Method 4500H+B
Solids, Total (TS)	Standard Methods 20 th Edition - Method 2540 B
Solids, Total Suspended (TSS)	Standard Methods 20 th Edition - Method 2540 D
Solids, Total Dissolved (TDS)	Standard Methods 20 th Edition - Method 2540 C
Dissolved Oxygen	Standard Methods 20 th Edition - Method 4500-O G

**Americamysis bahia 7 DAY CHRONIC ASSAY
SURVIVAL & OLD WATER QUALITIES**

STUDY: 18661		CLIENT: Woods Hole Group			LOCATION: NEW BEDFORD					LAB CONTROL: HAMPTON ESTUARY				ORGANISM BATCH/LOT#			
		NUMBER OF SURVIVORS								OLD DISSOLVED OXYGEN (mg/L)							
SAMPLE	Rep	0	1	2	3	4	5	6	7	1	2	3	4	5	6	7	
Lab Control	A	5	5	5	5	5	5	5	5	5.8	7.6	7.2	6.3	6.2	7.5	7.3	
	B	5	5	5	5	5	5	5	5	5.6	7.7	7.2	6.5	6.3	7.6	7.4	
	C	5	5	5	5	5	5	5	5	5.5	7.7	7.3	6.4	6.6	7.7	7.2	
	D	5	5	5	5	5	5	5	5	5.5	7.7	7.3	6.2	6.2	7.8	7.4	
	E	5	5	5	5	5	5	5	5	5.7	7.8	7.3	6.3	6.3	7.8	7.0	
	F	5	5	5	5	5	5	5	5	5.7	7.9	7.3	6.3	6.2	7.9	7.2	
	G	5	5	5	5	5	5	5	5	5.5	7.9	7.3	6.2	6.3	7.9	7.0	
	H	5	5	5	5	5	5	5	5	5.2	7.9	7.4	6.4	6.2	7.9	7.4	
-001	A	5	5	5	5	5	5	5	5	5.7	7.9	7.4	6.0	6.0	7.9	7.2	
	B	5	5	5	5	5	5	5	5	5.6	8.0	7.8	6.0	5.9	7.9	7.3	
	C	5	5	5	5	5	5	5	5	5.7	8.0	7.7	6.1	6.2	7.9	7.2	
	D	5	5	5	5	4	4	4	4	5.9	8.0	7.6	6.1	6.2	8.0	7.2	
	E	5	5	5	5	5	5	5	5	5.7	7.9	7.6	6.3	6.1	8.0	7.2	
	F	5	5	5	5	5	5	5	5	6.0	8.0	7.6	6.0	6.1	8.0	7.3	
	G	5	4	3	3	3	3	3	3	5.9	8.0	7.8	6.2	6.2	8.0	7.3	
	H	5	5	5	5	5	5	5	5	5.9	8.0	7.8	6.1	6.3	8.0	7.0	
-002	A	5	5	5	5	5	5	5	5	6.1	8.0	7.7	6.3	6.5	8.0	7.5	
	B	5	5	5	5	5	5	5	5	6.0	8.0	7.7	6.2	6.6	8.0	7.2	
	C	5	5	5	5	5	5	5	5	6.0	8.0	7.7	6.2	6.6	8.0	7.3	
	D	5	5	5	5	5	5	5	5	6.1	8.0	7.7	6.2	6.4	8.0	7.2	
	E	5	5	4	4	4	4	4	4	6.1	8.0	7.7	6.1	6.1	8.0	7.5	
	F	5	5	5	5	5	5	5	5	6.1	8.0	7.7	5.9	5.8	8.0	7.1	
	G	5	5	5	5	5	5	5	5	6.1	8.0	7.4	6.1	6.2	8.0	7.2	
	H	5	5	5	5	5	5	5	5	6.1	8.0	7.6	5.9	6.3	8.1	7.2	
INC TEMP:		25	25	24	24	24	24	24	26								
DATE:		6/25/09	6/26	6/27	6/28	6/29	6/30	7/1/09	7/2/09								
TIME:		1350	0850	1045	1240	1325	1330	0945	1000								
INITIALS:		JD	SJ	WM	SQ	JD	WM	WM	vc								

**Americamysis bahia 7 DAY CHRONIC ASSAY
SURVIVAL & OLD WATER QUALITIES**

STUDY: 18661		CLIENT: Woods Hole Group			LOCATION: NEW BEDFORD					LAB CONTROL: HAMPTON ESTUARY				ORGANISM BATCH/LOT#		
		NUMBER OF SURVIVORS								OLD DISSOLVED OXYGEN (mg/L)						
SAMPLE	Rep	0	1	2	3	4	5	6	7	1	2	3	4	5	6	7
-003	A	5	5	5	5	5	5	5	5	6.2	8.0	7.6	6.3	6.4	8.0	7.2
	B	5	5	5	5	5	5	5	5	6.1	8.1	7.6	6.3	6.5	8.0	7.3
	C	5	5	5	5	5	5	5	5	6.1	8.1	7.6	6.5	6.6	8.0	7.4
	D	5	5	5	5	5	5	5	5	6.1	8.1	7.6	6.4	6.4	8.3	7.5
	E	5	5	5	5	5	5	5	5	6.2	8.0	7.7	6.4	6.1	8.2	7.2
	F	5	5	5	5	5	5	5	5	6.2	8.0	7.6	6.3	6.3	8.2	7.4
	G	5	5	5	5	5	5	5	5	6.1	8.1	7.6	6.2	6.5	8.1	7.3
	H	5	5	5	5	5	5	5	5	6.1	8.1	7.4	6.3	6.3	8.2	7.3
-004	A	5	5	5	5	5	5	5	5	6.1	8.0	7.4	5.9	6.5	8.1	7.1
	B	5	5	5	5	5	5	5	5	6.1	8.0	7.6	6.0	6.6	8.1	7.3
	C	5	5	5	5	5	5	5	5	6.0	8.1	7.5	6.2	6.5	8.1	7.6
	D	5	5	5	4	4	4	4	4	5.9	8.1	7.5	6.4	6.4	8.1	7.7
	E	5	5	5	5	5	5	5	5	5.9	8.0	7.5	6.0	6.5	8.2	7.5
	F	5	5	5	5	5	5	5	5	5.9	8.0	7.5	6.1	6.4	8.1	7.5
	G	5	5	5	5	5	5	5	5	5.7	8.0	7.6	6.0	6.4	8.1	7.6
	H	5	5	5	5	5	5	5	5	5.6	8.1	7.6	6.0	6.2	8.1	7.7
INC TEMP:		25	25	24	24	24	24	24	26							
DATE:		6/25/09	6/26	6/27	6/28	6/29	6/30	7/1/09	7/2/09							
TIME:		1350	0850	1245	1240	1225	1530	0940	1000							
INITIALS:		JQ	SJ	WM	JQ	JQ	WM	WM	KL							

Larval Fish Dry Weight Summary Sheet

Study	18661	
Client:	Woods Hole Group-NBH	
Date/Time/Init:	07/05/09 1245 JQ	07/01/09 0814 LRO
Conc	Fish and Foil (mg)	Tare Wt (mg)
Lab A	210.26	208.74
Lab B	209.98	208.63
Lab C	209.7	208.33
Lab D	209.66	208.33
Lab E	210.13	208.66
Lab F	209.65	208.24
Lab G	211.8	209.82
Lab H	211.01	209.54
001A	209.94	208.15
001B	211.29	209.68
001C	209.56	208.19
001D	209.61	207.93
001E	209.62	208.14
001F	210.26	208.81
001G	209.45	208.03
001H	209.71	207.97
002A	209.1	207.34
002B	209.98	208.36
002C	209.27	208.23
002D	209.93	208.21
002E	209.83	208.58
002F	208.59	207.26
002G	210.44	209.27
002H	210.38	208.78
003A	208.99	207.5
003B	209.09	207.75
003C	210.09	208.64
003D	212.11	208.16
003E	210.72	208.14
003F	210.54	209.16
003G	211.57	208.82
003H	216.07	213.59
004A	210.39	208.58
004B	208.66	206.98
004C	207.44	205.99
004D	207.86	206.56
004E	210.3	209.15
004F	209.4	207.89
004G	210.87	209.39
004H	211.06	209.57

**Americamysis bahia 7 DAY CHRONIC ASSAY
SAMPLE USE RECORD**

STUDY: 18661			CLIENT: Woods Hole Group - New Bedford							
SPECIES: <i>A. bahia</i>			TEST: chronic renewal							
Sample	Day: 0		Day: 1		Day: 2		Day	Date	Time	Init
	Volume Used (mL)	ESI Cube ID	Volume Used (mL)	ESI Cube ID	Volume Used (mL)	ESI Cube ID				
Lab Control	1600	n/a	1600	n/a	1600	n/a	0	6/25/09	1130	WM
-001	1600	-001	↓	-001	↓	-001	1	6/26	0905	SJ
-002	1600	-002	↓	-002	↓	-002	2	6/27	1050	WM
-003	1600	-003	↓	-003	↓	-003	3	6/28	1335	JQ
-004	1600	-004	↓	-004	↓	-004	4	6/29	1400	JA
							5	6/30	1345	WM
							6	7/1/09	1000	WM
Sample	Day: 3		Day: 4		Day: 5		Day	Date	Time	Init
	Volume Used (mL)	ESI Cube ID	Volume Used (mL)	ESI Cube ID	Volume Used (mL)	ESI Cube ID				
Lab Control	1600	n/a	1600	n/a	1600	n/a				
-001	↓	-001	↓	-001	↓	-001				
-002	↓	-002	↓	-002	↓	-002				
-003	↓	-003	↓	-003	↓	-003				
-004	↓	-004	↓	-004	↓	-004				
Sample	Day: 6		Day	Date	Time	Init				
	Volume Used (mL)	ESI Cube ID								
Lab Control	1600	n/a								
-001	↓	-001								
-002	↓	-002								
-003	↓	-003								
-004	↓	-004								

SALTWATER ASSAYS

A. bahia, A. punctulata, C. parvula

STUDY: 18661	LOCATION: New Bedford Harbor				
CHEMISTRY	Lab Salt Control	-001	-002	-003	-004
AMMONIA	18596-008	18661-016	18661-017	18661-018	18661-019
AS RECEIVED WATER QUALITIES	Lab Salt Control	-001	-002	-003	-004
SALINITY (ppt)	30	27.5	26.2	26.7	25.0
pH (SU)	8.08	7.65	7.53	7.56	7.54
TRC (mg/L)	20.02	20.02	20.07	20.02	20.07
DO (mg/L)	7.6	7.6	7.7	7.8	8.0
S/C (µmhos/cm)		42750	40900	41600	39210
WQ STATION USED		2	2	2	2
INITIALS		wm	wm	wm	wm
<i>A. bahia</i> SALINITY ADJUSTMENT RECORD	Lab Salt Control	-001	-002	-003	-004
SAMPLE (mLs)					
SEA SALT (g)					
DATE:					
TIME:		0201	0201	0201	0201
INITIALS:		wm	wm	wm	wm

-005
18661-020
26.3
7.56
8.1
41010
2
wm

Sample ID	ESI Cube ID
-001	-001
-002	-002
-003	-003
-004	-004

**Americamysis bahia 7 DAY CHRONIC ASSAY
NEW WATER QUALITIES**

STUDY: 17661		CLIENT: Woods Hole Group				LOCATION: NEW BEDFORD				LAB CONTROL: HAMPTON ESTUARY					
		NEW DISSOLVED OXYGEN (mg/L)							NEW SALINITY (ppt)						
CONC	REP	0	1	2	3	4	5	6	0	1	2	3	4	5	6
LAB	A	7.6	7.4	7.1	7.3	7.5	7.9	7.5	30	29	26	25	25	26	25
-001	A	7.4	7.4	7.7	6.8	7.3	7.2	6.9	28	28	28	28	28	28	28
-002	A	7.4	6.8	7.7	7.1	7.1	7.6	7.9	26	26	26	26	26	26	26
-003	A	7.5	6.9	8.0	7.4	7.4	7.7	7.8	27	27	27	27	27	27	27
-004	A	7.5	7.8	7.7	7.3	7.6	7.9	8.1	25	26	25	25	25	25	25
		NEW pH (SU)							NEW TEMPERATURE (°C)						
CONC	REP	0	1	2	3	4	5	6	0	1	2	3	4	5	6
LAB	A	8.08	7.91	7.98	7.96	8.02	8.02	8.01	25	25	25	25	25	25	25
-001	A	7.69	7.60	7.68	7.69	7.78	7.68	7.72	25	25	25	25	25	25	25
-002	A	7.53	7.55	7.57	7.59	7.60	7.58	7.55	25	25	25	25	25	25	25
-003	A	7.55	7.56	7.57	7.57	7.59	7.58	7.59	25	25	25	25	25	25	25
-004	A	7.53	7.58	7.54	7.52	7.53	7.60	7.54	24	25	25	25	25	25	25
INC TEMP:		25	25	24	24	24	24	24							
DATE:		6/25/09	6/26	6/27	6/28	6/29	6/30	7/1/09							
TIME:		1150	0915	1105	1315	1405	1400	1030							
INIT:		WM	JS	WM	JQ	JQ	WM	WM							

WATER QUALITY METERS USED NEW WATER QUALITIES								
	0	1	2	3	4	5	6	7
Water Quality Station #	///	22	1	2	2	2	2	
Initials	///	WM JS	WM	JQ	JQ	WM	WM	
Date	6/25/09	6/25/09	6/27/09	6/28	6/29	6/30/09	7/1/09	

6/26/09

**Americamysis bahia 7 DAY CHRONIC ASSAY
OLD WATER QUALITIES**

STUDY:		CLIENT:		LOCATION:					LAB CONTROL:						
18661		Woods Hole Group		NEW BEDFORD					HAMPTON ESTUARY						
OLD SALINITY (ppt)									OLD pH (SU)						
Conc	Rep	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Control	A	30	29	26	26	26	26	26	7.73	7.87	7.84	7.88	7.88	7.90	7.94
-001	A	29	28	28	28	28	28	29	7.75	7.79	7.78	7.81	7.78	7.81	7.88
-002	A	27	26	27	27	27	27	27	7.75	7.79	7.75	7.81	7.83	7.79	7.85
-003	A	26	27	27	28	27	28	28	7.78	7.83	7.80	7.83	7.84	7.77	7.83
-004	A	26	26	26	26	25	26	26	7.79	7.78	7.79	7.76	7.80	7.80	7.82
OLD TEMPERATURE (°C)															
Conc	Rep	1	2	3	4	5	6	7							
Control	A	25	25	25	25	25	25	25							
-001	A	25	25	25	25	25	25	25							
-002	A	25	25	25	25	25	25	25							
-003	A	25	25	25	25	25	25	25							
-004	A	25	25	25	25	25	25	25							
INC TEMP:		25	24	24	25	25	24	26							
DATE:		6/26/09	6/27	6/28	6/29	6/30	7/1/09	7/2/09							
TIME:		0830	1030	1200	1305	1255	0920	0935							
INITIALS:		JS	WM	JQ	JQ	WM	WM	KC							

7.86

GENERAL NOTES - for additional information refer to SOP #1411 or EPA manual 600/4-91/003

- Test vessels will be 250 mL glass beakers containing a minimum of 150 mL of solution
- 8 replicates per site with 5 organisms each
- Test Temperature: 26±1°C
- Salinity: 25 ±2ppt
- Dissolved Oxygen: >4.3 mg/L
- Photoperiod will be 16 hours light and 8 hours dark.
- Passing criteria require ≥80% survival and average dry weight of ≥0.20 mg/organism in the control vessels.

WATER QUALITY METERS USED OLD WATER QUALITIES								
	0	1	2	3	4	5	6	7
Water Quality Station #	///	1	2	1	1	1	2	1
Initials	///	JS	WM	JQ	JQ	WM	WM	KC
Date	6/25/09	6/26/09	6/27/09	6/28	6/29/09	6/30/09	7/1/09	7/2/09

CETIS Summary Report

Report Date: 07 Jul-09 10:18 (p 1 of 1)
Link/Link Code: 06-4898-2488

Americamysis 48-Hr Survival Test							EnviroSystems, Inc.				
Test Run No:	05-4521-6965	Test Type:	Survival (48h)			Analyst:					
Start Date:	25 Jun-09 13:50	Protocol:	EPA/821/R-02-012 (2002)			Diluent:	Not Applicable				
Ending Date:	27 Jun-09 10:45	Species:	Americamysis bahia			Brine:	Generic commercial salts				
Duration:	45h	Source:	ARO - Aquatic Research Organisms, NH			Age:	7				
Sample Code	Sample No	Sample Date	Receive Date	Sample Age	Client Name	Project					
18661-000	07-7150-1310	25 Jun-09 11:00	25 Jun-09 11:10	3h (2 °C)	Woods Hole Group	Special Studies					
18661-001	05-8419-9740	24 Jun-09 09:10	24 Jun-09 17:30	29h (2 °C)							
18661-002	20-7401-5578	24 Jun-09 10:20	24 Jun-09 17:30	28h (2 °C)							
18661-003	07-6176-0887	24 Jun-09 11:10	24 Jun-09 17:30	27h (2 °C)							
18661-004	04-5664-4176	24 Jun-09 11:40	24 Jun-09 17:30	26h (2 °C)							
Sample Code	Material Type	Sample Source		Station Location		Latitude	Longitude				
18661-000	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-Lab Control									
18661-001	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-001									
18661-002	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-002									
18661-003	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-003									
18661-004	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-001									
48h Proportion Survived Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-000	8	1	1	1	1	1	0	0	0.0%	0.0%	
18661-001	8	0.95	0.8972	1	0.6	1	0.02582	0.1414	14.89%	5.0%	
18661-002	8	0.975	0.9486	1	0.8	1	0.01291	0.07071	7.25%	2.5%	
18661-003	8	1	1	1	1	1	0	0	0.0%	0.0%	
18661-004	8	1	1	1	1	1	0	0	0.0%	0.0%	
48h Proportion Survived Detail											
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8			
18661-000	1	1	1	1	1	1	1	1			
18661-001	1	1	1	1	1	1	0.6	1			
18661-002	1	1	1	1	0.8	1	1	1			
18661-003	1	1	1	1	1	1	1	1			
18661-004	1	1	1	1	1	1	1	1			

CETIS Analytical Report

Report Date: 07 Jul-09 10:19 (p 1 of 9)
 Link/Link Code: 06-4898-2488

Americamysis 48-Hr Survival Test EnviroSystems, Inc.

Analysis No: 12-5042-8900 Endpoint: 48h Proportion Survived CETIS Version: CETISv1.6.4
 Analyzed: 07 Jul-09 10:17 Analysis: Nonparametric-Two Sample Official Results: Yes

Test Run No: 05-4521-6965 Test Type: Survival (48h) Analyst:
 Start Date: 25 Jun-09 13:50 Protocol: EPA/821/R-02-012 (2002) Diluent: Not Applicable
 Ending Date: 27 Jun-09 10:45 Species: Americamysis bahia Brine: Generic commercial salts
 Duration: 45h Source: ARO - Aquatic Research Organisms, NH Age: 7

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C <> T	Not Run					12.36%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-001	18661-002	67.5		1	0.9591	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0030545	0.0030545	1	0.1826	0.6756	Non-Significant Effect
Error	0.2341306	0.0167236	14			
Total	0.2371852	0.0197782	15			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	3.719	8.885	0.1044	Equal Variances
Distribution	Shapiro-Wilk Normality	0.4951		0.0000	Non-normal Distribution

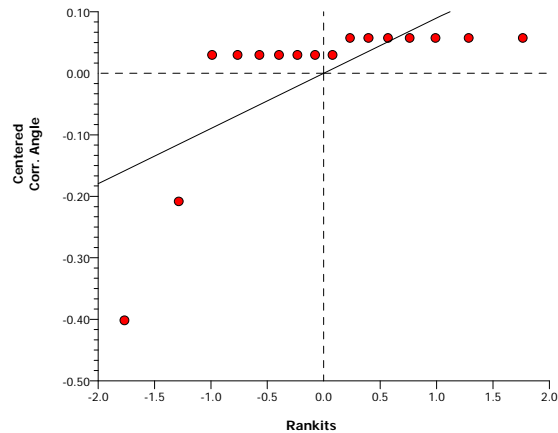
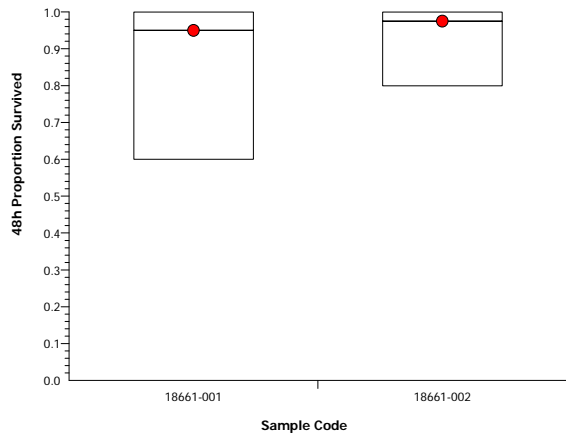
48h Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	0.95	0.8962	1	0.6	1	0.02626	0.1414	14.89%	0.0%
18661-002	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	-2.63%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	1.288	1.226	1.35	0.8861	1.345	0.03015	0.1624	12.61%	0.0%
18661-002	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	-2.15%

Graphics



CETIS Analytical Report

Report Date: 07 Jul-09 10:20 (p 2 of 9)
 Link/Link Code: 06-4898-2488

Americamysis 48-Hr Survival Test EnviroSystems, Inc.

Analysis No: 17-3622-0221 Endpoint: 48h Proportion Survived CETIS Version: CETISv1.6.4
 Analyzed: 07 Jul-09 10:17 Analysis: Nonparametric-Two Sample Official Results: Yes

Test Run No: 05-4521-6965 Test Type: Survival (48h) Analyst:
 Start Date: 25 Jun-09 13:50 Protocol: EPA/821/R-02-012 (2002) Diluent: Not Applicable
 Ending Date: 27 Jun-09 10:45 Species: Americamysis bahia Brine: Generic commercial salts
 Duration: 45h Source: ARO - Aquatic Research Organisms, NH Age: 7

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					6.84%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-002	18661-004	72		1	0.6395	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0035442	0.0035442	1	1	0.3343	Non-Significant Effect
Error	0.0496194	0.0035442	14			
Total	0.0531637	0.0070885	15			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	8.862	0.3343	Equal Variances
Distribution	Shapiro-Wilk Normality	0.4689		0.0000	Non-normal Distribution

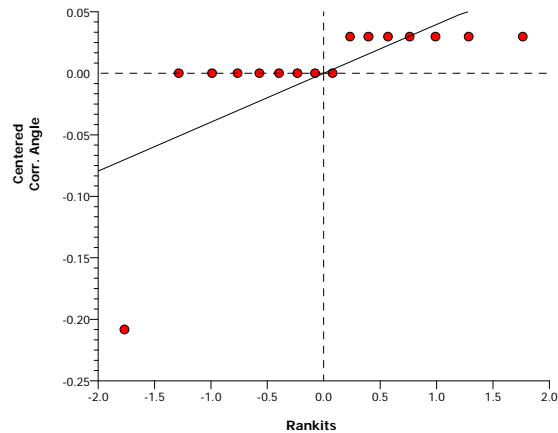
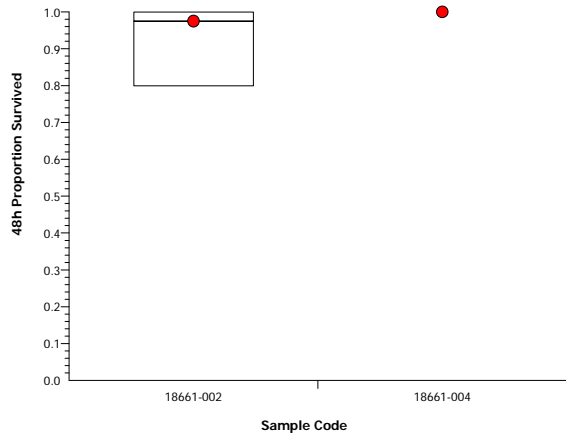
48h Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	0.0%
18661-004	8	1	1	1	1	1	0	0	0.0%	-2.56%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	0.0%
18661-004	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	-2.26%

Graphics



CETIS Analytical Report

Report Date: 07 Jul-09 10:20 (p 3 of 9)
 Link/Link Code: 06-4898-2488

Americamysis 48-Hr Survival Test EnviroSystems, Inc.

Analysis No: 10-8763-0587 Endpoint: 48h Proportion Survived CETIS Version: CETISv1.6.4
 Analyzed: 07 Jul-09 10:17 Analysis: Nonparametric-Two Sample Official Results: Yes

Test Run No: 05-4521-6965 Test Type: Survival (48h) Analyst:
 Start Date: 25 Jun-09 13:50 Protocol: EPA/821/R-02-012 (2002) Diluent: Not Applicable
 Ending Date: 27 Jun-09 10:45 Species: Americamysis bahia Brine: Generic commercial salts
 Duration: 45h Source: ARO - Aquatic Research Organisms, NH Age: 7

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					6.84%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-002	18661-003	72		1	0.6395	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0035442	0.0035442	1	1	0.3343	Non-Significant Effect
Error	0.0496194	0.0035442	14			
Total	0.0531637	0.0070885	15			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	8.862	0.3343	Equal Variances
Distribution	Shapiro-Wilk Normality	0.4689		0.0000	Non-normal Distribution

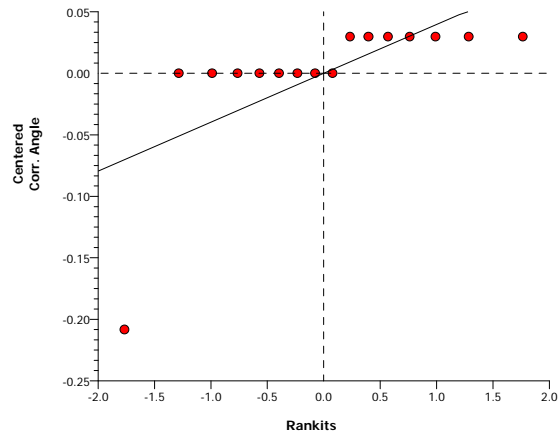
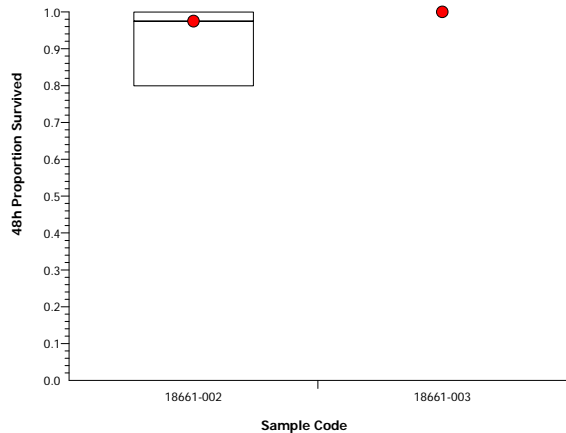
48h Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	0.0%
18661-003	8	1	1	1	1	1	0	0	0.0%	-2.56%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	0.0%
18661-003	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	-2.26%

Graphics



CETIS Analytical Report

Report Date: 07 Jul-09 10:20 (p 4 of 9)
 Link/Link Code: 06-4898-2488

Americamysis 48-Hr Survival Test **EnviroSystems, Inc.**

Analysis No: 04-6491-9278 Endpoint: 48h Proportion Survived CETIS Version: CETISv1.6.4
 Analyzed: 07 Jul-09 10:16 Analysis: Nonparametric-Two Sample Official Results: Yes

Test Run No: 05-4521-6965 Test Type: Survival (48h) Analyst:
 Start Date: 25 Jun-09 13:50 Protocol: EPA/821/R-02-012 (2002) Diluent: Not Applicable
 Ending Date: 27 Jun-09 10:45 Species: Americamysis bahia Brine: Generic commercial salts
 Duration: 45h Source: ARO - Aquatic Research Organisms, NH Age: 7

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					9.51%

Wilcoxon Rank Sum Two-Sample Test

Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-001	18661-004	72		1	0.6395	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0131794	0.0131794	1	1	0.3343	Non-Significant Effect
Error	0.1845112	0.0131794	14			
Total	0.1976906	0.0263588	15			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	8.862	0.3343	Equal Variances
Distribution	Shapiro-Wilk Normality	0.4689		0.0000	Non-normal Distribution

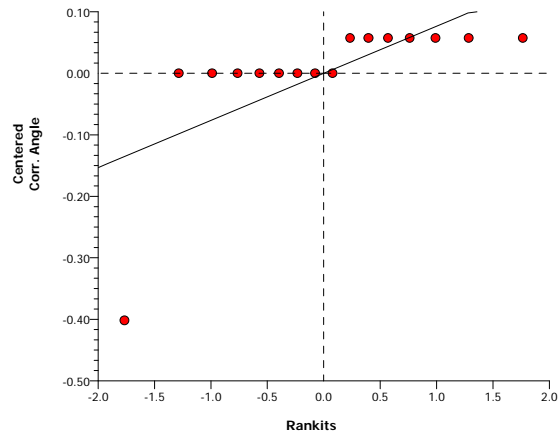
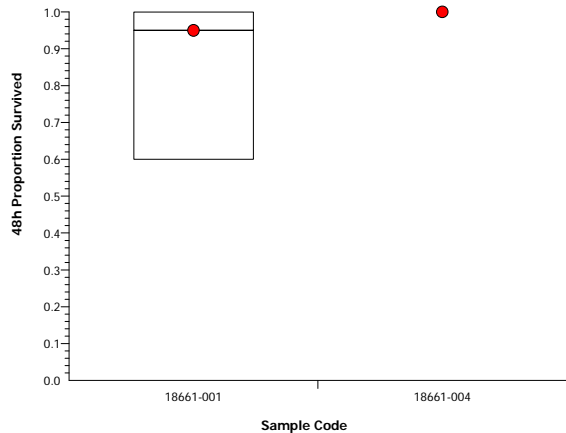
48h Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	0.95	0.8962	1	0.6	1	0.02626	0.1414	14.89%	0.0%
18661-004	8	1	1	1	1	1	0	0	0.0%	-5.26%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	1.288	1.226	1.35	0.8861	1.345	0.03015	0.1624	12.61%	0.0%
18661-004	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	-4.46%

Graphics



CETIS Analytical Report

Report Date: 07 Jul-09 10:20 (p 5 of 9)
 Link/Link Code: 06-4898-2488

Americamysis 48-Hr Survival Test **EnviroSystems, Inc.**

Analysis No: 05-0152-1063 **Endpoint:** 48h Proportion Survived **CETIS Version:** CETISv1.6.4
Analyzed: 07 Jul-09 10:16 **Analysis:** Nonparametric-Two Sample **Official Results:** Yes

Test Run No: 05-4521-6965 **Test Type:** Survival (48h) **Analyst:**
Start Date: 25 Jun-09 13:50 **Protocol:** EPA/821/R-02-012 (2002) **Diluent:** Not Applicable
Ending Date: 27 Jun-09 10:45 **Species:** Americamysis bahia **Brine:** Generic commercial salts
Duration: 45h **Source:** ARO - Aquatic Research Organisms, NH **Age:** 7

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					9.51%

Wilcoxon Rank Sum Two-Sample Test

Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-001	18661-003	72		1	0.6395	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0131794	0.0131794	1	1	0.3343	Non-Significant Effect
Error	0.1845112	0.0131794	14			
Total	0.1976906	0.0263588	15			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	8.862	0.3343	Equal Variances
Distribution	Shapiro-Wilk Normality	0.4689		0.0000	Non-normal Distribution

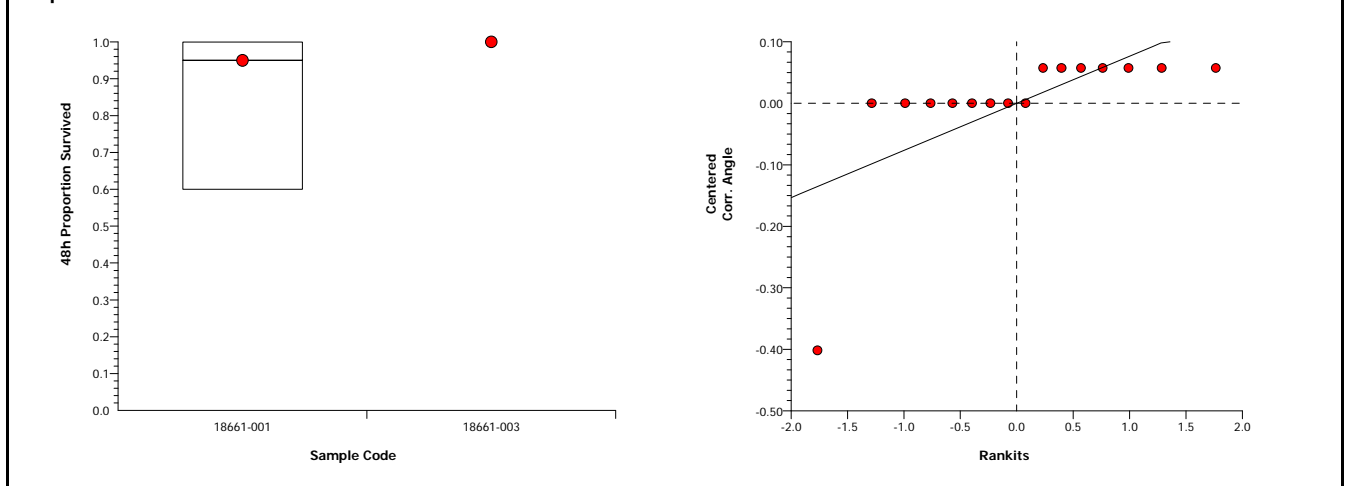
48h Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	0.95	0.8962	1	0.6	1	0.02626	0.1414	14.89%	0.0%
18661-003	8	1	1	1	1	1	0	0	0.0%	-5.26%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	1.288	1.226	1.35	0.8861	1.345	0.03015	0.1624	12.61%	0.0%
18661-003	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	-4.46%

Graphics



Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 10-3133-9090	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 30 Jun-09 13:47	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes			
Test Run No: 05-4521-6965	Test Type: Survival (48h)	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 27 Jun-09 10:45	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 45h	Source: ARO - Aquatic Research Organisms, NH	Age: 7			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.0%

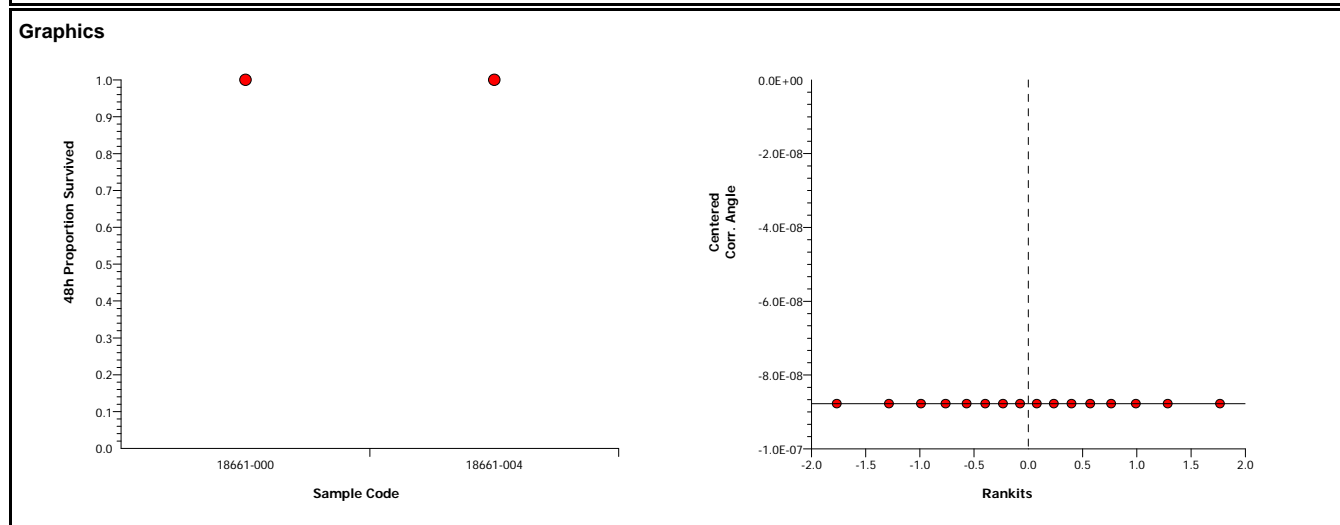
Steel Many-One Rank Test							
Sample Code	vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-000		18661-004	68	52	1	0.5000	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	1	65540	0.0000	Significant Effect
Error	0	0	14			
Total	0	0	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Varianc	65540	8.862	0.0000	Unequal Variances	

48h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1	1	1	1	1	0	0	0.0%	0.0%
18661-004	8	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
18661-004	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%



CETIS Analytical Report

Report Date: 07 Jul-09 10:20 (p 7 of 9)
 Link/Link Code: 06-4898-2488

Americamysis 48-Hr Survival Test							EnviroSystems, Inc.	
Analysis No: 15-8934-8000	Endpoint: 48h Proportion Survived		CETIS Version: CETISv1.6.4					
Analyzed: 30 Jun-09 13:47	Analysis: Nonparametric-Control vs Treatments		Official Results: Yes					
Test Run No: 05-4521-6965	Test Type: Survival (48h)		Analyst:					
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-012 (2002)		Diluent: Not Applicable					
Ending Date: 27 Jun-09 10:45	Species: Americamysis bahia		Brine: Generic commercial salts					
Duration: 45h	Source: ARO - Aquatic Research Organisms, NH		Age: 7					
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.0%

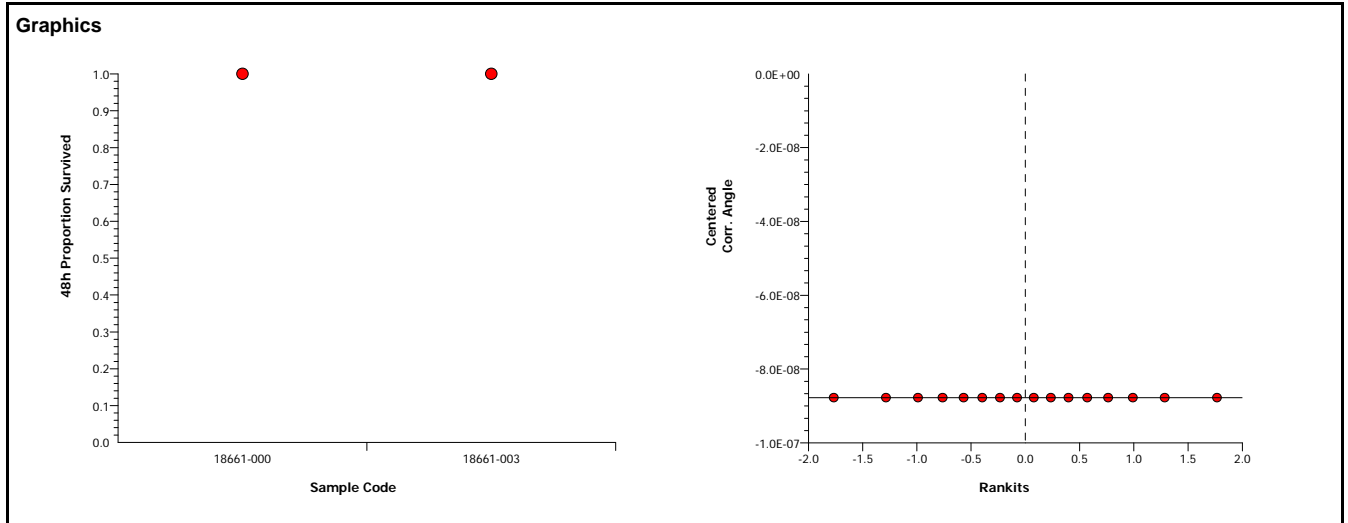
Steel Many-One Rank Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-000	18661-003	68	52	1	0.5000	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	1	65540	0.0000	Significant Effect
Error	0	0	14			
Total	0	0	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Varianc	65540	8.862	0.0000	Unequal Variances	

48h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1	1	1	1	1	0	0	0.0%	0.0%
18661-003	8	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
18661-003	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%



CETIS Analytical Report

Report Date: 07 Jul-09 10:20 (p 8 of 9)
 Link/Link Code: 06-4898-2488

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 07-4810-0815	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 30 Jun-09 13:47	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes			
Test Run No: 05-4521-6965	Test Type: Survival (48h)	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 27 Jun-09 10:45	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 45h	Source: ARO - Aquatic Research Organisms, NH	Age: 7			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					7.53%

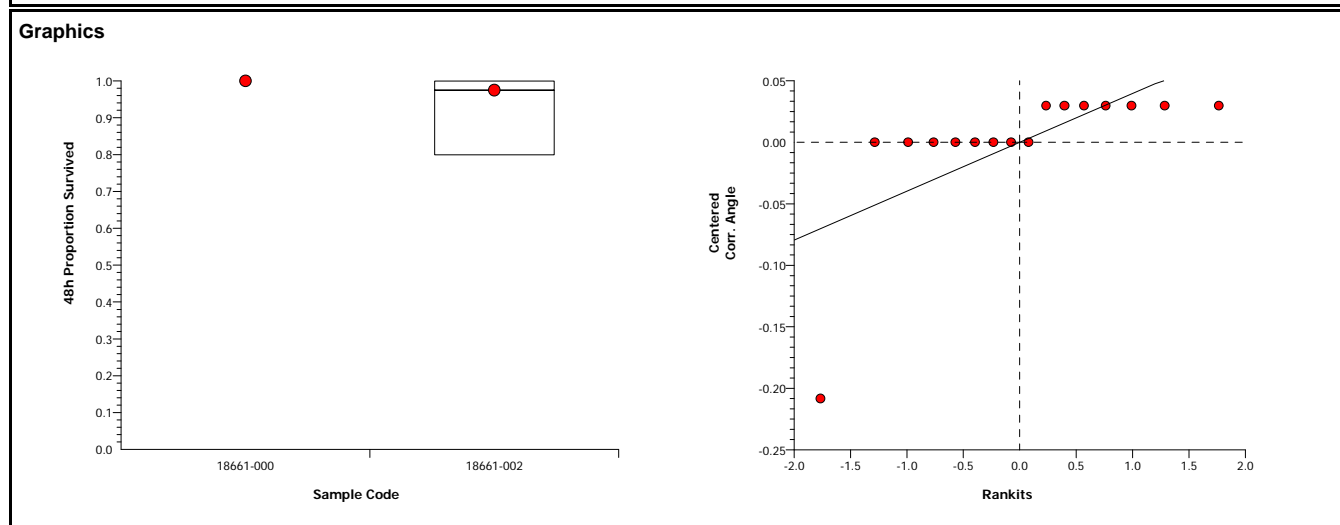
Steel Many-One Rank Test							
Sample Code	vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-000		18661-002	64	52	1	0.3372	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0035442	0.0035442	1	1	0.3343	Non-Significant Effect
Error	0.0496194	0.0035442	14			
Total	0.0531637	0.0070885	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	8.862	0.3343	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.4689		0.0000	Non-normal Distribution	

48h Proportion Survived Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-000	8	1	1	1	1	1	0	0	0.0%	0.0%	
18661-002	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	2.5%	

Angular (Corrected) Transformed Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-000	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%	
18661-002	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	2.21%	



CETIS Analytical Report

Report Date: 07 Jul-09 10:20 (p 9 of 9)
 Link/Link Code: 06-4898-2488

Americamysis 48-Hr Survival Test EnviroSystems, Inc.

Analysis No: 19-7468-6667 Endpoint: 48h Proportion Survived CETIS Version: CETISv1.6.4
 Analyzed: 30 Jun-09 13:47 Analysis: Nonparametric-Control vs Treatments Official Results: Yes

Test Run No: 05-4521-6965 Test Type: Survival (48h) Analyst:
 Start Date: 25 Jun-09 13:50 Protocol: EPA/821/R-02-012 (2002) Diluent: Not Applicable
 Ending Date: 27 Jun-09 10:45 Species: Americamysis bahia Brine: Generic commercial salts
 Duration: 45h Source: ARO - Aquatic Research Organisms, NH Age: 7

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					10.29%

Steel Many-One Rank Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-000	18661-001	64	52	1	0.3372	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0131794	0.0131794	1	1	0.3343	Non-Significant Effect
Error	0.1845112	0.0131794	14			
Total	0.1976906	0.0263588	15			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	8.862	0.3343	Equal Variances
Distribution	Shapiro-Wilk Normality	0.4689		0.0000	Non-normal Distribution

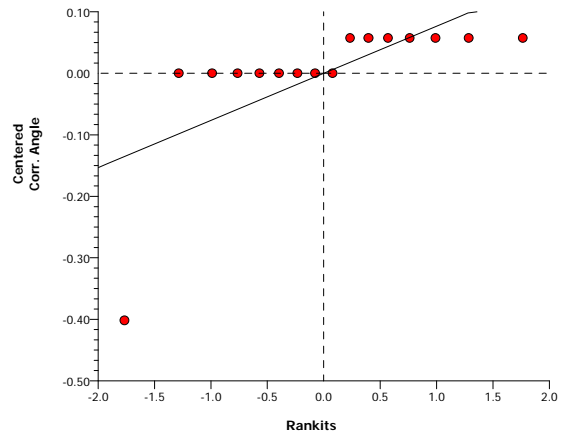
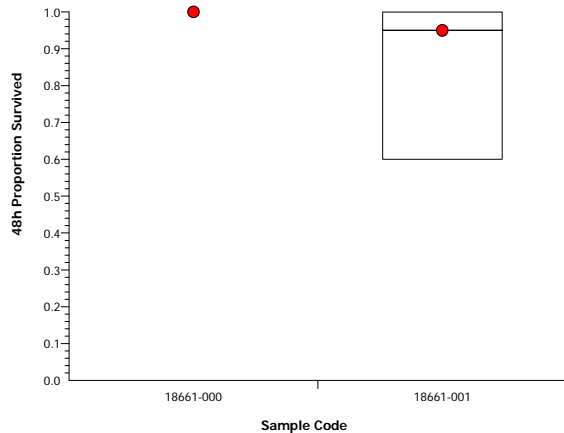
48h Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1	1	1	1	1	0	0	0.0%	0.0%
18661-001	8	0.95	0.8962	1	0.6	1	0.02626	0.1414	14.89%	5.0%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
18661-001	8	1.288	1.226	1.35	0.8861	1.345	0.03015	0.1624	12.61%	4.27%

Graphics



CETIS Summary Report

Report Date: 07 Jul-09 10:34 (p 1 of 2)
 Link/Link Code: 00-4924-7614

Americamysis 7-d Survival, Growth and Fecundity Test							EnviroSystems, Inc.				
Test Run No:	02-9104-8057		Test Type:	Growth-Survival-Fec (7d)		Analyst:					
Start Date:	25 Jun-09 13:50		Protocol:	EPA/821/R-02-014 (2002)		Diluent:	Not Applicable				
Ending Date:	02 Jul-09 11:00		Species:	Americamysis bahia		Brine:	Not Applicable				
Duration:	6d 21h		Source:	ARO - Aquatic Research Organisms, NH		Age:					
Sample Code	Sample No	Sample Date	Receive Date	Sample Age	Client Name	Project					
18661-000	17-4269-3412	25 Jun-09 12:00	25 Jun-09 12:05	110m (2 °C)	Woods Hole Group	Special Studies					
18661-001	17-4058-3203	24 Jun-09 09:10	24 Jun-09 17:30	29h (2 °C)							
18661-002	20-7401-5578	24 Jun-09 10:20	24 Jun-09 17:30	28h (2 °C)							
18661-003	18-0884-1223	24 Jun-09 11:10	24 Jun-09 17:30	27h (2 °C)							
18661-004	18-5578-7927	24 Jun-09 11:40	24 Jun-09 17:30	26h							
Sample Code	Material Type	Sample Source		Station Location		Latitude	Longitude				
18661-000	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-Lab Control									
18661-001	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-001									
18661-002	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-002									
18661-003	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-003									
18661-004	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-004									
Test Acceptability											
Analysis No	Endpoint	Attribute	Test Stat	Acceptability Limits	Overlap	Decision					
09-3978-3033	7d Proportion Survived	Control Resp	1	0.8 - NL	Yes	Passes acceptability criteria					
13-3525-2725	7d Proportion Survived	Control Resp	1	0.8 - NL	Yes	Passes acceptability criteria					
15-6117-8021	7d Proportion Survived	Control Resp	1	0.8 - NL	Yes	Passes acceptability criteria					
21-4451-1995	7d Proportion Survived	Control Resp	1	0.8 - NL	Yes	Passes acceptability criteria					
00-2127-7063	Mean Dry Biomass-mg	Control Resp	0.2975	0.2 - NL	Yes	Passes acceptability criteria					
00-9511-9198	Mean Dry Biomass-mg	Control Resp	0.2975	0.2 - NL	Yes	Passes acceptability criteria					
04-1038-9084	Mean Dry Biomass-mg	Control Resp	0.2975	0.2 - NL	Yes	Passes acceptability criteria					
06-3536-1163	Mean Dry Biomass-mg	Control Resp	0.2975	0.2 - NL	Yes	Passes acceptability criteria					
00-2127-7063	Mean Dry Biomass-mg	PMSD	0.1439	0.11 - 0.37	Yes	Passes acceptability criteria					
00-9511-9198	Mean Dry Biomass-mg	PMSD	0.11	0.11 - 0.37	Yes	Passes acceptability criteria					
04-1038-9084	Mean Dry Biomass-mg	PMSD	0.1225	0.11 - 0.37	Yes	Passes acceptability criteria					
05-4189-6011	Mean Dry Biomass-mg	PMSD	0.375	0.11 - 0.37	Yes	Fails acceptability criteria					
06-3536-1163	Mean Dry Biomass-mg	PMSD	0.3994	0.11 - 0.37	Yes	Fails acceptability criteria					
08-8485-6364	Mean Dry Biomass-mg	PMSD	0.1476	0.11 - 0.37	Yes	Passes acceptability criteria					
13-0143-1956	Mean Dry Biomass-mg	PMSD	0.1525	0.11 - 0.37	Yes	Passes acceptability criteria					
14-9836-6325	Mean Dry Biomass-mg	PMSD	0.1027	0.11 - 0.37	Yes	Fails acceptability criteria					
17-8667-9162	Mean Dry Biomass-mg	PMSD	0.4204	0.11 - 0.37	Yes	Fails acceptability criteria					
7d Proportion Survived Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-000	8	1	1	1	1	1	0	0	0.0%	0.0%	
18661-001	8	0.925	0.8694	0.9806	0.6	1	0.02717	0.1488	16.09%	7.5%	
18661-002	8	0.975	0.9486	1	0.8	1	0.01291	0.07071	7.25%	2.5%	
18661-003	8	1	1	1	1	1	0	0	0.0%	0.0%	
18661-004	8	0.975	0.9486	1	0.8	1	0.01291	0.07071	7.25%	2.5%	
Mean Dry Biomass-mg Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-000	8	0.2975	0.2818	0.3132	0.266	0.396	0.007656	0.04194	14.1%	0.0%	
18661-001	8	0.3135	0.3017	0.3253	0.274	0.358	0.005789	0.03171	10.11%	-5.38%	
18661-002	8	0.2873	0.2669	0.3076	0.208	0.352	0.00995	0.0545	18.97%	3.44%	
18661-003	8	0.4355	0.366	0.505	0.268	0.79	0.03398	0.1861	42.74%	-46.39%	
18661-004	8	0.2967	0.2815	0.312	0.23	0.362	0.007458	0.04085	13.76%	0.25%	

CETIS Summary Report

Report Date: 07 Jul-09 10:34 (p 2 of 2)
 Link/Link Code: 00-4924-7614

Americamysis 7-d Survival, Growth and Fecundity Test										EnviroSystems, Inc.
Mean Dry Weight-mg Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	0.2975	0.2818	0.3132	0.266	0.396	0.007656	0.04194	14.1%	0.0%
18661-001	8	0.3477	0.3219	0.3734	0.274	0.4733	0.01258	0.06888	19.81%	-16.86%
18661-002	8	0.2951	0.2753	0.3148	0.208	0.352	0.009649	0.05285	17.91%	0.82%
18661-003	8	0.4355	0.366	0.505	0.268	0.79	0.03398	0.1861	42.74%	-46.39%
18661-004	8	0.3049	0.2903	0.3194	0.23	0.362	0.007104	0.03891	12.76%	-2.48%
7d Proportion Survived Detail										
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8		
18661-000	1	1	1	1	1	1	1	1		
18661-001	1	1	1	0.8	1	1	0.6	1		
18661-002	1	1	1	1	0.8	1	1	1		
18661-003	1	1	1	1	1	1	1	1		
18661-004	1	1	1	0.8	1	1	1	1		
Mean Dry Biomass-mg Detail										
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8		
18661-000	0.304	0.27	0.274	0.266	0.294	0.282	0.396	0.294		
18661-001	0.358	0.322	0.274	0.336	0.296	0.29	0.284	0.348		
18661-002	0.352	0.324	0.208	0.344	0.25	0.266	0.234	0.32		
18661-003	0.298	0.268	0.29	0.79	0.516	0.276	0.55	0.496		
18661-004	0.362	0.336	0.29	0.26	0.23	0.302	0.296	0.298		
Mean Dry Weight-mg Detail										
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8		
18661-000	0.304	0.27	0.274	0.266	0.294	0.282	0.396	0.294		
18661-001	0.358	0.322	0.274	0.42	0.296	0.29	0.4733	0.348		
18661-002	0.352	0.324	0.208	0.344	0.3125	0.266	0.234	0.32		
18661-003	0.298	0.268	0.29	0.79	0.516	0.276	0.55	0.496		
18661-004	0.362	0.336	0.29	0.325	0.23	0.302	0.296	0.298		

CETIS Analytical Report

Report Date: 07 Jul-09 10:36 (p 1 of 9)
 Link/Link Code: 00-4924-7614

Americamysis 7-d Survival, Growth and Fecundity Test EnviroSystems, Inc.

Analysis No: 12-2280-9487	Endpoint: 7d Proportion Survived	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:30	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C <> T	Not Run					13.01%

Wilcoxon Rank Sum Two-Sample Test

Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-001	18661-002	63.5		2	0.6454	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0131794	0.0131794	1	0.7196	0.4105	Non-Significant Effect
Error	0.2564119	0.0183151	14			
Total	0.2695912	0.0314945	15			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	4.168	8.885	0.0792	Equal Variances
Distribution	Shapiro-Wilk Normality	0.6705		0.0001	Non-normal Distribution

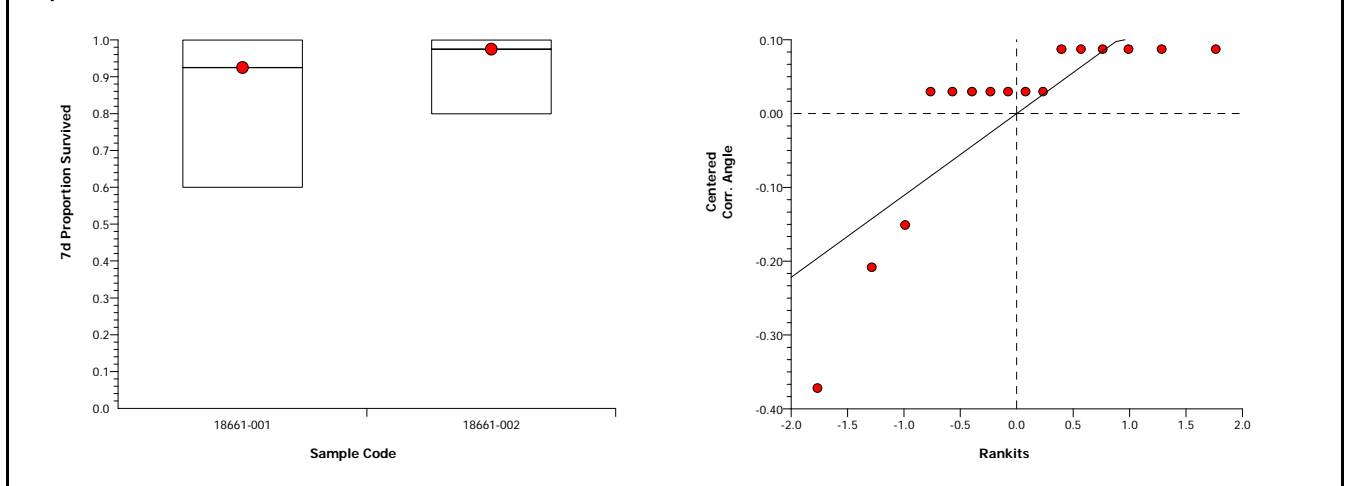
7d Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	0.925	0.8684	0.9816	0.6	1	0.02763	0.1488	16.09%	0.0%
18661-002	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	-5.4%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	1.258	1.193	1.323	0.8861	1.345	0.03192	0.1719	13.66%	0.0%
18661-002	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	-4.56%

Graphics



CETIS Analytical Report

Report Date: 07 Jul-09 10:36 (p 2 of 9)
 Link/Link Code: 00-4924-7614

Americamysis 7-d Survival, Growth and Fecundity Test EnviroSystems, Inc.

Analysis No: 16-9017-3126	Endpoint: 7d Proportion Survived	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:30	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					8.17%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-002	18661-004	68		2	0.4796	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.0992388	0.0070885	14			
Total	0.0992388	0.0070885	15			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	1	8.885	1.0000	Equal Variances
Distribution	Shapiro-Wilk Normality	0.3985		0.0000	Non-normal Distribution

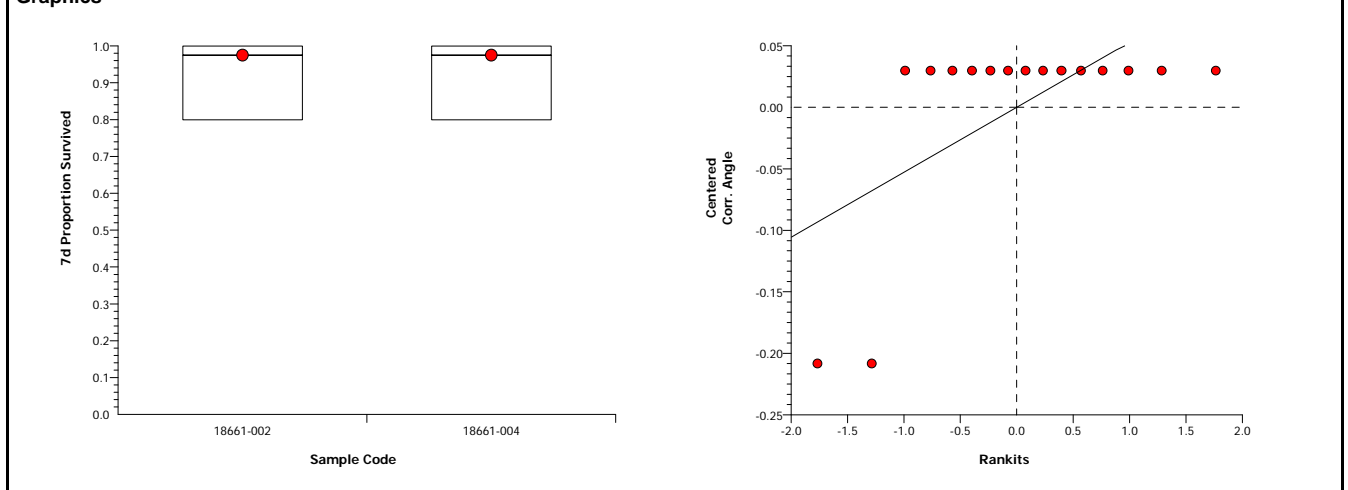
7d Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	0.0%
18661-004	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	0.0%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	0.0%
18661-004	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	0.0%

Graphics



Americamysis 7-d Survival, Growth and Fecundity Test			EnviroSystems, Inc.		
Analysis No: 07-9558-0410	Endpoint: 7d Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 07 Jul-09 10:30	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable			
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					6.84%

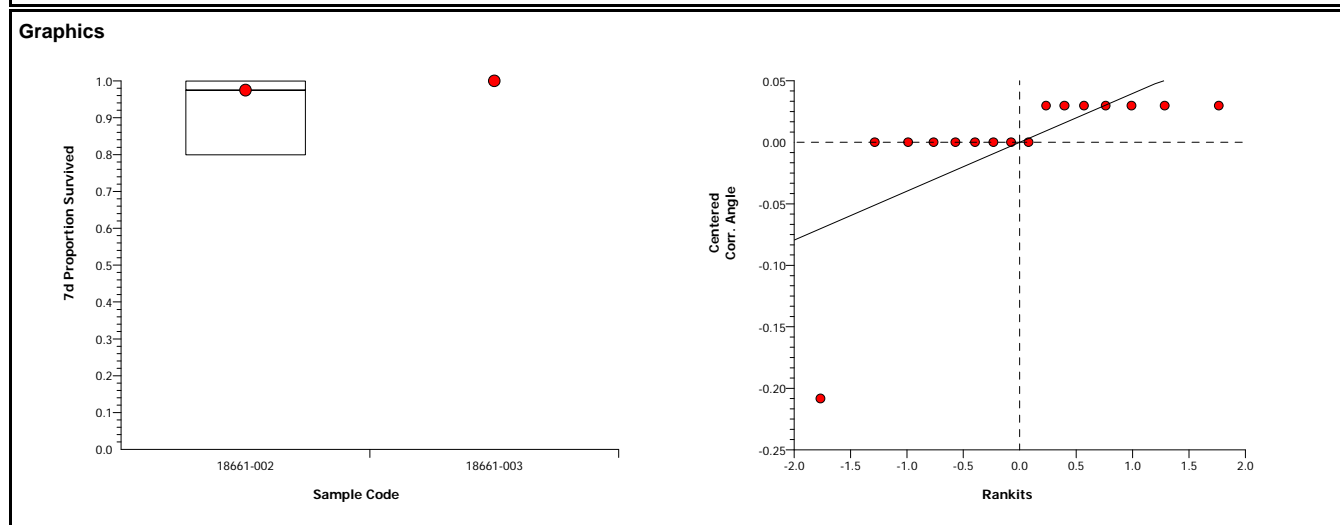
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-002	18661-003	72		1	0.6395	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0035442	0.0035442	1	1	0.3343	Non-Significant Effect
Error	0.0496194	0.0035442	14			
Total	0.0531637	0.0070885	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	8.862	0.3343	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.4689		0.0000	Non-normal Distribution	

7d Proportion Survived Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-002	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	0.0%	
18661-003	8	1	1	1	1	1	0	0	0.0%	-2.56%	

Angular (Corrected) Transformed Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-002	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	0.0%	
18661-003	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	-2.26%	



CETIS Analytical Report

Report Date: 07 Jul-09 10:37 (p 4 of 9)
 Link/Link Code: 00-4924-7614

Americamysis 7-d Survival, Growth and Fecundity Test			EnviroSystems, Inc.		
Analysis No: 06-2588-7644	Endpoint: 7d Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 07 Jul-09 10:30	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable			
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					10.83%

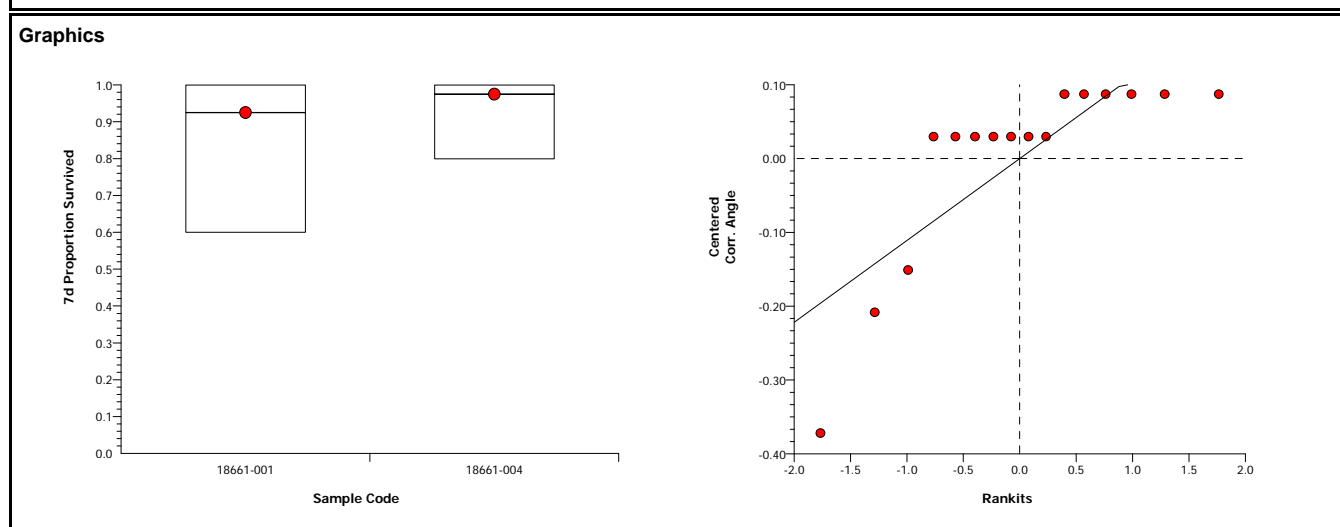
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-001	18661-004	72.5		2	0.6395	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0131794	0.0131794	1	0.7196	0.4105	Non-Significant Effect
Error	0.2564119	0.0183151	14			
Total	0.2695912	0.0314945	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	4.168	8.885	0.0792	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.6705		0.0001	Non-normal Distribution	

7d Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	0.925	0.8684	0.9816	0.6	1	0.02763	0.1488	16.09%	0.0%
18661-004	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	-5.4%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	1.258	1.193	1.323	0.8861	1.345	0.03192	0.1719	13.66%	0.0%
18661-004	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	-4.56%



Americamysis 7-d Survival, Growth and Fecundity Test			EnviroSystems, Inc.		
Analysis No: 17-2415-5691	Endpoint: 7d Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 07 Jul-09 10:30	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable			
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					9.84%

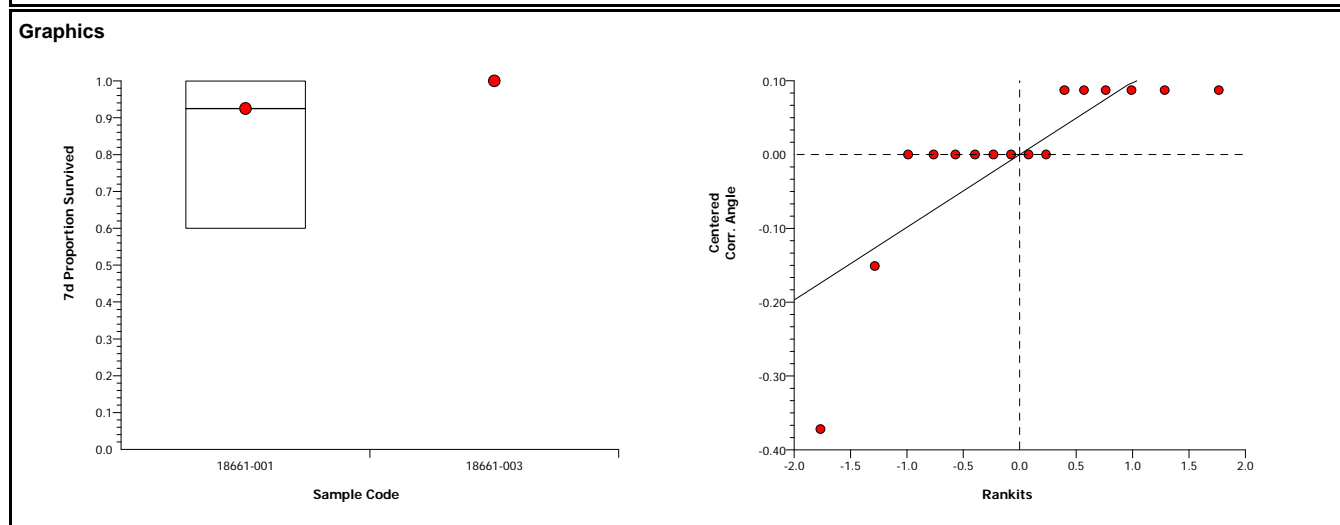
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-001	18661-003	76		1	0.7791	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0303927	0.0303927	1	2.058	0.1734	Non-Significant Effect
Error	0.2067925	0.0147709	14			
Total	0.2371852	0.0451636	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	2.058	8.862	0.1734	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.665		0.0001	Non-normal Distribution	

7d Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	0.925	0.8684	0.9816	0.6	1	0.02763	0.1488	16.09%	0.0%
18661-003	8	1	1	1	1	1	0	0	0.0%	-8.11%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	1.258	1.193	1.323	0.8861	1.345	0.03192	0.1719	13.66%	0.0%
18661-003	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	-6.93%



CETIS Analytical Report

Report Date: 07 Jul-09 10:37 (p 6 of 9)
 Link/Link Code: 00-4924-7614

Americamysis 7-d Survival, Growth and Fecundity Test			EnviroSystems, Inc.		
Analysis No: 21-4451-1995	Endpoint: 7d Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 07 Jul-09 10:29	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable			
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					7.53%

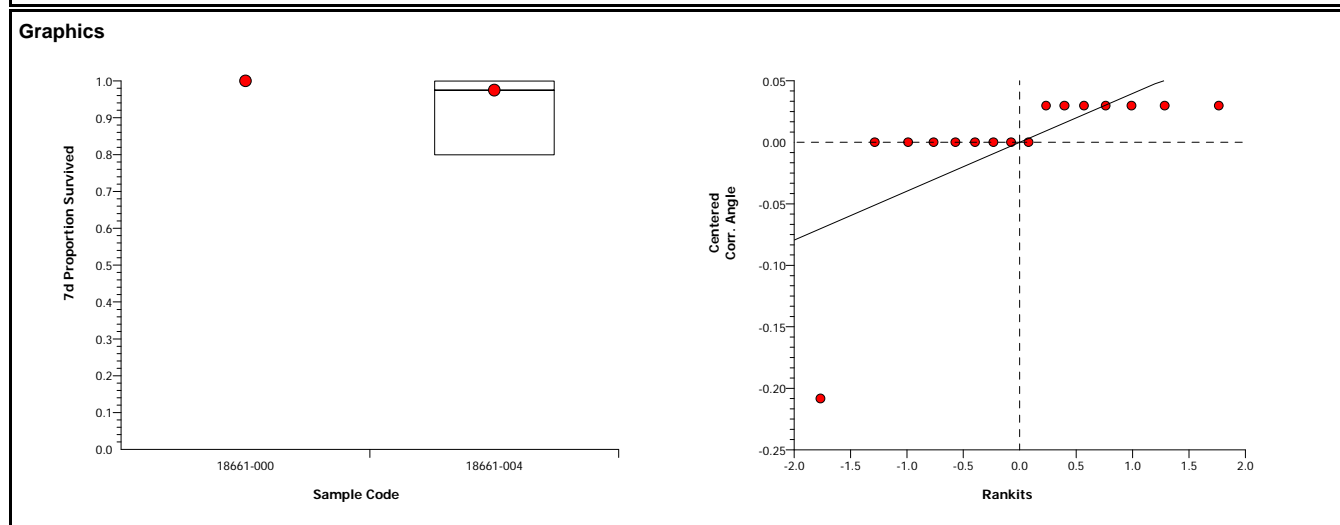
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-000	18661-004	64		1	0.3605	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0035442	0.0035442	1	1	0.3343	Non-Significant Effect
Error	0.0496194	0.0035442	14			
Total	0.0531637	0.0070885	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	8.862	0.3343	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.4689		0.0000	Non-normal Distribution	

7d Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1	1	1	1	1	0	0	0.0%	0.0%
18661-004	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	2.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
18661-004	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	2.21%



Americamysis 7-d Survival, Growth and Fecundity Test			EnviroSystems, Inc.
Analysis No: 09-3978-3033	Endpoint: 7d Proportion Survived	CETIS Version: CETISv1.6.4	
Analyzed: 07 Jul-09 10:29	Analysis: Nonparametric-Two Sample	Official Results: Yes	
Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:	
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable	
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable	
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:	

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.0%

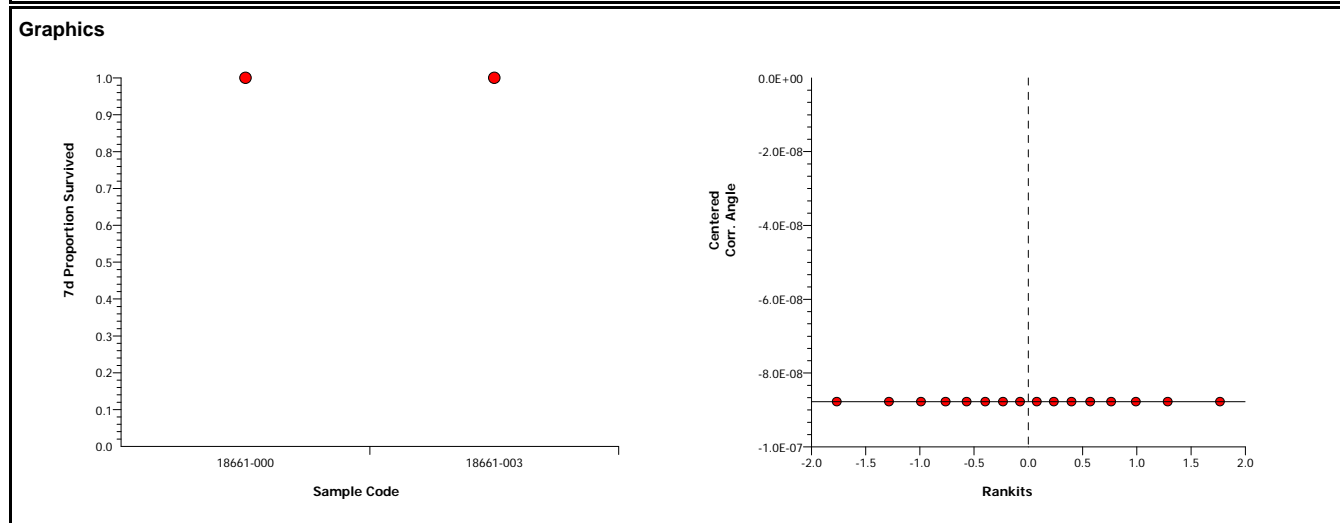
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-000	18661-003	68		1	0.4796	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	1	65540	0.0000	Significant Effect
Error	0	0	14			
Total	0	0	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Varianc	65540	8.862	0.0000	Unequal Variances	

7d Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1	1	1	1	1	0	0	0.0%	0.0%
18661-003	8	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
18661-003	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%



CETIS Analytical Report

Report Date: 07 Jul-09 10:37 (p 8 of 9)
 Link/Link Code: 00-4924-7614

Americamysis 7-d Survival, Growth and Fecundity Test EnviroSystems, Inc.

Analysis No: 15-6117-8021	Endpoint: 7d Proportion Survived	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:29	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					7.53%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-000	18661-002	64		1	0.3605	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0035442	0.0035442	1	1	0.3343	Non-Significant Effect
Error	0.0496194	0.0035442	14			
Total	0.0531637	0.0070885	15			

ANOVA Assumptions

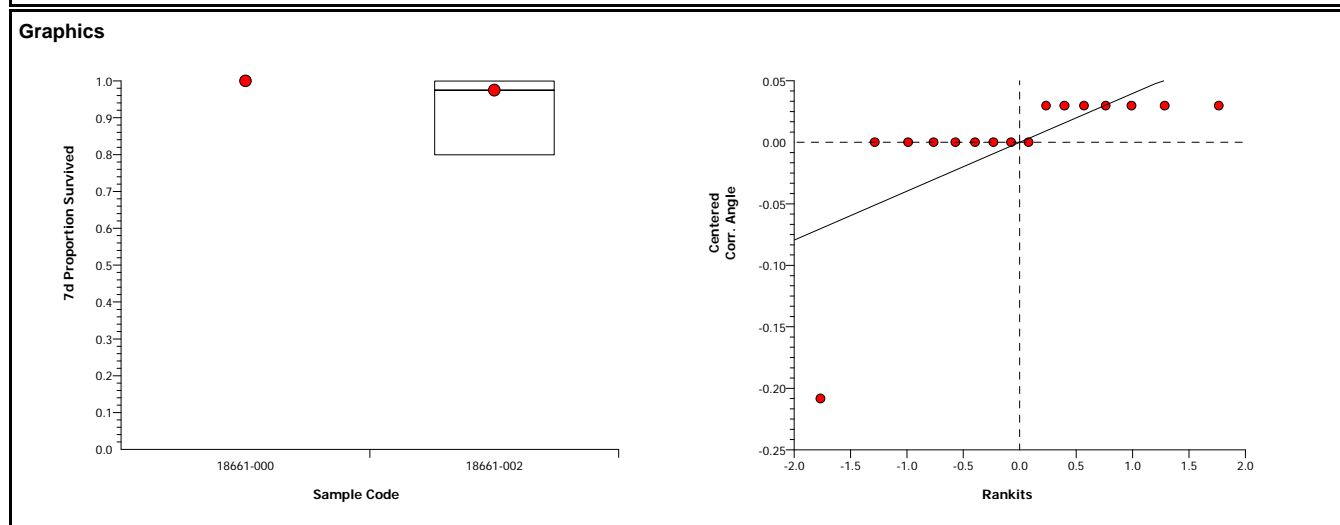
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	8.862	0.3343	Equal Variances
Distribution	Shapiro-Wilk Normality	0.4689		0.0000	Non-normal Distribution

7d Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1	1	1	1	1	0	0	0.0%	0.0%
18661-002	8	0.975	0.9481	1	0.8	1	0.01313	0.07071	7.25%	2.5%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
18661-002	8	1.316	1.283	1.348	1.107	1.345	0.01563	0.08419	6.4%	2.21%



CETIS Analytical Report

Report Date: 07 Jul-09 10:37 (p 9 of 9)
 Link/Link Code: 00-4924-7614

Americamysis 7-d Survival, Growth and Fecundity Test			EnviroSystems, Inc.		
Analysis No: 13-3525-2725	Endpoint: 7d Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 07 Jul-09 10:29	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable			
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					10.66%

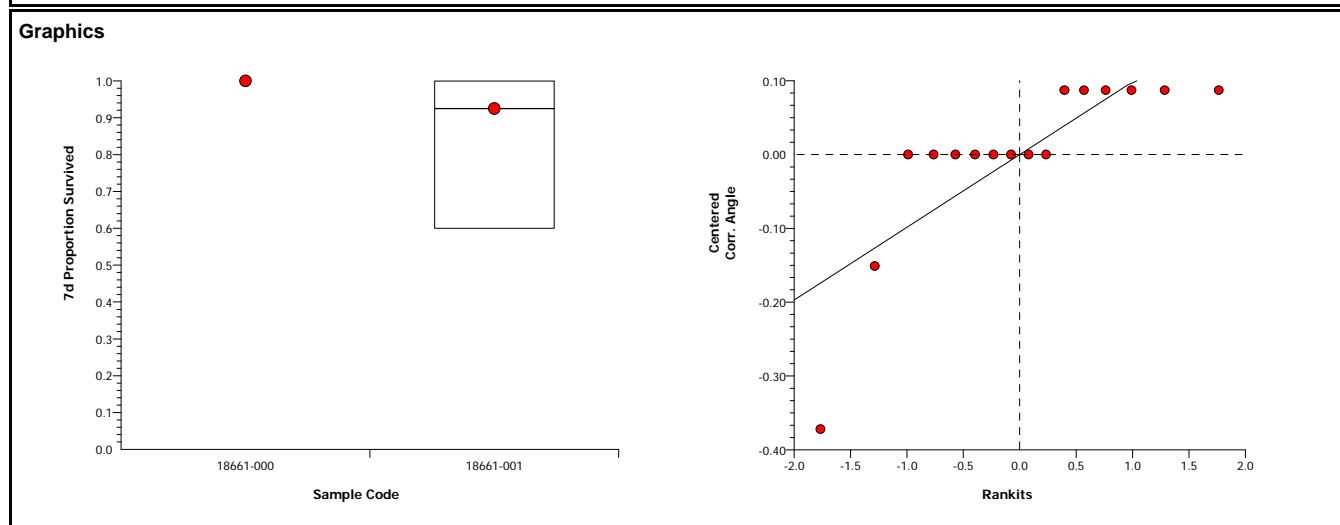
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18661-000	18661-001	60		1	0.2209	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0303927	0.0303927	1	2.058	0.1734	Non-Significant Effect
Error	0.2067925	0.0147709	14			
Total	0.2371852	0.0451636	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	2.058	8.862	0.1734	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.665		0.0001	Non-normal Distribution	

7d Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1	1	1	1	1	0	0	0.0%	0.0%
18661-001	8	0.925	0.8684	0.9816	0.6	1	0.02763	0.1488	16.09%	7.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
18661-001	8	1.258	1.193	1.323	0.8861	1.345	0.03192	0.1719	13.66%	6.48%



CETIS Analytical Report

Report Date: 07 Jul-09 10:40 (p 1 of 9)
 Link/Link Code: 00-4924-7614

Americamysis 7-d Survival, Growth and Fecundity Test EnviroSystems, Inc.

Analysis No: 13-0143-1956	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:32	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C <> T	Not Run					15.25%

Equal Variance t Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-001	18661-002	1.178	2.145	0.04781	0.2586	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0027563	0.0027563	1	1.387	0.2586	Non-Significant Effect
Error	0.0278297	0.0019878	14			
Total	0.0305859	0.0047441	15			

ANOVA Assumptions

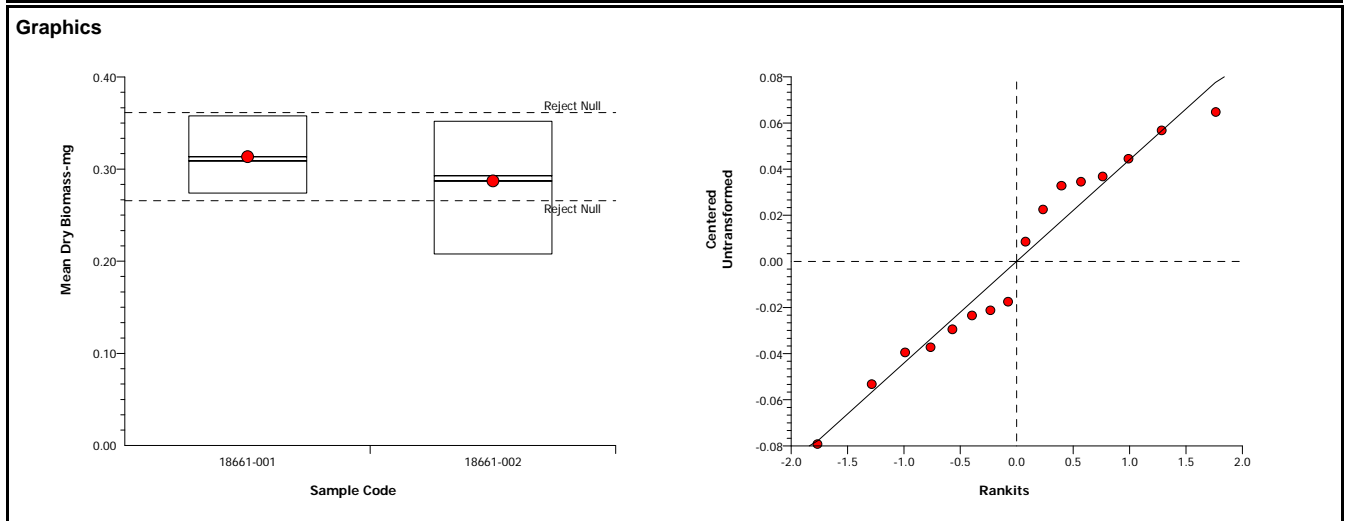
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	2.954	8.885	0.1763	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9495		0.4819	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	0.3135	0.3014	0.3256	0.274	0.358	0.005888	0.03171	10.11%	0.0%
18661-002	8	0.2873	0.2665	0.308	0.208	0.352	0.01012	0.0545	18.97%	8.37%

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
18661-001	0.358	0.348	0.336	0.322	0.296	0.29	0.284	0.274
18661-002	0.352	0.344	0.324	0.32	0.266	0.25	0.234	0.208



Americamysis 7-d Survival, Growth and Fecundity Test EnviroSystems, Inc.

Analysis No: 08-8485-6364 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv1.6.4
 Analyzed: 07 Jul-09 10:32 Analysis: Parametric-Two Sample Official Results: Yes

Test Run No: 02-9104-8057 Test Type: Growth-Survival-Fec (7d) Analyst:
 Start Date: 25 Jun-09 13:50 Protocol: EPA/821/R-02-014 (2002) Diluent: Not Applicable
 Ending Date: 02 Jul-09 11:00 Species: Americamysis bahia Brine: Not Applicable
 Duration: 6d 21h Source: ARO - Aquatic Research Organisms, NH Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					14.76%

Equal Variance t Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-002	18661-004	-0.3945	1.761	0.04241	0.6504	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.000361	0.000361	1	0.1556	0.6991	Non-Significant Effect
Error	0.0324705	0.0023193	14			
Total	0.0328314	0.0026803	15			

ANOVA Assumptions

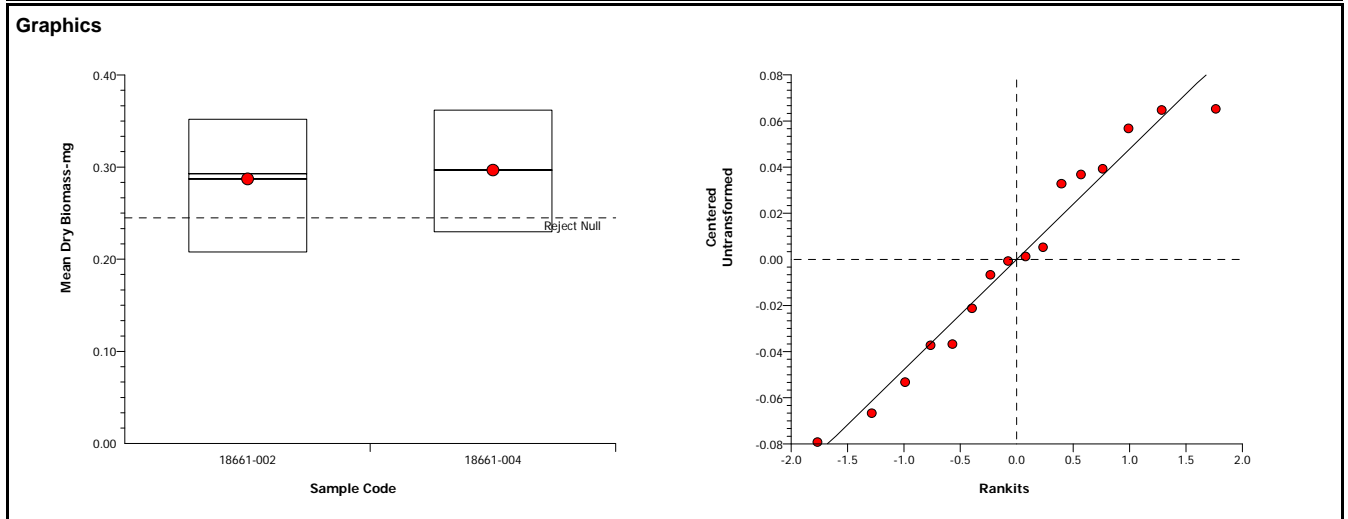
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	1.78	8.885	0.4645	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9508		0.5020	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	8	0.2873	0.2665	0.308	0.208	0.352	0.01012	0.0545	18.97%	0.0%
18661-004	8	0.2967	0.2812	0.3123	0.23	0.362	0.007585	0.04085	13.76%	-3.31%

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
18661-002	0.352	0.344	0.324	0.32	0.266	0.25	0.234	0.208
18661-004	0.362	0.336	0.302	0.298	0.296	0.29	0.26	0.23



Americamysis 7-d Survival, Growth and Fecundity Test			EnviroSystems, Inc.		
Analysis No: 17-8667-9162	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.6.4			
Analyzed: 07 Jul-09 10:31	Analysis: Parametric-Two Sample	Official Results: Yes			
Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable			
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					42.04%

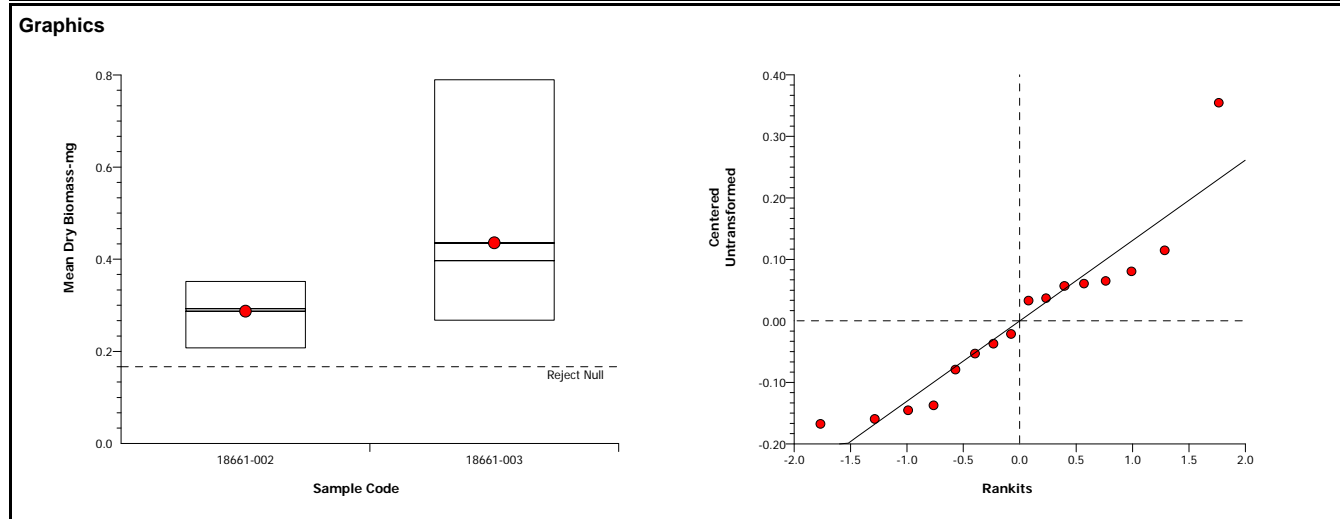
Equal Variance t Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-002	18661-003	-2.162	1.761	0.1208	0.9758	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0879120	0.0879120	1	4.675	0.0484	Significant Effect
Error	0.2632858	0.0188061	14			
Total	0.3511979	0.1067182	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	11.66	8.885	0.0044	Unequal Variances	
Distribution	Shapiro-Wilk Normality	0.9008		0.0828	Normal Distribution	

Mean Dry Biomass-mg Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	8	0.2873	0.2665	0.308	0.208	0.352	0.01012	0.0545	18.97%	0.0%
18661-003	8	0.4355	0.3647	0.5063	0.268	0.79	0.03456	0.1861	42.74%	-51.61%

Mean Dry Biomass-mg Detail								
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
18661-002	0.352	0.344	0.324	0.32	0.266	0.25	0.234	0.208
18661-003	0.79	0.55	0.516	0.496	0.298	0.29	0.276	0.268



CETIS Analytical Report

Report Date: 07 Jul-09 10:41 (p 4 of 9)
 Link/Link Code: 00-4924-7614

Americamysis 7-d Survival, Growth and Fecundity Test EnviroSystems, Inc.

Analysis No: 14-9836-6325	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:31	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					10.27%

Equal Variance t Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-001	18661-004	0.9162	1.761	0.0322	0.1875	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0011223	0.0011223	1	0.8394	0.3751	Non-Significant Effect
Error	0.0187177	0.001337	14			
Total	0.0198400	0.0024593	15			

ANOVA Assumptions

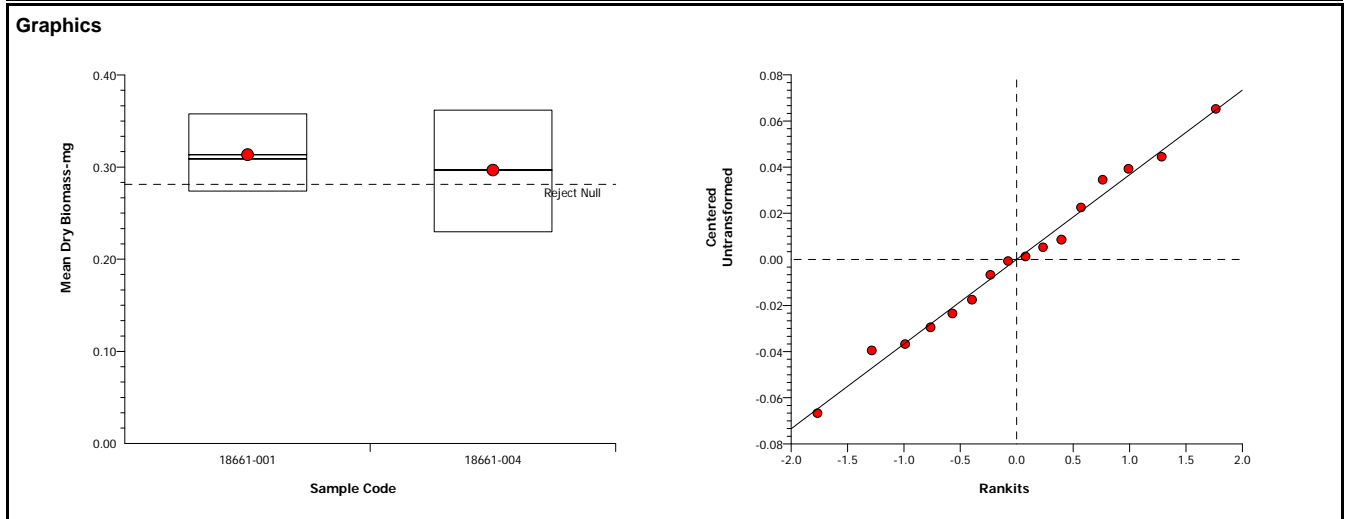
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	1.659	8.885	0.5201	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9876		0.9970	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	8	0.3135	0.3014	0.3256	0.274	0.358	0.005888	0.03171	10.11%	0.0%
18661-004	8	0.2967	0.2812	0.3123	0.23	0.362	0.007585	0.04085	13.76%	5.34%

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
18661-001	0.358	0.348	0.336	0.322	0.296	0.29	0.284	0.274
18661-004	0.362	0.336	0.302	0.298	0.296	0.29	0.26	0.23



Americamysis 7-d Survival, Growth and Fecundity Test			EnviroSystems, Inc.		
Analysis No: 05-4189-6011	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.6.4			
Analyzed: 07 Jul-09 10:31	Analysis: Parametric-Two Sample	Official Results: Yes			
Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable			
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					37.5%

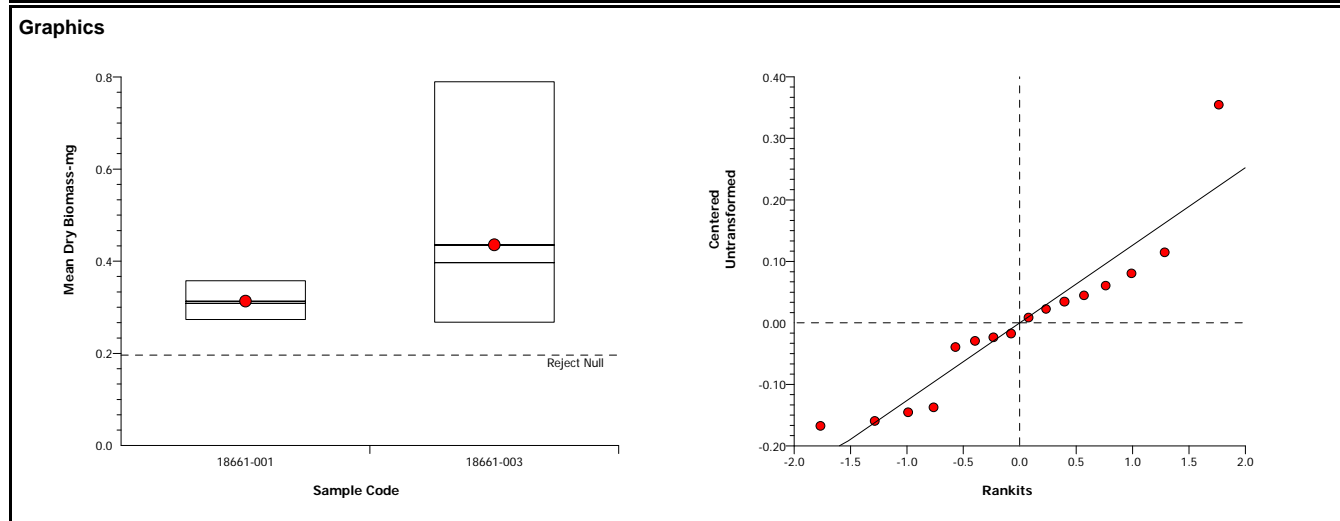
Equal Variance t Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-001	18661-003	-1.828	1.761	0.1176	0.9555	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0595358	0.0595358	1	3.34	0.0890	Non-Significant Effect
Error	0.2495331	0.0178238	14			
Total	0.3090689	0.0773596	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	34.45	8.885	0.0001	Unequal Variances	
Distribution	Shapiro-Wilk Normality	0.89		0.0557	Normal Distribution	

Mean Dry Biomass-mg Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-001	8	0.3135	0.3014	0.3256	0.274	0.358	0.005888	0.03171	10.11%	0.0%	
18661-003	8	0.4355	0.3647	0.5063	0.268	0.79	0.03456	0.1861	42.74%	-38.92%	

Mean Dry Biomass-mg Detail									
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	
18661-001	0.358	0.348	0.336	0.322	0.296	0.29	0.284	0.274	
18661-003	0.79	0.55	0.516	0.496	0.298	0.29	0.276	0.268	



Americamysis 7-d Survival, Growth and Fecundity Test EnviroSystems, Inc.

Analysis No: 04-1038-9084	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:31	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					12.25%

Equal Variance t Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000	18661-004	0.0362	1.761	0.03645	0.4858	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	2.245E-06	2.245E-06	1	0.00131	0.9716	Non-Significant Effect
Error	0.0239893	0.0017135	14			
Total	0.0239915	0.0017158	15			

ANOVA Assumptions

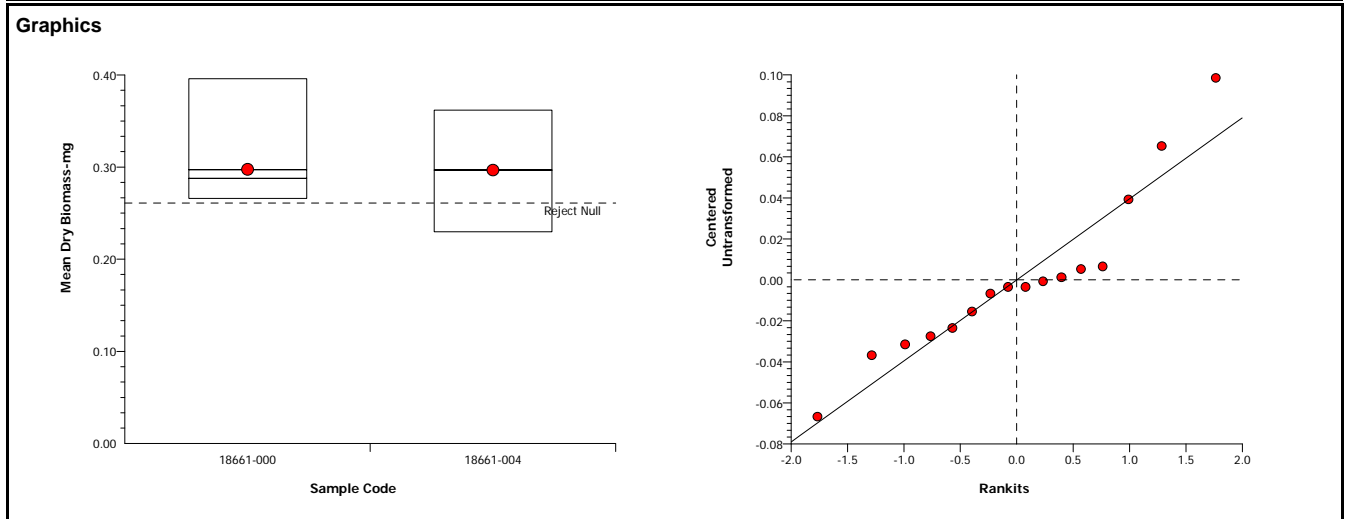
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	1.054	8.885	0.9465	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9099		0.1158	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	0.2975	0.2815	0.3135	0.266	0.396	0.007787	0.04194	14.1%	0.0%
18661-004	8	0.2967	0.2812	0.3123	0.23	0.362	0.007585	0.04085	13.76%	0.25%

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
18661-000	0.396	0.304	0.294	0.294	0.282	0.274	0.27	0.266
18661-004	0.362	0.336	0.302	0.298	0.296	0.29	0.26	0.23



Americamysis 7-d Survival, Growth and Fecundity Test			EnviroSystems, Inc.		
Analysis No: 06-3536-1163	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.6.4			
Analyzed: 07 Jul-09 10:31	Analysis: Parametric-Two Sample	Official Results: Yes			
Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable			
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					39.94%

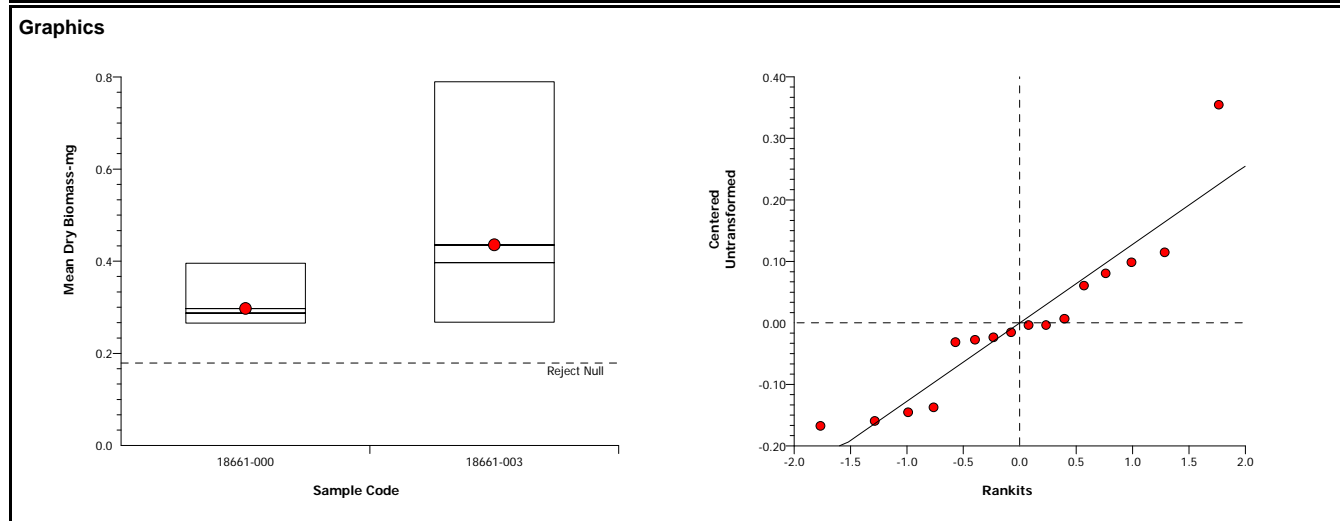
Equal Variance t Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000	18661-003	-2.046	1.761	0.1188	0.9700	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.076177	0.076177	1	4.185	0.0600	Non-Significant Effect
Error	0.2548046	0.0182003	14			
Total	0.3309816	0.0943773	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	19.7	8.885	0.0008	Unequal Variances	
Distribution	Shapiro-Wilk Normality	0.8891		0.0540	Normal Distribution	

Mean Dry Biomass-mg Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	0.2975	0.2815	0.3135	0.266	0.396	0.007787	0.04194	14.1%	0.0%
18661-003	8	0.4355	0.3647	0.5063	0.268	0.79	0.03456	0.1861	42.74%	-46.39%

Mean Dry Biomass-mg Detail								
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
18661-000	0.396	0.304	0.294	0.294	0.282	0.274	0.27	0.266
18661-003	0.79	0.55	0.516	0.496	0.298	0.29	0.276	0.268



Americamysis 7-d Survival, Growth and Fecundity Test EnviroSystems, Inc.

Analysis No: 00-2127-7063	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:30	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					14.39%

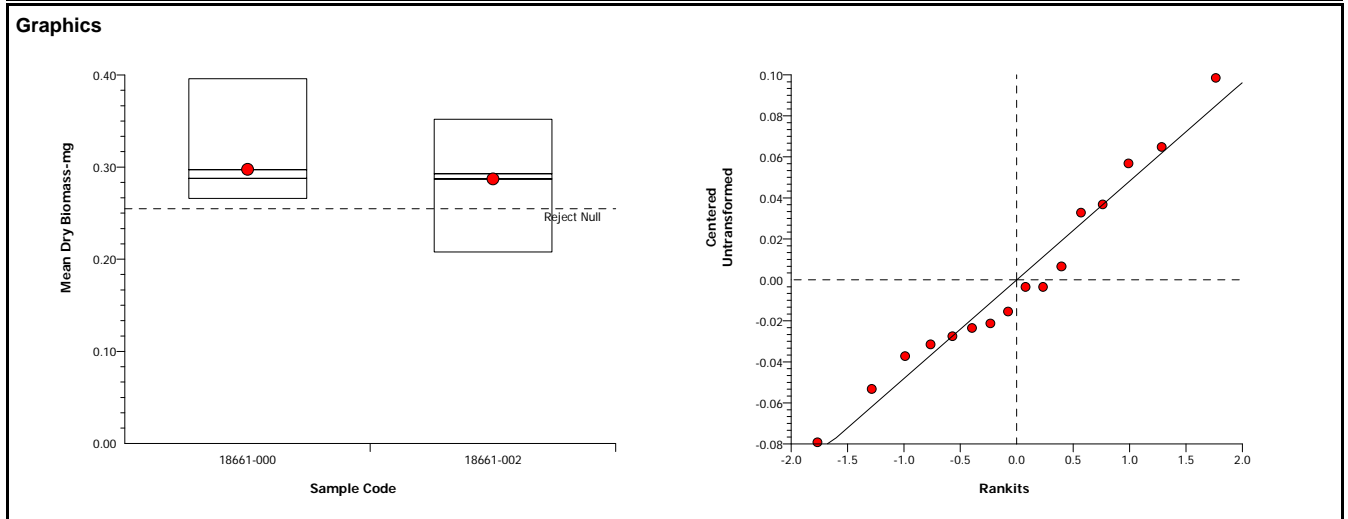
Equal Variance t Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000		18661-002	0.4216	1.761	0.04282	0.3399	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0004202	0.0004202	1	0.1777	0.6798	Non-Significant Effect
Error	0.0331012	0.0023644	14			
Total	0.0335214	0.0027845	15			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	1.689	8.885	0.5058	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.9642		0.7375	Normal Distribution	

Mean Dry Biomass-mg Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-000	8	0.2975	0.2815	0.3135	0.266	0.396	0.007787	0.04194	14.1%	0.0%	
18661-002	8	0.2873	0.2665	0.308	0.208	0.352	0.01012	0.0545	18.97%	3.44%	

Mean Dry Biomass-mg Detail									
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	
18661-000	0.396	0.304	0.294	0.294	0.282	0.274	0.27	0.266	
18661-002	0.352	0.344	0.324	0.32	0.266	0.25	0.234	0.208	



Americamysis 7-d Survival, Growth and Fecundity Test EnviroSystems, Inc.

Analysis No: 00-9511-9198	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:30	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 02-9104-8057	Test Type: Growth-Survival-Fec (7d)	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 02 Jul-09 11:00	Species: Americamysis bahia	Brine: Not Applicable
Duration: 6d 21h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					11.0%

Equal Variance t Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000	18661-001	-0.8608	1.761	0.03274	0.7981	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0010241	0.0010241	1	0.741	0.4038	Non-Significant Effect
Error	0.0193485	0.0013820	14			
Total	0.0203726	0.0024062	15			

ANOVA Assumptions

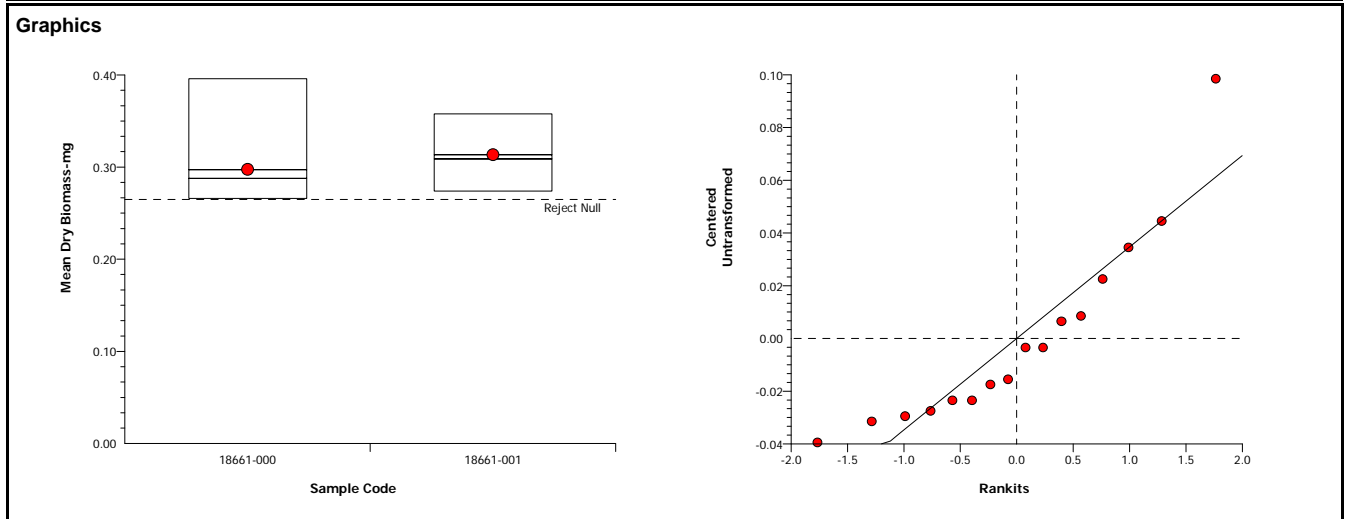
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	1.749	8.885	0.4782	Equal Variances
Distribution	Shapiro-Wilk Normality	0.8643		0.0223	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	8	0.2975	0.2815	0.3135	0.266	0.396	0.007787	0.04194	14.1%	0.0%
18661-001	8	0.3135	0.3014	0.3256	0.274	0.358	0.005888	0.03171	10.11%	-5.38%

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
18661-000	0.396	0.304	0.294	0.294	0.282	0.274	0.27	0.266
18661-001	0.358	0.348	0.336	0.322	0.296	0.29	0.284	0.274



**Arbacia punctulata Chronic Fertilization Assay
Water Quality and Gamete Preparation Data**

STUDY: <u>18661</u>	CLIENT: Woods Hole Group	LOCATION: New Bedford	DATE: <u>6/25/09</u> INITIALS: <u>LB</u>		
SALINITY ADJUSTMENT RECORD: <u>1000</u> mL -001 + <u>3</u> g SALT					
SALINITY ADJUSTMENT RECORD: <u>1000</u> mL -002 + <u>4</u> g SALT					
SALINITY ADJUSTMENT RECORD: <u>1000</u> mL -003 + <u>4</u> g SALT					
SALINITY ADJUSTMENT RECORD: <u>1000</u> mL -004 + <u>6</u> g SALT					
SALINITY ADJUSTED SAMPLE	D.O. (mg/L)	pH (SU)	SPEC COND (µmhos)	TEMP (°C)	SALINITY (ppt)
Lab Control	7.0	8.07	46700	21	30
-001	7.9	7.72	47100	21	31
-002	7.5	7.60	45380	21	29
-003	7.6	7.64	46680	21	30
-004	7.8	7.65	46360	20	30

METERS USED

DO meter # 3 DO probe # 82 pH meter # 1097 pH probe # 83 S/C meter # YSI300 S/C probe # YSI300
SALINITY meter # YSI300

DATE & INITIALS FOR GAMETE PREPARATION: 6/25/09 LB

SPERM DILUTIONS:

HEMACYTOMETER COUNT, E: 129 X 10⁴ = SPM SOLUTION E = 1.29 X 10⁶
SPERM CONCENTRATIONS: SOLUTION E X 40 = SOLUTION A = 5.16 X 10⁷ SPM
SOLUTION E X 20 = SOLUTION B = 2.58 X 10⁷ SPM
SOLUTION E X 5 = SOLUTION C = 6.45 X 10⁶ SPM

FINAL COUNTS:

FINAL SPERM COUNT: 5.16 X 10⁷
FINAL EGG COUNT: 2000

TEST TIMES:

SPERM COLLECTED: 1330
EGGS COLLECTED: 1330
SPERM ADDED: 1350
EGGS ADDED: 13450
FIXATIVE ADDED: 1510

See ESI SOP #1412 for additional information

Arbacia punctulata Chronic Fertilization Assay

SAMPLE USE RECORD

STUDY: 18061		CLIENT: Woods Hole Group - New Bedford	
SPECIES: <i>A. punctulata</i>			
Day: 0			
SAMPLE	Volume Used (mL)	ESI Cube ID	
Lab Control	100	L 0	
-001	↓	001	
-002		002	
-003		003	
-004		004	
INITIALS:	UB		
TIME:	1245		
DATE:	6/25/09		

FERTILIZATION COUNTS

STUDY	CLIENT	LOCATION			DATE
	Woods Hole Group	New Bedford			INITIALS
SAMPLE	REPLICATE VIAL				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
	FERT/TOTAL	FERT/TOTAL	FERT/TOTAL	FERT/TOTAL	
Lab Control	101/103	99/104	100/104	98/102	
-001	100/106	98/106	99/105	98/106	
-002	95/105	90/102	88/103	85/105	
-003	100/102	102/111	105/112	99/107	
-004	91/102	90/106	91/108	85/103	

CETIS Summary Report

Report Date: 07 Jul-09 10:15 (p 1 of 1)
Link/Link Code: 04-1568-8087/18661-Ap

Arbacia Sperm Cell Fertilization Test **EnviroSystems, Inc.**

Test Run No: 07-6280-7222	Test Type: Fertilization	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 25 Jun-09 15:10	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Sample Code	Sample No	Sample Date	Receive Date	Sample Age	Client Name	Project
18661-000	17-4269-3412	25 Jun-09 12:00	25 Jun-09 12:05	110m (2 °C)	Woods Hole Group	Special Studies
18661-001	05-8419-9740	24 Jun-09 09:10	24 Jun-09 17:30	29h (2 °C)		
18661-002	04-8598-4764	24 Jun-09 10:20	24 Jun-09 17:30	28h (2 °C)		
18661-003	07-6176-0887	24 Jun-09 11:10	24 Jun-09 17:30	27h (2 °C)		
18661-004	18-5578-7927	24 Jun-09 11:40	24 Jun-09 17:30	26h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
18661-000	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-Lab Control			
18661-001	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-001			
18661-002	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-002			
18661-003	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-003			
18661-004	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-004			

Test Acceptability						
Analysis No	Endpoint	Attribute	Test Stat	Acceptability Limits	Overlap	Decision
01-7251-8307	Proportion Fertilized	Control Resp	0.9637	0.7 - 1	Yes	Passes acceptability criteria
04-1974-7606	Proportion Fertilized	Control Resp	0.9637	0.7 - 1	Yes	Passes acceptability criteria
11-3921-8433	Proportion Fertilized	Control Resp	0.9637	0.7 - 1	Yes	Passes acceptability criteria
16-1682-6200	Proportion Fertilized	Control Resp	0.9637	0.7 - 1	Yes	Passes acceptability criteria
01-7251-8307	Proportion Fertilized	PMSD	0.03271	NL - 0.25	No	Passes acceptability criteria
03-9204-1513	Proportion Fertilized	PMSD	0.07326	NL - 0.25	No	Passes acceptability criteria
04-1974-7606	Proportion Fertilized	PMSD	0.02189	NL - 0.25	No	Passes acceptability criteria
05-6800-5588	Proportion Fertilized	PMSD	0.02566	NL - 0.25	No	Passes acceptability criteria
11-3921-8433	Proportion Fertilized	PMSD	0.02892	NL - 0.25	No	Passes acceptability criteria
13-2351-6541	Proportion Fertilized	PMSD	0.04599	NL - 0.25	No	Passes acceptability criteria
16-1682-6200	Proportion Fertilized	PMSD	0.0159	NL - 0.25	No	Passes acceptability criteria
17-1406-7684	Proportion Fertilized	PMSD	0.04075	NL - 0.25	No	Passes acceptability criteria
20-8976-5796	Proportion Fertilized	PMSD	0.05742	NL - 0.25	No	Passes acceptability criteria

Proportion Fertilized Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-000	4	0.9637	0.9592	0.9682	0.9519	0.9806	0.002203	0.01207	1.25%	0.0%	
18661-001	4	0.9338	0.9298	0.9378	0.9245	0.9434	0.001961	0.01074	1.15%	3.1%	
18661-002	4	0.8628	0.8474	0.8781	0.8095	0.9048	0.007493	0.04104	4.76%	10.48%	
18661-003	4	0.9405	0.9302	0.9508	0.9189	0.9804	0.005054	0.02768	2.94%	2.41%	
18661-004	4	0.8523	0.8416	0.8629	0.8252	0.8922	0.005191	0.02843	3.34%	11.56%	

Proportion Fertilized Detail					
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	
18661-000	0.9806	0.9519	0.9615	0.9608	
18661-001	0.9434	0.9245	0.9429	0.9245	
18661-002	0.9048	0.8824	0.8544	0.8095	
18661-003	0.9804	0.9189	0.9375	0.9252	
18661-004	0.8922	0.8491	0.8426	0.8252	

Arbacia Sperm Cell Fertilization Test EnviroSystems, Inc.

Analysis No: 13-2351-6541	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:11	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 07-6280-7222	Test Type: Fertilization	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 25 Jun-09 15:10	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C <> T	Not Run					4.6%

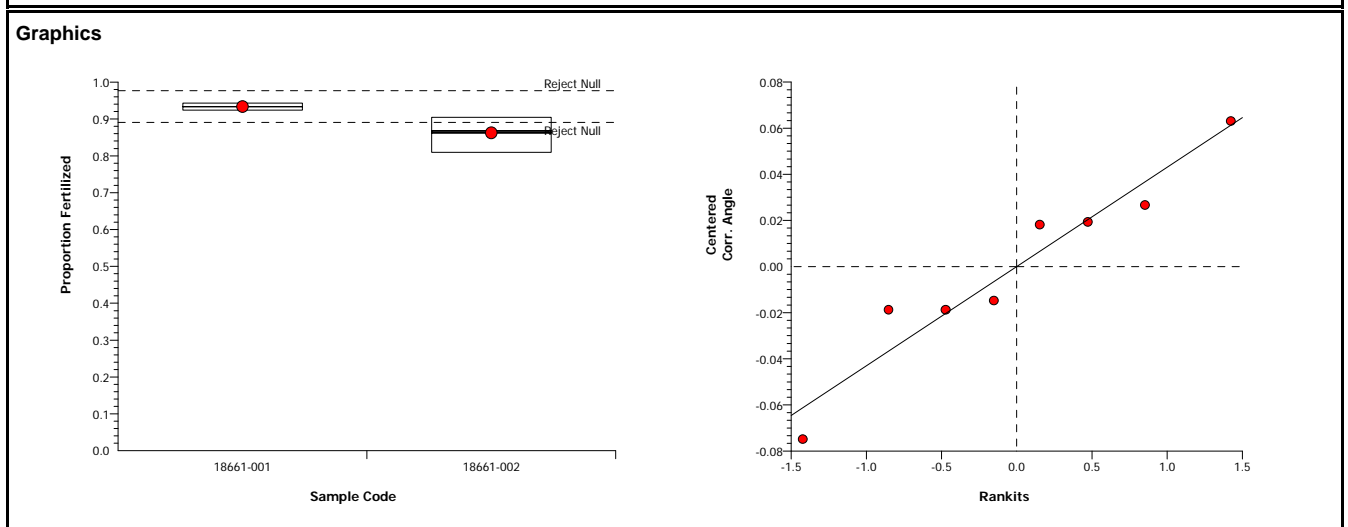
Equal Variance t Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-001		18661-002	3.719	2.447	0.0771	0.0099	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0274729	0.0274729	1	13.83	0.0099	Significant Effect
Error	0.0119149	0.0019858	6			
Total	0.0393878	0.0294587	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	7.469	47.47	0.1328	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.9489		0.7002	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	4	0.9338	0.9297	0.9379	0.9245	0.9434	0.001995	0.01074	1.15%	0.0%
18661-002	4	0.8628	0.8471	0.8784	0.8095	0.9048	0.007621	0.04104	4.76%	7.61%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	4	1.311	1.303	1.319	1.292	1.331	0.004022	0.02166	1.65%	0.0%
18661-002	4	1.194	1.172	1.217	1.119	1.257	0.01099	0.05918	4.96%	8.94%



CETIS Analytical Report

Report Date: 07 Jul-09 10:13 (p 2 of 9)
 Link/Link Code: 04-1568-8087/18661-Ap

Arbacia Sperm Cell Fertilization Test			EnviroSystems, Inc.		
Analysis No: 20-8976-5796	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4			
Analyzed: 07 Jul-09 10:08	Analysis: Parametric-Two Sample	Official Results: Yes			
Test Run No: 07-6280-7222	Test Type: Fertilization	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jun-09 15:10	Species: Arbacia punctulata	Brine: Generic commercial salts			
Duration: 80m	Source: In-House Culture	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.74%

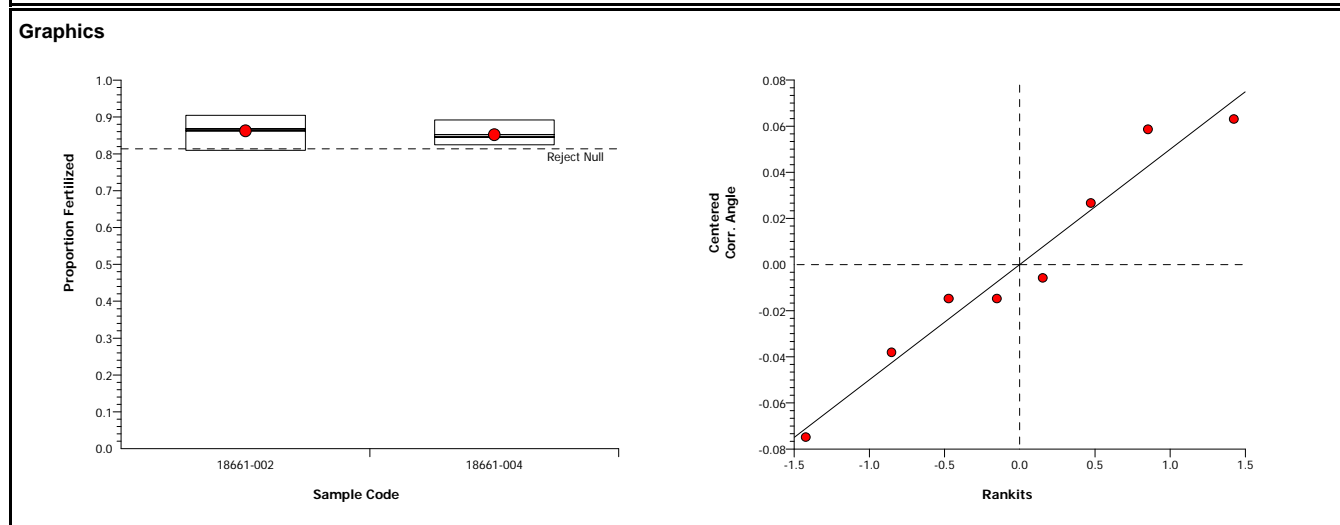
Equal Variance t Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-002	18661-004	0.4561	1.943	0.07016	0.3322	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0005423	0.0005423	1	0.208	0.6644	Non-Significant Effect
Error	0.0156442	0.0026074	6			
Total	0.0161865	0.0031497	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	2.046	47.47	0.5715	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.948		0.6915	Normal Distribution	

Proportion Fertilized Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-002	4	0.8628	0.8471	0.8784	0.8095	0.9048	0.007621	0.04104	4.76%	0.0%	
18661-004	4	0.8523	0.8414	0.8631	0.8252	0.8922	0.00528	0.02843	3.34%	1.22%	

Angular (Corrected) Transformed Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-002	4	1.194	1.172	1.217	1.119	1.257	0.01099	0.05918	4.96%	0.0%	
18661-004	4	1.178	1.162	1.193	1.14	1.236	0.007683	0.04138	3.51%	1.38%	



CETIS Analytical Report

Report Date: 07 Jul-09 10:13 (p 3 of 9)
 Link/Link Code: 04-1568-8087/18661-Ap

Arbacia Sperm Cell Fertilization Test **EnviroSystems, Inc.**

Analysis No: 03-9204-1513	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:08	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 07-6280-7222	Test Type: Fertilization	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 25 Jun-09 15:10	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					7.33%

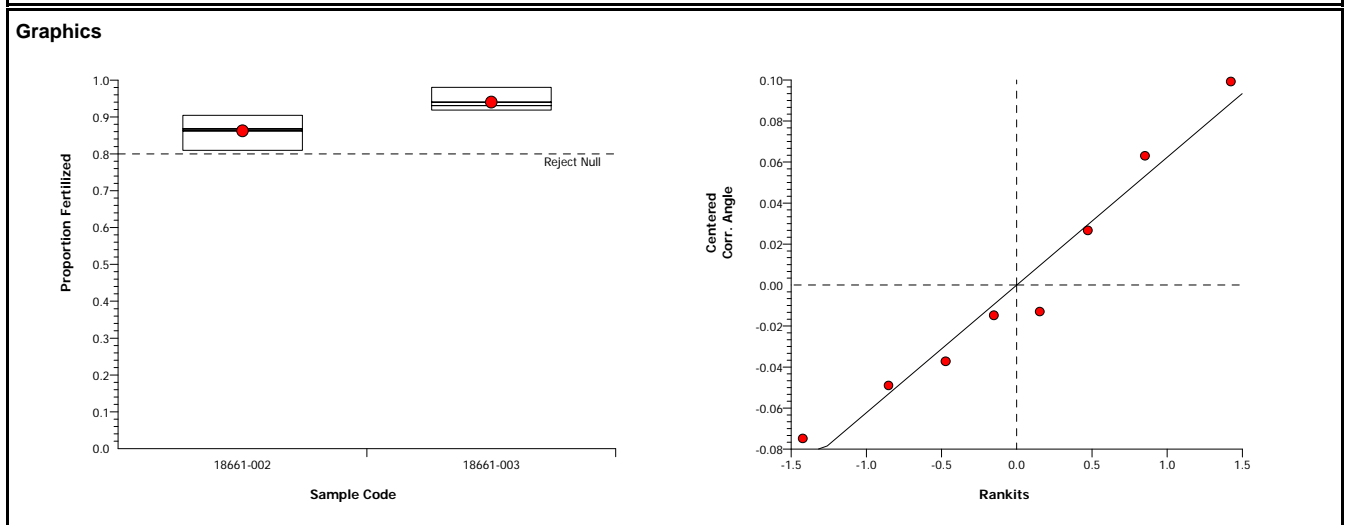
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-002	18661-003	-3.044	1.943	0.08747	0.9887	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0375568	0.0375568	1	9.268	0.0227	Significant Effect
Error	0.0243129	0.0040522	6			
Total	0.0618697	0.0416089	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	1.314	47.47	0.8279	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.9513		0.7240	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	4	0.8628	0.8471	0.8784	0.8095	0.9048	0.007621	0.04104	4.76%	0.0%
18661-003	4	0.9405	0.93	0.951	0.9189	0.9804	0.005141	0.02768	2.94%	-9.01%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	4	1.194	1.172	1.217	1.119	1.257	0.01099	0.05918	4.96%	0.0%
18661-003	4	1.331	1.305	1.357	1.282	1.43	0.0126	0.06784	5.1%	-11.48%



CETIS Analytical Report

Report Date: 07 Jul-09 10:13 (p 4 of 9)
 Link/Link Code: 04-1568-8087/18661-Ap

Arbacia Sperm Cell Fertilization Test **EnviroSystems, Inc.**

Analysis No: 05-6800-5588	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:07	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 07-6280-7222	Test Type: Fertilization	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 25 Jun-09 15:10	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.57%

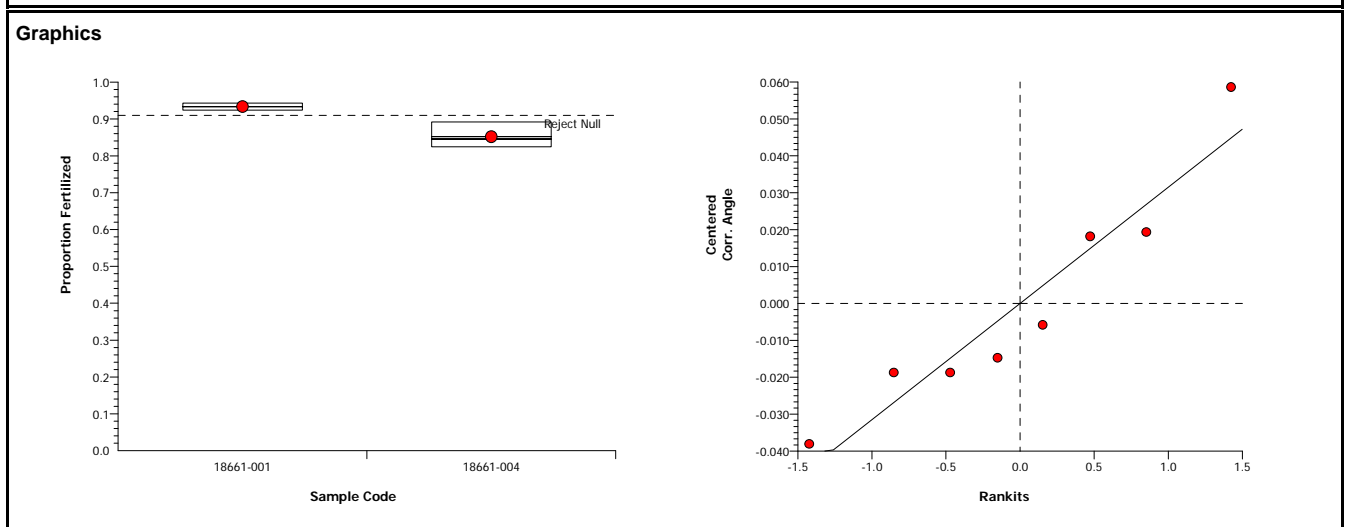
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-001	18661-004	5.724	1.943	0.04537	0.0006	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0357349	0.0357349	1	32.77	0.0012	Significant Effect
Error	0.0065429	0.0010905	6			
Total	0.0422778	0.0368254	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	3.651	47.47	0.3158	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.9183		0.4163	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	4	0.9338	0.9297	0.9379	0.9245	0.9434	0.001995	0.01074	1.15%	0.0%
18661-004	4	0.8523	0.8414	0.8631	0.8252	0.8922	0.00528	0.02843	3.34%	8.74%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	4	1.311	1.303	1.319	1.292	1.331	0.004022	0.02166	1.65%	0.0%
18661-004	4	1.178	1.162	1.193	1.14	1.236	0.007683	0.04138	3.51%	10.19%



CETIS Analytical Report

Report Date: 07 Jul-09 10:14 (p 5 of 9)
 Link/Link Code: 04-1568-8087/18661-Ap

Arbacia Sperm Cell Fertilization Test EnviroSystems, Inc.

Analysis No: 17-1406-7684	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 07 Jul-09 10:07	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 07-6280-7222	Test Type: Fertilization	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 25 Jun-09 15:10	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					4.08%

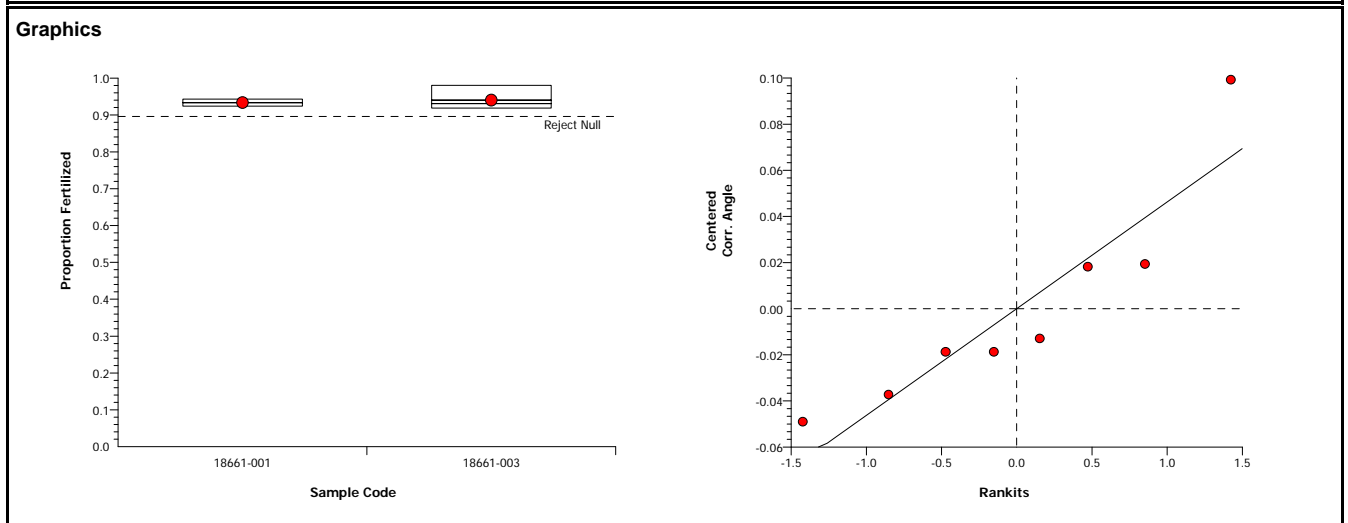
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-001	18661-003	-0.557	1.943	0.06918	0.7012	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0007866	0.0007866	1	0.3103	0.5977	Non-Significant Effect
Error	0.0152116	0.0025353	6			
Total	0.0159982	0.0033219	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	9.813	47.47	0.0928	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.8602		0.1206	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	4	0.9338	0.9297	0.9379	0.9245	0.9434	0.001995	0.01074	1.15%	0.0%
18661-003	4	0.9405	0.93	0.951	0.9189	0.9804	0.005141	0.02768	2.94%	-0.72%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	4	1.311	1.303	1.319	1.292	1.331	0.004022	0.02166	1.65%	0.0%
18661-003	4	1.331	1.305	1.357	1.282	1.43	0.0126	0.06784	5.1%	-1.51%



CETIS Analytical Report

Report Date: 07 Jul-09 10:14 (p 6 of 9)
 Link/Link Code: 04-1568-8087/18661-Ap

Arbacia Sperm Cell Fertilization Test EnviroSystems, Inc.

Analysis No: 04-1974-7606	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 26 Jun-09 6:52	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 07-6280-7222	Test Type: Fertilization	Analyst:
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 25 Jun-09 15:10	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.19%

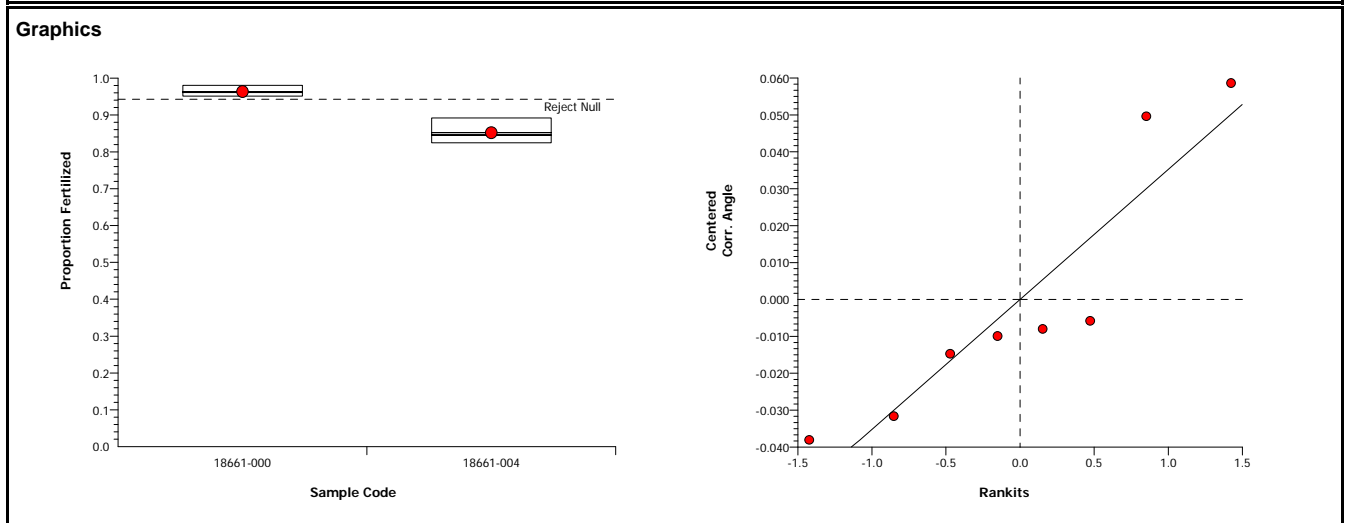
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000	18661-004	7.543	1.943	0.05251	0.0001	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0830838	0.0830838	1	56.9	0.0003	Significant Effect
Error	0.0087614	0.0014602	6			
Total	0.0918452	0.0845440	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	1.417	47.47	0.7815	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.8418		0.0786	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	4	0.9637	0.9591	0.9683	0.9519	0.9806	0.002241	0.01207	1.25%	0.0%
18661-004	4	0.8523	0.8414	0.8631	0.8252	0.8922	0.00528	0.02843	3.34%	11.56%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	4	1.381	1.368	1.395	1.35	1.431	0.006455	0.03476	2.52%	0.0%
18661-004	4	1.178	1.162	1.193	1.14	1.236	0.007683	0.04138	3.51%	14.75%



CETIS Analytical Report

Report Date: 07 Jul-09 10:14 (p 7 of 9)
 Link/Link Code: 04-1568-8087/18661-Ap

Arbacia Sperm Cell Fertilization Test			EnviroSystems, Inc.		
Analysis No: 01-7251-8307	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4			
Analyzed: 26 Jun-09 6:52	Analysis: Parametric-Two Sample	Official Results: Yes			
Test Run No: 07-6280-7222	Test Type: Fertilization	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jun-09 15:10	Species: Arbacia punctulata	Brine: Generic commercial salts			
Duration: 80m	Source: In-House Culture	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					3.27%

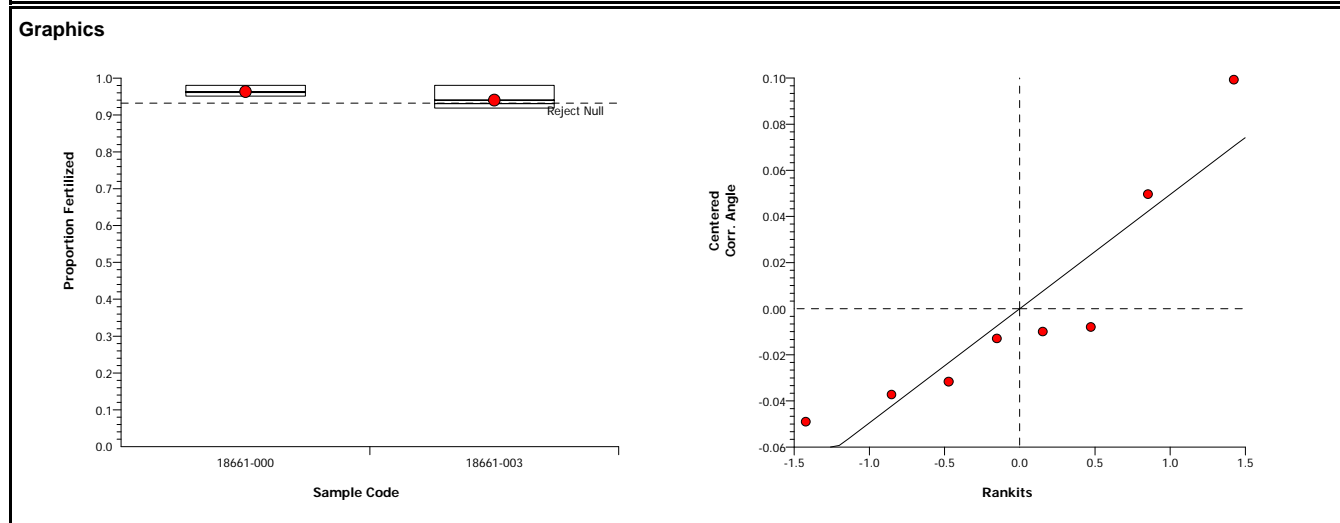
Equal Variance t Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000	18661-003	1.32	1.943	0.07406	0.1174	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0050637	0.0050637	1	1.743	0.2349	Non-Significant Effect
Error	0.0174301	0.0029050	6			
Total	0.0224938	0.0079687	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	3.808	47.47	0.3012	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.8467		0.0883	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	4	0.9637	0.9591	0.9683	0.9519	0.9806	0.002241	0.01207	1.25%	0.0%
18661-003	4	0.9405	0.93	0.951	0.9189	0.9804	0.005141	0.02768	2.94%	2.41%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	4	1.381	1.368	1.395	1.35	1.431	0.006455	0.03476	2.52%	0.0%
18661-003	4	1.331	1.305	1.357	1.282	1.43	0.0126	0.06784	5.1%	3.64%



CETIS Analytical Report

Report Date: 07 Jul-09 10:14 (p 8 of 9)
 Link/Link Code: 04-1568-8087/18661-Ap

Arbacia Sperm Cell Fertilization Test			EnviroSystems, Inc.		
Analysis No: 11-3921-8433	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4			
Analyzed: 26 Jun-09 6:52	Analysis: Parametric-Two Sample	Official Results: Yes			
Test Run No: 07-6280-7222	Test Type: Fertilization	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jun-09 15:10	Species: Arbacia punctulata	Brine: Generic commercial salts			
Duration: 80m	Source: In-House Culture	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.89%

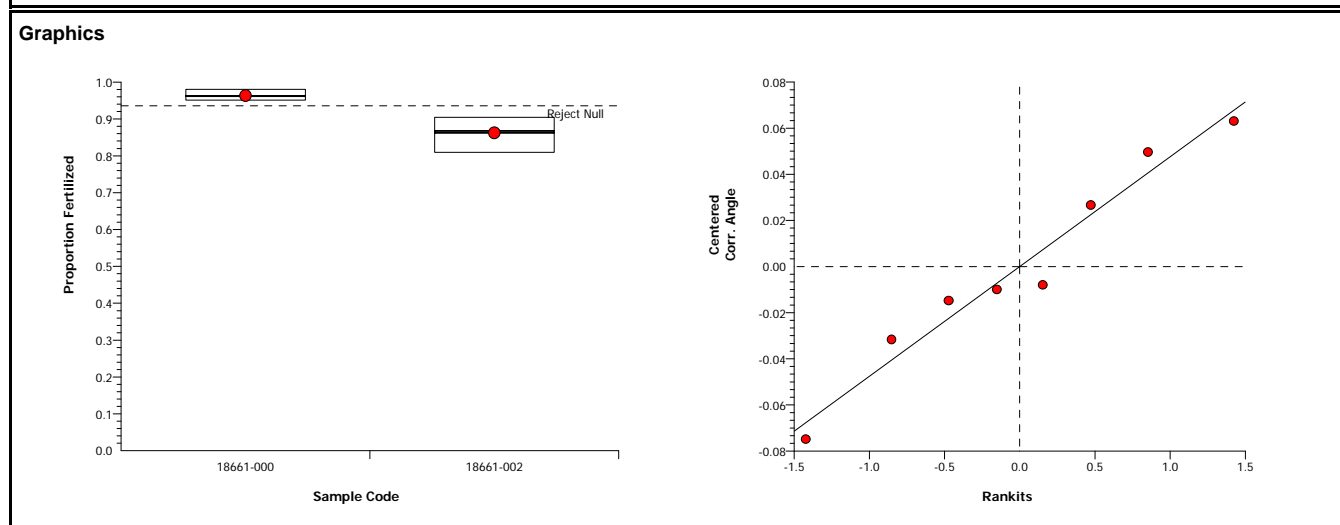
Equal Variance t Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000	18661-002	5.459	1.943	0.06669	0.0008	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0702013	0.0702013	1	29.8	0.0016	Significant Effect
Error	0.0141334	0.0023556	6			
Total	0.0843347	0.0725568	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	2.899	47.47	0.4054	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.9605		0.8145	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	4	0.9637	0.9591	0.9683	0.9519	0.9806	0.002241	0.01207	1.25%	0.0%
18661-002	4	0.8628	0.8471	0.8784	0.8095	0.9048	0.007621	0.04104	4.76%	10.48%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	4	1.381	1.368	1.395	1.35	1.431	0.006455	0.03476	2.52%	0.0%
18661-002	4	1.194	1.172	1.217	1.119	1.257	0.01099	0.05918	4.96%	13.56%



CETIS Analytical Report

Report Date: 07 Jul-09 10:14 (p 9 of 9)
 Link/Link Code: 04-1568-8087/18661-Ap

Arbacia Sperm Cell Fertilization Test			EnviroSystems, Inc.		
Analysis No: 16-1682-6200	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4			
Analyzed: 26 Jun-09 6:52	Analysis: Parametric-Two Sample	Official Results: Yes			
Test Run No: 07-6280-7222	Test Type: Fertilization	Analyst:			
Start Date: 25 Jun-09 13:50	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jun-09 15:10	Species: Arbacia punctulata	Brine: Generic commercial salts			
Duration: 80m	Source: In-House Culture	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					1.59%

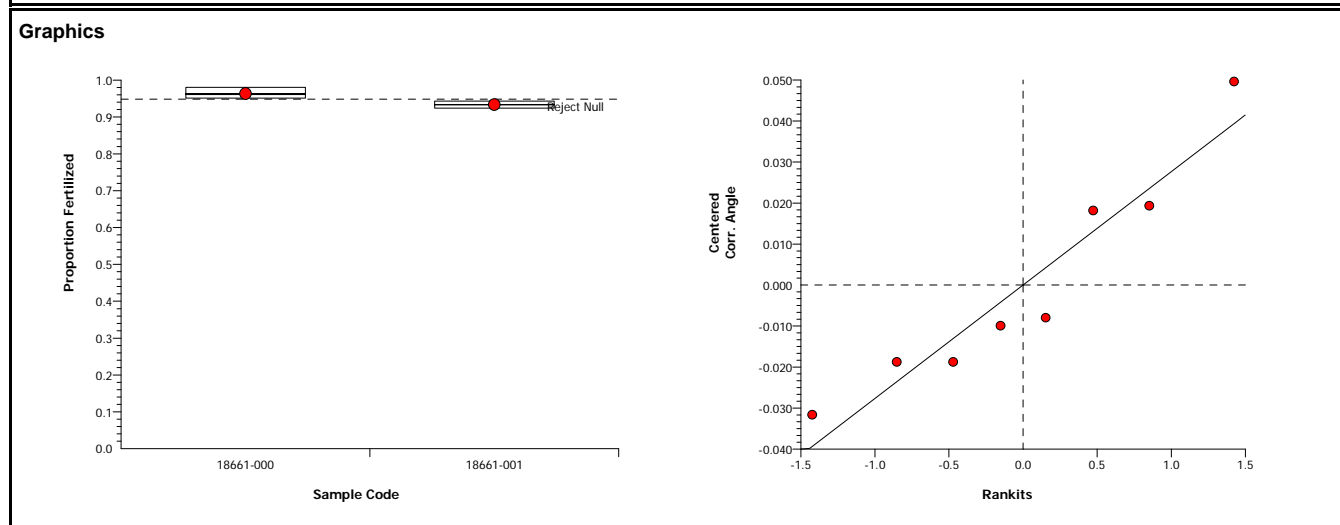
Equal Variance t Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000	18661-001	3.426	1.943	0.03979	0.0070	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0098418	0.0098418	1	11.73	0.0141	Significant Effect
Error	0.0050321	0.0008387	6			
Total	0.0148739	0.0106805	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	2.577	47.47	0.4574	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.9131		0.3767	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	4	0.9637	0.9591	0.9683	0.9519	0.9806	0.002241	0.01207	1.25%	0.0%
18661-001	4	0.9338	0.9297	0.9379	0.9245	0.9434	0.001995	0.01074	1.15%	3.1%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	4	1.381	1.368	1.395	1.35	1.431	0.006455	0.03476	2.52%	0.0%
18661-001	4	1.311	1.303	1.319	1.292	1.331	0.004022	0.02166	1.65%	5.08%



Sample 001

Champia parvula
CYSTOCARP COUNTS
BENCHSHEET COPY

Work Order : 215383
 Sample Number : **24846**
 Organism Batch # : Cp09-06
 Mortality Rate (prev. 7 days)(%) : 12.0
 Start Date: 2009-06-26
 Start Time: 17:40
 Placed in Recovery On: 2009-06-28
 Completion Date: 2009-07-05
 Initiated by : EJ
 Terminated by : KEH
 Minimum Light Intensity (lux) : 1110
 Maximum Light Intensity (lux) : 1338

Test Volume/Replicate (mL): 100
 Recovery Volume/Replicate (mL): 200
 Test Vessel : 240 mL polystyrene cup
 Test Solution Depth (cm) : 5.0
 Control/Dilution Water : Natural seawater
 Sample Filtered (60 µm) ? : No
 Recovery Water Filtered (60 µm) ? : Yes
 Females per replicate: 5
 Trichogynes Present ? : Yes
 Males per replicate: 2
 Sori with Spermatia Present ? : Yes
 Test Aerated ? : No
 Recovery Aerated ? : Yes

Individual Plant Cystocarp Counts

Concentration (%)	Rep.	Plant					Replicate Mean	Treatment Mean	Standard Deviation	CV(%)
		1	2	3	4	5				
Control 1	A	39	58	47	41	35	44.0	47.1	4.01	8.512736
	B	63	45	51	46	53	51.6			
	C	47	30	48	54	49	45.6			
Control 2	A	45	71	38	44	41	47.8	44.7	2.73	6.112118
	B	53	34	39	40	51	43.4			
	C	32	46	52	36	48	42.8			
99	A	47	53	48	50	42	48.0	44.9	9.44	21.00337
	B	32	55	57	33	41	43.6			
	C	28	52	34	47	55	43.2			

NOTES :

Sample 002

Champia parvula
 CYSTOCARP COUNTS
 BENCHSHEET COPY

Work Order : 215383
 Sample Number : 24847
 Organism Batch # : Cp09-06
 Mortality Rate (prev. 7 days)(%) : 12.0
 Start Date: 2009-06-26
 Start Time: 17:50
 Placed in Recovery On: 2009-06-28
 Completion Date: 2009-07-06
 Initiated by : EJ
 Terminated by : KEH
 Minimum Light Intensity (lux) : 1110
 Maximum Light Intensity (lux) : 1338

Test Volume/Replicate (mL): 100
 Recovery Volume/Replicate (mL): 200
 Test Vessel : 240 mL polystyrene cup
 Test Solution Depth (cm) : 5.0
 Control/Dilution Water : Natural seawater
 Sample Filtered (60 µm) ? : No
 Recovery Water Filtered (60 µm) ? : Yes
 Females per replicate: 5
 Trichogynes Present ? : Yes
 Males per replicate: 2
 Sori with Spermatia Present ? : Yes
 Test Aerated ? : No
 Recovery Aerated ? : Yes

Individual Plant Cystocarp Counts

Concentration (%)	Rep.	Plant					Replicate Mean	Treatment Mean	Standard Deviation	CV(%)
		1	2	3	4	5				
Control 1	A	39	58	47	41	35	44.0	47.1	4.01	8.512736
	B	63	45	51	46	53	51.6			
	C	47	30	48	54	49	45.6			
Control 2	A	45	71	38	44	41	47.8	44.7	2.73	6.112118
	B	53	34	39	40	51	43.4			
	C	32	46	52	36	48	42.8			
99	A	40	33	47	35	38	38.6	38.3	8.12	21.1855
	B	31	36	52	44	29	38.4			
	C	45	27	39	51	28	38.0			

NOTES :

Champia parvula
CYSTOCARP COUNTS
BENCHSHEET COPY

Sample 003

Work Order : 215383
 Sample Number : **24848**
 Organism Batch # : Cp09-06
 Mortality Rate (prev. 7 days)(%) : 12.0
 Start Date: 2009-06-26
 Start Time: 17:45
 Placed in Recovery On: 2009-06-28
 Completion Date: 2009-07-05
 Initiated by : EJ
 Terminated by : KEH
 Minimum Light Intensity (lux) : 1110
 Maximum Light Intensity (lux) : 1338

Test Volume/Replicate (mL): 100
 Recovery Volume/Replicate (mL): 200
 Test Vessel : 240 mL polystyrene cup
 Test Solution Depth (cm) : 5.0
 Control/Dilution Water : Natural seawater
 Sample Filtered (60 µm) ? : No
 Recovery Water Filtered (60 µm) ? : Yes
 Females per replicate: 5
 Trichogynes Present ? : Yes
 Males per replicate: 2
 Sori with Spermatia Present ? : Yes
 Test Aerated ? : No
 Recovery Aerated ? : Yes

Individual Plant Cystocarp Counts

Concentration (%)	Rep.	Plant					Replicate Mean	Treatment Mean	Standard Deviation	CV(%)
		1	2	3	4	5				
Control 1	A	39	58	47	41	35	44.0	47.1	4.01	8.512736
	B	63	45	51	46	53	51.6			
	C	47	30	48	54	49	45.6			
Control 2	A	45	71	38	44	41	47.8	44.7	2.73	6.112118
	B	53	34	39	40	51	43.4			
	C	32	46	52	36	48	42.8			
99	A	0	0	1	1	0	0.4	0.5	0.52	110.6567
	B	1	1	0	0	1	0.6			
	C	1	0	0	0	1	0.4			

NOTES :

Sample 004

Work Order :	215383	Test Volume/Replicate (mL):	100
Sample Number :	24849	Recovery Volume/Replicate (mL):	200
Organism Batch # :	Cp09-06	Test Vessel :	240 mL polystyrene cup
Mortality Rate (prev. 7 days)(%) :	12.0	Test Solution Depth (cm) :	5.0
Start Date:	2009-06-26	Control/Dilution Water :	Natural seawater
Start Time:	17:30	Sample Filtered (60 µm) ? :	No
Placed in Recovery On:	2009-06-28	Recovery Water Filtered (60 µm) ? :	Yes
Completion Date:	2009-07-05	Females per replicate:	5
Initiated by :	EJ	Trichogynes Present ?	Yes
Terminated by :	KEH	Males per replicate:	2
Minimum Light Intensity (lux) :	1110	Sori with Spermatia Present ?	Yes
Maximum Light Intensity (lux) :	1338	Test Aerated ?	No
		Recovery Aerated ?	Yes

Individual Plant Cystocarp Counts

Concentration (%)	Rep.	Plant					Replicate Mean	Treatment Mean	Standard Deviation	CV(%)
		1	2	3	4	5				
Control 1	A	39	58	47	41	35	44.0	47.1	4.01	8.512736
	B	63	45	51	46	53	51.6			
	C	47	30	48	54	49	45.6			
Control 2	A	45	71	38	44	41	47.8	44.7	2.73	6.112118
	B	53	34	39	40	51	43.4			
	C	32	46	52	36	48	42.8			
99	A	30	21	24	18	33	25.2	24.9	5.55	22.33193
	B	21	24	32	35	17	25.8			
	C	26	22	25	19	26	23.6			

NOTES :

Sample 005

Champia parvula
 CYSTOCARP COUNTS
 BENCHSHEET COPY

Work Order : 215383
 Sample Number : 24850
 Organism Batch # : Cp09-06
 Mortality Rate (prev. 7 days)(%) : 12.0
 Start Date: 2009-06-26
 Start Time: 17:35
 Placed in Recovery On: 2009-06-28
 Completion Date: 2009-07-05
 Initiated by : EJ
 Terminated by : KEH
 Minimum Light Intensity (lux) : 1110
 Maximum Light Intensity (lux) : 1338

Test Volume/Replicate (mL): 100
 Recovery Volume/Replicate (mL): 200
 Test Vessel : 240 mL polystyrene cup
 Test Solution Depth (cm) : 5.0
 Control/Dilution Water : Natural seawater
 Sample Filtered (60 µm) ? : No
 Recovery Water Filtered (60 µm) ? : Yes
 Females per replicate: 5
 Trichogynes Present ? : Yes
 Males per replicate: 2
 Sori with Spermatia Present ? : Yes
 Test Aerated ? : No
 Recovery Aerated ? : Yes

Individual Plant Cystocarp Counts

Concentration (%)	Rep.	Plant					Replicate Mean	Treatment Mean	Standard Deviation	CV(%)
		1	2	3	4	5				
Control 1	A	39	58	47	41	35	44.0	47.1	4.01	8.512736
	B	63	45	51	46	53	51.6			
	C	47	30	48	54	49	45.6			
Control 2	A	45	71	38	44	41	47.8	44.7	2.73	6.112118
	B	53	34	39	40	51	43.4			
	C	32	46	52	36	48	42.8			
99	A	19	25	21	14	28	21.4	22.1	4.89	22.16555
	B	26	12	28	18	24	21.6			
	C	25	22	19	27	23	23.2			

NOTES :

CETIS Summary Report

Report Date: 17 Jul-09 13:14 (p 1 of 1)
Link/Link Code: 11-5878-6176

Champia parvula Red Macroalga Sexual Reproduction Test							AquaTox				
Test Run No:	18-3381-7547	Test Type:	Champia	Analyst:							
Start Date:	26 Jun-09 12:00	Protocol:	EPA/600/4-91/003 (1994)	Diluent:	Not Applicable						
Ending Date:	05 Jul-09 12:00	Species:	Champia parvula	Brine:	Generic commercial salts						
Duration:	9d 0h	Source:	In-House Culture	Age:							
Sample Code	Sample No	Sample Date	Receive Date	Sample Age	Client Name	Project					
18661-000	17-4269-3412	25 Jun-09 12:00	25 Jun-09 12:05	24h (2 °C)	Woods Hole Group	Special Studies					
18661-001	04-5664-4176	24 Jun-09 11:40	24 Jun-09 17:30	48h (2 °C)							
18661-002	04-8598-4764	24 Jun-09 10:20	24 Jun-09 17:30	50h (2 °C)							
18661-003	18-0884-1223	24 Jun-09 11:10	24 Jun-09 17:30	49h (2 °C)							
18661-004	13-3350-5029	24 Jun-09 11:40	24 Jun-09 17:30	48h (2 °C)							
Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude						
18661-000	Surface Water	New Bedford Harbor Dredge Moni	WQ-TOX-Lab Control								
18661-001	Surface Water	New Bedford Harbor Dredge Moni	WQ-TOX-001								
18661-002	Surface Water	New Bedford Harbor Dredge Moni	WQ-TOX-002								
18661-003	Surface Water	New Bedford Harbor Dredge Moni	WQ-TOX-003								
18661-004	Surface Water	New Bedford Harbor Dredge Moni	WQ-TOX-004								
Mean Cystocarps Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-000	6	45.87	44.62	47.11	42.8	51.6	0.6091	3.336	7.27%	0.0%	
18661-001	3	44.93	43.94	45.93	43.2	48	0.4863	2.663	5.93%	2.03%	
18661-002	3	38.33	38.22	38.45	38	38.6	0.05578	0.3055	0.8%	16.42%	
18661-003	3	0.4667	0.4235	0.5098	0.4	0.6	0.02108	0.1155	24.74%	98.98%	
18661-004	3	24.87	24.44	25.29	23.6	25.8	0.2076	1.137	4.57%	45.78%	
Mean Cystocarps Detail											
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6					
18661-000	44	51.6	45.6	47.8	43.4	42.8					
18661-001	48	43.6	43.2								
18661-002	38.6	38.4	38								
18661-003	0.4	0.6	0.4								
18661-004	25.2	25.8	23.6								

CETIS Analytical Report

Report Date: 17 Jul-09 13:11 (p 1 of 9)
 Link/Link Code: 11-5878-6176

Champia parvula Red Macroalga Sexual Reproduction Test			AquaTox
Analysis No: 07-5029-6440	Endpoint: Mean Cystocarps	CETIS Version: CETISv1.6.4	
Analyzed: 17 Jul-09 12:23	Analysis: Parametric-Two Sample	Official Results: Yes	
Test Run No: 18-3381-7547	Test Type: Champia	Analyst:	
Start Date: 26 Jun-09 12:00	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable	
Ending Date: 05 Jul-09 12:00	Species: Champia parvula	Brine: Generic commercial salts	
Duration: 9d 0h	Source: In-House Culture	Age:	

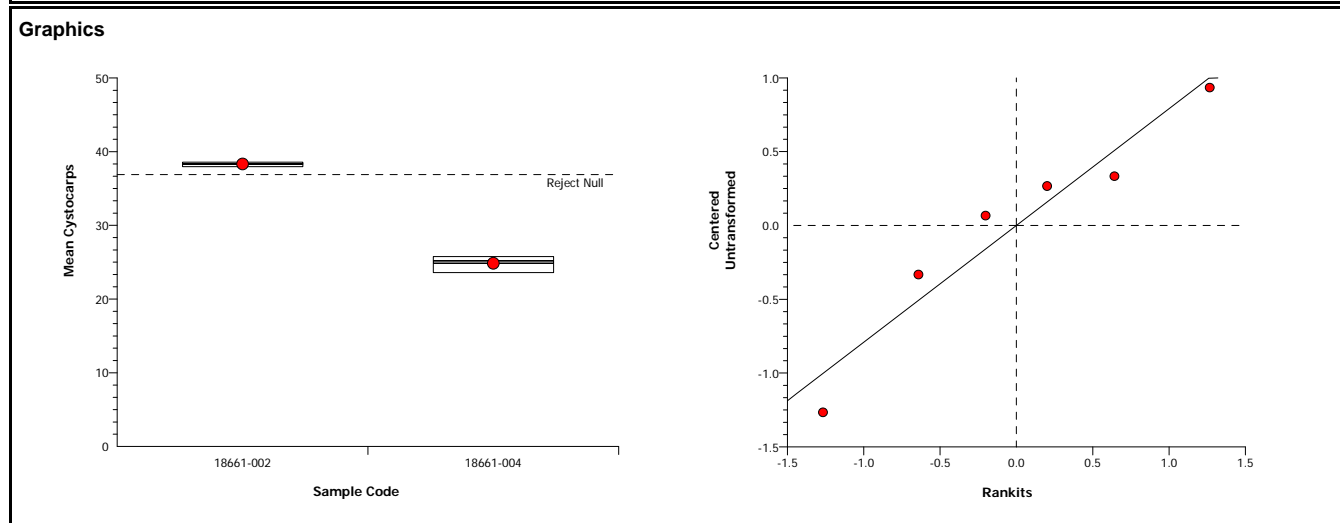
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					3.78%

Equal Variance t Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-002		18661-004	19.81	2.132	1.449	0.0000	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	272.0267	272.0267	1	392.3	0.0000	Significant Effect
Error	2.773333	0.6933333	4			
Total	274.8	272.72	5			

ANOVA Assumptions					
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	13.86	199	0.1346	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9455		0.7039	Normal Distribution

Mean Cystocarps Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	3	38.33	38.22	38.45	38	38.6	0.05672	0.3054	0.8%	0.0%
18661-004	3	24.87	24.43	25.3	23.6	25.8	0.2112	1.137	4.57%	35.13%



CETIS Analytical Report

Report Date: 17 Jul-09 13:11 (p 2 of 9)
 Link/Link Code: 11-5878-6176

Champia parvula Red Macroalga Sexual Reproduction Test **AquaTox**

Analysis No: 14-2180-2323 Endpoint: Mean Cystocarps CETIS Version: CETISv1.6.4
 Analyzed: 17 Jul-09 12:23 Analysis: Parametric-Two Sample Official Results: Yes

Test Run No: 18-3381-7547 Test Type: Champia Analyst:
 Start Date: 26 Jun-09 12:00 Protocol: EPA/600/4-91/003 (1994) Diluent: Not Applicable
 Ending Date: 05 Jul-09 12:00 Species: Champia parvula Brine: Generic commercial salts
 Duration: 9d 0h Source: In-House Culture Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					1.05%

Equal Variance t Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-002	18661-003	200.8	2.132	0.402	0.0000	Significant Effect

ANOVA Table

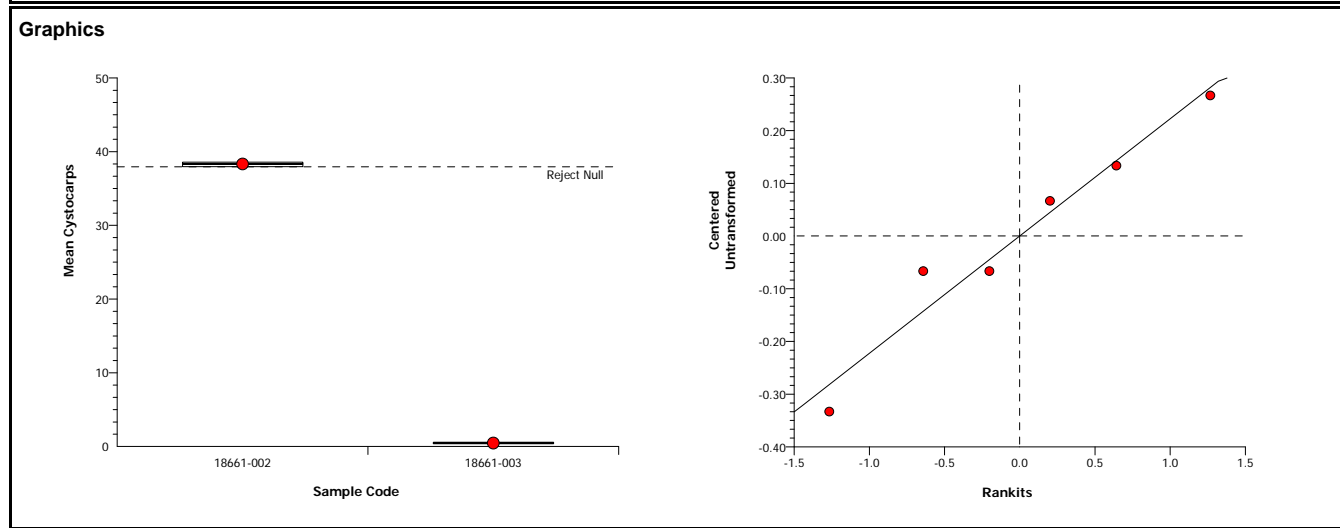
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	2150.827	2150.827	1	40330	0.0000	Significant Effect
Error	0.2133333	0.0533333	4			
Total	2151.04	2150.88	5			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	7	199	0.2500	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9649		0.8563	Normal Distribution

Mean Cystocarps Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-002	3	38.33	38.22	38.45	38	38.6	0.05672	0.3054	0.8%	0.0%
18661-003	3	0.4667	0.4227	0.5106	0.4	0.6	0.02144	0.1155	24.74%	98.78%



CETIS Analytical Report

Report Date: 17 Jul-09 13:12 (p 3 of 9)
 Link/Link Code: 11-5878-6176

Champia parvula Red Macroalga Sexual Reproduction Test			AquaTox
Analysis No: 21-2577-1477	Endpoint: Mean Cystocarps	CETIS Version: CETISv1.6.4	
Analyzed: 17 Jul-09 12:23	Analysis: Parametric-Two Sample	Official Results: Yes	
Test Run No: 18-3381-7547	Test Type: Champia	Analyst:	
Start Date: 26 Jun-09 12:00	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable	
Ending Date: 05 Jul-09 12:00	Species: Champia parvula	Brine: Generic commercial salts	
Duration: 9d 0h	Source: In-House Culture	Age:	

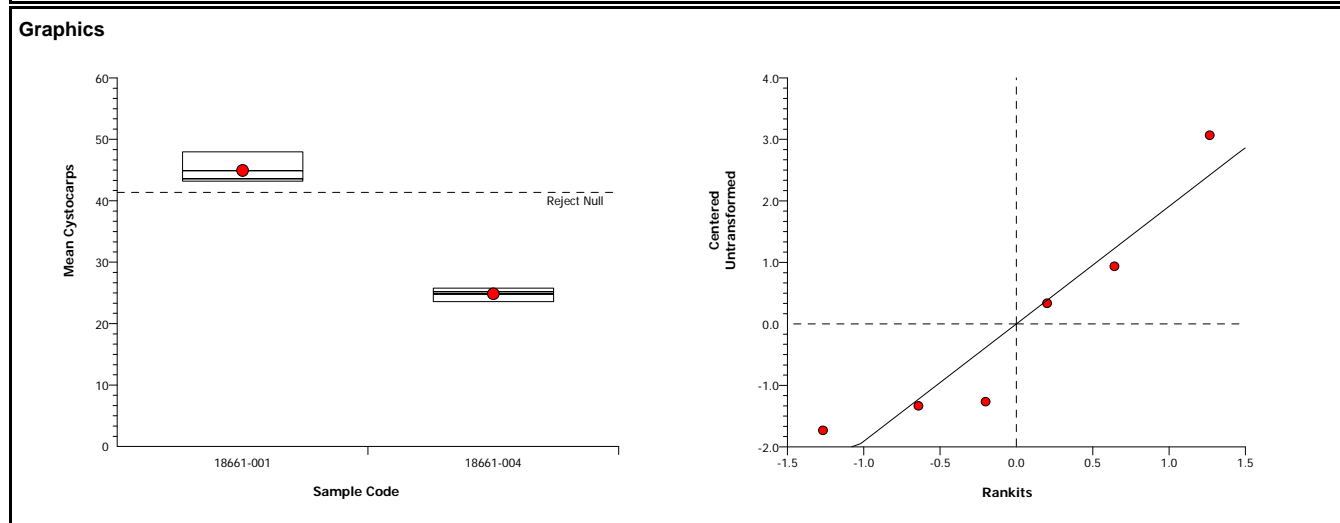
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					7.93%

Equal Variance t Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-001	18661-004	12	2.132	3.564	0.0001	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	604.0067	604.0067	1	144	0.0003	Significant Effect
Error	16.77333	4.193333	4			
Total	620.78	608.2	5			

ANOVA Assumptions					
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	5.485	199	0.3084	Equal Variances
Distribution	Shapiro-Wilk Normality	0.89		0.3183	Normal Distribution

Mean Cystocarps Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	3	44.93	43.92	45.95	43.2	48	0.4946	2.663	5.93%	0.0%
18661-004	3	24.87	24.43	25.3	23.6	25.8	0.2112	1.137	4.57%	44.66%



CETIS Analytical Report

Report Date: 17 Jul-09 13:12 (p 4 of 9)
 Link/Link Code: 11-5878-6176

Champia parvula Red Macroalga Sexual Reproduction Test **AquaTox**

Analysis No: 20-7291-2654 Endpoint: Mean Cystocarps CETIS Version: CETISv1.6.4
 Analyzed: 17 Jul-09 12:23 Analysis: Parametric-Two Sample Official Results: Yes

Test Run No: 18-3381-7547 Test Type: Champia Analyst:
 Start Date: 26 Jun-09 12:00 Protocol: EPA/600/4-91/003 (1994) Diluent: Not Applicable
 Ending Date: 05 Jul-09 12:00 Species: Champia parvula Brine: Generic commercial salts
 Duration: 9d 0h Source: In-House Culture Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					7.3%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-001		18661-003	28.89	2.132	3.281	0.0000	Significant Effect

ANOVA Table

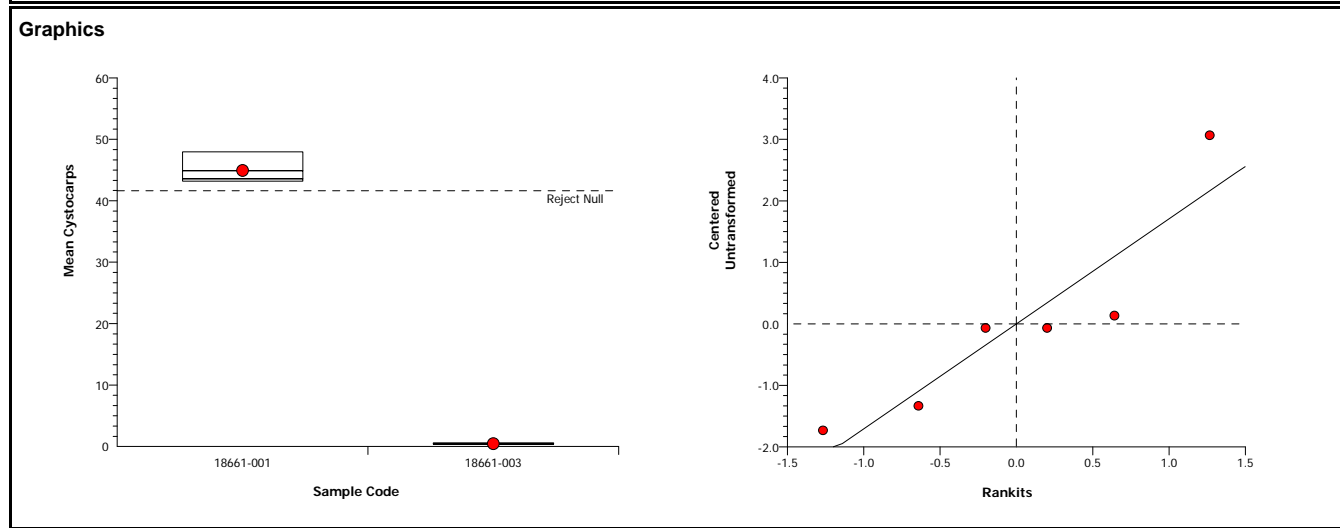
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	2965.927	2965.927	1	834.7	0.0000	Significant Effect
Error	14.21333	3.553333	4			
Total	2980.14	2969.48	5			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	532	199	0.0038	Unequal Variances
Distribution	Shapiro-Wilk Normality	0.8609		0.1922	Normal Distribution

Mean Cystocarps Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	3	44.93	43.92	45.95	43.2	48	0.4946	2.663	5.93%	0.0%
18661-003	3	0.4667	0.4227	0.5106	0.4	0.6	0.02144	0.1155	24.74%	98.96%



CETIS Analytical Report

Report Date: 17 Jul-09 13:12 (p 5 of 9)
 Link/Link Code: 11-5878-6176

Champia parvula Red Macroalga Sexual Reproduction Test **AquaTox**

Analysis No: 07-3643-7563	Endpoint: Mean Cystocarps	CETIS Version: CETISv1.6.4
Analyzed: 17 Jul-09 12:23	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 18-3381-7547	Test Type: Champia	Analyst:
Start Date: 26 Jun-09 12:00	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 05 Jul-09 12:00	Species: Champia parvula	Brine: Generic commercial salts
Duration: 9d 0h	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					7.34%

Equal Variance t Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-001	18661-002	4.264	2.132	3.3	0.0065	Significant Effect

ANOVA Table

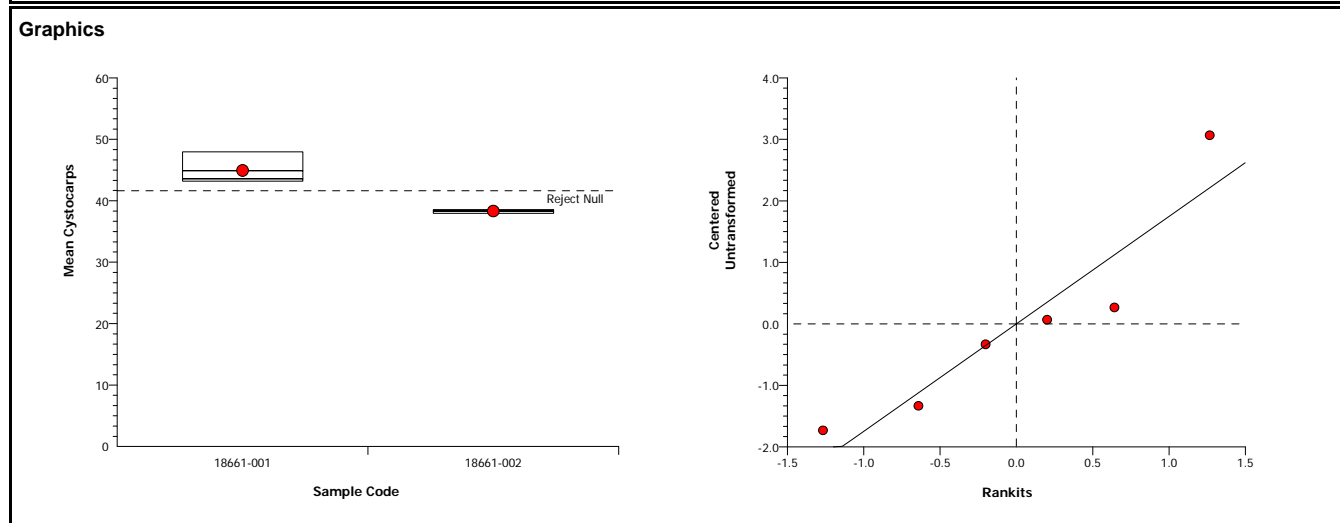
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	65.34	65.34	1	18.18	0.0130	Significant Effect
Error	14.37333	3.593333	4			
Total	79.71333	68.93333	5			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	76	199	0.0260	Equal Variances
Distribution	Shapiro-Wilk Normality	0.8871		0.3030	Normal Distribution

Mean Cystocarps Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-001	3	44.93	43.92	45.95	43.2	48	0.4946	2.663	5.93%	0.0%
18661-002	3	38.33	38.22	38.45	38	38.6	0.05672	0.3054	0.8%	14.69%



CETIS Analytical Report

Report Date: 17 Jul-09 13:12 (p 6 of 9)
 Link/Link Code: 11-5878-6176

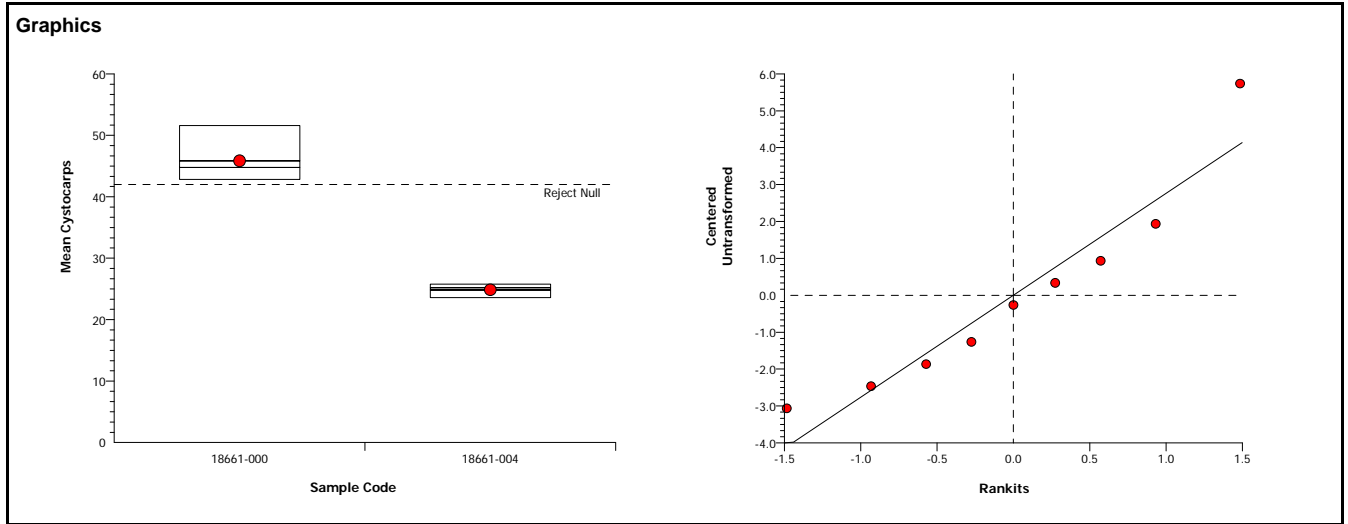
Champia parvula Red Macroalga Sexual Reproduction Test							AquaTox	
Analysis No: 05-7945-9409	Endpoint: Mean Cystocarps		CETIS Version: CETISv1.6.4					
Analyzed: 17 Jul-09 12:23	Analysis: Parametric-Two Sample		Official Results: Yes					
Test Run No: 18-3381-7547	Test Type: Champia		Analyst:					
Start Date: 26 Jun-09 12:00	Protocol: EPA/600/4-91/003 (1994)		Diluent: Not Applicable					
Ending Date: 05 Jul-09 12:00	Species: Champia parvula		Brine: Generic commercial salts					
Duration: 9d 0h	Source: In-House Culture		Age:					
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					8.43%

Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000	18661-004	10.3	1.895	3.864	0.0000	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	882	882	1	106	0.0000	Significant Effect
Error	58.24	8.32	7			
Total	940.24	890.32	8			

ANOVA Assumptions					
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	8.606	199.3	0.2147	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9186		0.3804	Normal Distribution

Mean Cystocarps Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	6	45.87	44.6	47.14	42.8	51.6	0.6195	3.336	7.27%	0.0%
18661-004	3	24.87	24.43	25.3	23.6	25.8	0.2112	1.137	4.57%	45.78%



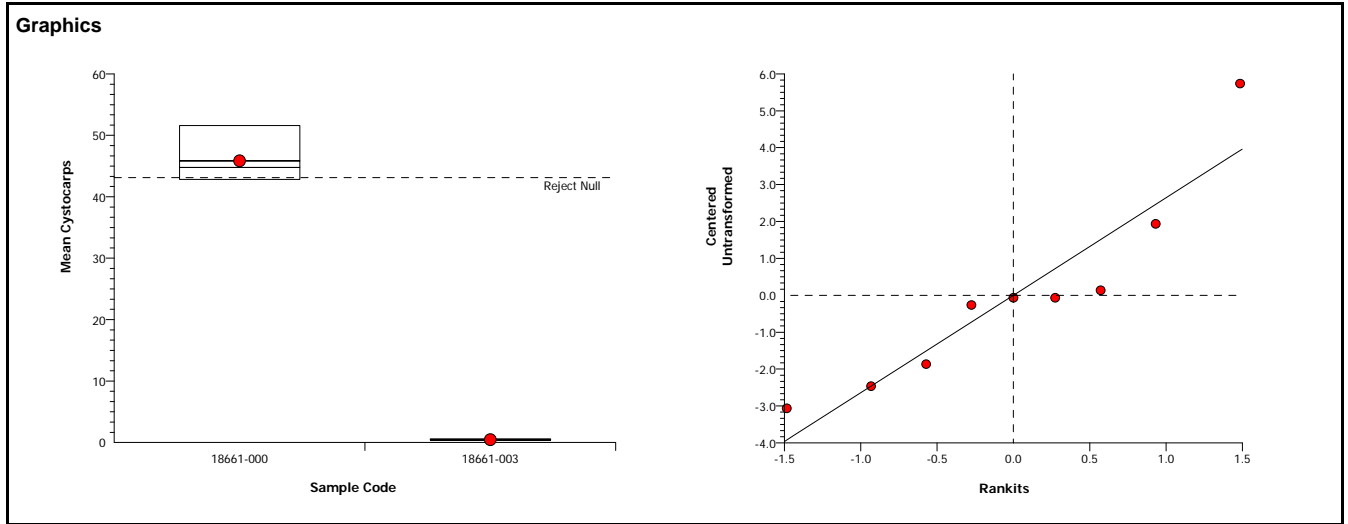
Champia parvula Red Macroalga Sexual Reproduction Test							AquaTox	
Analysis No: 01-0710-4802	Endpoint: Mean Cystocarps		CETIS Version: CETISv1.6.4			Official Results: Yes		
Analyzed: 17 Jul-09 12:23	Analysis: Parametric-Two Sample							
Test Run No: 18-3381-7547	Test Type: Champia		Analyst:					
Start Date: 26 Jun-09 12:00	Protocol: EPA/600/4-91/003 (1994)		Diluent: Not Applicable					
Ending Date: 05 Jul-09 12:00	Species: Champia parvula		Brine: Generic commercial salts					
Duration: 9d 0h	Source: In-House Culture		Age:					
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					5.99%

Unequal Variance t Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000	vs	18661-003	33.29	2.015	2.748	0.0000	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	4122.32	4122.32	1	518.3	0.0000	Significant Effect
Error	55.68	7.954286	7			
Total	4178	4130.274	8			

ANOVA Assumptions					
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	834.8	199.3	0.0024	Unequal Variances
Distribution	Shapiro-Wilk Normality	0.8857		0.1800	Normal Distribution

Mean Cystocarps Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	6	45.87	44.6	47.14	42.8	51.6	0.6195	3.336	7.27%	0.0%
18661-003	3	0.4667	0.4227	0.5106	0.4	0.6	0.02144	0.1155	24.74%	98.98%



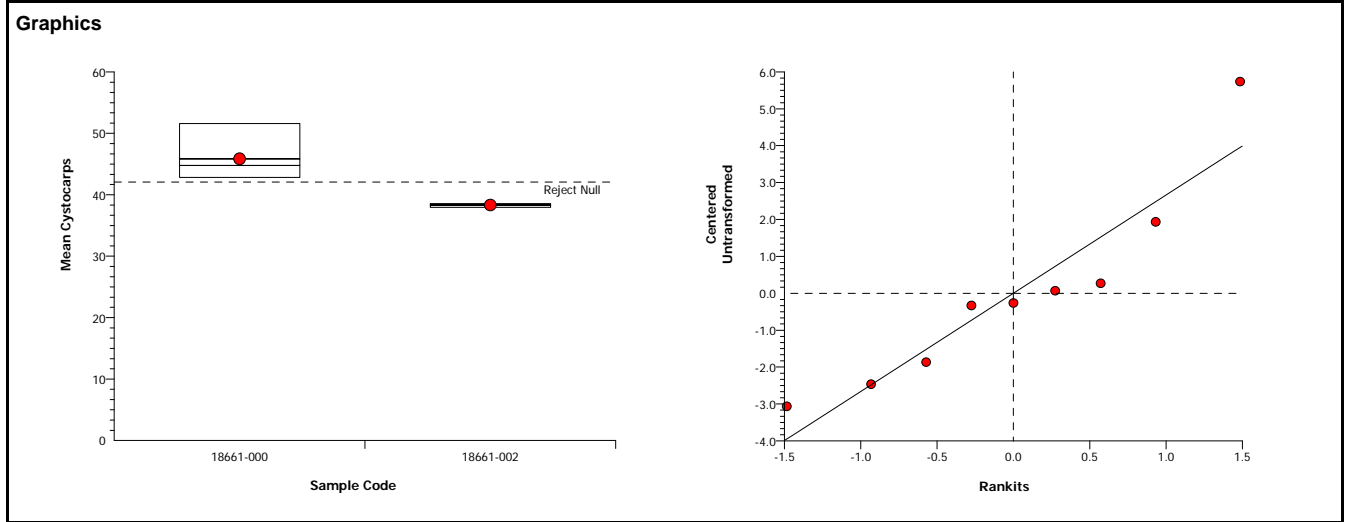
Champia parvula Red Macroalga Sexual Reproduction Test							AquaTox	
Analysis No: 16-1924-4370	Endpoint: Mean Cystocarps		CETIS Version: CETISv1.6.4			Official Results: Yes		
Analyzed: 17 Jul-09 12:23	Analysis: Parametric-Two Sample							
Test Run No: 18-3381-7547	Test Type: Champia		Analyst:					
Start Date: 26 Jun-09 12:00	Protocol: EPA/600/4-91/003 (1994)		Diluent: Not Applicable					
Ending Date: 05 Jul-09 12:00	Species: Champia parvula		Brine: Generic commercial salts					
Duration: 9d 0h	Source: In-House Culture		Age:					
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					8.25%

Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000	18661-002	3.772	1.895	3.784	0.0035	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	113.5022	113.5022	1	14.23	0.0070	Significant Effect
Error	55.84	7.977143	7			
Total	169.3422	121.4794	8			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	119.3	199.3	0.0167	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.8946		0.2224	Normal Distribution	

Mean Cystocarps Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18661-000	6	45.87	44.6	47.14	42.8	51.6	0.6195	3.336	7.27%	0.0%	
18661-002	3	38.33	38.22	38.45	38	38.6	0.05672	0.3054	0.8%	16.42%	



Champia parvula Red Macroalga Sexual Reproduction Test			AquaTox
Analysis No: 06-1507-5390	Endpoint: Mean Cystocarps	CETIS Version: CETISv1.6.4	
Analyzed: 17 Jul-09 12:23	Analysis: Parametric-Two Sample	Official Results: Yes	
Test Run No: 18-3381-7547	Test Type: Champia	Analyst:	
Start Date: 26 Jun-09 12:00	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable	
Ending Date: 05 Jul-09 12:00	Species: Champia parvula	Brine: Generic commercial salts	
Duration: 9d 0h	Source: In-House Culture	Age:	

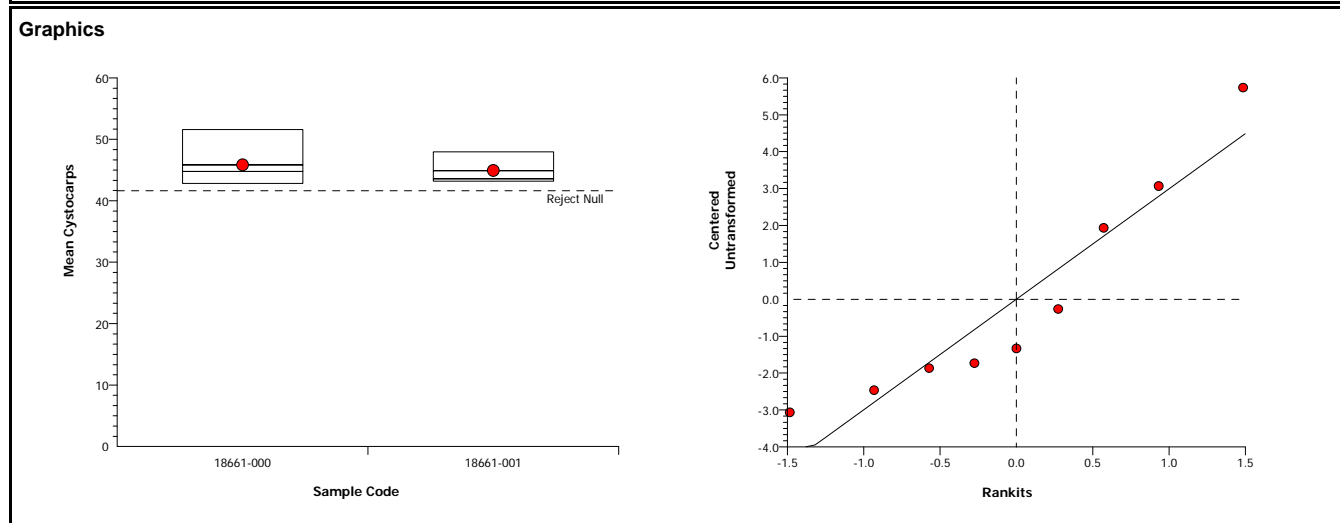
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					9.23%

Equal Variance t Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18661-000		18661-001	0.4179	1.895	4.232	0.3443	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	1.742222	1.742222	1	0.1746	0.6886	Non-Significant Effect
Error	69.84	9.977143	7			
Total	71.58222	11.71937	8			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	1.569	199.3	0.8663	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.8862		0.1822	Normal Distribution	

Mean Cystocarps Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18661-000	6	45.87	44.6	47.14	42.8	51.6	0.6195	3.336	7.27%	0.0%
18661-001	3	44.93	43.92	45.95	43.2	48	0.4946	2.663	5.93%	2.03%



Report No: 18661 SDG:
Project: New Bedford Harbor Surface Water Monitoring

Matrix: Water
Sampled: 06/24/09

Parameter	Result	Quant Limit	Units	Date Prepared	Date of Analysis	Method/Reference
Sample ID: Ammonia-N	Composite 001 18661-016 ND	0.1	mg/L as N	06/25/09	06/25/09	SM 4500-NH3 G
Sample ID: Ammonia-N	Composite 002 18661-017 ND	0.1	mg/L as N	06/25/09	06/25/09	SM 4500-NH3 G
Sample ID: Ammonia-N	Composite 003 18661-018 0.12	0.1	mg/L as N	06/25/09	06/25/09	SM 4500-NH3 G
Sample ID: Ammonia-N	Composite 004 18661-019 ND	0.1	mg/L as N	06/25/09	06/25/09	SM 4500-NH3 G
Sample ID: Ammonia-N	Composite 005 18661-020 0.14	0.1	mg/L as N	06/25/09	06/25/09	SM 4500-NH3 G

Notes:

ND = Not Detected

ESI

EnviroSystems, Inc. P.O. Box 778 Hampton, NH 03842-0778 603-926-3345 fax 603-926-3521 www.envirosystems.com

SAMPLE RECEIPT AND CONDITION DOCUMENTATION

STUDY NO: 18661
 SDG No:
 Project: New Bedford Harbor
 Delivered via: Client
 Date and Time Received: 06/24/09 1730 Date and Time Logged into Lab: 06/24/09 1800
 Received By: SJ Logged into Lab by: LCD LCD
 Air bill / Way bill: No Air bill included in folder if received? NA
 Cooler on ice/packs: Yes Custody Seals present? NA
 Cooler Blank Temp (C) at arrival: 2 Custody Seals intact? NA
 Number of COC Pages: 1
 COC Serial Number(s):
 COC Complete: Does the info on the COC match the samples? Yes
 Sampled Date: Yes Were samples received within holding time? Yes
 Field ID complete: Yes Were all samples properly labeled? Yes
 Sampled Time: Yes Were proper sample containers used? Yes
 Analysis request: Yes Were samples received intact? (none broken or leaking) Yes
 COC Signed and dated: Yes Were sample volumes sufficient for requested analysis? Yes
 Were all samples received? Yes Were VOC vials free of headspace? NA
 Client notification/authorization: Not required

Field ID	Lab ID	Mx	Analysis Requested	Bottle	Req'd Pres'n	Verified Pres'n
WQ-TOX-001-062409	18661-001	W	Composite: Sample 001	2.5 G		
WQ-TOX-002-062409	18661-002	W	Composite: Sample 001	2.5 G		
WQ-TOX-003-062409	18661-003	W	Composite: Sample 002	2.5 G		
WQ-TOX-004-062409	18661-004	W	Composite: Sample 002	2.5 G		
WQ-TOX-005-062409	18661-005	W	Composite: Sample 003	2.5 G		
WQ-TOX-006-062409	18661-006	W	Composite: Sample 003	2.5 G		
WQ-TOX-007-062409	18661-007	W	Composite: Sample 004	2.5 G		
WQ-TOX-008-062409	18661-008	W	Composite: Sample 004	2.5 G		
WQ-TOX-009-062409	18661-009	W	Composite: Sample 005	2.5 G		
WQ-TOX-010-062409	18661-010	W	Composite: Sample 005	2.5 G		

Notes and qualifications:

Samples 001/002 were composited at 1745 to make sample 001.
 Samples 003/004 were composited at 1750 to make sample 002.
 Samples 005/006 were composited at 1755 to make sample 003.
 Samples 007/008 were composited at 1800 to make sample 004.
 Samples 009/010 were composited at 1805 to make sample 005.



Aquatic Research Organisms

DATA SHEET

I. Organism History

Species AMERICAMYSIS bahia
 Source: Lab reared Hatchery reared _____ Field collected _____
 Hatch date 6-18-09 Receipt date _____
 Lot number 061809MS Strain _____
 Brood origination FLORIDA

II. Water Quality

Temperature 25 °C Salinity ≈ 29 ppt D.O. _____ ppm
 pH 7.8 su Hardness _____ ppm Alkalinity _____ ppm

III. Culture Conditions

Freshwater _____ Saltwater Other _____
 Recirculating Flow through _____ Static _____
 DIET: Flake food Phytoplankton _____ Trout chow
 Artemia Rotifers _____ YCT _____ Other ENCAP. SHRIMP DIET

Prophylactic treatments: _____

Comments: _____

IV. Shipping Information

Client: EST # of Organisms 300+
 Carrier: _____ Date shipped 6-25-09
 Biologist: [Signature]

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650 AROFISH@AOL.COM



EnviroSystems, Inc.
1 Lafayette Road
P.O. Box 778
Hampton, N.H. 03843

Voice: 603-926-3345
FAX: 603-926-3521

ESI Job No: 18661

CHAIN OF CUSTODY DOCUMENTATION

Client: <u>Woods Hole Group</u>	Contact: <u>508-540-8080</u>	Project Name: <u>New Bedford Harbor WATER Quality</u>	Page <u>1</u> of <u>1</u>
Report to:	Address: <u>SI technology Park</u>	Project Number:	
Invoice to:	Address: <u>FALMOUTH MA</u>	Project Manager: <u>DAVE WALSH</u>	
Voice:	Fax:	email: <u>KMCCARTNEY@whg.com</u>	Quote No:

Protocol:	RCRA	SDWA	NPDES	USCOE	Other							Analyses Requested/ Special Instructions:
Lab Number (assigned by lab)	Your Field ID: (must agree with container)	Date Sampled	Time Sampled	Sampled By	Grab or com- posit (G/C)	Container Size (ml.)	Container Type (P/G/T)	Field Preser- vation	Matrix S=Solid W=Water	Filter N=Not needed F=Done in field L=Lab to do		
-001	WQ-TOX-001-062409	6/24/09	0910	RGM	C	2.5G			W		toxicity analysis	
-002	WQ-TOX-002-062409	"	0910	"		"			"		" "	
^{LCB} -003	WQ-TOX-003-062409	"	1020	"		"			"		" "	
-004	WQ-TOX-004-062409	"	1020	"		"			"		" "	
^{LCB} -005	WQ-TOX-005-062409	"	1110	"		"			"		" "	
-006	WQ-TOX-006-062409	"	1110	"		"			"		" "	
^{LCB} -007	WQ-TOX-007-062409	"	1140	"		"			"		" "	
-008	WQ-TOX-008-062409	"	1140	"		"			"		" "	
^{LCB} -009	WQ-TOX-009-062409	"	1200	"		"			"		" "	
-010	WQ-TOX-010-062409	"	1200	"		"			"		" "	

Relinquished By: <u>KAITLYN MCCARTNEY</u>	Date: <u>062409</u> Time: <u>1349</u>	Received By: <u>MARTIN POTTER</u>	Date: <u>6/24/09</u> Time: <u>1349</u>
Relinquished By: <u>MARTIN POTTER</u>	Date: <u>062409</u> Time: <u>1730</u>	Received at Lab By: <u>AJ</u>	Date: <u>6/24/09</u> Time: <u>1730</u>
Comments:			

COC Doc No: 3106

Sample Delivery Group No:	Page	of
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 1 Lafayette Road
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 Hampton, N.H. 03843

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ESI Job No:

CHAIN OF CUSTODY DOCUMENTATION

Client: Envirosystems, Inc.	Contact: Keneth Simon	Project Name: WHGR	Page 1 of 1
Report to: Ken Simon	Address:	Project Number: 18661	
Invoice to:	Address:	Project Manager: Shellie Jackman	
Voice: 603-926-3345 x 209	Fax:	email: s.jackman@envirosystems.com	P.O. No: Quote No:

Protocol:	RCRA	SDWA	NPDES	USCOE	Other							Analyses Requested\ Special Instructions:
Lab Number (assigned by lab)	Your Field ID: (must agree with container)	Date Sampled	Time Sampled	Sampled By	Grab or composit (G/C)	Container Size (ml.)	Container Type (P/G/T)	Field Preservation	Matrix S=Solid W=Water	Filter N=Not needed F=Done in field L=Lab to do		
	Sample 001	06/24/09	1745		C	1L	P	N	W	N	C. parvula	
	Sample 002	↓	1750		C	1L	P	↓	↓	N	"	
	Sample 003	↓	1755		C	1L	P	↓	↓	N	"	
	Sample 004	↓	1800		C	1L	P	↓	↓	N	"	
	Sample 005	↓	1805		C	1L	P	↓	↓	N	"	

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received at Lab By:	Date:	Time:

Comments: _____

COC Doc No: **3088**

Sample Delivery Group No:	Page	of
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**Biomonitoring of Surface Water Samples
New Bedford Harbor
New Bedford, Massachusetts**

July 15, 2009 Sampling Event

NED ACOE Job Number: TO-0010

Task Order No.: ESI0002

Prepared for

Woods Hole Group, Inc.
81 Technology Park Drive
Falmouth, Massachusetts 02536

Prepared by

EnviroSystems, Incorporated
1 Lafayette Road
Hampton, New Hampshire 03843

July 2009

Reference Number: Woods Hole Group, Inc. 18726-09-07

Page 1 of 9

Biomonitoring of Surface Water Samples New Bedford Harbor, New Bedford, Massachusetts

July 15, 2009 Sampling Event
NED ACOE Job Number: TO-0010

1.0 INTRODUCTION

This report provides a summarization of data generated from acute and chronic exposure screening assays evaluating surface water samples collected from New Bedford Harbor in New Bedford, Massachusetts. Toxicity tests were conducted on grab surface water samples collected from the specified areas in the harbor. Assay design included a laboratory control treatment and one or more surface water samples. Samples were evaluated "As Received" without dilutions. Assays were conducted based on water quality levels in the vicinity of dredging operations. Samples were collected under the supervision of Woods Hole Group, Inc. personnel from the Falmouth, Massachusetts office. Testing was based on programs and protocols developed by the US EPA (2002) and included the following assays; modified 2 day acute and 7 day chronic assays conducted with the mysid shrimp, *Americamysis bahia*, and the red macro alga, *Champia parvula*, and 60 minute chronic fertilization assays conducted with the purple sea urchin, *Arbacia punctulata*. All mysid and urchin fertilization assays and the acute survival portion of the algal assays were conducted by ESI at its Hampton, New Hampshire facility. When necessary, the algal assays were also conducted by Aquatox Testing & Consulting, Inc. (Aquatox), Guelph, Ontario, Canada in order to provide data in the event that the assay conducted by ESI failed to meet the target endpoints.

2.0 MATERIALS AND METHODS

2.1 General Methods

Toxicological and analytical protocols used in this program followed procedures primarily designed by the EPA to provide standard approaches for the evaluation of toxicological effects of discharges on aquatic organisms, and for the analysis of water samples.

2.2 Test Species

A. bahia were obtained from cultures maintained by Aquatic Research Organisms (ARO), Hampton, New Hampshire. Juvenile shrimp were collected daily, isolated, and placed in a rearing tank for up to 6 days. Holding tanks were maintained in a flow-through culture mode at a temperature of $25\pm 2^\circ\text{C}$. At the start of the assays the mysids were 7 days old. Juveniles were fed ≤ 24 hour old brine shrimp on a daily basis. Water temperature, salinity, and pH were monitored on a daily basis. Prior to testing, organisms were siphoned from the rearing tanks to a holding vessel, and then transferred to test chambers using a large bore pipet, minimizing the amount of water added to test solutions.

A. punctulata adults were from cultures maintained by ESI. Original stock was obtained from commercial supply. Male and female urchins are maintained in separate chambers as recommended by protocol (EPA 2002) and ESI. Adult urchins were induced to spawn by the injection of a potassium chloride solution. The viability of gametes obtained was determined prior to their addition to the test solutions. Eggs and/or sperm that would not result in a fertilized egg were rejected from the pool of gametes used in the assay.

C. parvula were from cultures maintained by Aquatox Testing & Consulting Inc. The male and female plants are maintained in separate culture vessels under sterile conditions. Algal cultures were maintained on an orbital shaker (100 rpm) at $23\pm 2^\circ\text{C}$ under 16 hour light : 8 hours dark at 40 to 75 foot candles light intensity. Cultures are "cropped" and transferred to fresh nutrient solutions on a weekly basis.

2.3 Surface Water Samples and Laboratory Control Water

Grab surface water samples were collected by Woods Hole Group, Inc. staff on July 15, 2009 in New Bedford Harbor, as shown in Table 1. Samples were placed in polyethylene cubitainers for shipment to the laboratory. One 5.0 gallon cubitainer was collected for each of the chronic assays. Prior to testing, samples

were evaluated to document salinity, conductivity, and total residual chlorine. Total residual chlorine was measured by amperometric titration (MDL 0.02 mg/L). Prior to use in the assays, the salinity of the samples was adjusted, as necessary, to predetermined levels using artificial sea salts for *A. bahia* and *A. punctulata* assays, and GP-2 salts (EPA 2002) for the *C. parvula* assays. When necessary, the salinity of samples for the *A. bahia* acute and chronic exposure assays were adjusted to $25\pm 2\%$ while samples used for the *A. punctulata* and *C. parvula* assays were adjusted to $30\pm 2\%$. Samples with "as received" salinity above these levels were not adjusted. A summary of compositing and "As Received" water quality data are summarized in Tables 2 and 3, respectively.

Laboratory control water used for the mysid and sea urchin assays was collected from the Hampton/Seabrook Estuary. This water is classified as SA-1 and has been used to culture marine test organisms since 1981. The laboratory control water used in the algal assay (48 hour acute portion), collected from Hampton Harbor, New Hampshire, is the same water used in culture maintenance. Prior to use, seawater used in the algal assays was filtered through glass fiber filters and sterilized. Control water used in the algal assays conducted by AquaTox (acute and chronic portions) was natural seawater collected from the West Coast of Canada. Salinity of the surface water samples was adjusted, as required, using commercial sea salts.

2.4 Bioassays

2.4.1 *Americamysis bahia* Modified Acute and Chronic Exposure Bioassays

Endpoints for the *A. bahia* bioassay were survival (acute and chronic) and growth. Modified acute and chronic exposure screening assays were conducted in a static renewal test mode with renewals made at 24-hour intervals. The 7 day assays were conducted at a temperature of $26\pm 1^\circ\text{C}$ with a photoperiod of 16:8 hours light:dark. Mysids were maintained in 250 mL beakers containing 150 mL of test solution. Approximately 100 mL of the test solution were replaced each day. The assay incorporated 8 replicates with 5 organisms/replicate. Survival and dissolved oxygen were measured daily in each replicate prior to test solution renewal. Salinity, temperature and pH were recorded in a composite sample of the "old" test solution and in the "new" test solution prior to being added to the test chamber. Incubator temperatures were also recorded on a daily basis.

During the test, mysids were fed ≤ 24 hour old *Artemia* nauplii. On Day 7 of the assay, surviving mysids were removed from test solutions, rinsed to remove any surface detritus and salts, and transferred to tared foils and dried for 24 hours at 103°C . Foils were weighed to the nearest 0.01 mg. Mean dry weights per individual were obtained by dividing the net dry weight of all surviving organisms by the number of organisms added at the start of the assay.

2.4.2 *Arbacia punctulata* Chronic Exposure Fertilization Assays

The endpoint for the *A. punctulata* bioassay was fertilization. Gametes were obtained by potassium chloride injection to induce spawning. Sperm were collected dry, diluted to achieve a concentration of approximately 5.0×10^7 sperm/mL in the surface water treatments. Actual sperm concentrations are provided on laboratory bench sheets in Appendix A. Sperm solutions were added to 5 mL aliquots of each sample being evaluated and allowed to remain in the test solutions for 60 minutes before the addition of unfertilized eggs. Each treatment incorporated a total of four (4) replicates. After 20 minutes exposure, the assay was terminated by the addition of 0.2 mL of preservative. Aliquots of preserved solution were counted to determine numbers of fertilized and unfertilized eggs. Fertilization was accepted based on the presence or absence of a fertilization membrane around the egg.

2.4.3 *Champia parvula* Modified Acute and Chronic Exposure Assays

The target endpoints for the acute *C. parvula* bioassay were coloration and necrosis. Endpoints for the chronic *C. parvula* bioassay were survival and cystocarp development. The 7 day red algae assay was conducted with a 2 day exposure period to the surface waters and laboratory control treatments. Each treatment used four replicates with five female branches and one male branch per replicate. Temperature was maintained at $23\pm 1^\circ\text{C}$. The light source was cool white and fluorescent bulbs set on a 16:8 hours light:dark cycle, with a light intensity of 40 to 75 foot candles. Light intensity was checked at the start of each assay.

Temperatures were monitored on a daily basis. Test chambers were 200 mL borosilicate glass fleakers. After 2 days exposure, female branch tips were transferred to approximately 100 mL of recovery medium with added nutrients and allowed to recover and mature for 5 days. During transfer, plants were examined to determine the physical condition of the individual branches. Branches showing signs of degeneration were noted and used to establish an acute endpoint. After the recovery period, the number of cystocarps (reproductive bodies) on each female branch were counted. Data for the acute endpoints was generated by ESI while data for acute and chronic exposure endpoint was generated by AquaTox.

2.5 Data Analysis

Statistical analysis of acute and chronic exposure data was completed using CETIS, Comprehensive Environmental Toxicity Testing System, software. The program computes acute and chronic exposure endpoints based on EPA decision tree guidelines specified in individual test methods. For chronic exposure endpoints statistical significance was accepted at $\alpha < 0.05$.

2.6 Quality Control

As part of the laboratory quality control program, standard reference toxicant assays are conducted on a regular basis for each test species. These results, summarized in Table 5, provide relative health and response data while allowing for comparison with historic data sets.

2.7 Protocol Deviations and Unacceptable Assays

Review of data collected from the assays conducted during the monitoring period documented no protocol deviations.

3.0 RESULTS SUMMARY

Table 4 provides summaries of survival, growth, development and reproduction endpoints and associated statistical analyses. Support data, including copies of laboratory bench sheets, are provided in Appendix A.

For this round of sample analysis there were no reference site samples. The laboratory control was used for statistical comparisons against composite sample -001, comprised of WQ-TOX-001-071509 and WQ-TOX-002-071509.

3.1 *Americamysis bahia* Acute and Chronic Exposure Bioassay

Minimum test acceptability criteria for the acute exposure bioassay require $\geq 90\%$ survival in the control concentrations. Minimum test acceptability criteria for the chronic exposure bioassay require $\geq 80\%$ survival and a minimum weight of 0.2 mg per individual in the control concentrations. Achievement of these results indicate that healthy test organisms were used. See Table 4 for test acceptability and data summary.

3.2 *Arbacia punctulata* Chronic Fertilization Bioassay

Protocol specifies a 70% to 90% fertilization rate for *Arbacia punctulata* (EPA 2002). Achievement of these results indicate that healthy test organisms were used. See Table 4 for test acceptability and data summary.

3.3 *Champia parvula* Modified Acute and Chronic Exposure Bioassay

The modified acute exposure bioassay was considered to be acceptable if no notable branch necrosis was observed and appropriate coloration of test species was achieved in the laboratory control treatment. Minimum test acceptability criteria for the chronic exposure bioassay require $\geq 80\%$ survival and an average of 10 cystocarps per plant in the control concentrations. Achievement of these results indicate that healthy test organisms were used. See Table 4 for test acceptability and data summary.

4.0 REFERENCES

New Bedford Harbor Dredge Monitoring - July 15, 2009 Sampling Event
NED ACOE Job No.: TO-0010

Page 4 of 9

APHA. 1998. *Standard Methods for the Examination of Water and Wastewater*, 20th edition. Washington D.C.

US EPA. 2002. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms*. Fourth Edition. EPA-821-R-02-012.

US EPA. 2002. *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*. Fourth Edition. EPA-821-R-02-013.

Table 1. Sample Receipt Summary. New Bedford Harbor Surface Water Quality Monitoring July 15, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Field ID	ESI Code	Matrix	Collection		Receipt	
			Date	Time	Date	Time
WQ-TOX-001-071509	18726-001	Water	07/15/09	1120	07/15/09	1318
WQ-TOX-002-071509	18726-002	Water	07/15/09	1120	07/15/09	1318

Table 2 Sample Compositing Summary. New Bedford Harbor Surface Water Quality Monitoring July 15, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Composite Name	Components	ESI Code	Final Volume	Composite Date / Time
Composite 001	WQ-TOX-001, WQ-TOX-002	18726-003	5 gallons	

Table 3 Summary of "As Received" Sample Physical and Chemical Characteristics. New Bedford Harbor Surface Water Quality Monitoring July 15, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Field ID	Composite Name	Ammonia (mg/L)	pH (SU)	Salinity (‰)	Total Residual Chlorine (mg/L)
WQTOX-001, WQTOX-002	Composite-001	<0.1	7.94	25	<0.02

Table 4. Endpoint Summary Table - New Bedford Harbor Surface Water Quality Monitoring July 15, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Sample ID	Reps	Mean	Min	Max	CV	Significant Difference vs		
						p Value	Lab	
<i>Arbacia punctulata</i>								
Portion Fertilized								
Lab Control	4	98.8%	96.0%	100.0%	1.92%	-	-	
Composite-001		97.8%	97.1%	98.0%	0.47%	0.1127	NO	
<i>Americamysis bahia</i>								
Day 2 Survival								
Lab Control	8	100.0%	100.0%	100.0%	0.00%	-	-	
Composite-001		95.0%	80.0%	100.0%	9.75%	0.2351	NO	

Day 7 Survival								
Lab Control	8	90.0%	60.0%	100.0%	16.80%	-	-	
Composite-001		87.5%	80.0%	100.0%	11.83%	0.2869	NO	

Day 7 Dry Weight Biomass - mg								
Lab Control	8	0.307	0.202	0.426	25.44%	-	-	
Composite-001		0.337	0.314	0.370	5.82%	0.8410	NO	
<i>Champia parvula</i>								
Day 2 Survival								
Lab Control	3	100.0%	100.0%	100.0%	0.00%	-	-	
Composite-001		100.0%	100.0%	100.0%	0.00%	0.5000	NO	

Day 7 Mean # Cystocarps								
Lab Control	3	29.33	29.0	29.6	1.04%		-	
Composite-001		9.53	8.8	10.0	6.74%	0.0000	YES	

Table 5 Reference Toxicant Summary. New Bedford Harbor Surface Water Quality Monitoring July 15, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Date	Endpoint	Value	Historic Mean/ Central Tendency	Acceptable Range	Reference Toxicant
<i>A. bahia</i>					
06/17/09	Survival	LC-50	23.8	20.8	16.2 - 25.4 SDS (mg/L)
05/27/09	Survival	C-NOEC	15.0	10.0	5.0 - 15.0 SDS (mg/L)
05/27/09	Growth	C-NOEC	5.0	5.0	2.5 - 10.0 SDS (mg/L)
.....					
<i>A. punctulata</i>					
06/18/09	Fertilization	C-NOEC	<1	10.0	1.0 - 5.0 Copper (µg/L)
06/18/09	Fertilization	IC-25	1.0	19.9	0.0 - 66.1 Copper (µg/L)
.....					
<i>C. parvula</i>					
06/08/09	Reproduction	IC-25	0.1	0.11	0.065 - 0.178 SDS (mg/L)
.....					

Mean and Acceptable Ranges based on most recent 20 reference toxicant assays (NELAP standard)

APPENDIX A
SUPPORT DATA

Contents	# Pages
Methods Summary	1
Study 18726: Sample Date July 15, 2009	
<i>A. bahia</i> Bench Sheets & Statistical Analysis Report	13
<i>A. punctulata</i> Bench Sheets and Statistical Analysis Report	4
<i>C. parvula</i> Bench Sheets and Statistical Analysis Report	4
Analytical Chemistry Report	2
Chain of Custody Information and Sample Receipt Records	3
Total Appendix Pages	27

METHODS USED IN NPDES PERMIT BIOMONITORING TESTING

Parameter	Method
Acute Exposure Bioassays:	
<i>Ceriodaphnia dubia, Daphnia pulex</i>	EPA-821-R-02-012
<i>Pimephales promelas</i>	EPA-821-R-02-012
<i>Americamysis bahia</i>	EPA-821-R-02-012
<i>Menidia beryllina, Cyprinodon variegatus</i>	EPA-821-R-02-012
Chronic Exposure Bioassays:	
<i>Ceriodaphnia dubia</i>	EPA-821-R-02-013 1002.0
<i>Pimephales promelas</i>	EPA-821-R-02-013 1000.0
<i>Cyprinodon variegatus</i>	EPA-821-R-02-014 1004.0
<i>Menidia beryllina</i>	EPA-821-R-02-014 1006.0
<i>Arbacia punctulata</i>	EPA-821-R-02-014 1008.0
<i>Champia parvula</i>	EPA-821-R-02-014 1009.0
Trace Metals:	
Trace Metals	EPA 200.7/SW 6010 and EPA 200.8/SW 6020
Hardness	Standard Methods 20 th Edition - Method 2340 B
Wet Chemistries:	
Alkalinity	EPA 310.2
Chlorine, Residual	Standard Methods 20 th Edition - Method 4500CLD
Total Organic Carbon	Standard Methods 20 th Edition - Method 5310C
Specific Conductance	Standard Methods 20 th Edition - Method 2510B
Nitrogen - Ammonia	Standard Methods 20 th Edition - Method 4500NH3G
pH	Standard Methods 20 th Edition - Method 4500H+B
Solids, Total (TS)	Standard Methods 20 th Edition - Method 2540 B
Solids, Total Suspended (TSS)	Standard Methods 20 th Edition - Method 2540 D
Solids, Total Dissolved (TDS)	Standard Methods 20 th Edition - Method 2540 C
Dissolved Oxygen	Standard Methods 20 th Edition - Method 4500-O G

**Americamysis bahia 7 DAY CHRONIC ASSAY
SURVIVAL & OLD WATER QUALITIES**

STUDY: 18726		CLIENT: Woods Hole Group			LOCATION: NEW BEDFORD					LAB CONTROL: HAMPTON ESTUARY				ORGANISM BATCH/LOT#			
		NUMBER OF SURVIVORS								OLD DISSOLVED OXYGEN (mg/L)							
SAMPLE	Rep	0	1	2	3	4	5	6	7	1	2	3	4	5	6	7	
Lab Control	A	5	5	5	5	5	5	5	5	6.4	6.7	7.0	6.3	6.8	5.8	6.2	
	B	5	5	5	5	5	5	4	4	6.4	6.7	6.9	6.1	6.8	5.2	5.9	
	C	5	5	5	5	5	5	5	5	6.4	6.7	6.9	6.0	6.9	5.3	5.9	
	D	5	5	5	5	4	4	4	3	6.4	6.8	6.9	5.9	6.9	5.4	5.9	
	E	5	5	5	5	5	5	5	5	6.4	6.9	7.0	5.9	6.8	5.5	6.0	
	F	5	5	5	5	5	5	5	5	6.4	6.9	7.0	6.0	6.9	5.4	6.0	
	G	5	5	5	5	5	5	5	5	6.4	6.9	7.1	6.0	6.9	5.5	5.9	
	H	5	5	5	5	4	4	4	4	6.3	7.0	7.1	6.0	6.9	5.4	5.9	
-001	A	5	5	5	5	5	5	5	4 ⁵	6.1	7.0	7.2	5.9	6.9	5.4	6.1	
	B	5	5	5	5	5	5	5	4 ⁵	6.1	7.0	7.2	5.6	7.1	5.4	6.0	
	C	5	5	5	5	5	4	4	4	6.2	7.0	7.2	5.5	7.1	5.2	5.9	
	D	5	5	5	4	4	4	4	4	6.2	7.0	7.2	5.3	6.9	5.2	5.9	
	E	5	5	5	5	5	5	5	4	6.2	7.0	7.3	5.2	7.0	5.3	5.8	
	F	5	4	4	4	4	4	4	4	6.2	7.0	7.3	5.6	7.0	5.1	5.7	
	G	5	5	4	4	4	4	4	4	6.2	7.0	7.2	5.0	7.0	5.3	5.6	
	H	5	5	5	5	5	5	5	5	6.2	7.0	7.3	5.3	6.9	5.2	5.6	
INC TEMP:		25	25	25	25	25	25	25	25								
DATE:		7/16/09	7/17	7/18	7/19	7/20	7/21	7/22	7/23								
TIME:		1615	1310	1205	1035	1510	1350	1045	1215								
INITIALS:		8J	8J	LB	SS	JQ	JQ	DM	8J								

Mysid Dry Weight Summary Sheet

Study	18726		
Client:	Woods Hole Group		
Date/Time/Init:	07/23/09 1050 NR		
Conc	Mysid and Foil (mg)	Tare Wt (mg)	
Lab A	210.19	208.64	
Lab B	208.64	207.44	
Lab C	209.03	207.72	
Lab D	211.62	210.61	
Lab E	209.88	208.37	
Lab F	209.4	207.34	
Lab G	209.54	207.41	
Lab H	210.96	209.44	
001 A	209.49	207.82	
001 B	210.4	208.73	
001 C	208.47	206.62	
001 D	210.04	208.43	
001 E	209.69	208.09	
001 F	209.78	208.08	
001 G	212.03	210.46	
001 H	210.16	208.36	

CETIS Summary Report

Report Date: 06 Aug-09 15:21 (p 1 of 1)
Test Code: 13-4785-1739/18726 Ab

Americamysis 7-d Survival, Growth and Fecundity Test							EnviroSystems, Inc.					
Batch ID:	01-9383-2500	Test Type:	Growth-Survival-Fec (7d)			Analyst:						
Start Date:	16 Jul-09 16:15	Protocol:	EPA/821/R-02-014 (2002)			Diluent:	Not Applicable					
Ending Date:	23 Jul-09 16:00	Species:	Americamysis bahia			Brine:	Generic commercial salts					
Duration:	7d	Source:	ARO - Aquatic Research Organisms, NH								Age:	
Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project						
18726-000	02-8543-4564	16 Jul-09 13:00	16 Jul-09 13:00	3h	Woods Hole Group	Ecological Risk Assessme						
18726-001	10-9454-3457	15 Jul-09 11:20	15 Jul-09 13:18	29h (4 °C)								
Sample Code	Material Type	Sample Source	Station Location			Latitude	Longitude					
18726-000	Surface Water	New Bedford Harbor Dredge Moni	Laboratory Water Control									
18726-001	Surface Water	New Bedford Harbor Dredge Moni	WQ-TOX-001-071509									
Test Acceptability												
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision						
17-8526-3359	7d Proportion Survived	Control Resp	0.9	0.8 - NL	Yes	Result Within Limits						
12-3645-9490	Mean Dry Biomass-mg	Control Resp	0.3072	0.2 - NL	Yes	Result Within Limits						
12-3645-9490	Mean Dry Biomass-mg	PMSD	0.1633	0.11 - 0.37	Yes	Result Within Limits						
2d Proportion Survived Summary												
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%		
18726-000	8	1	1	1	1	1	0	0	0.0%	0.0%		
18726-001	8	0.95	0.9154	0.9846	0.8	1	0.0169	0.09258	9.75%	5.0%		
7d Proportion Survived Summary												
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%		
18726-000	8	0.9	0.8435	0.9565	0.6	1	0.0276	0.1512	16.8%	0.0%		
18726-001	8	0.875	0.8363	0.9137	0.8	1	0.0189	0.1035	11.83%	2.78%		
Mean Dry Biomass-mg Summary												
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%		
18726-000	8	0.3072	0.2781	0.3364	0.202	0.426	0.01427	0.07816	25.44%	0.0%		
18726-001	8	0.3368	0.3294	0.3441	0.314	0.37	0.003577	0.01959	5.82%	-9.6%		
Mean Dry Weight-mg Summary												
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%		
18726-000	8	0.3411	0.3191	0.363	0.262	0.426	0.01074	0.05881	17.24%	0.0%		
18726-001	8	0.3888	0.3722	0.4055	0.334	0.4625	0.008137	0.04457	11.46%	-13.99%		
2d Proportion Survived Detail												
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8				
18726-000	1	1	1	1	1	1	1	1				
18726-001	1	1	1	1	1	0.8	0.8	1				
7d Proportion Survived Detail												
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8				
18726-000	1	0.8	1	0.6	1	1	1	0.8				
18726-001	1	1	0.8	0.8	0.8	0.8	0.8	1				
Mean Dry Biomass-mg Detail												
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8				
18726-000	0.31	0.24	0.262	0.202	0.302	0.412	0.426	0.304				
18726-001	0.334	0.334	0.37	0.322	0.32	0.34	0.314	0.36				
Mean Dry Weight-mg Detail												
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8				
18726-000	0.31	0.3	0.262	0.3367	0.302	0.412	0.426	0.38				
18726-001	0.334	0.334	0.4625	0.4025	0.4	0.425	0.3925	0.36				



Aquatic Research Organisms

DATA SHEET

I. Organism History

Species AMERICAMYSIS bahia 7/16
 Source: Lab reared Hatchery reared _____ Field collected _____
 Hatch date 7-9-09 Receipt date _____
 Lot number 070909MS Strain _____
 Brood origination FLORIDA

II. Water Quality

Temperature 25 °C Salinity ≈30 ppt D.O. _____ ppm
 pH 7.8 su Hardness _____ ppm Alkalinity _____ ppm

III. Culture Conditions

Freshwater _____ Saltwater Other _____
 Recirculating Flow through _____ Static _____
 DIET: Flake food Phytoplankton _____ Trout chow
 Artemia Rotifers _____ YCT _____ Other ENCAP SHRIMP DIET

Prophylactic treatments: _____
 Comments: _____

IV. Shipping Information

Client: ESI # of Organisms 150+
 Carrier: _____ Date shipped 7-16-09
 Biologist: Mark Deserjard

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650 AROFISH@AOL.COM

CETIS Analytical Report

Report Date: 06 Aug-09 15:23 (p 1 of 6)
 Test Code: 13-4785-1739/18726 Ab

Americamysis 7-d Survival, Growth and Fecundity Test							EnviroSystems, Inc.			
Analysis ID: 10-7283-5093		Endpoint: Mean Dry Weight-mg			CETIS Version: CETISv1.6.4					
Analyzed: 29 Jul-09 13:48		Analysis: Parametric-Two Sample			Official Results: Yes					
Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project				
18726-000	02-8543-4564	16 Jul-09 13:00	16 Jul-09 13:00	3h	Woods Hole Group	Ecological Risk Assessme				
18726-001	10-9454-3457	15 Jul-09 11:20	15 Jul-09 13:18	29h (4 °C)						
Sample Code	Material Type	Sample Source	Station Location		Latitude	Longitude				
18726-000	Surface Water	New Bedford Harbor Dredge Moni	Laboratory Water Control							
18726-001	Surface Water	New Bedford Harbor Dredge Moni	WQ-TOX-001-071509							
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD		
Untransformed	0	C > T	Not Run					13.47%		
Equal Variance t Two-Sample Test										
Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)			
18726-000		18726-001	-1.83	1.761	0.04595	0.9557	Non-Significant Effect			
ANOVA Table										
Source	Sum Squares		Mean Square	DF	F Stat	P-Value	Decision(5%)			
Between	0.009112407		0.009112407	1	3.347	0.0887	Non-Significant Effect			
Error	0.03811406		0.002722433	14						
Total	0.04722646		0.01183484	15						
ANOVA Assumptions										
Attribute	Test		Test Stat	Critical	P-Value	Decision(1%)				
Variances	Variance Ratio F		1.741	8.885	0.4817	Equal Variances				
Distribution	Shapiro-Wilk Normality		0.9504		0.4953	Normal Distribution				
Mean Dry Weight-mg Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18726-000	8	0.3411	0.3187	0.3635	0.262	0.426	0.01092	0.05881	17.24%	0.0%
18726-001	8	0.3888	0.3719	0.4058	0.334	0.4625	0.008276	0.04457	11.46%	-13.99%
Mean Dry Weight-mg Detail										
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8		
18726-000	0.426	0.412	0.38	0.3367	0.31	0.302	0.3	0.262		
18726-001	0.4625	0.425	0.4025	0.4	0.3925	0.36	0.334	0.334		

CETIS Analytical Report

Report Date: 06 Aug-09 15:23 (p 2 of 6)
 Test Code: 13-4785-1739/18726 Ab

Americamysis 7-d Survival, Growth and Fecundity Test							EnviroSystems, Inc.			
Analysis ID: 12-3645-9490		Endpoint: Mean Dry Biomass-mg		CETIS Version: CETISv1.6.4						
Analyzed: 29 Jul-09 13:48		Analysis: Parametric-Two Sample		Official Results: Yes						
Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project				
18726-000	02-8543-4564	16 Jul-09 13:00	16 Jul-09 13:00	3h	Woods Hole Group	Ecological Risk Assessme				
18726-001	10-9454-3457	15 Jul-09 11:20	15 Jul-09 13:18	29h (4 °C)						
Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude					
18726-000	Surface Water	New Bedford Harbor Dredge Moni	Laboratory Water Control							
18726-001	Surface Water	New Bedford Harbor Dredge Moni	WQ-TOX-001-071509							
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD		
Untransformed	0	C > T	Not Run					16.33%		
Equal Variance t Two-Sample Test										
Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)			
18726-000		18726-001	-1.035	1.761	0.05018	0.8410	Non-Significant Effect			
ANOVA Table										
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)				
Between	0.003481046	0.003481046	1	1.072	0.3180	Non-Significant Effect				
Error	0.04545488	0.003246777	14							
Total	0.04893592	0.006727823	15							
ANOVA Assumptions										
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)					
Variances	Variance Ratio F	15.91	8.885	0.0017	Unequal Variances					
Distribution	Shapiro-Wilk Normality	0.9101		0.1168	Normal Distribution					
Mean Dry Biomass-mg Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18726-000	8	0.3072	0.2775	0.337	0.202	0.426	0.01451	0.07816	25.44%	0.0%
18726-001	8	0.3368	0.3293	0.3442	0.314	0.37	0.003639	0.01959	5.82%	-9.6%
Mean Dry Biomass-mg Detail										
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8		
18726-000	0.426	0.412	0.31	0.304	0.302	0.262	0.24	0.202		
18726-001	0.37	0.36	0.34	0.334	0.334	0.322	0.32	0.314		

CETIS Analytical Report

Report Date: 06 Aug-09 15:23 (p 3 of 6)
 Test Code: 13-4785-1739/18726 Ab

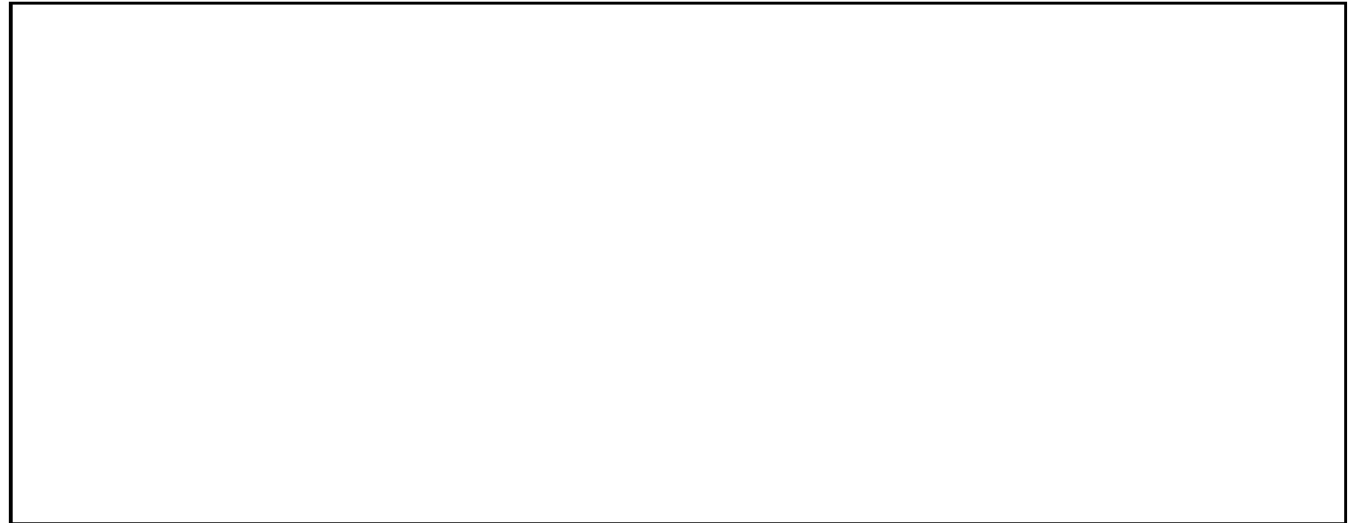
Americamysis 7-d Survival, Growth and Fecundity Test							EnviroSystems, Inc.				
Analysis ID: 17-8526-3359		Endpoint: 7d Proportion Survived			CETIS Version: CETISv1.6.4						
Analyzed: 29 Jul-09 13:47		Analysis: Nonparametric-Two Sample			Official Results: Yes						
Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project					
18726-000	02-8543-4564	16 Jul-09 13:00	16 Jul-09 13:00	3h	Woods Hole Group	Ecological Risk Assessme					
18726-001	10-9454-3457	15 Jul-09 11:20	15 Jul-09 13:18	29h (4 °C)							
Sample Code	Material Type	Sample Source		Station Location		Latitude	Longitude				
18726-000	Surface Water	New Bedford Harbor Dredge Moni		Laboratory Water Control							
18726-001	Surface Water	New Bedford Harbor Dredge Moni		WQ-TOX-001-071509							
Data Transform		Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD		
Angular (Corrected)		0	C > T	Not Run					12.21%		
Wilcoxon Rank Sum Two-Sample Test											
Sample Code	vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)				
18726-000		18726-001	62.5		2	0.2869	Non-Significant Effect				
ANOVA Table											
Source	Sum Squares		Mean Square	DF	F Stat	P-Value	Decision(5%)				
Between	0.004070338		0.004070338	1	0.1774	0.6800	Non-Significant Effect				
Error	0.3212241		0.02294458	14							
Total	0.3252944		0.02701491	15							
ANOVA Assumptions											
Attribute	Test		Test Stat	Critical	P-Value	Decision(1%)					
Variances	Variance Ratio F		2.021	8.885	0.3737	Equal Variances					
Distribution	Shapiro-Wilk Normality		0.8163		0.0045	Non-normal Distribution					
7d Proportion Survived Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18726-000	8	0.9	0.8425	0.9575	0.6	1	0.02807	0.1512	16.8%	0.0%	
18726-001	8	0.875	0.8356	0.9144	0.8	1	0.01922	0.1035	11.83%	2.78%	
Angular (Corrected) Transformed Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18726-000	8	1.228	1.162	1.295	0.8861	1.345	0.03254	0.1752	14.26%	0.0%	
18726-001	8	1.196	1.15	1.243	1.107	1.345	0.02289	0.1232	10.3%	2.6%	

CETIS Analytical Report

Report Date: 06 Aug-09 15:23 (p 4 of 6)
Test Code: 13-4785-1739/18726 Ab

Americamysis 7-d Survival, Growth and Fecundity Test			EnviroSystems, Inc.
Analysis ID: 17-8526-3359	Endpoint: 7d Proportion Survived	CETIS Version: CETISv1.6.4	
Analyzed: 29 Jul-09 13:47	Analysis: Nonparametric-Two Sample	Official Results: Yes	

7d Proportion Survived Detail								
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
18726-000	1	1	1	1	1	0.8	0.8	0.6
18726-001	1	1	1	0.8	0.8	0.8	0.8	0.8



CETIS Analytical Report

Report Date: 06 Aug-09 15:23 (p 5 of 6)
Test Code: 13-4785-1739/18726 Ab

Americamysis 7-d Survival, Growth and Fecundity Test							EnviroSystems, Inc.			
Analysis ID:	11-8353-5506		Endpoint:	2d Proportion Survived		CETIS Version:	CETISv1.6.4			
Analyzed:	21 Jul-09 16:30		Analysis:	Nonparametric-Two Sample		Official Results:	Yes			
Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project				
18726-000	02-8543-4564	16 Jul-09 13:00	16 Jul-09 13:00	3h	Woods Hole Group	Ecological Risk Assessme				
18726-001	10-9454-3457	15 Jul-09 11:20	15 Jul-09 13:18	29h (4 °C)						
Sample Code	Material Type	Sample Source	Station Location		Latitude	Longitude				
18726-000	Surface Water	New Bedford Harbor Dredge Moni	Laboratory Water Control							
18726-001	Surface Water	New Bedford Harbor Dredge Moni	WQ-TOX-001-071509							
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD		
Angular (Corrected)	0	C > T	10000 Trial					8.41%		
Wilcoxon Rank Sum Two-Sample Test										
Sample Code	vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)			
18726-000		18726-001	60		1	0.2351	Non-Significant Effect			
ANOVA Table										
Source	Sum Squares		Mean Square	DF	F Stat	P-Value	Decision(5%)			
Between	0.01417698		0.01417698	1	2.333	0.1489	Non-Significant Effect			
Error	0.08506185		0.006075846	14						
Total	0.09923882		0.02025282	15						
ANOVA Assumptions										
Attribute	Test		Test Stat	Critical	P-Value	Decision(1%)				
Variances	Mod Levene Equality of Variance		2.333	8.862	0.1489	Equal Variances				
Distribution	Shapiro-Wilk Normality		0.677		<0.0001	Non-normal Distribution				
2d Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18726-000	8	1	1	1	1	1	0	0	0.0%	0.0%
18726-001	8	0.95	0.9148	0.9852	0.8	1	0.01719	0.09258	9.75%	5.0%
Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18726-000	8	1.345	1.345	1.345	1.345	1.345	0	0	0.0%	0.0%
18726-001	8	1.286	1.244	1.328	1.107	1.345	0.02047	0.1102	8.57%	4.43%

CETIS Analytical Report

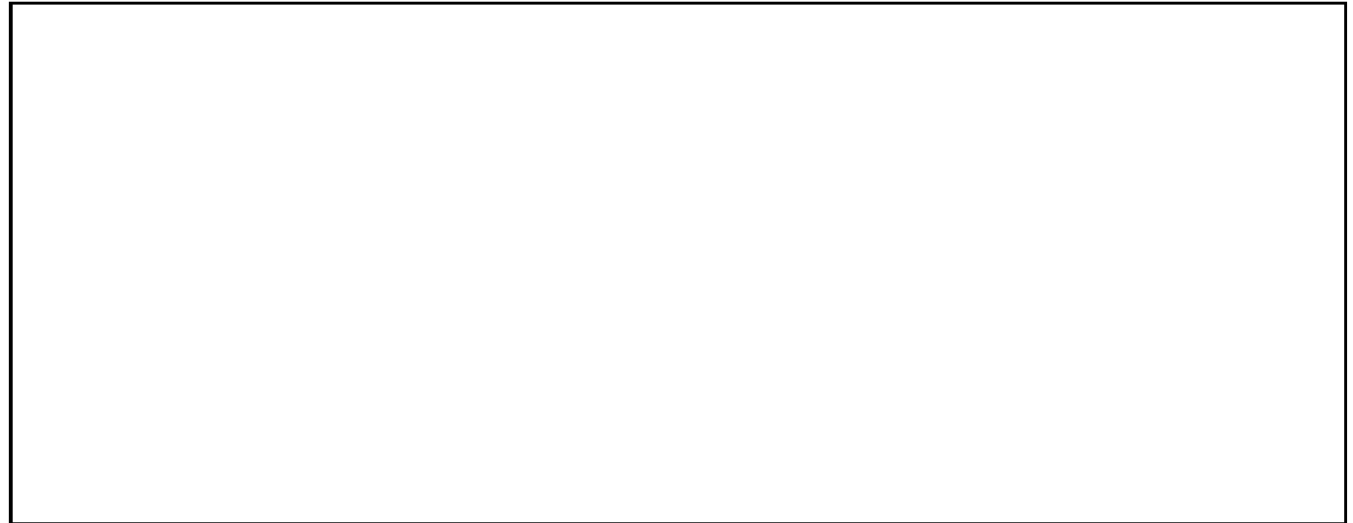
Report Date: 06 Aug-09 15:23 (p 6 of 6)
Test Code: 13-4785-1739/18726 Ab

Americamysis 7-d Survival, Growth and Fecundity Test **EnviroSystems, Inc.**

Analysis ID: 11-8353-5506 **Endpoint:** 2d Proportion Survived **CETIS Version:** CETISv1.6.4
Analyzed: 21 Jul-09 16:30 **Analysis:** Nonparametric-Two Sample **Official Results:** Yes

2d Proportion Survived Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
18726-000	1	1	1	1	1	1	1	1
18726-001	1	1	1	1	1	1	0.8	0.8



**Americamysis bahia 7 DAY CHRONIC ASSAY
NEW WATER QUALITIES**

STUDY: 18726		CLIENT: Woods Hole Group				LOCATION: NEW BEDFORD				LAB CONTROL: HAMPTON ESTUARY					
		NEW DISSOLVED OXYGEN (mg/L)							NEW SALINITY (ppt)						
CONC	REP	0	1	2	3	4	5	6	0	1	2	3	4	5	6
LAB	A	7.1	6.9	7.1	7.3	7.1	7.0	7.0	25	25	24	24	24	25	25
-001	A	8.0	6.6	6.5	6.1	6.6	7.0	7.3	25	25	25	25	25	25	24
		NEW pH (SU)							NEW TEMPERATURE (°C)						
CONC	REP	0	1	2	3	4	5	6	0	1	2	3	4	5	6
LAB	A	7.94	7.89	7.92	7.92	7.87	7.90	7.87	25	25	24	25	24	24	24
-001	A	7.59	7.68	7.58	7.61	7.53	7.60	7.50	25	25	24	25	24	24	24
INC TEMP:		25	25	25	25	25	25	25							
DATE:		7/16/09	7/17	7/18	7/19	7/20	7/21	7/22							
TIME:		1320	1330	1220	1045	1535	1410	1110							
INIT:		SJ	SJ	LB	SJ	JQ	JQ	DM							

WATER QUALITY METERS USED NEW WATER QUALITIES								
	0	1	2	3	4	5	6	7
Water Quality Station #	 	1	2	2	1	1	1	
Initials	 	SJ	LB	SJ	JQ	JQ	DM	
Date	7/16/09	7/17	7/18	7/19	7/20	7/21	7/22	

**Americamysis bahia 7 DAY CHRONIC ASSAY
OLD WATER QUALITIES**

STUDY: 18726		CLIENT: Woods Hole Group			LOCATION: NEW BEDFORD				LAB CONTROL: HAMPTON ESTUARY						
OLD SALINITY (ppt)									OLD pH (SU)						
Conc	Rep	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Control	A	25	25	24	24	25	25	26	7.85	7.94	7.85	7.83	7.72	7.77	7.65
-001	A	26	26	25	25	25	25	25	7.82	7.80	7.78	7.74	7.61	7.63	7.68
OLD TEMPERATURE (°C)															
Conc	Rep	1	2	3	4	5	6	7							
Control	A	25	24	24	24	24	24	25							
-001	A	25	24	24	24	24	24	25							
INC TEMP:		25	25	25	25	25	25	25							
DATE:		7/17/09	7/18	7/19	7/20	7/21	7/22	7/23							
TIME:		1300	1140	1030	1500	1340	1045	1205							
INITIALS:		SJ	LB	SJ	JQ	JQ	DM	SJ							

GENERAL NOTES - for additional information refer to SOP #1411 or EPA manual 600/4-91/003

- Test vessels will be 250 mL glass beakers containing a minimum of 150 mL of solution
- 8 replicates per site with 5 organisms each
- Test Temperature: 26±1°C
- Salinity: 25 ±2ppt
- Dissolved Oxygen: >4.3 mg/L
- Photoperiod will be 16 hours light and 8 hours dark.
- Passing criteria require ≥80% survival and average dry weight of ≥0.20 mg/organism in the control vessels.

WATER QUALITY METERS USED OLD WATER QUALITIES								
	0	1	2	3	4	5	6	7
Water Quality Station #	///	1	2	2	1	2	1	1
Initials	///	SJ	LB	SJ	JQ	JQ	DM	SJ
Date	7/16/09	7/17	7/18	7/19	7/20	7/21	7/22	7/23/09

**Americamysis bahia 7 DAY CHRONIC ASSAY
SAMPLE USE RECORD**

STUDY: 18726			CLIENT: Woods Hole Group - New Bedford							
SPECIES: <i>A. bahia</i>			TEST: chronic renewal							
Sample	Day: 0		Day: 1		Day: 2		Day	Date	Time	Init
	Volume Used (mL)	ESI Cube ID	Volume Used (mL)	ESI Cube ID	Volume Used (mL)	ESI Cube ID				
Lab Control	1000	n/a	1200	n/a	1200	n/a	0	7/16/09	1300	SJ
-001	↓	002	↓	003	↓	003	1	7/17	1320	SJ
							2	7/18	1210	LG
							3	7/19	1040	SJ
							4	7/20	1535	JQ
							5	7/21	1405	JQ
							6	7-22	1100	DM
Sample	Day: 3		Day: 4		Day: 5					
	Volume Used (mL)	ESI Cube ID	Volume Used (mL)	ESI Cube ID	Volume Used (mL)	ESI Cube ID				
Lab Control	1200	n/a	1200	n/a	1200	n/a				
-001	↓	003	↓	003	↓	003				
Sample	Day: 6									
	Volume Used (mL)	ESI Cube ID								
Lab Control	1200	n/a								
-001	↓	003								

**Arbacia punctulata Chronic Fertilization Assay
Water Quality and Gamete Preparation Data**

STUDY: <u>18726</u>	CLIENT: Woods Hole Group	LOCATION: New Bedford	DATE: <u>7/16/09</u> INITIALS: <u>UB</u>		
SALINITY ADJUSTMENT RECORD: <u>500</u> mL -001 + <u>6</u> g SALT					
SALINITY ADJUSTMENT RECORD: _____ mL -002 + _____ g SALT ^(B)					
SALINITY ADJUSTED SAMPLE	D.O. (mg/L)	pH (SU)	SPEC COND (µmhos)	TEMP (°C)	SALINITY (ppt)
Lab Control	<u>6.8</u>	<u>8.10</u>	<u>46200</u>	<u>21</u>	<u>29.30</u>
-001	<u>6.6</u>	<u>7.82</u>	<u>47350</u>	<u>21</u>	<u>31</u>
^(B) -002					

METERS USED

DO meter # 23 DO probe # 20 pH meter # 470 pH probe # 85 S/C meter # YSI 300 S/C probe # YSI 300
SALINITY meter # YSI 300

DATE & INITIALS FOR GAMETE PREPARATION: 7/16/09 UB

SPERM DILUTIONS:

HEMACYTOMETER COUNT, E: 127 X 10⁴ = SPM SOLUTION E = 1.27 X 10⁶
SPERM CONCENTRATIONS: SOLUTION E X 40 = SOLUTION A = 5.08 X 10⁷ SPM
SOLUTION E X 20 = SOLUTION B = 2.54 X 10⁷ SPM
SOLUTION E X 5 = SOLUTION C = 6.35 X 10⁶ SPM

FINAL COUNTS:

FINAL SPERM COUNT: 5.08 X 10⁷
FINAL EGG COUNT: 2200

TEST TIMES:

SPERM COLLECTED: 1145 1345
EGGS COLLECTED: 1145 1345
SPERM ADDED: 1310 1410
EGGS ADDED: 1430 1510
FIXATIVE ADDED: 1430 1530

See ESI SOP #1412 for additional information

CETIS Summary Report

Report Date: 17 Jul-09 11:32 (p 1 of 1)
Link/Link Code: 06-8335-2907

Arbacia Sperm Cell Fertilization Test							EnviroSystems, Inc.				
Test Run No:	10-4921-6632	Test Type:	Fertilization	Analyst:							
Start Date:	16 Jul-09 14:10	Protocol:	EPA/821/R-02-014 (2002)	Diluent:	Not Applicable						
Ending Date:	16 Jul-09 15:30	Species:	Arbacia punctulata	Brine:	Generic commercial salts						
Duration:	80m	Source:	In-House Culture	Age:							
Sample Code	Sample No	Sample Date	Receive Date	Sample Age	Client Name	Project					
18726-000	02-8543-4564	16 Jul-09 13:00	16 Jul-09 13:00	70m	Woods Hole Group	Ecological Risk Assessme					
18726-003	13-5938-2267	15 Jul-09 11:20	15 Jul-09 16:00	27h							
Sample Code	Material Type	Sample Source	Station Location		Latitude	Longitude					
18726-000	Surface Water	New Bedford Harbor Dredge Moni Laboratory Water Control									
18726-003	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-001-071509									
Test Acceptability											
Analysis No	Endpoint	Attribute	Test Stat	Acceptability Limits	Overlap	Decision					
19-7755-8074	Proportion Fertilized	Control Resp	0.9876	0.7 - 1	Yes	Passes acceptability criteria					
19-7755-8074	Proportion Fertilized	PMSD	0.01665	NL - 0.25	No	Passes acceptability criteria					
Proportion Fertilized Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18726-000	4	0.9876	0.9806	0.9947	0.96	1	0.003461	0.01896	1.92%	0.0%	
18726-003	4	0.9778	0.9761	0.9795	0.9709	0.9804	0.0008458	0.004633	0.47%	0.99%	
Proportion Fertilized Detail											
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4							
18726-000	0.9906	1	1	0.96							
18726-003	0.98	0.9804	0.9709	0.98							

CETIS Analytical Report

Report Date: 17 Jul-09 11:33 (p 1 of 1)
 Link/Link Code: 06-8335-2907

Arbacia Sperm Cell Fertilization Test **EnviroSystems, Inc.**

Analysis No: 19-7755-8074	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 17 Jul-09 11:31	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 10-4921-6632	Test Type: Fertilization	Analyst:
Start Date: 16 Jul-09 14:10	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 16 Jul-09 15:30	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					1.67%

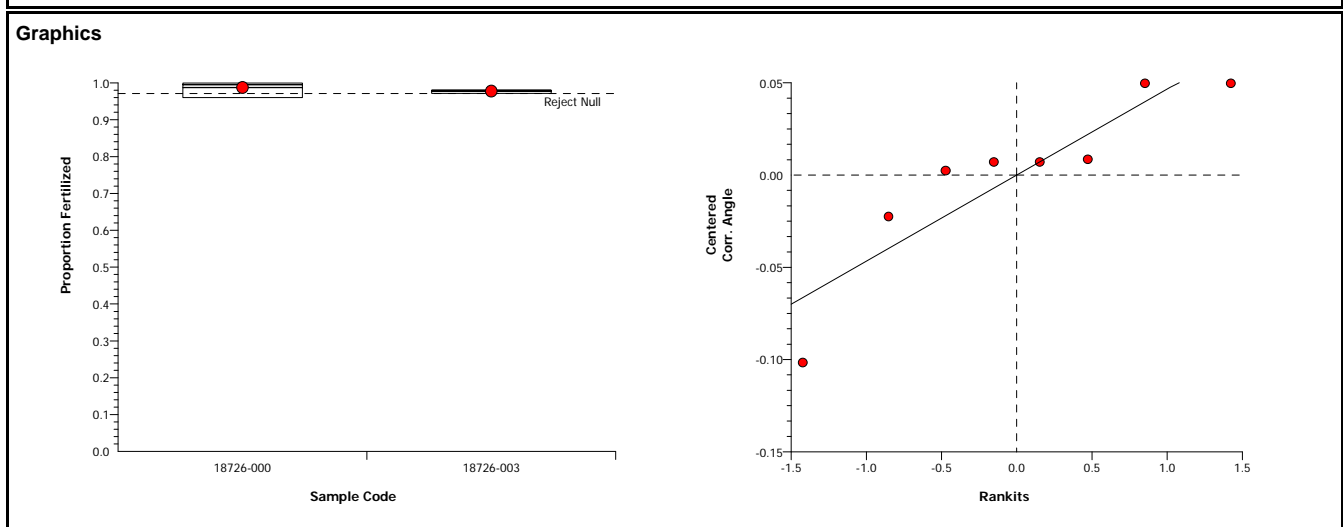
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18726-000	18726-003	1.351	1.943	0.07086	0.1127	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0048563	0.0048563	1	1.826	0.2253	Non-Significant Effect
Error	0.015956	0.0026593	6			
Total	0.0208123	0.0075156	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	22.47	47.47	0.0295	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.8356		0.0679	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18726-000	4	0.9876	0.9804	0.9949	0.96	1	0.00352	0.01896	1.92%	0.0%
18726-003	4	0.9778	0.9761	0.9796	0.9709	0.9804	0.0008603	0.004633	0.47%	0.99%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18726-000	4	1.471	1.444	1.498	1.369	1.521	0.01325	0.07136	4.85%	0.0%
18726-003	4	1.422	1.416	1.428	1.399	1.43	0.002795	0.01505	1.06%	3.35%



Arbacia punctulata Chronic Fertilization Assay

SAMPLE USE RECORD

STUDY: 18726		CLIENT: Woods Hole Group New Bedford	
SPECIES: <i>A. punctulata</i>			
		Day: 0	
SAMPLE	Volume Used (mL)	ESI Cube ID	
Lab Control	100	Lab Set A	
-001	100	001	
ⓔ -002	 	 	
INITIALS:	UB		
TIME:	1135		
DATE:	7/16/09		

FERTILIZATION COUNTS

STUDY	CLIENT Woods Hole Group	LOCATION New Bedford	DATE 7/16/09	INITIALS UB
	REPLICATE VIAL			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
SAMPLE	FERT/TOTAL	FERT/TOTAL	FERT/TOTAL	FERT/TOTAL
Lab Control	105/106	100/100	100/100	96/100
-001	98/100	100/102	100/103	98/100
ⓔ -002	 	 	 	

Work Order : 215510
 Sample Number : 25051

Cystocarp Counts at Test Termination

Initiated By : EJ
 Initiation Date : 2009-07-17
 Terminated By : VC
 Termination Date : 2009-07-26

Concentration (%)	Replicate	Plant 1	Plant 2	Plant 3	Plant 4	Plant 5	Replicate Mean	Treatment Mean	Standard Deviation	CV (%)
Control	A	29	27	39	27	23	29.0	29.3	0.3	1.0
	B	34	31	28	25	30	29.6			
	C	24	23	43	29	28	29.4			
Salt Control*	A	29	28	38	21	31	29.4	29.0	0.7	2.4
	B	44	19	30	24	30	29.4			
	C	34	22	25	33	27	28.2 ¹			
99	A	9	14	11	7	9	10.0	9.5	2.3	24.1
	B	11	13	7	9	9	9.8			
	C	6	8	10	12	8	8.8			

"-" = not counted/not required

¹ Outlier according to Grubbs Test (CETIS)⁴. Test data were analyzed with outlier(s) both included and excluded. The outlier(s) was included in calculation of the final result since exclusion had little effect on the final test outcome.

*Salt Control is a control prepared by Direct Salt Addition with Instant Ocean™ according to: Salinity Adjustment Guidance Document (2001). Environment Canada, revised December 2001.

Cumulative Plant Mortality

Concentration (%)	Observation Period									
	♂ 0 Hours		♀ 0 Hours		♂ 48 Hours		♀ 48 Hours		♀ Test Completion	
	Number Dead	Mortality (%)	Number Dead	Mortality (%)	Number Dead	Mortality (%)	Number Dead	Mortality (%)	Number Dead	Mortality (%)
Control	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Salt Control*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Salt Control*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Test Data Reviewed By: SM

Date: 2009-08-05

CETIS Summary Report

Report Date: 06 Aug-09 15:19 (p 1 of 1)
Test Code: 08-5901-8127/18726 Cp

Champia parvula Red Macroalga Sexual Reproduction Test							AquaTox				
Batch ID:	18-7379-7207	Test Type:	Champia	Analyst:							
Start Date:	17 Jul-09 09:00	Protocol:	EPA/600/4-91/003 (1994)	Diluent:	Not Applicable						
Ending Date:	24 Jul-09 09:00	Species:	Champia parvula	Brine:	Generic commercial salts						
Duration:	7d 0h	Source:	In-House Culture	Age:							
Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project					
18726-000	12-2126-8702	17 Jul-09 08:00	17 Jul-09 08:00	60m	Woods Hole Group	Ecological Risk Assessme					
18726-001	03-0374-5934	15 Jul-09 11:20	15 Jul-09 13:18	46h							
Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude						
18726-000	Surface Water	New Bedford Harbor Dredge Moni Laboratory Water Control									
18726-001	Surface Water	New Bedford Harbor Dredge Moni WQ-TOX-001-071509									
Mean Cystocarps Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18726-000	3	29.33	29.22	29.45	29	29.6	0.05578	0.3055	1.04%	0.0%	
18726-001	3	9.533	9.293	9.773	8.8	10	0.1174	0.6429	6.74%	67.5%	
Mean Cystocarps Detail											
Sample Code	Rep 1	Rep 2	Rep 3								
18726-000	29	29.6	29.4								
18726-001	10	9.8	8.8								

CETIS Analytical Report

Report Date: 06 Aug-09 15:20 (p 1 of 1)
Test Code: 08-5901-8127/18726 Cp

Champia parvula Red Macroalga Sexual Reproduction Test							AquaTox			
Analysis ID: 18-8885-0704	Endpoint: Mean Cystocarps		CETIS Version: CETISv1.7.0		Official Results: Yes					
Analyzed: 06 Aug-09 15:18	Analysis: Parametric-Two Sample									
Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project				
18726-000	12-2126-8702	17 Jul-09 08:00	17 Jul-09 08:00	60m	Woods Hole Group	Ecological Risk Assessme				
18726-001	03-0374-5934	15 Jul-09 11:20	15 Jul-09 13:18	46h						
Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude					
18726-000	Surface Water	New Bedford Harbor Dredge Moni	Laboratory Water Control							
18726-001	Surface Water	New Bedford Harbor Dredge Moni	WQ-TOX-001-071509							
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD		
Untransformed	0	C > T	Not Run					2.99%		
Equal Variance t Two-Sample Test										
Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)			
18726-000		18726-001	48.18	2.132	0.8761	<0.0001	Significant Effect			
ANOVA Table										
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)				
Between	588.06	588.06	1	2321	<0.0001	Significant Effect				
Error	1.013333	0.2533333	4							
Total	589.0733	588.3134	5							
ANOVA Assumptions										
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)					
Variances	Variance Ratio F	4.429	199	0.3684	Equal Variances					
Distribution	Shapiro-Wilk Normality	0.905		0.4044	Normal Distribution					
Mean Cystocarps Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18726-000	3	29.33	29.22	29.45	29	29.6	0.05673	0.3055	1.04%	0.0%
18726-001	3	9.533	9.289	9.778	8.8	10	0.1194	0.6429	6.74%	67.5%
Mean Cystocarps Detail										
Sample Code	Rep 1	Rep 2	Rep 3							
18726-000	29	29.6	29.4							
18726-001	10	9.8	8.8							

SALTWATER ASSAYS

A. bahia, A. punctulata, C. parvula

STUDY: 18726	LOCATION: New Bedford Harbor				
CHEMISTRY	Lab Salt Control	-001			
	AMMONIA	18708 -021	004		
AS RECEIVED WATER QUALITIES	Lab Salt Control	-001			
	SALINITY (ppt)	25	20		
pH (SU)	7.94	7.32			
TRC (mg/L)	20.02	20.02			
DO (mg/L)	7.1	6.9			
S/C (µmhos/cm)	39580	31760			
WQ STATION USED	1	1			
INITIALS	SJ	SJ			
<i>A. bahia</i> SALINITY ADJUSTMENT RECORD	Lab Salt Control	-001			
	SAMPLE (mLs)	 	16000 mL		
SEA SALT (g)	 	92			
DATE:	7/16/09	7/15/09			
TIME:	1320	1600			
INITIALS:	SJ	SJ			

Sample ID	ESI Cube ID
-001	-001

Report No: 18726
Project: New Bedford Harbor

SDG:

Sample ID: Sample 001
Matrix: Water
Sampled: 07/15/09 1550

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	18726-004	ND	0.1	mg/L as N	07/20/09	07/20/09	MES/SM 4500-NH3 G

Notes:

ND = Not Detected

ESI

EnviroSystems, Inc. P.O. Box 778 Hampton, NH 03842-0778 603-926-3345 fax 603-926-3521 www.envirosystems.com

Report No: 18708
Project: Laboratory Seawater

SDG:

Sample ID: Lab Salt 07/16/09
Matrix: Water
Sampled: 07/16/09

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	18708-021	ND	0.1	mg/L as N	07/20/09	07/20/09	MES/SM 4500-NH3 G


Notes:

ND = Not Detected

ESI

EnviroSystems, Inc. P.O. Box 778 Hampton, NH 03842-0778 603-926-3345 fax 603-926-3521 www.envirosystems.com

SAMPLE RECEIPT AND CONDITION DOCUMENTATION

STUDY NO: 18726
 SDG No:
 Project: WHGR-New Bedford Harbor
 Delivered via: ESI
 Date and Time Received: 07/15/09 1318 Date and Time Logged into Lab: 07/15/09 1600
 Received By: DG Logged into Lab by: SJ 
 Air bill / Way bill: No Air bill included in folder if received? NA
 Cooler on ice/packs: YES Custody Seals present? NA
 Cooler Blank Temp (C) at arrival: 4 Custody Seals intact? NA
 Number of COC Pages: 1
 COC Serial Number(s):
 COC Complete: Does the info on the COC match the samples? Yes
 Sampled Date: Yes Were samples received within holding time? Yes
 Field ID complete: Yes Were all samples properly labeled? Yes
 Sampled Time: Yes Were proper sample containers used? Yes
 Analysis request: Yes Were samples received intact? (none broken or leaking) Yes
 COC Signed and dated: Yes Were sample volumes sufficient for requested analysis? Yes
 Were all samples received? Yes Were VOC vials free of headspace? NA
 Client notification/authorization: Not required

Field ID	Lab ID	Mx	Analysis Requested	Bottle	Req'd Pres'n	Verified Pres'n
WQ-TOX-001 071509	18726-001	W	Composite: Sample 001			
WQ-TOX-002 071509	18726-002	W	Composite: Sample 001			
Sample 001	18726-003	W	AB7DCR,AP01CR,CP01CR			
Sample 001	18726-004	W	NH3;			

Notes and qualifications:



EnviroSystems, Inc.
1 Lafayette Road
P.O. Box 778
Hampton, N.H. 03843

Voice: 603-926-3345
FAX: 603-926-3521

ESI Job No:

18726

CHAIN OF CUSTODY DOCUMENTATION

Client: <u>Wood's Hole Group</u>	Contact: <u>D. Walsh</u>	Project Name: <u>NBH-WQ sampling</u>	Page <u>1</u> of <u>1</u>
Report to: K. McCarty <u>D. Walsh</u>	Address: <u>81 Technology Park Dr</u>	Project Number:	
Invoice to: <u>D. Walsh</u>	Address: <u>Falmouth, MA</u>	Project Manager: <u>D. Walsh</u>	
Voice: <u>508-540-8080</u>	Fax: _____	email: <u>dwalsh@whgrp.com</u>	P.O. No: _____ Quote No: _____

Protocol:	RCRA	SDWA	NPDES	USCOE	Other							
Lab Number (assigned by lab)	Your Field ID: (must agree with container)	Date Sampled	Time Sampled	Sampled By	Grab or composite (G/C)	Container Size (ml.)	Container Type (P/G/T)	Field Preservation	Matrix S=Solid W=Water	Filter N=Not needed F=Done in field L=Lab to do	Analyses Requested	Special Instructions:
001	WQ-TOX-001-071509	7/15	11:20	KGM	G	2.5G	P	ice ^{4°C}	W	N	toxicity	
002	WQ-TOX-002-071509	7/15	11:20	KGM	G	2.5G	P	ice^{4°C}	W	N	toxicity	
004	WQ-TOX-001-071509	↓	1540	SJ	G	60ml	P	H₂O₄	W	N	NH₃	
004	↓ -002 ↓	↓	↓	SJ	G	↓	↓	↓	↓	↓	↓	

Relinquished By: <u>Kathryn McCarty</u>	Date: <u>7/15/09</u> Time: <u>13:18</u>	Received By: <u>Tom</u>	Date: <u>7/15/09</u> Time: <u>13:18</u>
Relinquished By:	Date: _____ Time: _____	Received at Lab By:	Date: _____ Time: _____
Comments: _____			

COC Doc No: 3644

Water Quality Monitoring Summary Report
W912WJ-09-D-0001

D-117

Delivery Order-0010
July 2010



EnviroSystems, Inc.
1 Lafayette Road
P.O. Box 778
Hampton, N.H. 03843

Voice: 603-926-3345
FAX: 603-926-3521

ESI Job No:

CHAIN OF CUSTODY DOCUMENTATION

Client: EnviroSystems, Inc.	Contact: Shellie Jackson	Project Name:	Page 1 of 1
Report to: EnviroSystems, Inc.	Address: P.O. Box 778	Project Number: 18726	
Invoice to: EnviroSystems, Inc.	Address: Hampton, NH 03843	Project Manager: T. Simon	
Voice: 603-926-3345	Fax: 603-926-3521	email: T.Simon@enviro	P.O. No: 18726 Quote No:

Protocol:		RCRA	SDWA	NPDES	USCOE	Other							Analyses Requested Special Instructions:
Lab Number (assigned by lab)	Your Field ID: (must agree with container)			Date Sampled	Time Sampled	Sampled By	Grab or composite (G/C)	Container Size (ml.)	Container Type (P/G/T)	Field Preservation	Matrix S=Solid W=Water	Filter N=Not needed F=Done in field L=Lab to do	
	18726-001			7/5/09	1120	C	G	1000	P	4°C	W	-	C. parvula Screen
	18726-002			7/5/09	1120	C	G	1000	P	4°C	W	-	" "

Relinquished By: T. Simon	Date: 7/5/09	Time: 1530	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received at Lab By:	Date:	Time:

Comments: **Salinity Adjust.**

August 6, 2009

Mr. Dave Walsh
Woods Hole Group, Inc.
81 Technology Park Drive
Falmouth, Massachusetts 02536

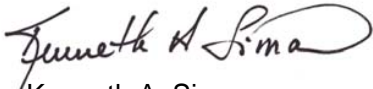
Dear Mr. Walsh;

Enclosed please find an electronic copy of our report evaluating the toxicity of samples received as part of the New Bedford Harbor surface water quality monitoring program for the 2009 sampling period. This report evaluates results of one (1) sample collected on July 22, 2009 and diluted to four (4) target concentrations (50, 100, 150, and 200 NTUs). Acute and chronic toxicity was evaluated using the mysid shrimp, *Americamysis bahia*, the sea urchin, *Arbacia punctulata*, and red macro algae, *Champia parvula*.

Please do not hesitate to call me, Reneé Mclsaac or Petra Karbe should you have any questions regarding the report.

Sincerely,

EnviroSystems, Incorporated



Kenneth A. Simon
President

Enclosure

Report; Two (2) Copies
Study Number 18770-09-07

**Biomonitoring of Surface Water Samples
New Bedford Harbor
New Bedford, Massachusetts**

July 22, 2009 Sampling Event

NED ACOE Job Number: TO-0010

Task Order No.: ESI0002

Prepared for

Woods Hole Group, Inc.
81 Technology Park Drive
Falmouth, Massachusetts 02536

Prepared by

EnviroSystems, Incorporated
1 Lafayette Road
Hampton, New Hampshire 03843

July 2009

Reference Number: Woods Hole Group, Inc. 18770-09-07

Page 1 of 8

Biomonitoring of Surface Water Samples New Bedford Harbor, New Bedford, Massachusetts

July 22, 2009 Sampling Event
NED ACOE Job Number: TO-0010

1.0 INTRODUCTION

This report provides a summarization of data generated from acute and chronic exposure screening assays evaluating surface water samples collected from New Bedford Harbor in New Bedford, Massachusetts. Toxicity tests were conducted on grab surface water samples collected from the specified areas in the harbor. Assay design included a laboratory control treatment and one or more surface water samples. Samples were evaluated "As Received" without additional dilutions. Assays were conducted based on water quality levels in the vicinity of dredging operations. Samples were collected under the supervision of Woods Hole Group, Inc. personnel from the Falmouth, Massachusetts office. Testing was based on programs and protocols developed by the US EPA (2002) and included the following assays; 48 hour acute assays conducted with the mysid shrimp, *Americamysis bahia*, and the red macro alga, *Champia parvula*, and 60 minute chronic fertilization assays conducted with the purple sea urchin, *Arbacia punctulata*. All mysid and urchin fertilization assays and the acute survival portion of the algal assays were conducted by ESI at its Hampton, New Hampshire facility.

2.0 MATERIALS AND METHODS

2.1 General Methods

Toxicological and analytical protocols used in this program followed procedures primarily designed by the EPA to provide standard approaches for the evaluation of toxicological effects of discharges on aquatic organisms, and for the analysis of water samples.

2.2 Test Species

A. bahia were obtained from cultures maintained by Aquatic Research Organisms (ARO), Hampton, New Hampshire. Juvenile shrimp were collected daily, isolated, and placed in a rearing tank for up to 6 days. Holding tanks were maintained in a flow-through culture mode at a temperature of $25\pm 2^\circ\text{C}$. At the start of the assays the mysids were 7 days old. Juveniles were fed ≤ 24 hour old brine shrimp on a daily basis. Water temperature, salinity, and pH were monitored on a daily basis. Prior to testing, organisms were siphoned from the rearing tanks to a holding vessel, and then transferred to test chambers using a large bore pipet, minimizing the amount of water added to test solutions.

A. punctulata adults were from cultures maintained by ESI. Original stock was obtained from commercial supply. Male and female urchins are maintained in separate chambers as recommended by protocol (EPA 2002) and ESI. Adult urchins were induced to spawn by the injection of a potassium chloride solution. The viability of gametes obtained was determined prior to their addition to the test solutions. Eggs and/or sperm that would not result in a fertilized egg were rejected from the pool of gametes used in the assay.

C. parvula were from cultures maintained by Saskatchewan Research Council. The male and female plants are maintained in separate culture vessels under sterile conditions. Algal cultures were maintained on an orbital shaker (100 rpm) at $23\pm 2^\circ\text{C}$ under 16 hour light : 8 hours dark at 40 to 75 foot candles light intensity. Cultures are "cropped" and transferred to fresh nutrient solutions on a weekly basis.

2.3 Surface Water Samples and Laboratory Control Water

A grab surface water sample was collected in New Bedford Harbor and diluted, in the field, to nominal 50, 100, 150, and 200 NTUs by Woods Hole Group, Inc. staff on July 22, 2009. Actual turbidity levels were documented by Alpha Analytical Labs after the start of the assays. Sample receipt information is shown in Table 1. Samples were placed in polyethylene cubitainers for shipment to the laboratory. One 5.0 gallon cubitainer was collected for each of the chronic assays. Prior to testing, samples were evaluated to document

salinity, conductivity, and total residual chlorine. Total residual chlorine was measured by amperometric titration (MDL 0.02 mg/L). Prior to use in the assays, the salinity of the samples was adjusted, as necessary, to predetermined levels using artificial sea salts for *A. bahia* and *A. punctulata* assays, and GP-2 salts (EPA 2002) for the *C. parvula* assays. When necessary, the salinity of samples for the *A. bahia* acute and chronic exposure assays were adjusted to $25 \pm 2\%$ while samples used for the *A. punctulata* and *C. parvula* assays were adjusted to $30 \pm 2\%$. Samples with "as received" salinity above these levels were not adjusted. A summary of "As Received" water quality data are summarized in Table 2.

Laboratory control water used for the mysid and sea urchin assays was collected from the Hampton/Seabrook Estuary. This water is classified as SA-1 and has been used to culture marine test organisms since 1981. The laboratory control water used in the algal assay (48 hour acute portion), collected from Hampton Harbor, New Hampshire, is the same water used in culture maintenance. Prior to use, seawater used in the algal assays was filtered through glass fiber filters and sterilized. Control water used in the algal assays conducted by AquaTox (acute and chronic portions) was natural seawater collected from the West Coast of Canada. Salinity of the surface water samples was adjusted, as required, using commercial sea salts.

2.4 Bioassays

2.4.1 *Americamysis bahia* Acute Exposure Assays

The endpoint for the *A. bahia* bioassay was survival (acute). The 48 hour static acute toxicity tests were conducted at $25 \pm 1^\circ\text{C}$ with a photoperiod of 16:8 hours light:dark. Test chambers for the acute assays were 250 mL glass beakers containing 200 mL test solution in each of 4 replicates with 10 organisms/replicate. Survival and dissolved oxygen were measured daily in each replicate prior to test solution renewal. Salinity, temperature and pH were recorded in a composite sample of the "old" test solution and in the "new" test solution prior to being added to the test chamber. Specific conductivity was measured in one replicate of each sample at the start of the assay. Mysids were not fed during the assay.

2.4.2 *Arbacia punctulata* Chronic Exposure Fertilization Assays

The endpoint for the *A. punctulata* bioassay was fertilization. Gametes were obtained by potassium chloride injection to induce spawning. Sperm were collected dry, diluted to achieve a concentration of approximately 5.0×10^7 sperm/mL in the surface water treatments. Actual sperm concentrations are provided on laboratory bench sheets in Appendix A. Sperm solutions were added to 5 mL aliquots of each sample being evaluated and allowed to remain in the test solutions for 60 minutes before the addition of unfertilized eggs. Each treatment incorporated a total of four (4) replicates. After 20 minutes exposure, the assay was terminated by the addition of 0.2 mL of preservative. Aliquots of preserved solution were counted to determine numbers of fertilized and unfertilized eggs. Fertilization was accepted based on the presence or absence of a fertilization membrane around the egg.

2.4.3 *Champia parvula* Acute Exposure Assays

The target endpoints for the acute *C. parvula* bioassay were coloration and necrosis. The red algae assay was conducted with a 2 day exposure period to the surface waters and laboratory control treatments. Each treatment used four replicates with five female branches and one male branch per replicate. Temperature was maintained at $23 \pm 1^\circ\text{C}$. The light source was cool white and fluorescent bulbs set on a 16:8 hours light:dark cycle, with a light intensity of 40 to 75 foot candles. Light intensity was checked at the start of each assay. Temperatures were monitored on a daily basis. Test chambers were 200 mL borosilicate glass fleakers. Upon test termination, plants were examined to determine the physical condition and coloration of the individual branches. Branches showing signs of degeneration were noted and used to establish an acute endpoint. Data for the acute endpoints was generated by ESI.

2.5 Data Analysis

Statistical analysis of acute and chronic exposure data was completed using CETIS, Comprehensive Environmental Toxicity Testing System, software. The program computes acute and chronic exposure endpoints based on EPA decision tree guidelines specified in individual test methods. For chronic exposure

endpoints statistical significance was accepted at $\alpha < 0.05$.

2.6 Quality Control

As part of the laboratory quality control program, standard reference toxicant assays are conducted on a regular basis for each test species. These results, summarized in Table 4, provide relative health and response data while allowing for comparison with historic data sets.

2.7 Protocol Deviations and Unacceptable Assays

Review of data collected from the assays conducted during the monitoring period documented one protocol deviation. Typically, the 48 hour acute exposure assay with the mysid shrimp is completed using <5 day old test organisms, however 7 day old organisms were acquired in anticipation of running the modified 7-day chronic assay which includes a 48-hour acute exposure endpoint. It is the opinion of ESI's study director that this deviation had no impact on the outcome of the assay.

3.0 RESULTS SUMMARY

Table 3 provides summaries of survival, growth, development and reproduction endpoints and associated statistical analyses. Support data, including copies of laboratory bench sheets, are provided in Appendix A.

For this round of sample analysis there were one reference site sample (DS-TOX-005-072209). The laboratory control and reference site were both used for statistical comparisons against the four samples provided by Woods Hole Group (DS-TOX-001-072209 through DS-TOX-004-072209).

3.1 *Americamysis bahia* Acute Exposure Bioassay

Minimum test acceptability criteria for the acute exposure bioassay require $\geq 90\%$ survival in the control concentrations. Achievement of these results indicate that healthy test organisms were used. See Table 3 for test acceptability and data summary.

3.2 *Arbacia punctulata* Chronic Fertilization Bioassay

Protocol specifies a 70% to 90% fertilization rate for *Arbacia punctulata* (EPA 2002). Achievement of these results indicate that healthy test organisms were used. See Table 3 for test acceptability and data summary.

3.3 *Champia parvula* Acute Exposure Bioassay

The acute exposure bioassay was considered to be acceptable if no notable branch necrosis was observed and appropriate coloration of test species was achieved in the laboratory control treatment. Achievement of these results indicate that healthy test organisms were used. See Table 3 for test acceptability and data summary.

4.0 REFERENCES

APHA. 1998. *Standard Methods for the Examination of Water and Wastewater*, 20th edition. Washington D.C.

US EPA. 2002. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms*. Fourth Edition. EPA-821-R-02-012.

US EPA. 2002. *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*. Fourth Edition. EPA-821-R-02-013.

Table 1. Sample Receipt Summary. New Bedford Harbor Surface Water Quality Monitoring July 22, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Field ID	ESI Code	Matrix	Collection		Receipt	
			Date	Time	Date	Time
DS-TOX-001-072209	18770-001	Water	07/22/09	0826	07/22/09	1747
DS-TOX-002-072209	18770-002	Water	07/22/09	0952	07/22/09	1747
DS-TOX-003-072209	18770-003	Water	07/22/09	0951	07/22/09	1747
DS-TOX-004-072209	18770-004	Water	07/22/09	0951	07/22/09	1747
DS-TOX-005-072209	18770-005	Water	07/22/09	0949	07/22/09	1747

Table 2 Summary of “As Received” Sample Physical and Chemical Characteristics. New Bedford Harbor Surface Water Quality Monitoring July 22, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Field ID	ESI Code	Target Dilution (NTUs) / Reference	Measured Turbidity*	Ammonia (mg/L)	pH (SU)	Salinity (‰)	Total Residual Chlorine (mg/L)
DS-TOX-001-072209	18770-001	200	190	0.15	7.27	23	<0.02
DS-TOX-002-072209	18770-002	150	140	<0.1	7.37	19	<0.02
DS-TOX-003-072209	18770-003	100	110	<0.1	7.40	17	<0.02
DS-TOX-004-072209	18770-004	50	92	<0.1	7.54	22	<0.02
DS-TOX-005-072209	18770-005	Reference	7.2	<0.1	7.71	27	<0.02

COMMENTS:

* Turbidity was measured by Woods Hole Group and provided via email communication.

Table 3. Endpoint Summary Table - New Bedford Harbor Surface Water Quality Monitoring July 22, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Sample ID	Turbidity (NTUs)	Reps	Mean	Min	Max	CV	Significant Difference vs			
							p Value	Lab	p Value	TOX-005
<i>Arbacia punctulata</i>										
Portion Fertilized										
Lab Control			98.8%	97.2%	100.0%	1.20%	-	-	-	-
DS-TOX-005	7.2		99.1%	98.1%	100.0%	1.09%	0.6185	NO	-	-
DS-TOX-001	190	4	93.7%	92.6%	96.2%	1.80%	0.0015	YES	0.0012	YES
DS-TOX-002	140		90.3%	88.0%	92.5%	2.04%	0.0002	YES	0.0001	YES
DS-TOX-003	110		98.1%	94.3%	100.0%	2.60%	0.3650	NO	0.2888	NO
DS-TOX-004	92		98.0%	97.0%	99.0%	0.84%	0.1386	NO	0.0869	NO
<i>Americamysis bahia</i>										
Day 1 Survival										
Lab Control	-		100.0%	100.0%	100.0%	0.00%	-	-	-	-
DS-TOX-005	7.2		100.0%	100.0%	100.0%	0.00%	0.4429	NO	-	-
DS-TOX-001	190	4	97.5%	90.0%	100.0%	5.13%	0.3429	NO	0.3429	NO
DS-TOX-002	140		100.0%	100.0%	100.0%	0.00%	0.4429	NO	0.4429	NO
DS-TOX-003	110		97.5%	90.0%	100.0%	5.13%	0.3429	NO	0.3429	NO
DS-TOX-004	92		97.5%	90.0%	100.0%	5.13%	0.3429	NO	0.3429	NO
Day 2 Survival										
Lab Control	-		100.0%	100.0%	100.0%	0.00%	-	-	-	-
DS-TOX-005	7.2		100.0%	100.0%	100.0%	0.00%	0.4429	NO	-	-
DS-TOX-001	190	4	97.5%	90.0%	100.0%	5.13%	0.3429	NO	0.3429	NO
DS-TOX-002	140		100.0%	100.0%	100.0%	0.00%	0.4429	NO	0.4429	NO
DS-TOX-003	110		97.5%	90.0%	100.0%	5.13%	0.3429	NO	0.3429	NO
DS-TOX-004	92		97.5%	90.0%	100.0%	5.13%	0.3429	NO	0.3429	NO
<i>Champia parvula</i>										
Day 2 Coloration/Necrosis										
Lab Control	-		4.0	4.0	4.0	0.00%	-	-	-	-
DS-TOX-005	7.2		3.2	3.0	3.4	5.10%	0.0143	YES	-	-
DS-TOX-001	190	4	0.0	0.0	0.0	0.00%	0.0143	YES	0.0143	YES
DS-TOX-002	140		0.8	0.6	1.0	20.41%	0.0143	YES	0.0000	YES
DS-TOX-003	110		2.0	1.8	2.0	5.13%	0.0143	YES	0.0000	YES
DS-TOX-004	92		2.9	2.8	3.0	3.98%	0.0000	YES	0.0120	YES

Table 4 Reference Toxicant Summary. New Bedford Harbor Surface Water Quality Monitoring July 22, 2009 Sampling Event. New Bedford Harbor Dredge Plume Monitoring Program.

Date	Endpoint	Value	Historic Mean/ Central Tendency	Acceptable Range	Reference Toxicant
<i>A. bahia</i>					
06/17/09	Survival	LC-50	23.8	20.8	16.2 - 25.4 SDS (mg/L)
05/27/09	Survival	C-NOEC	15.0	10.0	5.0 - 15.0 SDS (mg/L)
05/27/09	Growth	C-NOEC	5.0	5.0	2.5 - 10.0 SDS (mg/L)
.....					
<i>A. punctulata</i>					
06/18/09	Fertilization	C-NOEC	<1	10.0	1.0 - 5.0 Copper (µg/L)
06/18/09	Fertilization	IC-25	1.0	19.9	0 - 66.1 Copper (µg/L)
.....					
<i>C. parvula</i>					
06/08/09	Reproduction	IC-25	0.1	0.11	0.065 - 0.178 SDS (mg/L)
.....					

Mean and Acceptable Ranges based on most recent 20 reference toxicant assays (NELAP standard)

APPENDIX A
SUPPORT DATA

Contents	# Pages
Methods Summary	1
Study 18770: Sample Date July 22, 2009	
<i>A. bahia</i> Bench Sheets & Statistical Analysis Report	22
<i>A. punctulata</i> Bench Sheets and Statistical Analysis Report	12
<i>C. parvula</i> Bench Sheets and Statistical Analysis Report	12
Water Quality Bench Sheets and Dilution Prep Sheets	3
Analytical Chemistry Report	2
Sample Receipt Records	1
Chain of Custody and Organism Shipping Information	1
 Total Appendix Pages	 54

METHODS USED IN NPDES PERMIT BIOMONITORING TESTING

Parameter	Method
Acute Exposure Bioassays:	
<i>Ceriodaphnia dubia, Daphnia pulex</i>	EPA-821-R-02-012
<i>Pimephales promelas</i>	EPA-821-R-02-012
<i>Americamysis bahia</i>	EPA-821-R-02-012
<i>Menidia beryllina, Cyprinodon variegatus</i>	EPA-821-R-02-012
Chronic Exposure Bioassays:	
<i>Ceriodaphnia dubia</i>	EPA-821-R-02-013 1002.0
<i>Pimephales promelas</i>	EPA-821-R-02-013 1000.0
<i>Cyprinodon variegatus</i>	EPA-821-R-02-014 1004.0
<i>Menidia beryllina</i>	EPA-821-R-02-014 1006.0
<i>Arbacia punctulata</i>	EPA-821-R-02-014 1008.0
<i>Champia parvula</i>	EPA-821-R-02-014 1009.0
Trace Metals:	
Trace Metals	EPA 200.7/SW 6010 and EPA 200.8/SW 6020
Hardness	Standard Methods 20 th Edition - Method 2340 B
Wet Chemistries:	
Alkalinity	EPA 310.2
Chlorine, Residual	Standard Methods 20 th Edition - Method 4500CLD
Total Organic Carbon	Standard Methods 20 th Edition - Method 5310C
Specific Conductance	Standard Methods 20 th Edition - Method 2510B
Nitrogen - Ammonia	Standard Methods 20 th Edition - Method 4500NH3G
pH	Standard Methods 20 th Edition - Method 4500H+B
Solids, Total (TS)	Standard Methods 20 th Edition - Method 2540 B
Solids, Total Suspended (TSS)	Standard Methods 20 th Edition - Method 2540 D
Solids, Total Dissolved (TDS)	Standard Methods 20 th Edition - Method 2540 C
Dissolved Oxygen	Standard Methods 20 th Edition - Method 4500-O G

ACUTE BIOASSAY DATA SUMMARY

STUDY: 18770				"AS RECEIVED" EFFLUENT AND DILUENT CHEMISTRIES													
CLIENT: Woods Hole Group		TEST ORGANISM: <i>A. bahia</i>		TRC	TS/TSS	AMM	TOC	T.METAL	SAL	pH	S/C						
SAMPLE: New Bedford Harbor		ORGANISM SUPPLIER/BATCH/AGE: <i>See Organism Culture Sheet</i>		EFF													
				DIL													
CONC	REP	SURVIVAL			DO (mg/L)			pH (SU)			TEMP (°C)			SALINITY (ppt)			S/C (µmhos/cm)
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48	0
LAB	A	10	10	10	7.2	6.7	6.2	7.97	7.94	7.83	25	25	24	24	25	25	38360
	B	10	10	10	7.2	6.7	5.9										
	C	10	10	10	7.2	6.7	6.0										
	D	10	10	10	7.2	6.8	5.5		7.92								
Reference Site 005	A	10	10	10	6.7 ^{7.4}	6.8	5.6	7.47	7.82 ^{7.92}	7.78	25	25	24	24 ²⁷	24 ²⁷	28	42010
	B	10	10	10	6.5 ^{7.4}	6.9	5.2							24 ²⁷	24 ²⁷	28	
	C	10	10	10	6.7 ^{7.3}	7.0	5.6										
	D	10	10	10	7.2	6.9	5.7										
50 NTU 004	A	10	10	10	7.0	6.9	5.9	7.26	7.87	7.80	25	25	24	25	24 ²⁶	26	39170
	B	10	10	10	7.1	7.0	5.8										
	C	10	10	10	7.1	7.0	5.9										
	D	10	9	9	7.2	7.0	5.8										
100 NTU 003	A	10	10	10	6.6	7.0	5.9	7.31	7.89	7.80	25	25	24	24	25 ²⁵	25	38350
	B	10	9	9	6.7	7.0	5.5										
	C	10	10	10	6.6	7.0	5.7										
	D	10	10	10	6.7	7.0	6.0										
DATE		7/23	7/24	7/29/09	7/23/09	7/24	7/25										
TIME		1555	1420	1420	1545	1405	1645										
INITIALS		ST	SJ	WM	ST	SJ	ve										

ACUTE BIOASSAY DATA SUMMARY

STUDY: 18720		SAMPLE: New Bedford Harbor															
CLIENT: Woods Hole Group		TEST ORGANISM: <i>A. bahia</i>															
CONC	REP	SURVIVAL			DO (mg/L)			pH (SU)			TEMP (°C)			SALINITY (ppt)			S/C (µmhos/cm)
		0	24	48	0	24	48	0	24	48	0	24	48	0	24	48	0
150 NTU 002	A	10	10	10	6.6	7.0	5.9	7.29	7.87	7.90	25	25	24	25 25	26	26	39620
	B	10	10	10	6.7	7.0	6.0										
	C	10	10	10	6.7	7.0	6.2										
	D	10	10	10	6.7	7.0	6.0										
200 NTU 001	A	10	10	10	6.6	7.0	6.0	7.28	7.82	7.84	25	25	24	24 24	24	25	36850
	B	10	10	10	6.5	7.0	5.9										
	C	10	10	10	6.5	7.0	5.8										
	D	10	9	9	6.5	7.0	6.2										
	A																
	B																
	C																
	D																
	A																
	B																
	C																
	D																
DATE		7/23	7/24	7/25	7/23/09	7/24	7/25										
TIME		1555	1440	1400	1545	1405	1645										
INITIALS		SS	SS	WM	SS	SS	vc										

CETIS Summary Report

Report Date: 27 Jul-09 10:52 (p 1 of 1)
Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test							EnviroSystems, Inc.				
Test Run No: 13-1803-3614	Test Type: Survival (48h)			Analyst:							
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)			Diluent: Not Applicable							
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia			Brine: Generic commercial salts							
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH			Age:							
Sample Code	Sample No	Sample Date	Receive Date	Sample Age	Client Name	Project					
18770-000	06-7167-7012	23 Jul-09 12:00	23 Jul-09 12:00	4h	Woods Hole Group	Ecological Risk Assessme					
18770-005	03-9927-1818	22 Jul-09 09:49	22 Jul-09 17:47	30h							
18770-001	15-6024-8561	22 Jul-09 08:26	22 Jul-09 17:47	32h							
18770-002	05-1145-9131	22 Jul-09 09:52	22 Jul-09 17:47	30h							
18770-003	01-6638-4937	22 Jul-09 09:51	22 Jul-09 17:47	30h							
18770-004	06-1076-1745	22 Jul-09 09:51	22 Jul-09 17:47	30h							
Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude						
18770-000	Surface Water	New Bedford Harbor Dredge Moni	Laboratory Water Control								
18770-005	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-005-072209 (Reference)								
18770-001	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-001-072209 (190 NTU)								
18770-002	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-002-072209 (140 NTU)								
18770-003	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-003-072209 (110 NTU)								
18770-004	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-004-072209 (092 NTU)								
24h Proportion Survived Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%	
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%	
18770-001	4	0.975	0.9563	0.9937	0.9	1	0.009129	0.05	5.13%	2.5%	
18770-002	4	1	1	1	1	1	0	0	0.0%	0.0%	
18770-003	4	0.975	0.9563	0.9937	0.9	1	0.009129	0.05	5.13%	2.5%	
18770-004	4	0.975	0.9563	0.9937	0.9	1	0.009129	0.05	5.13%	2.5%	
48h Proportion Survived Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%	
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%	
18770-001	4	0.975	0.9563	0.9937	0.9	1	0.009129	0.05	5.13%	2.5%	
18770-002	4	1	1	1	1	1	0	0	0.0%	0.0%	
18770-003	4	0.975	0.9563	0.9937	0.9	1	0.009129	0.05	5.13%	2.5%	
18770-004	4	0.975	0.9563	0.9937	0.9	1	0.009129	0.05	5.13%	2.5%	
24h Proportion Survived Detail											
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4							
18770-000	1	1	1	1							
18770-005	1	1	1	1							
18770-001	1	1	1	0.9							
18770-002	1	1	1	1							
18770-003	1	0.9	1	1							
18770-004	1	1	1	0.9							
48h Proportion Survived Detail											
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4							
18770-000	1	1	1	1							
18770-005	1	1	1	1							
18770-001	1	1	1	0.9							
18770-002	1	1	1	1							
18770-003	1	0.9	1	1							
18770-004	1	1	1	0.9							

CETIS Analytical Report

Report Date: 24 Jul-09 14:41 (p 1 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 17-8622-6234	Endpoint: 24h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 24 Jul-09 14:37	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

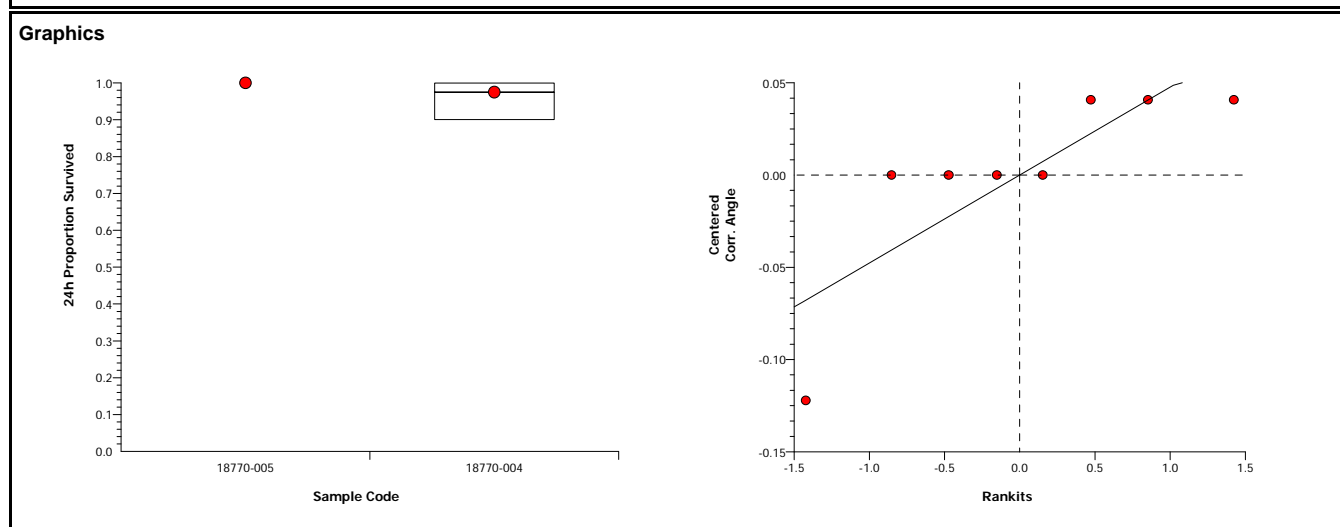
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-005	18770-004	16		1	0.3429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution	

24h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-004	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-004	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%



CETIS Analytical Report

Report Date: 24 Jul-09 14:41 (p 2 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 02-9572-0498	Endpoint: 24h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 24 Jul-09 14:37	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

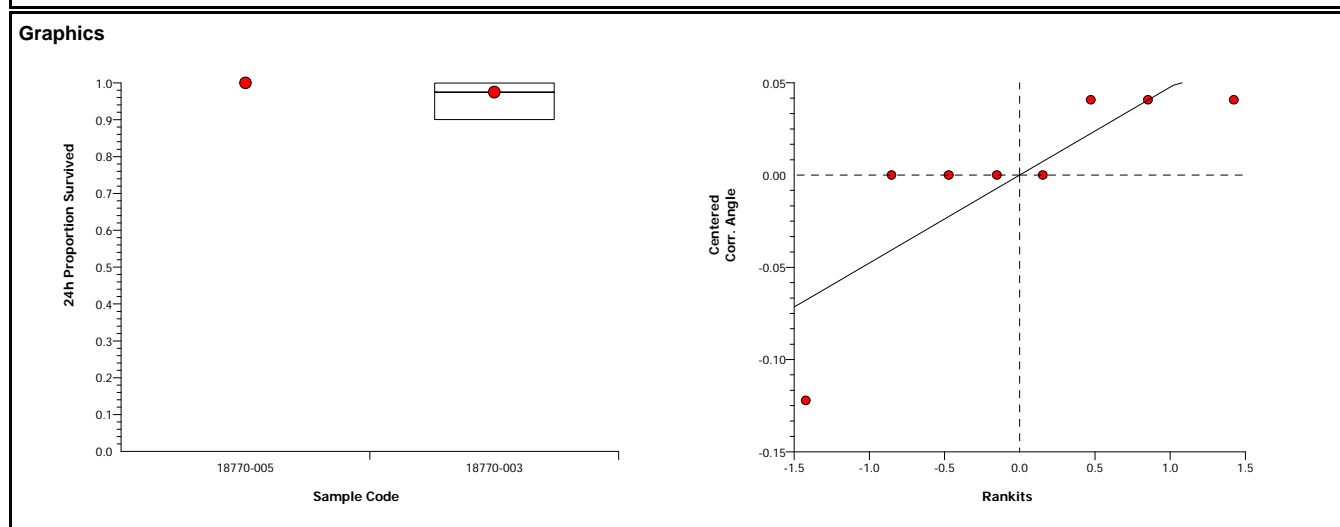
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-005	18770-003	16		1	0.3429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution	

24h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-003	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-003	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%



CETIS Analytical Report

Report Date: 24 Jul-09 14:41 (p 3 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 12-4998-4748	Endpoint: 24h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 24 Jul-09 14:36	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.5%

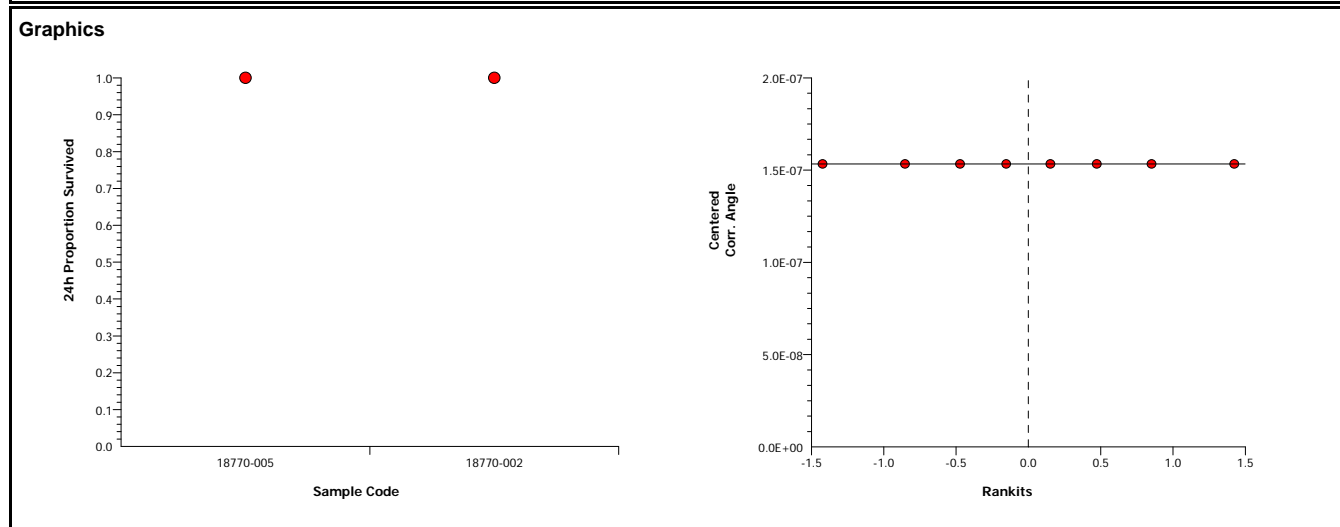
Wilcoxon Rank Sum Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-005		18770-002	18		1	0.4429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	1	65540	0.0000	Significant Effect
Error	0	0	6			
Total	0	0	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	65540	13.75	0.0000	Unequal Variances	

24h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-002	4	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-002	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%



CETIS Analytical Report

Report Date: 24 Jul-09 14:41 (p 4 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 06-0548-8740	Endpoint: 24h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 24 Jul-09 14:36	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

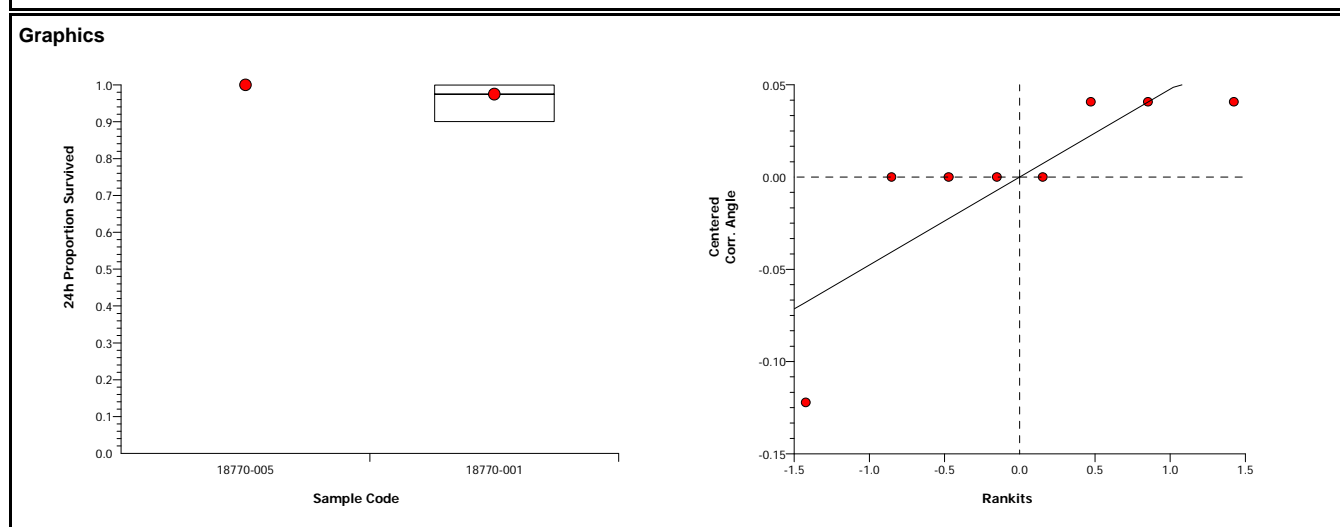
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-005	18770-001	16		1	0.3429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution	

24h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-001	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-001	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%



CETIS Analytical Report

Report Date: 24 Jul-09 14:41 (p 5 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 03-9607-9833	Endpoint: 24h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 24 Jul-09 14:36	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

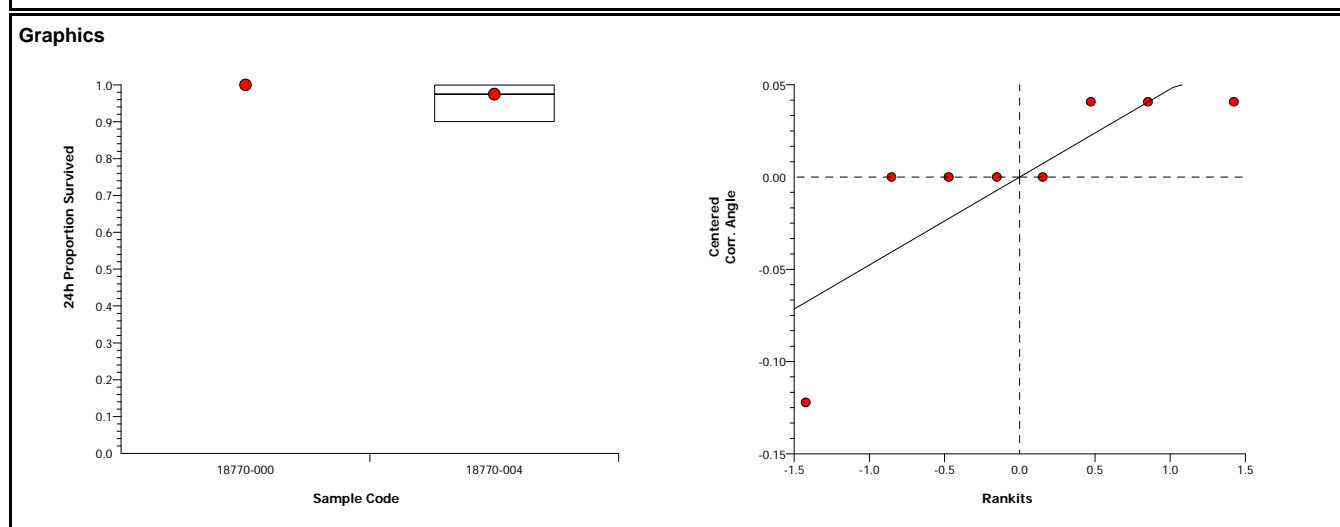
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-004	16		1	0.3429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution	

24h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-004	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-004	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%



CETIS Analytical Report

Report Date: 24 Jul-09 14:41 (p 6 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test **EnviroSystems, Inc.**

Analysis No: 11-8632-2466	Endpoint: 24h Proportion Survived	CETIS Version: CETISv1.6.4
Analyzed: 24 Jul-09 14:36	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-003	16		1	0.3429	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution

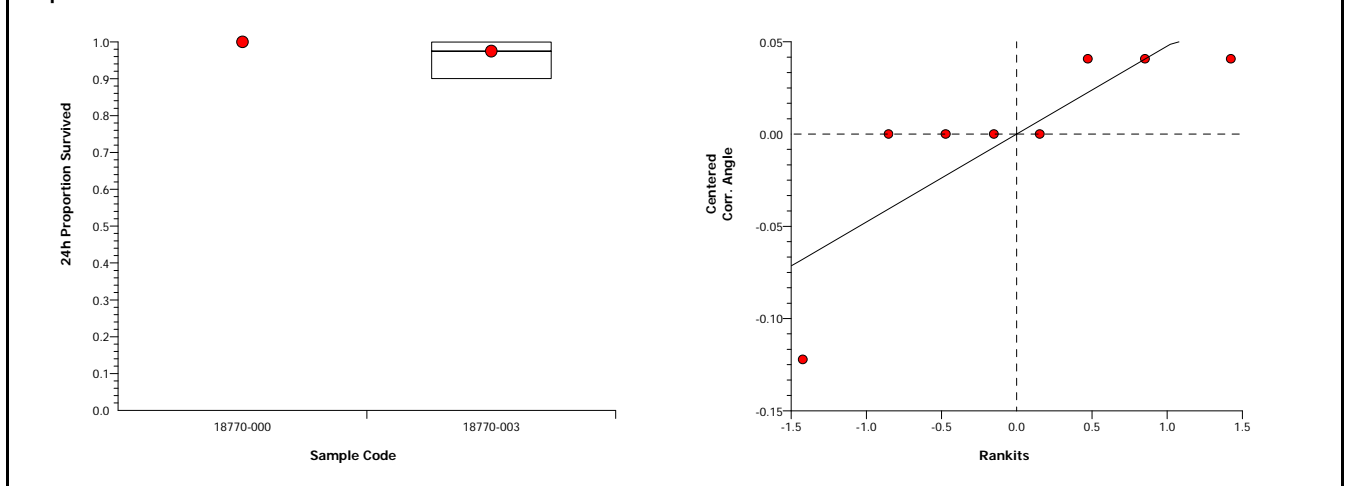
24h Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-003	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-003	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%

Graphics



CETIS Analytical Report

Report Date: 24 Jul-09 14:42 (p 7 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 11-2256-6280	Endpoint: 24h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 24 Jul-09 14:36	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.5%

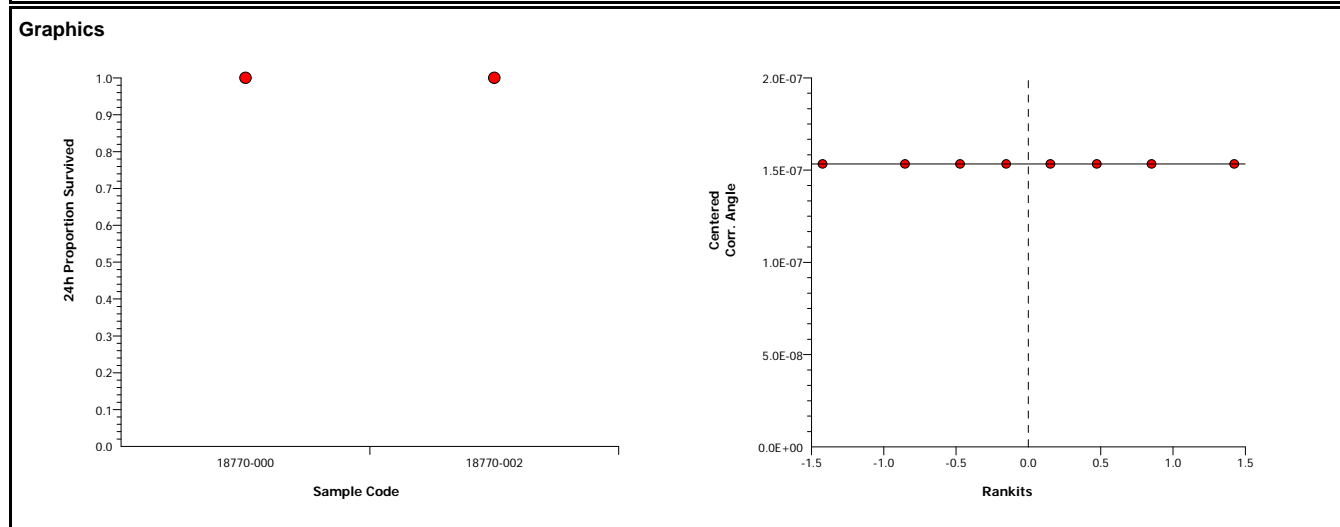
Wilcoxon Rank Sum Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000		18770-002	18		1	0.4429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	1	65540	0.0000	Significant Effect
Error	0	0	6			
Total	0	0	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	65540	13.75	0.0000	Unequal Variances	

24h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-002	4	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-002	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%



CETIS Analytical Report

Report Date: 24 Jul-09 14:42 (p 8 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test EnviroSystems, Inc.

Analysis No: 04-4072-4585	Endpoint: 24h Proportion Survived	CETIS Version: CETISv1.6.4
Analyzed: 24 Jul-09 14:36	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

Wilcoxon Rank Sum Two-Sample Test

Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-001	16		1	0.3429	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution

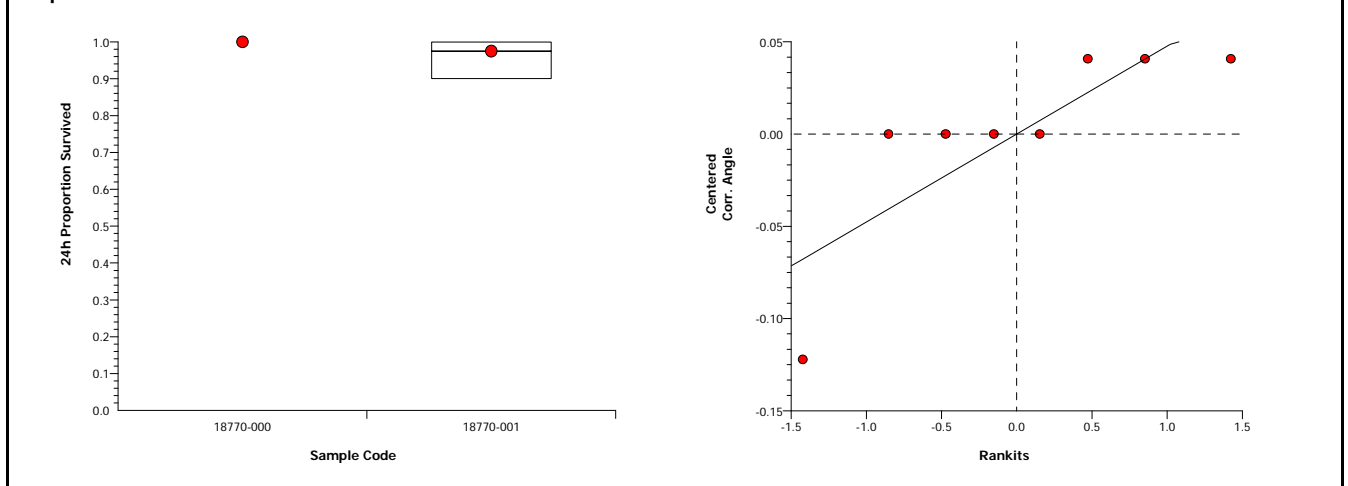
24h Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-001	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-001	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%

Graphics



CETIS Analytical Report

Report Date: 24 Jul-09 14:42 (p 9 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 19-2609-4608	Endpoint: 24h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 24 Jul-09 14:36	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.5%

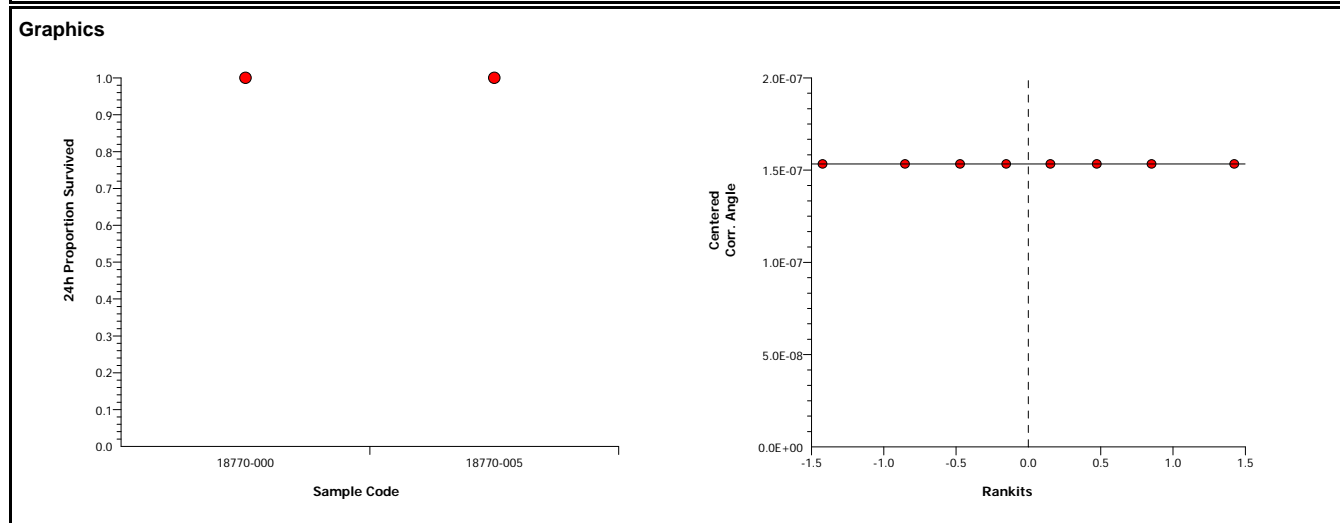
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-005	18		1	0.4429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	1	65540	0.0000	Significant Effect
Error	0	0	6			
Total	0	0	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	65540	13.75	0.0000	Unequal Variances	

24h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-005	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%



CETIS Analytical Report

Report Date: 27 Jul-09 10:50 (p 1 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 09-2386-3109	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 27 Jul-09 10:48	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

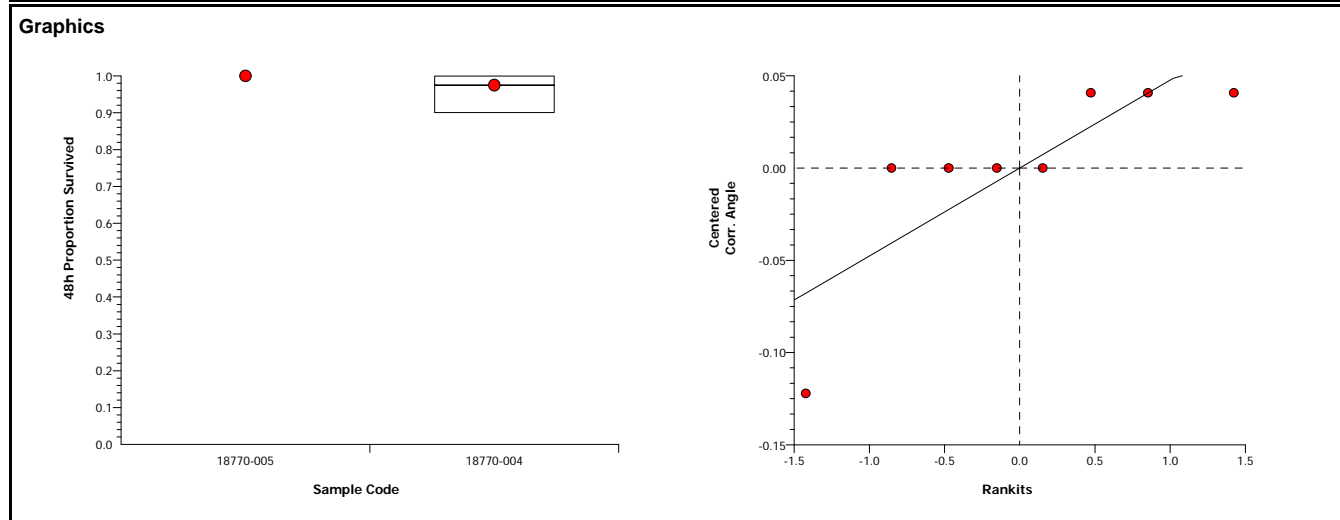
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-005	18770-004	16		1	0.3429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution	

48h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-004	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-004	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%



CETIS Analytical Report

Report Date: 27 Jul-09 10:51 (p 2 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 20-9989-5516	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 27 Jul-09 10:48	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

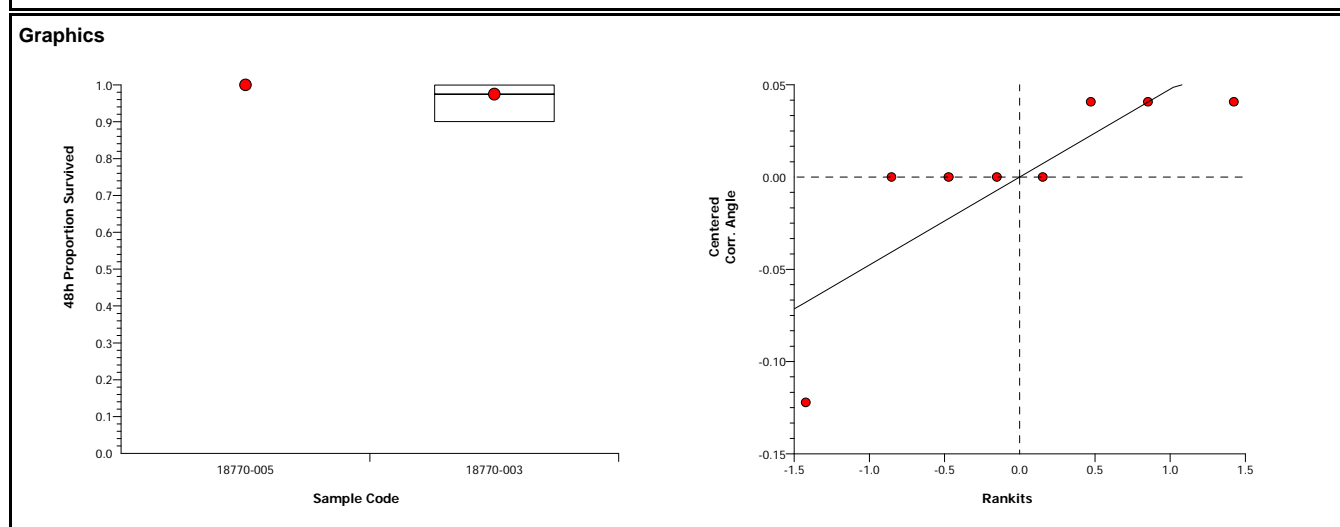
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-005	18770-003	16		1	0.3429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution	

48h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-003	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-003	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%



CETIS Analytical Report

Report Date: 27 Jul-09 10:51 (p 3 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 11-3419-3984	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 27 Jul-09 10:48	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.5%

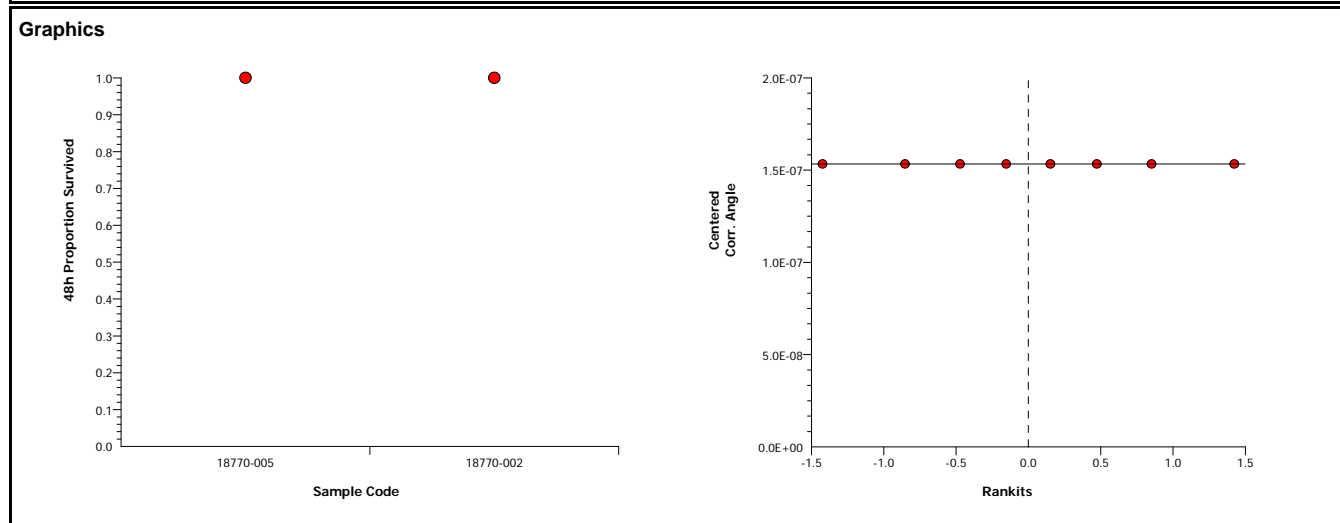
Wilcoxon Rank Sum Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-005		18770-002	18		1	0.4429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	1	65540	0.0000	Significant Effect
Error	0	0	6			
Total	0	0	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	65540	13.75	0.0000	Unequal Variances	

48h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-002	4	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-002	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%



CETIS Analytical Report

Report Date: 27 Jul-09 10:51 (p 4 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 04-5963-4047	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 27 Jul-09 10:48	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

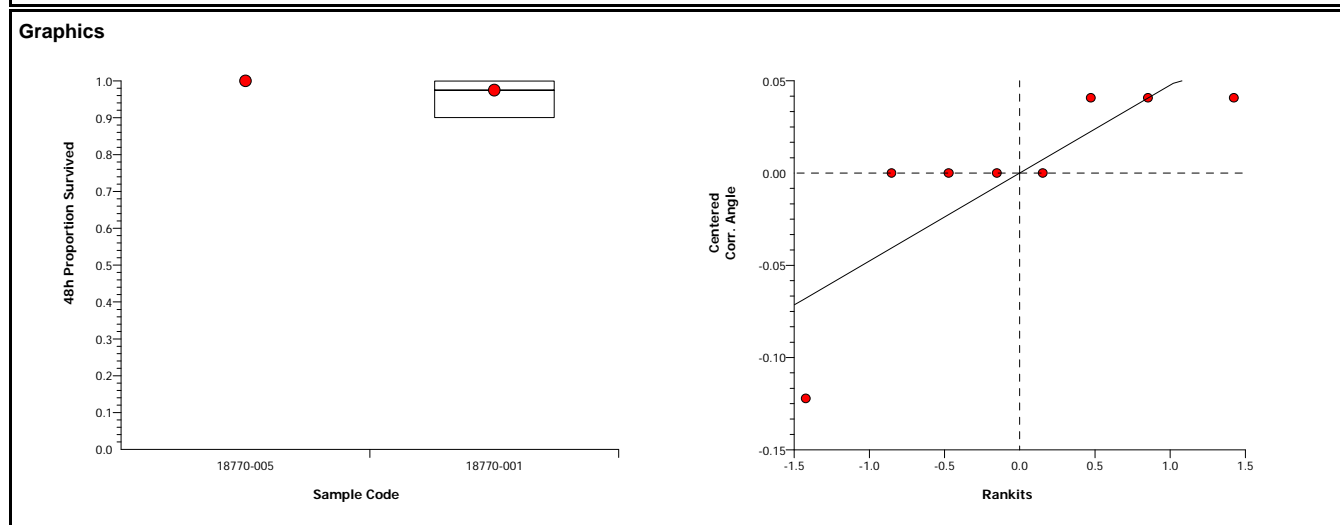
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-005	18770-001	16		1	0.3429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution	

48h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-001	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-001	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%



CETIS Analytical Report

Report Date: 27 Jul-09 10:51 (p 5 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test EnviroSystems, Inc.

Analysis No: 17-1499-2035	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4
Analyzed: 27 Jul-09 10:48	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

Wilcoxon Rank Sum Two-Sample Test

Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-004	16		1	0.3429	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution

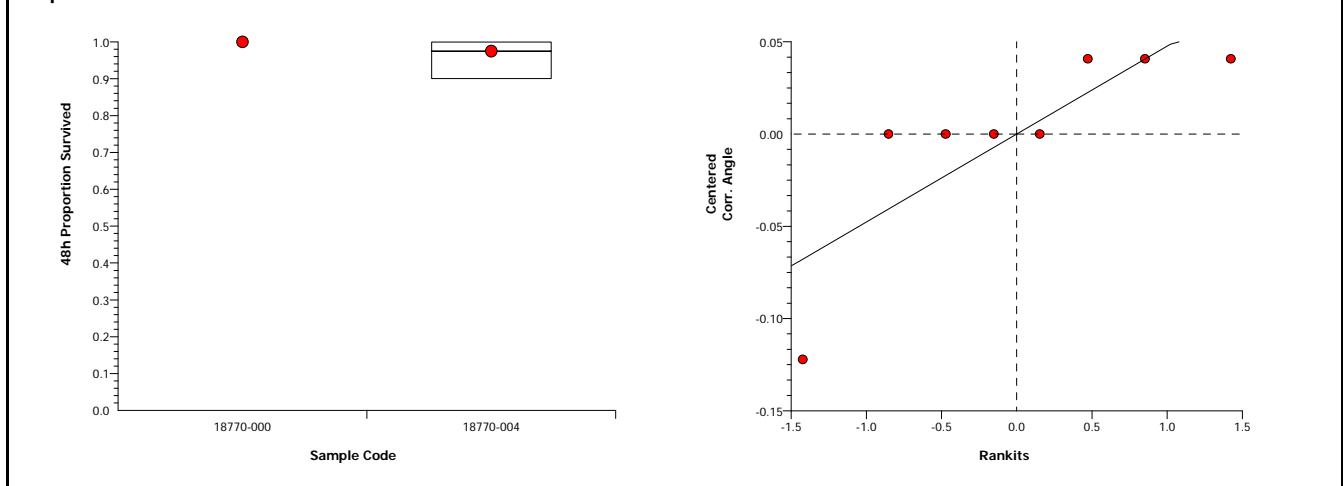
48h Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-004	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-004	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%

Graphics



CETIS Analytical Report

Report Date: 27 Jul-09 10:51 (p 6 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 08-0227-6085	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 27 Jul-09 10:48	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

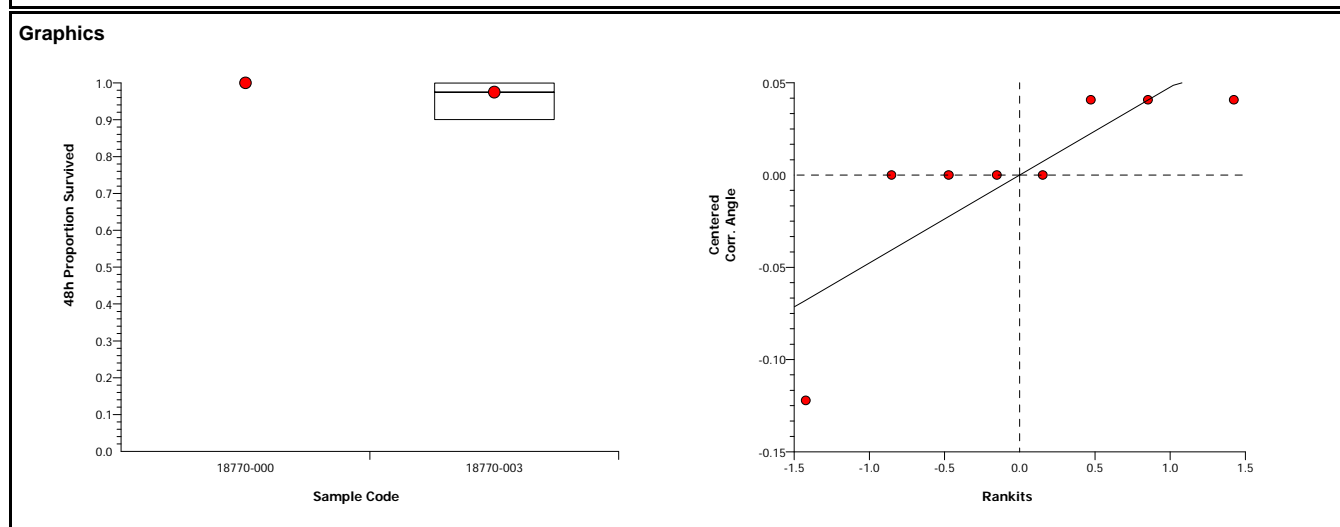
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-003	16		1	0.3429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution	

48h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-003	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-003	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%



CETIS Analytical Report

Report Date: 27 Jul-09 10:51 (p 7 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 14-6729-0743	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 27 Jul-09 10:48	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.5%

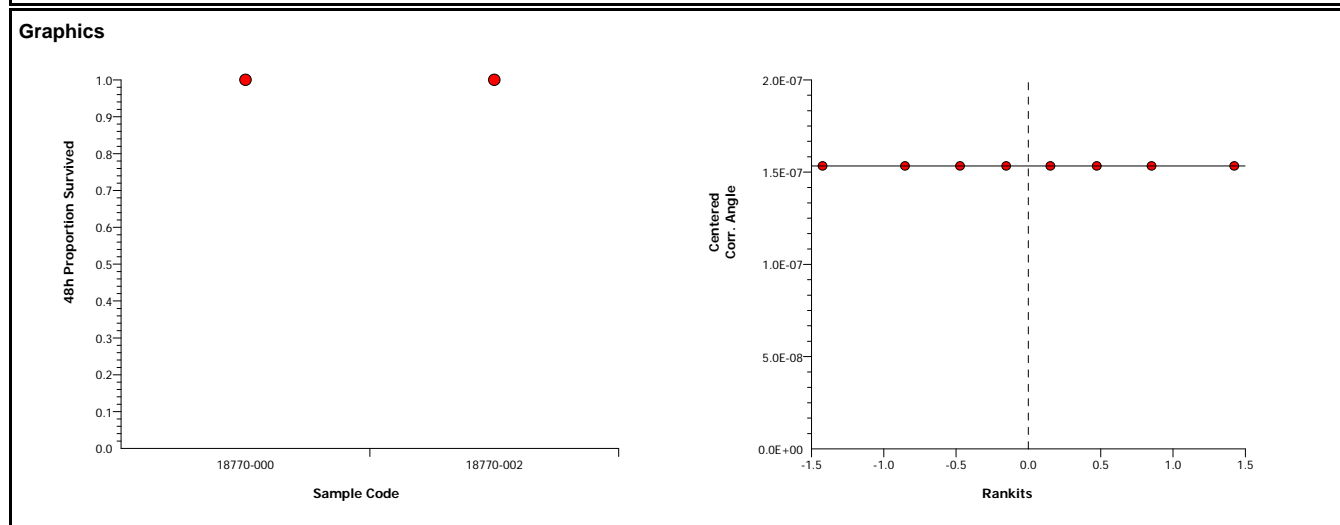
Wilcoxon Rank Sum Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000		18770-002	18		1	0.4429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	1	65540	0.0000	Significant Effect
Error	0	0	6			
Total	0	0	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	65540	13.75	0.0000	Unequal Variances	

48h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-002	4	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-002	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%



CETIS Analytical Report

Report Date: 27 Jul-09 10:51 (p 8 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 17-8143-7019	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 27 Jul-09 10:48	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					5.56%

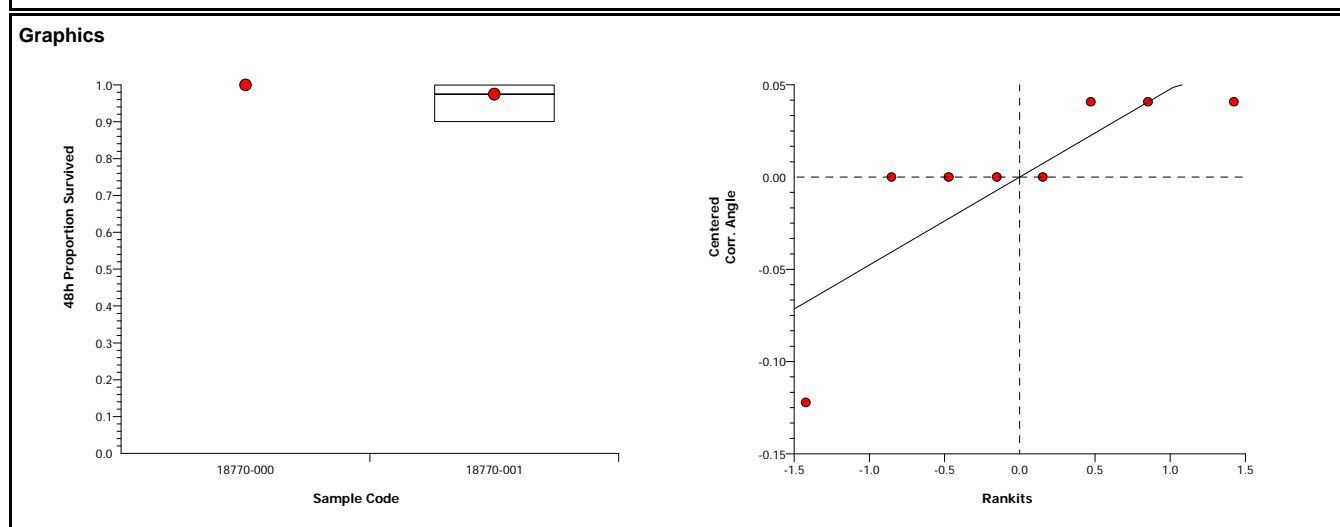
Wilcoxon Rank Sum Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-001	16		1	0.3429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0033199	0.0033199	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.0033199	6			
Total	0.0232394	0.0066398	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution	

48h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-001	4	0.975	0.956	0.994	0.9	1	0.009285	0.05	5.13%	2.5%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-001	4	1.371	1.34	1.402	1.249	1.412	0.01513	0.08149	5.94%	2.89%



CETIS Analytical Report

Report Date: 27 Jul-09 10:51 (p 9 of 9)
 Link/Link Code: 14-7067-7011/18770-Ab

Americamysis 48-Hr Survival Test			EnviroSystems, Inc.		
Analysis No: 00-2870-5123	Endpoint: 48h Proportion Survived	CETIS Version: CETISv1.6.4			
Analyzed: 27 Jul-09 10:48	Analysis: Nonparametric-Two Sample	Official Results: Yes			
Test Run No: 13-1803-3614	Test Type: Survival (48h)	Analyst:			
Start Date: 23 Jul-09 16:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Not Applicable			
Ending Date: 25 Jul-09 16:00	Species: Americamysis bahia	Brine: Generic commercial salts			
Duration: 48h	Source: ARO - Aquatic Research Organisms, NH	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.5%

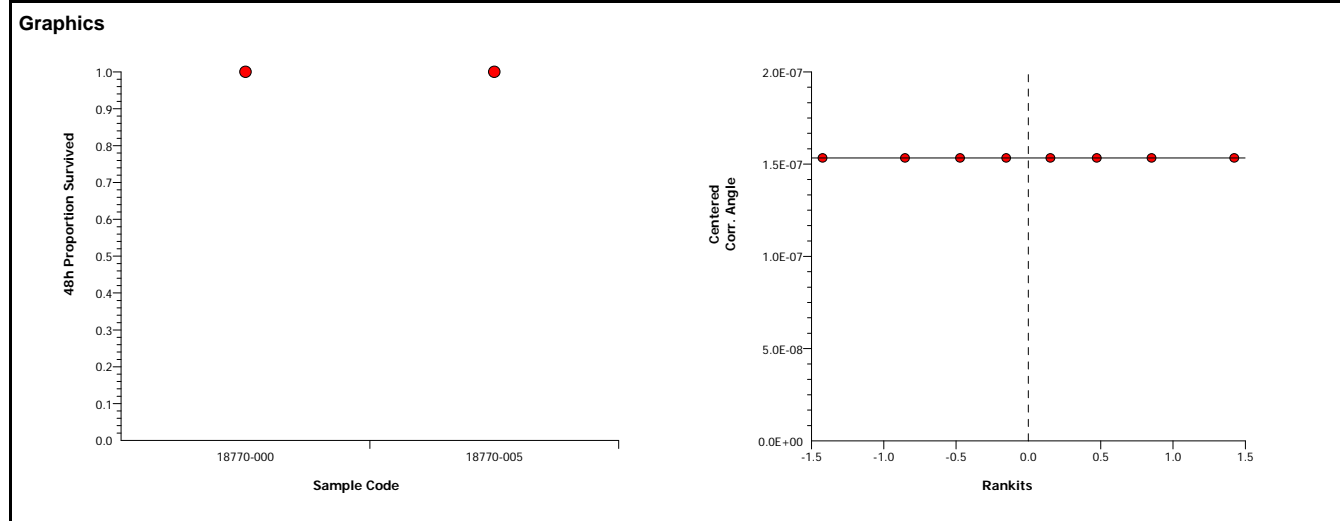
Wilcoxon Rank Sum Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000		18770-005	18		1	0.4429	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0	0	1	65540	0.0000	Significant Effect
Error	0	0	6			
Total	0	0	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	65540	13.75	0.0000	Unequal Variances	

48h Proportion Survived Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1	1	1	1	1	0	0	0.0%	0.0%
18770-005	4	1	1	1	1	1	0	0	0.0%	0.0%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%
18770-005	4	1.412	1.412	1.412	1.412	1.412	0	0	0.0%	0.0%





Aquatic Research Organisms

rec 7/23
M

DATA SHEET

I. Organism History

Species Americamysis bahia

Source: Lab reared Hatchery reared _____ Field collected _____

Hatch date 7-16-09 Receipt date _____

Lot number 071609MS Strain _____

Brood origination FLORIDA

II. Water Quality

Temperature 25 °C Salinity 230 ppt D.O. - ppm

pH 7.8 su Hardness - ppm Alkalinity - ppm

III. Culture Conditions

Freshwater _____ Saltwater Other _____

Recirculating Flow through _____ Static _____

DIET: Flake food Phytoplankton _____ Trout chow

Artemia Rotifers _____ YCT _____ Other Escap. Shrimp Diet

Prophylactic treatments: _____

Comments: _____

IV. Shipping Information

Client: EST # of Organisms 240+

Carrier: _____ Date shipped 7-23-09

Biologist: Mark Hoenig

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650 AROFISH@AOL.COM

**Arbacia punctulata Chronic Fertilization Assay
Water Quality and Gamete Preparation Data**

STUDY: <u>18720</u> <u>218622</u>	CLIENT: Woods Hole Group	LOCATION: New Bedford	DATE: <u>7/23/09</u> INITIALS: <u>JO</u>		
SALINITY ADJUSTMENT RECORD: <u>200</u> mL Ref + _____ g SALT					
SALINITY ADJUSTMENT RECORD: <u>200</u> mL 200 NTU + _____ g SALT					
SALINITY ADJUSTMENT RECORD: <u>200</u> mL 150 NTU + _____ g SALT					
SALINITY ADJUSTMENT RECORD: <u>200</u> mL 100 NTU + _____ g SALT					
SALINITY ADJUSTMENT RECORD: <u>200</u> mL 50 NTU + _____ g SALT					
SALINITY ADJUSTED SAMPLE	D.O. (mg/L)	pH (SU)	SPEC COND (µmhos)	TEMP (°C)	SALINITY (ppt)
Lab Control	7.2	8.11	46.330	23.20	30
Reference Site <u>005</u>	8.1	7.66	45550	20	29
200 NTU <u>001</u>	7.4	7.55	463740	20	30
150 NTU <u>002</u>	7.6	7.74	46340	20	30
100 NTU <u>003</u>	8.4	7.87	47950	20	31
50 NTU <u>004</u>	8.3	7.77	47660	20	31

METERS USED

DO meter # 23 DO probe # 20 pH meter # 470 pH probe # 85 S/C meter # YS130D S/C probe # YS130D
SALINITY meter # YS130D

DATE & INITIALS FOR GAMETE PREPARATION: LB

SPERM DILUTIONS:

HEMACYTOMETER COUNT, E: 1.22 x 10⁴ = SPM SOLUTION E = 1.22 x 10⁶
SPERM CONCENTRATIONS: SOLUTION E X 40 = SOLUTION A = 4.88 x 10⁷ SPM
SOLUTION E X 20 = SOLUTION B = 2.44 x 10⁷ SPM
SOLUTION E X 5 = SOLUTION C = 6.10 x 10⁶ SPM

FINAL COUNTS:

FINAL SPERM COUNT: 4.88 x 10⁷
FINAL EGG COUNT: 2400

TEST TIMES:

SPERM COLLECTED: 1345
EGGS COLLECTED: 1345
SPERM ADDED: 1425
EGGS ADDED: 1525
FIXATIVE ADDED: 1545

See ESI SOP #1412 for additional information

Arbacia punctulata Chronic Fertilization Assay

SAMPLE USE RECORD

STUDY: <u>17770</u>		CLIENT: Woods Hole Group New Bedford
SPECIES: <i>A. punctulata</i>		
Day: 0		
SAMPLE	Volume Used (mL)	ESI Cube ID
Lab Control	200 mL	—
Reference Site ⁰⁰⁵	↓	005
200 NTU ⁰⁰¹		001
150 NTU ⁰⁰²		002
100 NTU ⁰⁰³		003
50 NTU ⁰⁰⁴		004
INITIALS:	SJ	
TIME:	1405	
DATE:	7/23/09	

FERTILIZATION COUNTS

STUDY <u>17770</u>	CLIENT Woods Hole Group	LOCATION New Bedford	DATE 7/23/09	INITIALS UB
	REPLICATE VIAL			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
SAMPLE	FERT/TOTAL	FERT/TOTAL	FERT/TOTAL	FERT/TOTAL
Lab Control	100/101	103/104	100/101	100/100
⁰⁰⁵ Reference	101/101	101/101	109/111	101/103
⁰⁰¹ 200 NTU	101/108	100/108	100/108	100/104
⁰⁰² 150 NTU	88/100	108/119	98/106	90/100
⁰⁰³ 100 NTU	100/106	103/104	102/102	100/101
⁰⁰⁴ 50 NTU	100/102	100/101	97/100	98/100

CETIS Summary Report

Report Date: 24 Jul-09 11:13 (p 1 of 1)
Link/Link Code: 16-5654-6835/18770-Ap

Arbacia Sperm Cell Fertilization Test							EnviroSystems, Inc.				
Test Run No: 08-3312-6536	Test Type: Fertilization		Analyst:								
Start Date: 23 Jul-09 14:25	Protocol: EPA/821/R-02-014 (2002)		Diluent: Not Applicable								
Ending Date: 23 Jul-09 15:45	Species: Arbacia punctulata		Brine: Generic commercial salts								
Duration: 80m	Source: In-House Culture		Age:								
Sample Code	Sample No	Sample Date	Receive Date	Sample Age	Client Name	Project					
18770-000	06-7167-7012	23 Jul-09 12:00	23 Jul-09 12:00	2h	Woods Hole Group	Ecological Risk Assessme					
18770-005	03-9927-1818	22 Jul-09 09:49	22 Jul-09 17:47	29h							
18770-001	15-6024-8561	22 Jul-09 08:26	22 Jul-09 17:47	30h							
18770-002	05-1145-9131	22 Jul-09 09:52	22 Jul-09 17:47	29h							
18770-003	01-6638-4937	22 Jul-09 09:51	22 Jul-09 17:47	29h							
18770-004	06-1076-1745	22 Jul-09 09:51	22 Jul-09 17:47	29h							
Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude						
18770-000	Surface Water	New Bedford Harbor Dredge Moni	Laboratory Water Control								
18770-005	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-005-072209 (Reference)								
18770-001	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-001-072209 (190 NTU)								
18770-002	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-002-072209 (140 NTU)								
18770-003	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-003-072209 (110 NTU)								
18770-004	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-004-072209 (092 NTU)								
Test Acceptability											
Analysis No	Endpoint	Attribute	Test Stat	Acceptability Limits	Overlap	Decision					
06-7656-2976	Proportion Fertilized	Control Resp	0.988	0.7 - 1	Yes	Passes acceptability criteria					
09-6737-1504	Proportion Fertilized	Control Resp	0.988	0.7 - 1	Yes	Passes acceptability criteria					
10-6690-2820	Proportion Fertilized	Control Resp	0.988	0.7 - 1	Yes	Passes acceptability criteria					
11-5470-6168	Proportion Fertilized	Control Resp	0.988	0.7 - 1	Yes	Passes acceptability criteria					
17-7985-6300	Proportion Fertilized	Control Resp	0.988	0.7 - 1	Yes	Passes acceptability criteria					
01-1516-8347	Proportion Fertilized	PMSD	0.01443	NL - 0.25	No	Passes acceptability criteria					
06-7656-2976	Proportion Fertilized	PMSD	0.01384	NL - 0.25	No	Passes acceptability criteria					
09-5020-8784	Proportion Fertilized	PMSD	0.01346	NL - 0.25	No	Passes acceptability criteria					
09-6737-1504	Proportion Fertilized	PMSD	0.01371	NL - 0.25	No	Passes acceptability criteria					
10-6690-2820	Proportion Fertilized	PMSD	0.01489	NL - 0.25	No	Passes acceptability criteria					
11-5470-6168	Proportion Fertilized	PMSD	0.02683	NL - 0.25	No	Passes acceptability criteria					
13-5798-4253	Proportion Fertilized	PMSD	0.01335	NL - 0.25	No	Passes acceptability criteria					
16-0058-2404	Proportion Fertilized	PMSD	0.02555	NL - 0.25	No	Passes acceptability criteria					
17-7985-6300	Proportion Fertilized	PMSD	0.0178	NL - 0.25	No	Passes acceptability criteria					
Proportion Fertilized Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18770-000	4	0.988	0.9836	0.9924	0.9717	1	0.002157	0.01181	1.2%	0.0%	
18770-005	4	0.9906	0.9866	0.9947	0.9806	1	0.001976	0.01082	1.09%	-0.27%	
18770-001	4	0.9371	0.9309	0.9434	0.9259	0.9615	0.003074	0.01684	1.8%	5.14%	
18770-002	4	0.903	0.8961	0.9099	0.88	0.9245	0.00337	0.01846	2.04%	8.6%	
18770-003	4	0.981	0.9715	0.9905	0.9434	1	0.00465	0.02547	2.6%	0.71%	
18770-004	4	0.9801	0.9771	0.9832	0.97	0.9901	0.001498	0.008207	0.84%	0.79%	
Proportion Fertilized Detail											
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4							
18770-000	0.9901	0.9717	0.9901	1							
18770-005	1	1	0.982	0.9806							
18770-001	0.9352	0.9259	0.9259	0.9615							
18770-002	0.88	0.9076	0.9245	0.9							
18770-003	0.9434	0.9904	1	0.9901							
18770-004	0.9804	0.9901	0.97	0.98							

CETIS Analytical Report

Report Date: 24 Jul-09 10:19 (p 1 of 9)
 Link/Link Code: 16-5654-6835

Arbacia Sperm Cell Fertilization Test **EnviroSystems, Inc.**

Analysis No: 13-5798-4253	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 23 Jul-09 16:57	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 08-3312-6536	Test Type: Fertilization	Analyst:
Start Date: 23 Jul-09 14:25	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 23 Jul-09 15:45	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					1.33%

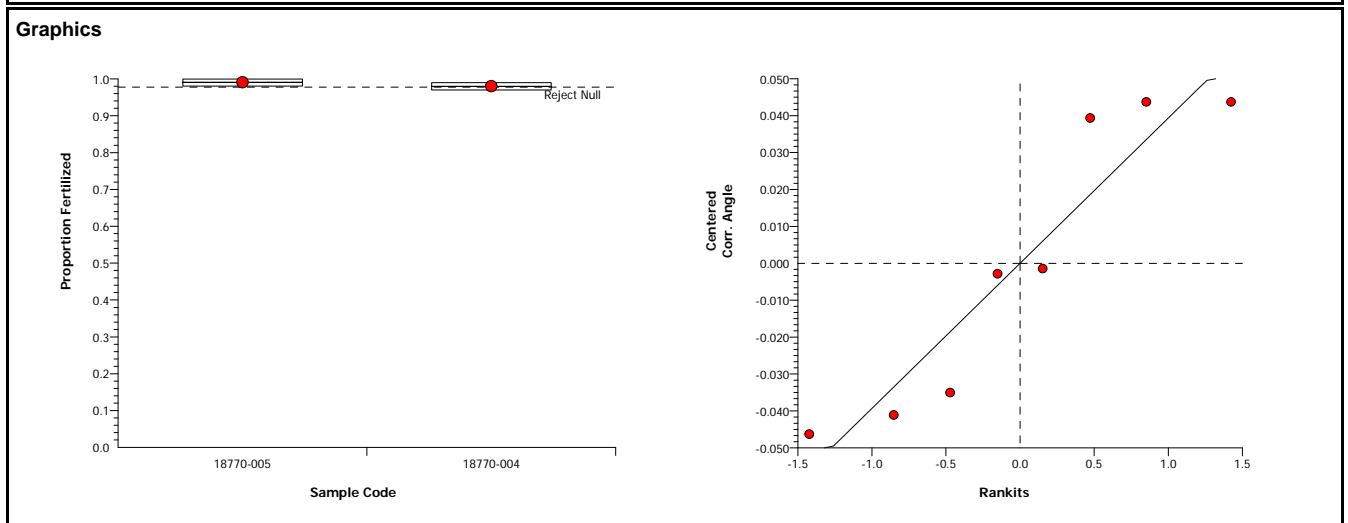
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-005	18770-004	1.543	1.943	0.05734	0.0869	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0041475	0.0041475	1	2.382	0.1737	Non-Significant Effect
Error	0.0104487	0.0017415	6			
Total	0.0145962	0.005889	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	2.747	47.47	0.4286	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.8533		0.1030	Normal Distribution	

Proportion Fertilized Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18770-005	4	0.9906	0.9865	0.9948	0.9806	1	0.00201	0.01082	1.09%	0.0%	
18770-004	4	0.9801	0.977	0.9832	0.97	0.9901	0.001524	0.008207	0.84%	1.06%	

Angular (Corrected) Transformed Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18770-005	4	1.477	1.458	1.497	1.431	1.521	0.009383	0.05053	3.42%	0.0%	
18770-004	4	1.432	1.42	1.443	1.397	1.471	0.005661	0.03049	2.13%	3.08%	



CETIS Analytical Report

Report Date: 24 Jul-09 10:20 (p 2 of 9)
 Link/Link Code: 16-5654-6835

Arbacia Sperm Cell Fertilization Test EnviroSystems, Inc.

Analysis No: 16-0058-2404	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 23 Jul-09 16:57	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 08-3312-6536	Test Type: Fertilization	Analyst:
Start Date: 23 Jul-09 14:25	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 23 Jul-09 15:45	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.56%

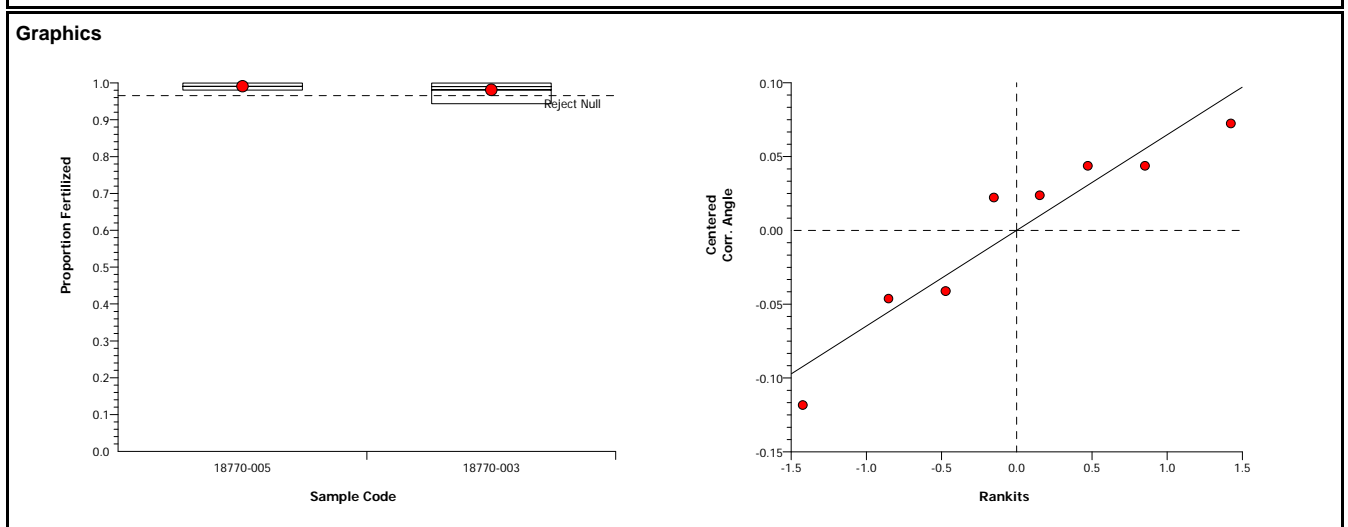
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-005	18770-003	0.5887	1.943	0.09379	0.2888	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0016145	0.0016145	1	0.3465	0.5776	Non-Significant Effect
Error	0.0279527	0.0046588	6			
Total	0.0295672	0.0062732	7			

ANOVA Assumptions					
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	2.649	47.47	0.4448	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9021		0.3020	Normal Distribution

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	0.9906	0.9865	0.9948	0.9806	1	0.00201	0.01082	1.09%	0.0%
18770-003	4	0.981	0.9713	0.9907	0.9434	1	0.004729	0.02547	2.6%	0.98%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.477	1.458	1.497	1.431	1.521	0.009383	0.05053	3.42%	0.0%
18770-003	4	1.449	1.418	1.48	1.331	1.521	0.01527	0.08224	5.68%	1.92%



CETIS Analytical Report

Report Date: 24 Jul-09 10:20 (p 3 of 9)
 Link/Link Code: 16-5654-6835

Arbacia Sperm Cell Fertilization Test **EnviroSystems, Inc.**

Analysis No: 09-5020-8784	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 23 Jul-09 16:56	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 08-3312-6536	Test Type: Fertilization	Analyst:
Start Date: 23 Jul-09 14:25	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 23 Jul-09 15:45	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					1.35%

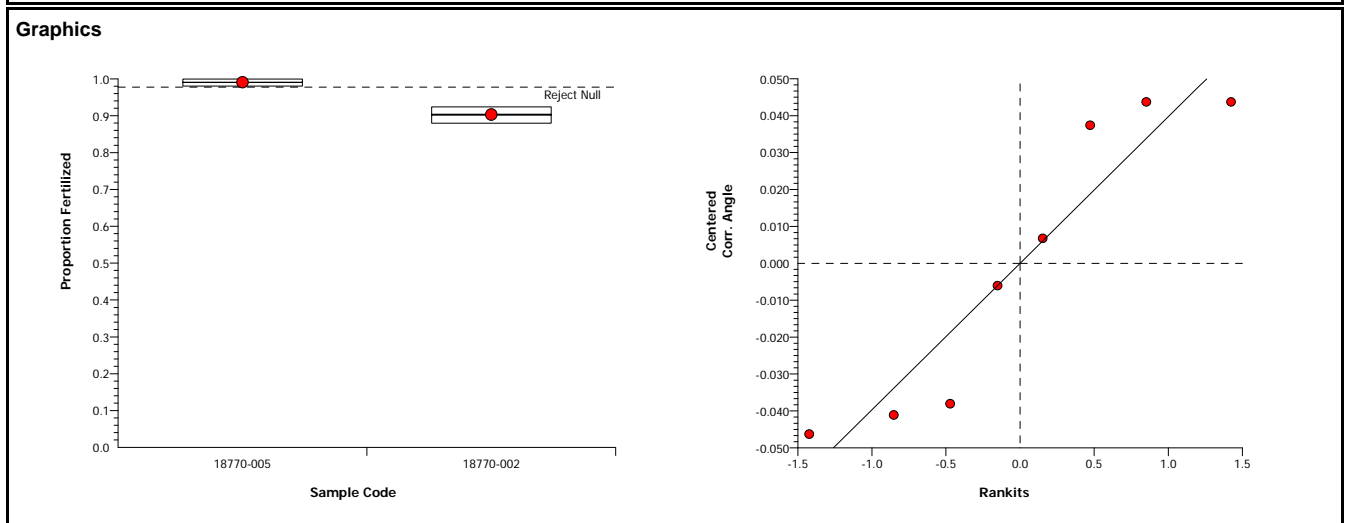
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-005	18770-002	7.48	1.943	0.05772	0.0001	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0987307	0.0987307	1	55.94	0.0003	Significant Effect
Error	0.0105888	0.0017648	6			
Total	0.1093195	0.1004955	7			

ANOVA Assumptions					
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	2.616	47.47	0.4506	Equal Variances
Distribution	Shapiro-Wilk Normality	0.8568		0.1116	Normal Distribution

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	0.9906	0.9865	0.9948	0.9806	1	0.00201	0.01082	1.09%	0.0%
18770-002	4	0.903	0.896	0.91	0.88	0.9245	0.003428	0.01846	2.04%	8.84%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.477	1.458	1.497	1.431	1.521	0.009383	0.05053	3.42%	0.0%
18770-002	4	1.255	1.243	1.267	1.217	1.292	0.005802	0.03124	2.49%	15.04%



CETIS Analytical Report

Report Date: 24 Jul-09 10:20 (p 4 of 9)
 Link/Link Code: 16-5654-6835

Arbacia Sperm Cell Fertilization Test **EnviroSystems, Inc.**

Analysis No: 01-1516-8347	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 23 Jul-09 16:56	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 08-3312-6536	Test Type: Fertilization	Analyst:
Start Date: 23 Jul-09 14:25	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 23 Jul-09 15:45	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					1.44%

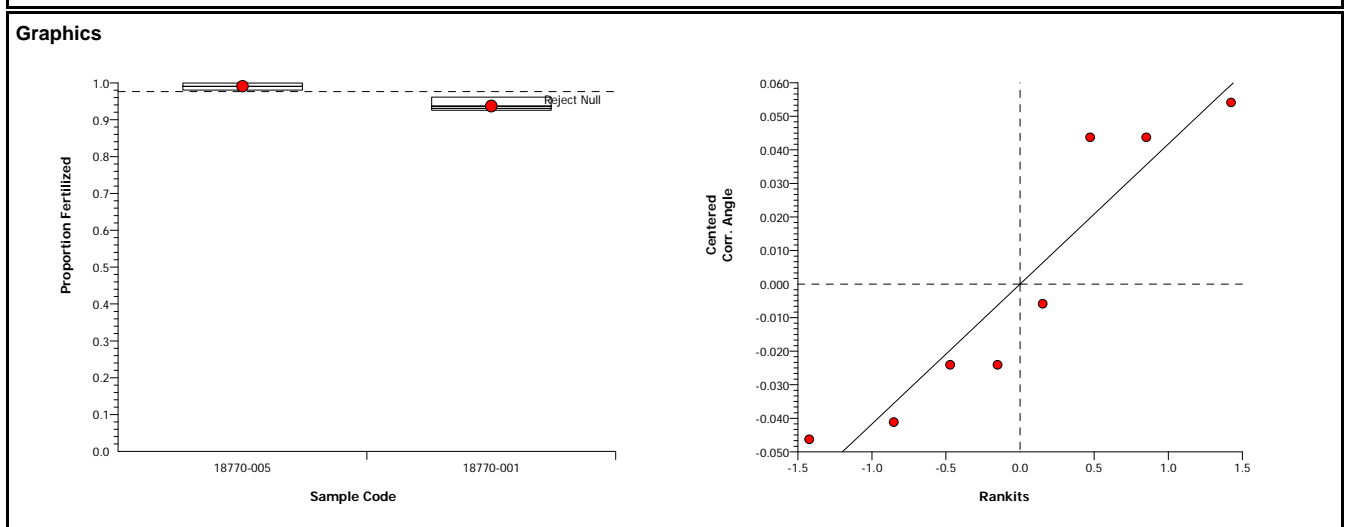
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-005	18770-001	5.042	1.943	0.0609	0.0012	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0499467	0.0499467	1	25.42	0.0024	Significant Effect
Error	0.0117884	0.0019647	6			
Total	0.0617352	0.0519115	7			

ANOVA Assumptions					
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	1.856	47.47	0.6243	Equal Variances
Distribution	Shapiro-Wilk Normality	0.8572		0.1125	Normal Distribution

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	0.9906	0.9865	0.9948	0.9806	1	0.00201	0.01082	1.09%	0.0%
18770-001	4	0.9371	0.9307	0.9435	0.9259	0.9615	0.003127	0.01684	1.8%	5.4%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	1.477	1.458	1.497	1.431	1.521	0.009383	0.05053	3.42%	0.0%
18770-001	4	1.319	1.305	1.333	1.295	1.373	0.006888	0.0371	2.81%	10.7%



CETIS Analytical Report

Report Date: 24 Jul-09 10:20 (p 5 of 9)
 Link/Link Code: 16-5654-6835

Arbacia Sperm Cell Fertilization Test			EnviroSystems, Inc.		
Analysis No: 09-6737-1504	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4			
Analyzed: 23 Jul-09 16:56	Analysis: Parametric-Two Sample	Official Results: Yes			
Test Run No: 08-3312-6536	Test Type: Fertilization	Analyst:			
Start Date: 23 Jul-09 14:25	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable			
Ending Date: 23 Jul-09 15:45	Species: Arbacia punctulata	Brine: Generic commercial salts			
Duration: 80m	Source: In-House Culture	Age:			

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					1.37%

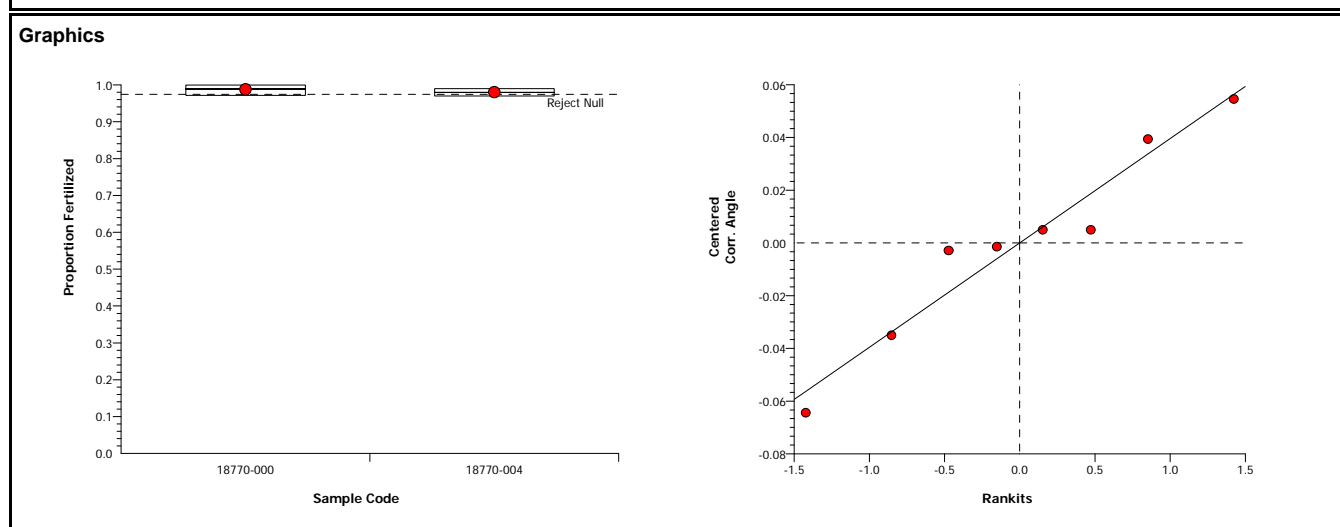
Equal Variance t Two-Sample Test						
Sample Code vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-000	18770-004	1.195	1.943	0.056	0.1386	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0023717	0.0023717	1	1.428	0.2772	Non-Significant Effect
Error	0.0099678	0.0016613	6			
Total	0.0123395	0.0040330	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	2.575	47.47	0.4578	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.9493		0.7039	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	0.988	0.9835	0.9925	0.9717	1	0.002194	0.01181	1.2%	0.0%
18770-004	4	0.9801	0.977	0.9832	0.97	0.9901	0.001524	0.008207	0.84%	0.79%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.466	1.448	1.485	1.402	1.521	0.009084	0.04892	3.34%	0.0%
18770-004	4	1.432	1.42	1.443	1.397	1.471	0.005661	0.03049	2.13%	2.35%



CETIS Analytical Report

Report Date: 24 Jul-09 10:20 (p 6 of 9)
 Link/Link Code: 16-5654-6835

Arbacia Sperm Cell Fertilization Test EnviroSystems, Inc.

Analysis No: 11-5470-6168	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 23 Jul-09 16:56	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 08-3312-6536	Test Type: Fertilization	Analyst:
Start Date: 23 Jul-09 14:25	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 23 Jul-09 15:45	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					2.68%

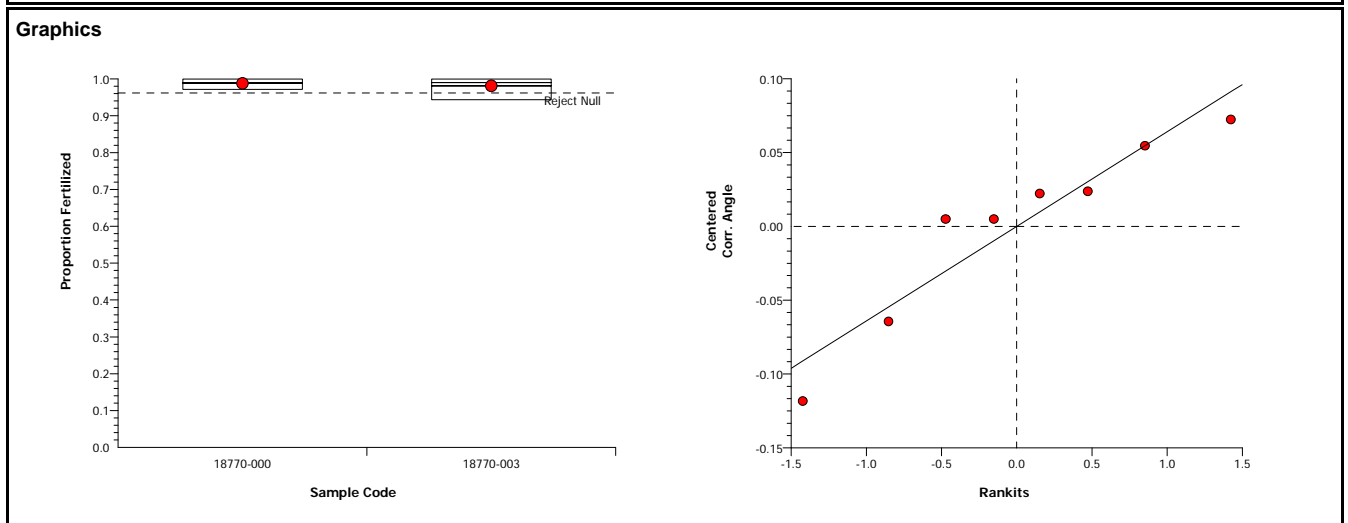
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-000	18770-003	0.3618	1.943	0.09297	0.3650	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0005992	0.0005992	1	0.1309	0.7299	Non-Significant Effect
Error	0.0274718	0.0045786	6			
Total	0.0280710	0.0051779	7			

ANOVA Assumptions					
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	2.826	47.47	0.4162	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9005		0.2922	Normal Distribution

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	0.988	0.9835	0.9925	0.9717	1	0.002194	0.01181	1.2%	0.0%
18770-003	4	0.981	0.9713	0.9907	0.9434	1	0.004729	0.02547	2.6%	0.71%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.466	1.448	1.485	1.402	1.521	0.009084	0.04892	3.34%	0.0%
18770-003	4	1.449	1.418	1.48	1.331	1.521	0.01527	0.08224	5.68%	1.18%



CETIS Analytical Report

Report Date: 24 Jul-09 10:20 (p 7 of 9)
 Link/Link Code: 16-5654-6835

Arbacia Sperm Cell Fertilization Test EnviroSystems, Inc.

Analysis No: 06-7656-2976	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 23 Jul-09 16:56	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 08-3312-6536	Test Type: Fertilization	Analyst:
Start Date: 23 Jul-09 14:25	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 23 Jul-09 15:45	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					1.38%

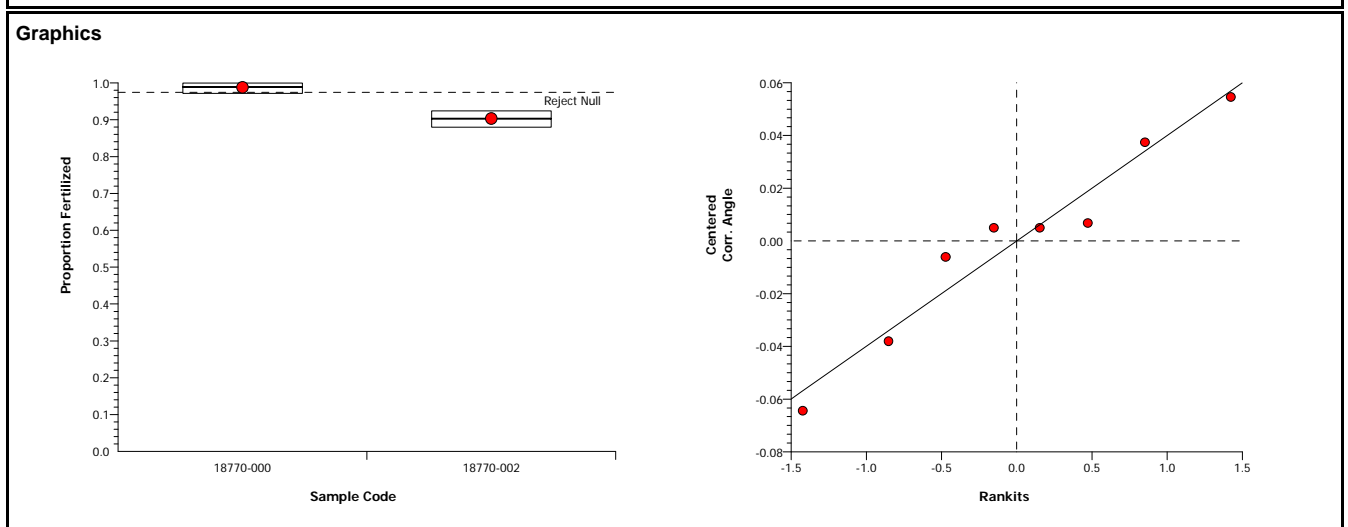
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-000	18770-002	7.273	1.943	0.0564	0.0002	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0891102	0.0891102	1	52.9	0.0003	Significant Effect
Error	0.0101079	0.0016847	6			
Total	0.0992181	0.0907948	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	2.452	47.47	0.4808	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.9525		0.7360	Normal Distribution	

Proportion Fertilized Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18770-000	4	0.988	0.9835	0.9925	0.9717	1	0.002194	0.01181	1.2%	0.0%	
18770-002	4	0.903	0.896	0.91	0.88	0.9245	0.003428	0.01846	2.04%	8.6%	

Angular (Corrected) Transformed Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18770-000	4	1.466	1.448	1.485	1.402	1.521	0.009084	0.04892	3.34%	0.0%	
18770-002	4	1.255	1.243	1.267	1.217	1.292	0.005802	0.03124	2.49%	14.4%	



CETIS Analytical Report

Report Date: 24 Jul-09 10:20 (p 8 of 9)
 Link/Link Code: 16-5654-6835

Arbacia Sperm Cell Fertilization Test EnviroSystems, Inc.

Analysis No: 10-6690-2820	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 23 Jul-09 16:56	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 08-3312-6536	Test Type: Fertilization	Analyst:
Start Date: 23 Jul-09 14:25	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 23 Jul-09 15:45	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					1.49%

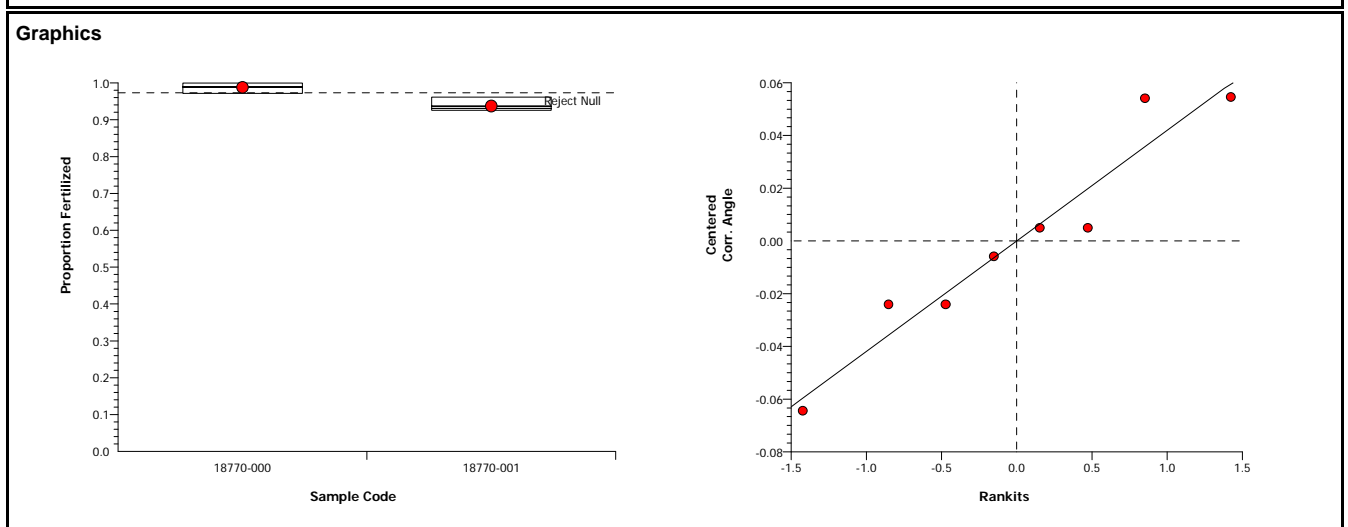
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-000	18770-001	4.786	1.943	0.05965	0.0015	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0431752	0.0431752	1	22.91	0.0030	Significant Effect
Error	0.0113076	0.0018846	6			
Total	0.0544828	0.0450598	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	1.739	47.47	0.6606	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.9284		0.5015	Normal Distribution	

Proportion Fertilized Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18770-000	4	0.988	0.9835	0.9925	0.9717	1	0.002194	0.01181	1.2%	0.0%	
18770-001	4	0.9371	0.9307	0.9435	0.9259	0.9615	0.003127	0.01684	1.8%	5.14%	

Angular (Corrected) Transformed Summary											
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%	
18770-000	4	1.466	1.448	1.485	1.402	1.521	0.009084	0.04892	3.34%	0.0%	
18770-001	4	1.319	1.305	1.333	1.295	1.373	0.006888	0.0371	2.81%	10.02%	



CETIS Analytical Report

Report Date: 24 Jul-09 10:20 (p 9 of 9)
 Link/Link Code: 16-5654-6835

Arbacia Sperm Cell Fertilization Test EnviroSystems, Inc.

Analysis No: 17-7985-6300	Endpoint: Proportion Fertilized	CETIS Version: CETISv1.6.4
Analyzed: 23 Jul-09 16:56	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 08-3312-6536	Test Type: Fertilization	Analyst:
Start Date: 23 Jul-09 14:25	Protocol: EPA/821/R-02-014 (2002)	Diluent: Not Applicable
Ending Date: 23 Jul-09 15:45	Species: Arbacia punctulata	Brine: Generic commercial salts
Duration: 80m	Source: In-House Culture	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)		C > T	Not Run					1.78%

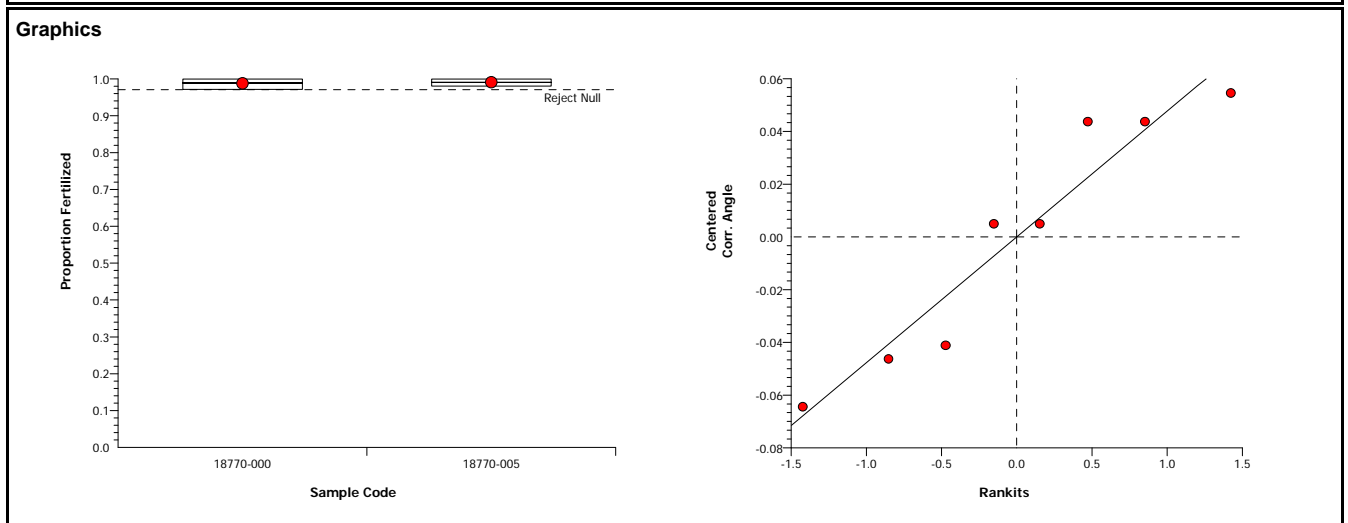
Equal Variance t Two-Sample Test						
Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-000	18770-005	-0.3157	1.943	0.06833	0.6185	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.0002465	0.0002465	1	0.09968	0.7629	Non-Significant Effect
Error	0.0148398	0.0024733	6			
Total	0.0150863	0.0027198	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Variance Ratio F	1.067	47.47	0.9587	Equal Variances	
Distribution	Shapiro-Wilk Normality	0.8966		0.2691	Normal Distribution	

Proportion Fertilized Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	0.988	0.9835	0.9925	0.9717	1	0.002194	0.01181	1.2%	0.0%
18770-005	4	0.9906	0.9865	0.9948	0.9806	1	0.00201	0.01082	1.09%	-0.27%

Angular (Corrected) Transformed Summary										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	1.466	1.448	1.485	1.402	1.521	0.009084	0.04892	3.34%	0.0%
18770-005	4	1.477	1.458	1.497	1.431	1.521	0.009383	0.05053	3.42%	-0.76%



STUDY NUMBER: 18770 CLIENT: Woods Hole NBH EFFLUENT: 001, 002, 003, 004, 005
 DATE: 7/24/09 TECHNICIAN: LB

100% Effluent As Received Water Qualities:

Salinity ⁰⁹ 23.2 pH 7.27 S/C _____ TRC _____
⁰⁰² 19.0 ⁰⁰¹ 7.37
⁰⁰⁴ 17.4 7.40
⁰⁰⁵ 21.5 7.54
⁰⁰³ 27.4 7.54

Salinity Adjustment Record:

1000 mL Effluent + 7.88 ⁰³ g Sea Salts or- mL Spring Water
 (Circle One)
 13
 14
 10
 3

Bottles Pulled:

Effluent: AMM TS/S TOC // Diluent: AMM TS/S TOC

DILUTIONS

STUDY: <u>18770</u>		CLIENT: ^{ENSR} <u>ENSR - New Bedford</u>	
SPECIES: <u>C. parvula</u>			
Diluent:	Day: 0 Start		
Lab Salt	Sample: <u>001, 002, 003, 004, 005</u>		
Concentration %	Vol. Eff. (mls)	Final Vol. (mls)	
⁰³ Lab	800	800	
6.25% <u>001</u>	↓	↓	
12.5% <u>002</u>			
25% <u>003</u>			
50% <u>004</u>			
100% <u>005</u>			
INITIALS:	<u>LB</u>		
TIME:	<u>1405</u>		
DATE:	<u>7/24/09</u>		

Champia parvula Plant Viability Summary

STUDY NUMBER: <u>19770</u>		ASSAY START: <u>07/24/09</u>		ASSAY END: <u>07/26/09</u>		
REP/Branch	CONTROL	001	002	003	004	005
A 1	4	0	1	2	3	3
2	↓	0	1	2	3	3
3	↓	0	1	2	3	4
4	↓	0	0	2	2	3
5	↓	0	1	2	3	3
B 1	4	0	1	2	3	4
2	↓	0	1	2	3	3
3	↓	0	0	2	3	4
4	↓	0	1	2	3	3
5	↓	0	1	2	3	3
C 1	4	0	1	1	3	3
2	↓	0	1	2	2	3
3	↓	0	1	2	3	3
4	↓	0	1	2	3	3
5	↓	0	1	2	3	3
D 1	4	0	0	2	3	3
2	↓	0	1	2	3	3
3	↓	0	1	2	3	4
4	↓	0	1	2	3	3
5	↓	0	0	2	3	3
SALINITY	28	30	29	31	30	30
pH (SU)	8.08	7.50	7.65	7.73	7.70	7.65
S/C (µmhos)	45500	46000	45070	48670	46580	46320
TEMP (°C)	24					
TRC	0.02					—

pH meter# 1097 pH probe# 73 S/C meter# 3 S/C probe# 82 Salinity meter# YSI 30D

Scoring for Acute Assay Endpoint - Plant Health/Viability

SCORE	Description
4	Plants with good color and no signs of degeneration
3	Color faded - some sign of bleaching color light red to pink; no branch tip degeneration
2	Color faded - light pink; no green, yellow or white branch tips; no branch tip degeneration
1	Color yellow to white; no branch tip degeneration
0	Color limited to white; signs of branch tip degeneration

Technician Initials: CBS/LB

CETIS Summary Report

Report Date: 27 Jul-09 11:02 (p 1 of 1)
 Link/Link Code: 15-1550-6597

Champia parvula Red Macroalga Sexual Reproduction Test Branch Tip Viability **EnviroSystems, Inc.**

Test Run No: 15-5181-9457	Test Type: Champia	Analyst:
Start Date: 24 Jul-09 15:25	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 26 Jul-09 17:45	Species: Champia parvula	Brine: Not Applicable
Duration: 50h	Source: Saskatchewan Research	Age:

Sample Code	Sample No	Sample Date	Receive Date	Sample Age	Client Name	Project
18770-000	06-7167-7012	23 Jul-09 12:00	23 Jul-09 12:00	27h	Woods Hole Group	Ecological Risk Assessme
18770-005	03-9927-1818	22 Jul-09 09:49	22 Jul-09 17:47	54h		
18770-001	15-6024-8561	22 Jul-09 08:26	22 Jul-09 17:47	55h		
18770-002	05-1145-9131	22 Jul-09 09:52	22 Jul-09 17:47	54h		
18770-003	01-6638-4937	22 Jul-09 09:51	22 Jul-09 17:47	54h		
18770-004	06-1076-1745	22 Jul-09 09:51	22 Jul-09 17:47	54h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
18770-000	Surface Water	New Bedford Harbor Dredge Moni	Laboratory Water Control		
18770-005	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-005-072209 (Reference)		
18770-001	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-001-072209 (190 NTU)		
18770-002	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-002-072209 (140 NTU)		
18770-003	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-003-072209 (110 NTU)		
18770-004	Surface Water	New Bedford Harbor Dredge Moni	DS-TOX-004-072209 (092 NTU)		

Mean Cystocarps Summary Branch Viability

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	4	4	4	4	4	0	0	0.0%	0.0%
18770-005	4	3.2	3.139	3.261	3	3.4	0.02981	0.1633	5.1%	20.0%
18770-001	4	0	0	0	0	0	0	0		100.0%
18770-002	4	0.8	0.739	0.861	0.6	1	0.02981	0.1633	20.41%	80.0%
18770-003	4	1.95	1.913	1.987	1.8	2	0.01826	0.1	5.13%	51.25%
18770-004	4	2.9	2.857	2.943	2.8	3	0.02108	0.1155	3.98%	27.5%

Mean Cystocarps Detail Branch Viability

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4
18770-000	4	4	4	4
18770-005	3.2	3.4	3	3.2
18770-001	0	0	0	0
18770-002	0.8	0.8	1	0.6
18770-003	2	2	1.8	2
18770-004	2.8	3	2.8	3

Champia parvula Red Macroalga Sexual Reproduction Test Branch Tip Viability EnviroSystems, Inc.

Analysis No: 07-2840-3294	Endpoint: Mean Cystocarps plant	CETIS Version: CETISv1.6.4
Analyzed: 27 Jul-09 11:00	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 15-5181-9457	Test Type: Champia	Analyst:
Start Date: 24 Jul-09 15:25	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 26 Jul-09 17:45	Species: Champia parvula	Brine: Not Applicable
Duration: 50h	Source:	Age:

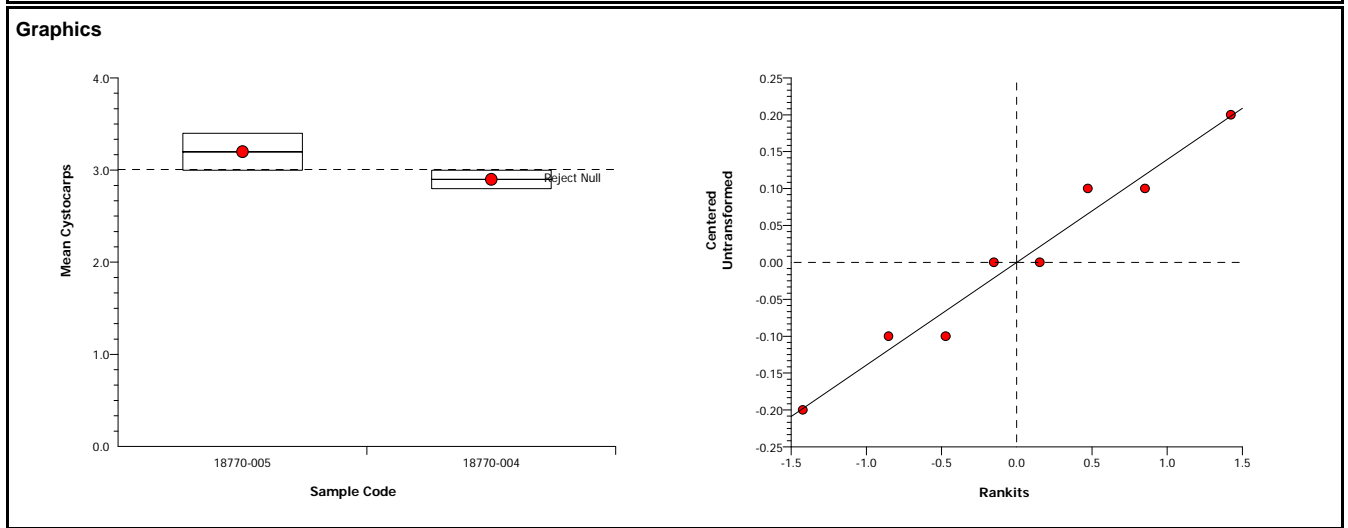
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					6.07%

Equal Variance t Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-005		18770-004	3	1.943	0.1943	0.0120	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	0.18	0.18	1	9	0.0240	Significant Effect
Error	0.12	0.02	6			
Total	0.3	0.2	7			

ANOVA Assumptions					
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	2	47.47	0.5836	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9651		0.8568	Normal Distribution

Mean Cystocarps Summary Branch Viability										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	3.2	3.138	3.262	3	3.4	0.03032	0.1633	5.1%	0.0%
18770-004	4	2.9	2.856	2.944	2.8	3	0.02144	0.1155	3.98%	9.38%



Champia parvula Red Macroalga Sexual Reproduction Test Branch Tip Viability EnviroSystems, Inc.

Analysis No: 08-4729-3241	Endpoint: Mean Cystocarps plant	CETIS Version: CETISv1.6.4
Analyzed: 27 Jul-09 11:00	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 15-5181-9457	Test Type: Champia	Analyst:
Start Date: 24 Jul-09 15:25	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 26 Jul-09 17:45	Species: Champia parvula	Brine: Not Applicable
Duration: 50h	Source:	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					5.81%

Equal Variance t Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-005	18770-003	13.06	1.943	0.186	0.0000	Significant Effect

ANOVA Table

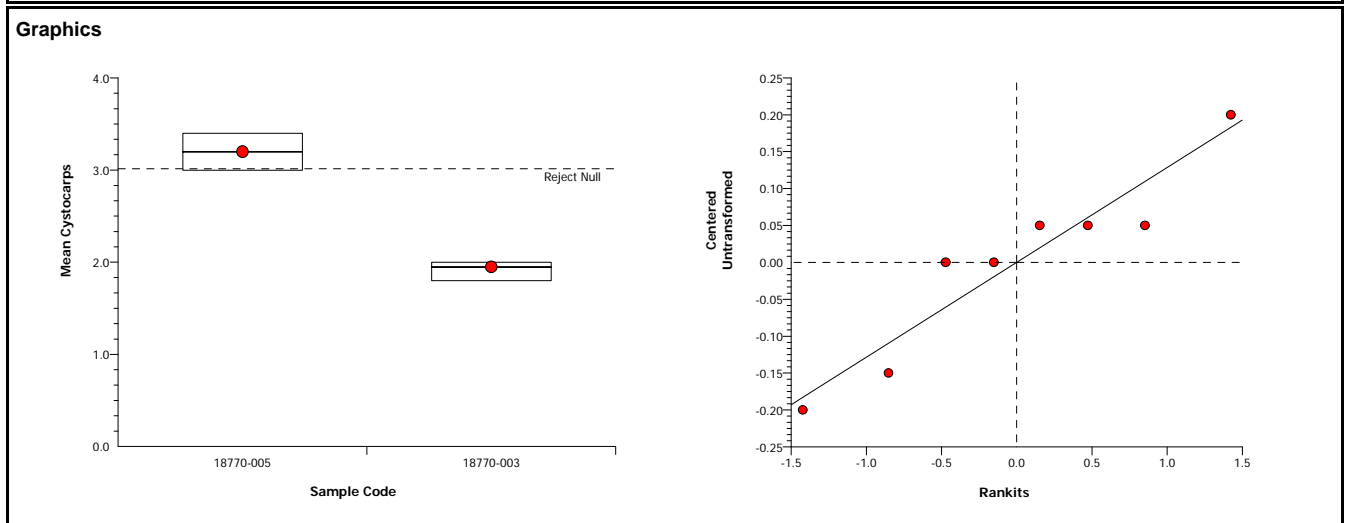
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	3.125	3.125	1	170.5	0.0000	Significant Effect
Error	0.11	0.0183333	6			
Total	3.235	3.143333	7			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	2.667	47.47	0.4419	Equal Variances
Distribution	Shapiro-Wilk Normality	0.9128		0.3739	Normal Distribution

Mean Cystocarps Summary Branch Viability

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	3.2	3.138	3.262	3	3.4	0.03032	0.1633	5.1%	0.0%
18770-003	4	1.95	1.912	1.988	1.8	2	0.01857	0.1	5.13%	39.06%



Champia parvula Red Macroalga Sexual Reproduction Test Branch Tip Viability EnviroSystems, Inc.

Analysis No: 17-5710-5878	Endpoint: Mean Cystocarps plant	CETIS Version: CETISv1.6.4
Analyzed: 27 Jul-09 11:00	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 15-5181-9457	Test Type: Champia	Analyst:
Start Date: 24 Jul-09 15:25	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 26 Jul-09 17:45	Species: Champia parvula	Brine: Not Applicable
Duration: 50h	Source:	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					7.01%

Equal Variance t Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-005	18770-002	20.78	1.943	0.2244	0.0000	Significant Effect

ANOVA Table

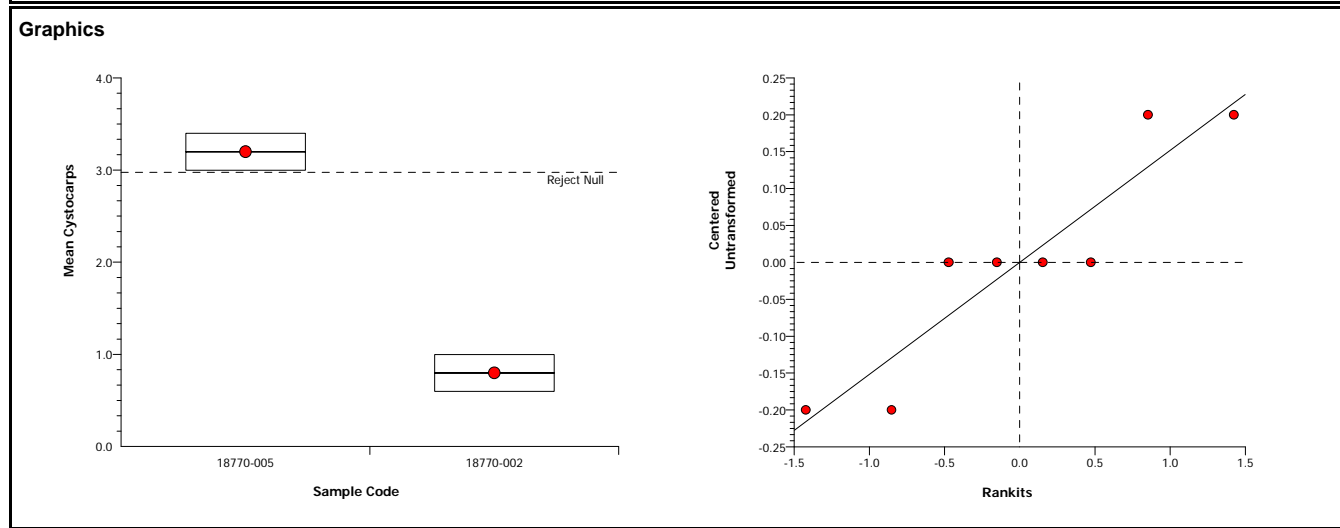
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	11.52	11.52	1	432	0.0000	Significant Effect
Error	0.16	0.0266667	6			
Total	11.68	11.54667	7			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Variance Ratio F	1	47.47	1.0000	Equal Variances
Distribution	Shapiro-Wilk Normality	0.8489		0.0929	Normal Distribution

Mean Cystocarps Summary Branch Viability

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	3.2	3.138	3.262	3	3.4	0.03032	0.1633	5.1%	0.0%
18770-002	4	0.8	0.7379	0.8621	0.6	1	0.03032	0.1633	20.41%	75.0%



Champia parvula Red Macroalga Sexual Reproduction Test Branch Tip Viability EnviroSystems, Inc.

Analysis No: 02-0675-1624	Endpoint: Mean Cystocarps Plant	CETIS Version: CETISv1.6.4
Analyzed: 27 Jul-09 11:00	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 15-5181-9457	Test Type: Champia	Analyst:
Start Date: 24 Jul-09 15:25	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 26 Jul-09 17:45	Species: Champia parvula	Brine: Not Applicable
Duration: 50h	Source:	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					4.96%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-005	18770-001	10		0	0.0143	Significant Effect

ANOVA Table

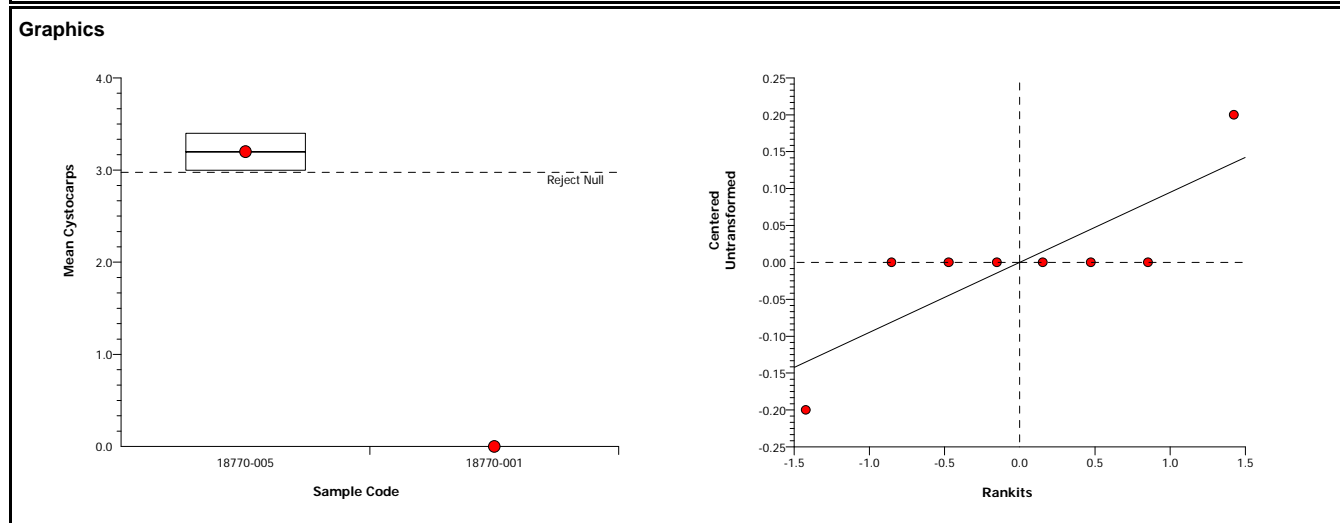
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	20.48	20.48	1	1536	0.0000	Significant Effect
Error	0.08	0.0133333	6			
Total	20.56	20.49333	7			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Varianc	3	13.75	0.1340	Equal Variances
Distribution	Shapiro-Wilk Normality	0.7322		0.0052	Non-normal Distribution

Mean ~~Cystocarps~~ Summary Branch Viability

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-005	4	3.2	3.138	3.262	3	3.4	0.03032	0.1633	5.1%	0.0%
18770-001	4	0	0	0	0	0	0	0		100.0%



Champia parvula Red Macroalga Sexual Reproduction Test Branch Tip Viability EnviroSystems, Inc.

Analysis No: 16-1616-7438	Endpoint: Mean Cystocarps plant	CETIS Version: CETISv1.6.4
Analyzed: 27 Jul-09 11:00	Analysis: Parametric-Two Sample	Official Results: Yes

Test Run No: 15-5181-9457	Test Type: Champia	Analyst:
Start Date: 24 Jul-09 15:25	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 26 Jul-09 17:45	Species: Champia parvula	Brine: Not Applicable
Duration: 50h	Source:	Age:

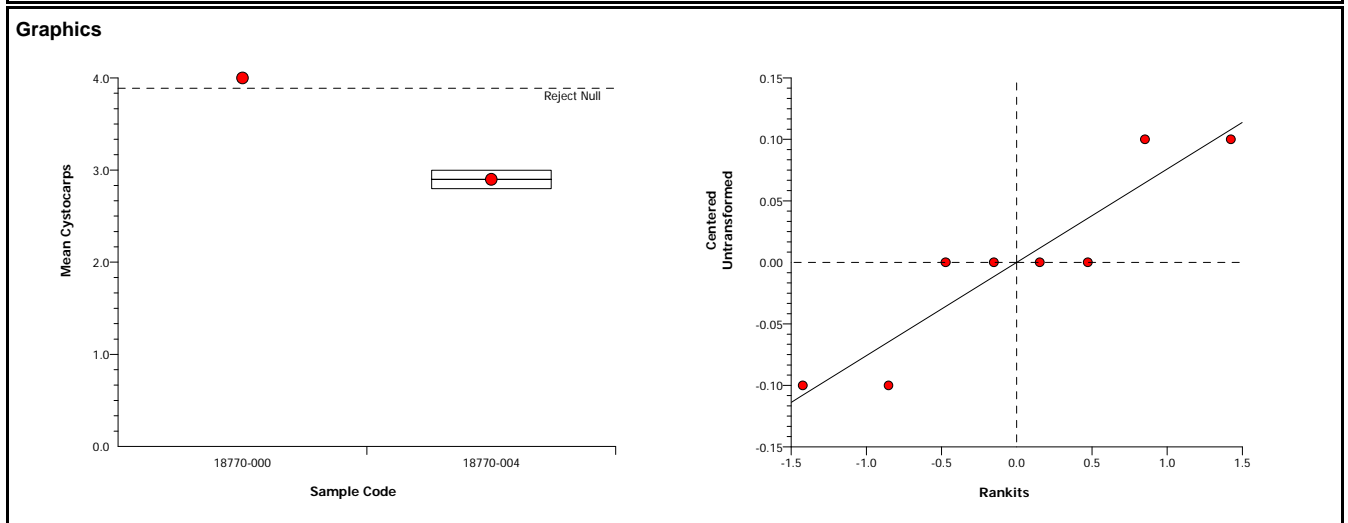
Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					2.8%

Equal Variance t Two-Sample Test							
Sample Code	vs	Sample Code	Test Stat	Critical	MSD	P-Value	Decision(5%)
18770-000	vs	18770-004	19.05	1.943	0.1122	0.0000	Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	2.42	2.42	1	363	0.0000	Significant Effect
Error	0.04	0.0066667	6			
Total	2.46	2.426667	7			

ANOVA Assumptions						
Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)	
Variances	Mod Levene Equality of Variance	65540	13.75	0.0000	Unequal Variances	
Distribution	Shapiro-Wilk Normality	0.8489		0.0929	Normal Distribution	

Mean Cystocarps Summary Branch Viability										
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	4	4	4	4	4	0	0	0.0%	0.0%
18770-004	4	2.9	2.856	2.944	2.8	3	0.02144	0.1155	3.98%	27.5%



Champia parvula Red Macroalga Sexual Reproduction Test Branch Tip Viability EnviroSystems, Inc.

Analysis No: 20-3632-1340	Endpoint: Mean Cystocarps plant	CETIS Version: CETISv1.6.4
Analyzed: 27 Jul-09 11:00	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 15-5181-9457	Test Type: Champia	Analyst:
Start Date: 24 Jul-09 15:25	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 26 Jul-09 17:45	Species: Champia parvula	Brine: Not Applicable
Duration: 50h	Source:	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					2.43%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-003	10		0	0.0143	Significant Effect

ANOVA Table

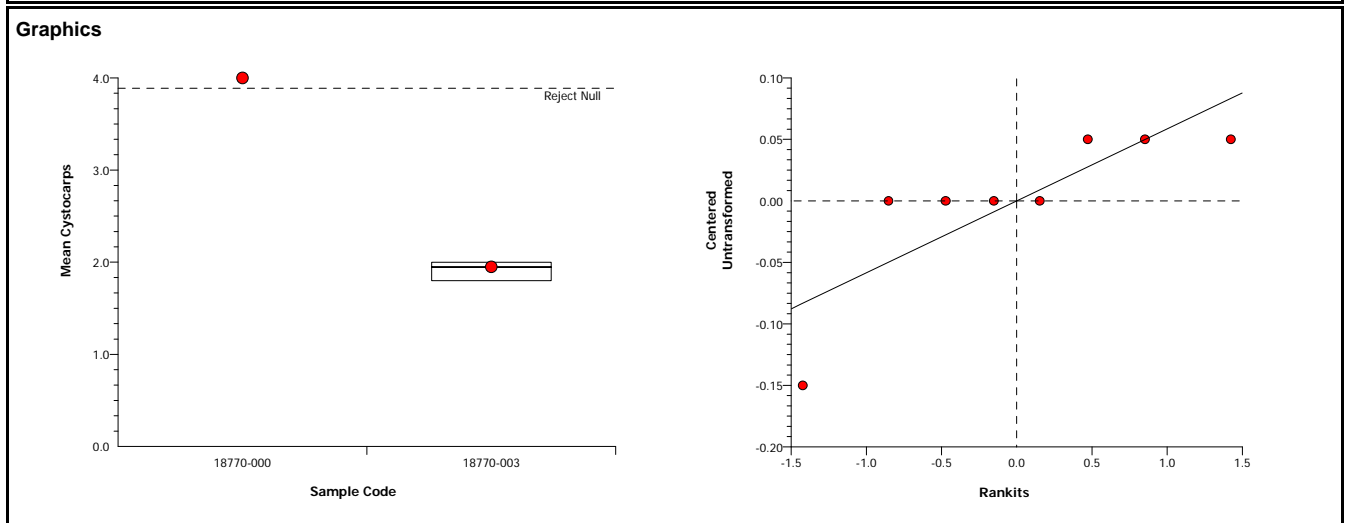
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	8.405	8.405	1	1681	0.0000	Significant Effect
Error	0.03	0.005	6			
Total	8.434999	8.41	7			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Variance	1	13.75	0.3559	Equal Variances
Distribution	Shapiro-Wilk Normality	0.7065		0.0027	Non-normal Distribution

Mean Cystocarps Summary Branch Viability

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	4	4	4	4	4	0	0	0.0%	0.0%
18770-003	4	1.95	1.912	1.988	1.8	2	0.01857	0.1	5.13%	51.25%



Champia parvula Red Macroalga Sexual Reproduction Test Branch Tip Viability EnviroSystems, Inc.

Analysis No: 21-0469-8663	Endpoint: Mean Cystocarps Plant	CETIS Version: CETISv1.6.4
Analyzed: 27 Jul-09 11:00	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 15-5181-9457	Test Type: Champia	Analyst:
Start Date: 24 Jul-09 15:25	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 26 Jul-09 17:45	Species: Champia parvula	Brine: Not Applicable
Duration: 50h	Source:	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					3.97%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-002	10		0	0.0143	Significant Effect

ANOVA Table

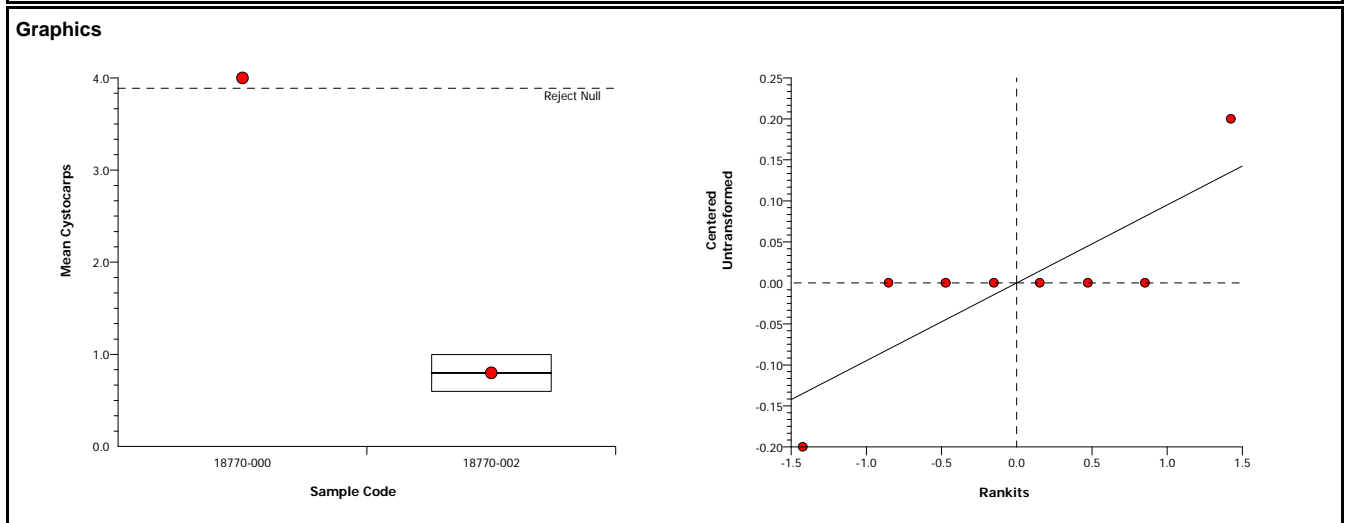
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	20.48	20.48	1	1536	0.0000	Significant Effect
Error	0.08	0.0133333	6			
Total	20.56	20.49333	7			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Varianc	3	13.75	0.1340	Equal Variances
Distribution	Shapiro-Wilk Normality	0.7322		0.0052	Non-normal Distribution

Mean ~~Cystocarps~~ Summary Branch Viability

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	4	4	4	4	4	0	0	0.0%	0.0%
18770-002	4	0.8	0.7379	0.8621	0.6	1	0.03032	0.1633	20.41%	80.0%



Champia parvula Red Macroalga Sexual Reproduction Test Branch Tip Viability EnviroSystems, Inc.

Analysis No: 10-2051-9019	Endpoint: Mean Cystocarps plant	CETIS Version: CETISv1.6.4
Analyzed: 27 Jul-09 11:00	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 15-5181-9457	Test Type: Champia	Analyst:
Start Date: 24 Jul-09 15:25	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 26 Jul-09 17:45	Species: Champia parvula	Brine: Not Applicable
Duration: 50h	Source:	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					0.0%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-001	10		0	0.0143	Significant Effect

ANOVA Table

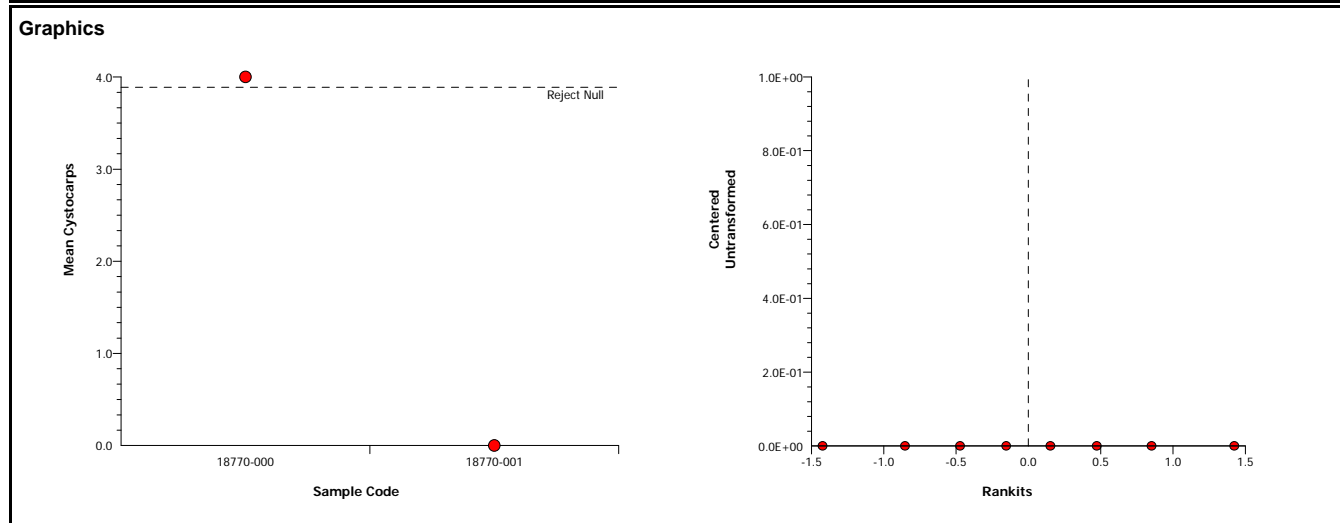
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	32	32	1	65540	0.0000	Significant Effect
Error	0	0	6			
Total	32	32	7			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Varianc	65540	13.75	0.0000	Unequal Variances

Mean Cystocarps Summary Branch Viability

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	4	4	4	4	4	0	0	0.0%	0.0%
18770-001	4	0	0	0	0	0	0	0		100.0%



Champia parvula Red Macroalga Sexual Reproduction Test Branch Tip Viability EnviroSystems, Inc.

Analysis No: 21-2050-8151	Endpoint: Mean Cystocarps Plant	CETIS Version: CETISv1.6.4
Analyzed: 27 Jul-09 11:00	Analysis: Nonparametric-Two Sample	Official Results: Yes

Test Run No: 15-5181-9457	Test Type: Champia	Analyst:
Start Date: 24 Jul-09 15:25	Protocol: EPA/600/4-91/003 (1994)	Diluent: Not Applicable
Ending Date: 26 Jul-09 17:45	Species: Champia parvula	Brine: Not Applicable
Duration: 50h	Source:	Age:

Data Transform	Zeta	Alt Hyp	Monte Carlo	NOEL	LOEL	TOEL	TU	PMSD
Untransformed		C > T	Not Run					3.97%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs Sample Code	Test Stat	Critical	Ties	P-Value	Decision(5%)
18770-000	18770-005	10		0	0.0143	Significant Effect

ANOVA Table

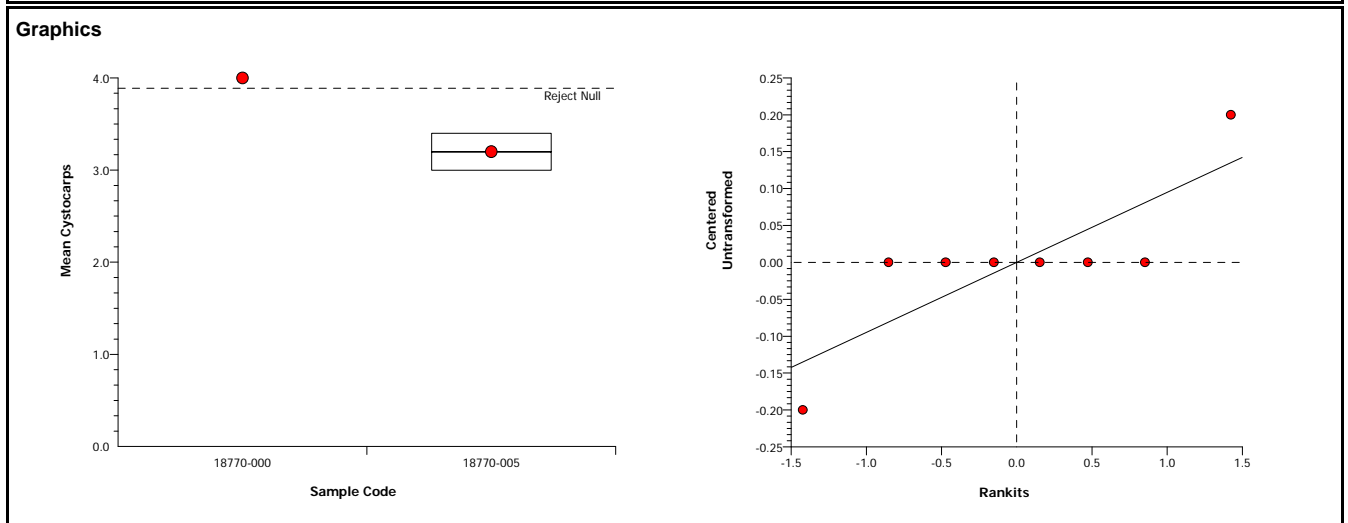
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(5%)
Between	1.28	1.28	1	96	0.0001	Significant Effect
Error	0.08	0.0133333	6			
Total	1.36	1.293333	7			

ANOVA Assumptions

Attribute	Test	Test Stat	Critical	P-Value	Decision(1%)
Variances	Mod Levene Equality of Varianc	3	13.75	0.1340	Equal Variances
Distribution	Shapiro-Wilk Normality	0.7322		0.0052	Non-normal Distribution

Mean ~~Cystocarps~~ Summary Branch Viability

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	Diff%
18770-000	4	4	4	4	4	4	0	0	0.0%	0.0%
18770-005	4	3.2	3.138	3.262	3	3.4	0.03032	0.1633	5.1%	20.0%



SALTWATER ASSAYS

A. bahia, A. punctulata, C. parvula

STUDY: 18776 18622	LOCATION: New Bedford Harbor					
CHEMISTRY	Lab Salt Control	-001 Reference Site 700 NTU	-002 200 NTU 150 NTU	-003 150 NTU 100 NTU	-004 100 NTU 50 NTU	-005 50 NTU Ref
	AMMONIA	18108-001 18622-006 18776-006	007	008	009	010
AS RECEIVED WATER QUALITIES	Lab Salt Control	-001	-002	-003	-004	-005
SALINITY (ppt)	25.0	23.2	19	17.4	21.5	27.4
pH (SU)	7.97	7.27	7.37	7.40	7.54	7.71
TRC (mg/L)	20.02	20.02	20.02	20.02	20.02	20.02
DO (mg/L)	7.2	7.0	6.9	6.9	6.8	6.2
S/C (umhos/cm)	38360					
WQ STATION USED	1					
INITIALS	LRO					
A. bahia SALINITY ADJUSTMENT RECORD	Lab Salt Control	-001	-002	-003	-004	-005
SAMPLE (mLs)		4000	4000	4000	4000	4000
SEA SALT (g)		9	28	35	16	-
DATE:	7/23/09					
TIME:	1400					
INITIALS:	SJ					

Sample ID	ESI Cube ID
-001	-001
-002	-002
-003	-003
-004	-004
-005	-005

DILUTIONS

STUDY: 18720	CLIENT: Woods Hole Group	
SPECIES: <i>A. bahia</i>		
	Sample: New Bedford Harbor	
Concentration %	Vol. Eff.(mls)	Final Vol.(mls)
Lab	0	800
Reference Water ⁰⁰⁵	800	↓
50 NTU ⁰⁰⁴	↓	↓
100 NTU ⁰⁰³	↓	↓
150 NTU ⁰⁰²	↓	↓
200 NTU ⁰⁰¹	↓	↓
INITIALS:	SJ	
TIME:	1500	
DATE:	7/24/09	

RECORD OF METERS USED

STUDY: 18720		CLIENT: Woods Hole Group	
A.bahia			
Exposure (Hours)			
	0	24	48
Water Quality Station #	2	2	
Initials / Date	SJ 7/28/09	SJ 7/24	

Water Quality Station #1		Water Quality Station #2		COMMENTS
DO meter #		DO meter #	23	
DO probe #		DO probe #	20	
pH meter #		pH meter #	470	
pH probe #		pH probe #	85	
S/C meter #		S/C meter #	Y5130D	
S/C probe #		S/C probe #	↓	
Salinity meter #		Salinity meter #		

Report No: 18770 SDG:
Project: NBH Monitoring

Sample ID: DS-TOX-001-072209
Matrix: Water
Sampled: 07/22/09 0826

Parameter	Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	18770-006 0.15	0.1	mg/L as N	07/27/09	07/27/09	MES/SM 4500-NH3 G

Sample ID: DS-TOX-002-072209
Matrix: Water
Sampled: 07/22/09 0952

Parameter	Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	18770-007 ND	0.1	mg/L as N	07/27/09	07/27/09	MES/SM 4500-NH3 G

Sample ID: DS-TOX-003-072209
Matrix: Water
Sampled: 07/22/09 0951

Parameter	Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	18770-008 ND	0.1	mg/L as N	07/27/09	07/27/09	MES/SM 4500-NH3 G

Sample ID: DS-TOX-004-072209
Matrix: Water
Sampled: 07/22/09 0951

Parameter	Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	18770-009 ND	0.1	mg/L as N	07/27/09	07/27/09	MES/SM 4500-NH3 G

Sample ID: DS-TOX-005-072209
Matrix: Water
Sampled: 07/23/09 0949

Parameter	Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	18770-010 ND	0.1	mg/L as N	07/27/09	07/27/09	MES/SM 4500-NH3 G

Notes:

ND = Not Detected

ESI

EnviroSystems, Inc. P.O. Box 778 Hampton, NH 03842-0778 603-926-3345 fax 603-926-3521 www.envirosystems.com

Report No: 18708
Project: Laboratory Seawater

SDG:

Sample ID: Lab Salt 07/23/09
Matrix: Water
Sampled: 07/23/09

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	18708-027	ND	0.1	mg/L as N	07/27/09	07/27/09	MES/SM 4500-NH3 G

Notes:

ND = Not Detected

ESI

EnviroSystems, Inc. P.O. Box 778 Hampton, NH 03842-0778 603-926-3345 fax 603-926-3521 www.envirosystems.com

SAMPLE RECEIPT AND CONDITION DOCUMENTATION

STUDY NO: 18770
 18622-03-557/23/09
 SDG No:
 Project: New Bedford Harbor Monitoring
 Delivered via: Client
 Date and Time Received: 07/23/09 1747 Date and Time Logged into Lab: 01/23/09 0820
 Received By: SJ Logged into Lab by: SJ *AS*
 Air bill / Way bill: No Air bill included in folder if received? NA
 Cooler on ice/packs: Yes Custody Seals present? NA
 Cooler Blank Temp (C) at arrival: 2 Custody Seals intact? NA
 Number of COC Pages: 1
 COC Serial Number(s):
 COC Complete: Does the info on the COC match the samples? Yes
 Sampled Date: Yes Were samples received within holding time? Yes
 Field ID complete: Yes Were all samples properly labeled? Yes
 Sampled Time: Yes Were proper sample containers used? Yes
 Analysis request: Yes Were samples received intact? (none broken or leaking) Yes
 COC Signed and dated: Yes Were sample volumes sufficient for requested analysis? Yes
 Were all samples received? Yes Were VOC vials free of headspace? NA
 Client notification/authorization: Not required

Field ID	Lab ID	Mx	Analysis Requested	Bottle	Req'd Pres'n	Verified Pres'n
DS-TOX-001-072209	18770 18622-001	W	AB48AD, AP01CR, CP48AD;	20 L	4C	
DS-TOX-002-072209	18770 18622-002	W	AB48AD, AP01CR, CP48AD;	20 L	4C	
DS-TOX-003-072209	18770 18622-003	W	AB48AD, AP01CR, CP48AD;	20 L	4C	
DS-TOX-004-072209	18770 18622-004	W	AB48AD, AP01CR, CP48AD;	20 L	4C	
DS-TOX-005-072209	18770 18622-005	W	AB48AD, AP01CR, CP48AD;	20 L	4C	

Notes and qualifications:



EnviroSystems, Inc.
1 Lafayette Road
P.O. Box 778
Hampton, N.H. 03843

Voice: 603-926-3345
FAX: 603-926-3521

ESI Job No:

3/18/22
7/23/09 18770

CHAIN OF CUSTODY DOCUMENTATION

Client: Woods Hole Group	Contact: Dave Walsh	Project Name: NBH monitoring	Page 1 of 1
Report to: Dave Walsh	Address: 81 Technology Park Dr	Project Number: TO-0010	
Invoice to: Cathy Morey	Address: E. Falmouth, MA	Project Manager: Dave Walsh	
Voice: 508-540-8080	Fax: 508-540-1001	email: dwalsh@whgrp.com	P.O. No: Quote No:

Protocol:	RCRA	SDWA	NPDES	USCOE	Other							
Lab Number (assigned by lab)	Your Field ID: (must agree with container)	Date Sampled	Time Sampled	Sampled By	Grab or composit (G/C)	Container Size (ml)	Container Type (P/G/T)	Field Preservation	Matrix S=Solid W=Water	Filter N=Not needed F=Done in field L=Lab to do	Analyses Requested	Special Instructions:
001	DS-TOX-001-072209	7/22	0826	K6M	G	20L	P	N/A	W	N	toxicity XXXX (acute)	
002	DS-TOX-002-072209	7/22	0952	K6M	C	20L	P	N/A	W	N	acute toxicity	
003	DS-TOX-003-072209	7/22	0951	K6M	C	20L	P	N/A	W	N	acute toxicity	
004	DS-TOX-004-072209	7/22	0951	K6M	C	20L	P	N/A	W	N	acute toxicity	
005	DS-TOX-005-072209	7/22	0949	K6M	G	20L	P	N/A	W	N	acute toxicity	

Relinquished By: Kaitlyn McCartney	Date: 7/22/09 Time: 1355	Received By: MARTIN POTTER	Date: 07/22/09 Time: 1355
Relinquished By: MARTIN POTTER	Date: 07/22/09 Time: 1747	Received at Lab By: [Signature]	Date: 7/22/09 Time: 1747
Comments:			



**US Army Corps
of Engineers**
New England District

SEDIMENT MONITORING SUMMARY REPORT 2009 REMEDIAL DREDGING NEW BEDFORD HARBOR SUPERFUND SITE, OU #1

Contract No. W912WJ-09-D-0001-0010



Prepared For:
United States Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Prepared By:
Woods Hole Group, Inc.
81 Technology Park Drive
East Falmouth, MA 02536

June 2010

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**SEDIMENT MONITORING SUMMARY REPORT
2009 REMEDIAL DREDGING
NEW BEDFORD HARBOR SUPERFUND SITE,
OPERATIONAL UNIT #1
NEW BEDFORD, MASSACHUSETTS**

Contract No. W912WJ-09-D-0001-0010

June 2010

Prepared for:

United States Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Prepared by:

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81 Technology Park Drive
East Falmouth MA 02536
(508) 540-8080

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EXECUTIVE SUMMARY

Sediment sampling was conducted to monitor the progress and final results of the remediation dredging operation at the New Bedford Harbor Superfund Site during the 2009 field season. Sediment push core samples were collected from seven areas at the Site to characterize the extent of the polychlorinated biphenyl (PCB) contamination in harbor sediments. Four of the seven areas were actively undergoing remediation during 2009; these “progress-” and/or “post-dredge” sample collection areas included Dredge Areas M, G, J, and L. The other three sample collection areas were characterized in anticipation for the 2010 remediation season; these “pre-dredge” sample collection areas include the cove located adjacent to Area G (North Cove), the cove adjacent to Area J (South Cove), and a location adjacent to the south boarder of Area L (Area K). Sample collection was conducted between August and December, 2009.

The objective of the progress-dredge and post-dredge sediment sampling was to: 1) assess the sediment condition during and following dredging operations, relative to the target dredge elevation set for the area of interest, and 2) confirm whether remediation dredging completed removal of contaminated sediments to concentrations at or below the 10 ppm remediation criteria. Progress- and post-dredge push cores were collected during four sampling events, and at 92 locations in Dredge Areas G, J, L, and M. With exception of one event, sediment cores were split open for internal sediment characterization and analytical sub-sample collection. The internal sediment characterization was performed to confirm the presence of the highly contaminated organic sediment layer (OL) and to determine the elevation of the transition between the OL and underlying sediment strata. The thickness of the OL layer varied by location; this was due to natural geologic features and whether that area had been dredged. The underlying sediments were generally comprised of clayey silt (ML/CL) or silty clay (CL/ML) with small amounts of fine sand. Analytical results of the NOAA-18 PCB Congeners reveal that the OL surface layer contained total PCB concentrations up to 2,148 mg/kg, with an average of 229 mg/kg. Underlying sediments were less contaminated, containing a total PCB concentration maximum of 391 mg/kg, and an average of 43 mg/kg.

The objective of the pre-dredge sediment sampling was to characterize the sediments at each location with respect to the presence and thickness of the OL layer. These data are used by the USACE and its contractors to confirm the target remediation dredge elevation estimates. Pre-dredge cores for the 2010 season were collected at 22 locations during one sampling event during 2009. These cores followed the same sample processing and characterization procedures as the progress- and post-dredge cores. At the direction of the USEPA and USACE, pre-dredge sediment samples were analyzed for PCB Aroclors rather than the NOAA-18 congeners. Results indicate physical and chemical trends similar to other cores, where surficial samples characterized as OL sediments were more highly contaminated than the underlying sediments.

The data produced as a result of the 2009 progress- and post-dredge sampling, as well as the 2010 pre-dredge sampling, will be used to assist the USACE and its contractors in developing the 2010 remediation dredge plan.

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1.0 INTRODUCTION

1.1 SITE LOCATION AND DESCRIPTION

The New Bedford Harbor Superfund Site, located in Bristol County, Massachusetts, extends from the shallow northern reaches of the Acushnet River estuary south through the commercial harbors of New Bedford and Fairhaven and into 17,000 adjacent acres of Buzzards Bay (Figure 1). The City of New Bedford, located along the western shore of the Site, is approximately 55 miles south of Boston. New Bedford is currently home port to a large offshore fishing fleet and is a densely populated manufacturing and commercial center. By comparison, the eastern shore of New Bedford Harbor is predominantly residential, light commercial or salt marsh.

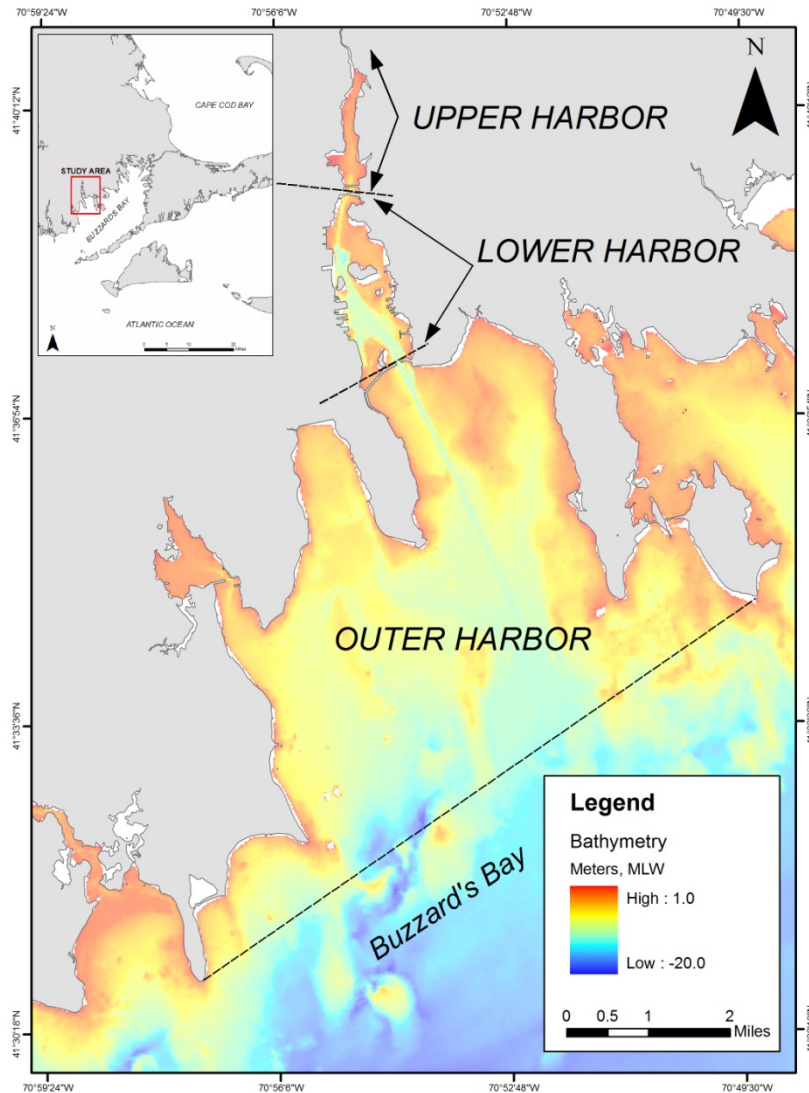


Figure 1. Basemap of New Bedford Harbor Superfund Site in Southeastern, MA

The Acushnet River's 16.5 square mile drainage basin discharges to New Bedford Harbor in the northern reaches of the Site, contributing relatively minor volumes of fresh water to the tidally influenced harbor (VHB, 1996). Numerous storm drains, combined sewer overflows (CSOs), industrial discharges, as well as smaller brooks and creeks also discharge directly to the Site. The upper and lower harbors are believed to be areas of net groundwater discharge. The estuary can be characterized as a shallow, well-mixed system.

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. Contaminant gradients within harbor sediments decrease from north to south. The source of the contamination has been attributed to two electrical capacitor manufacturing facilities that operated between the 1940s and the 1970s. One facility, Aerovox Corporation, is located near the northern boundary of the Site, and the other, Cornell-Dubilier Electronics, Inc. is located just south of the New Bedford Harbor hurricane barrier. The two facilities are known to have discharged PCB-laden wastes either directly into the harbor or indirectly via discharges to the City's sewerage system.

Based on human health concerns and ecological risk assessments, the United States 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 United States Army Corps of Engineers, New England District (USACE NAE), the USACE is responsible for carrying out the design and implementation of remedial measures at the Site.

The Site has been divided into three geographic areas: the upper, lower and outer harbors, consistent with geographic features, basin morphology (Figure 1) and gradients of contamination. The Site is also defined by three state-sanctioned fishing closure areas extending approximately 6.8 miles north to south and encompassing approximately 18,000 acres in total. The upper harbor comprises approximately 187 acres, with current sediment PCB levels ranging from below detection to approximately 4,000 parts per million (ppm). Prior to the removal of the most contaminated hot spot sediments in 1994 and 1995, as part of EPA's first cleanup phase, sediment PCB levels were reported higher than 100,000 ppm in the upper harbor. The boundary between the upper and lower harbor is the Coggeshall Street Bridge; at this point the harbor is constricted to a width of approximately 100 feet. The lower harbor comprises approximately 750 acres, with current sediment PCB levels ranging from below detection to over 100 ppm. The boundary between the lower and outer harbor is the 150 foot wide opening of the New Bedford hurricane barrier. The hurricane barrier was constructed in the mid-1960s. Sediment PCB levels in the outer harbor are generally low, with only localized areas of PCBs in the 50 – 100 ppm range near the Cornell-Dubilier plant and the New Bedford sewage treatment plant's outfall pipes. The southern extent of the outer harbor is a line mapped from Rock Point (the southern tip of West Island in Fairhaven), southwesterly to Negro Ledge, and then southwesterly to Mishaum Point in Dartmouth (Figure 1).

1.2 PROJECT OBJECTIVES AND SCOPE

The remediation of the Site involves the excavation and dredging of approximately 900,000 cubic yards of PCB-contaminated sediment. The majority of the contaminated material is being removed by a hydraulic dredge that pumps a spoils-slurry to the project's Sawyer Street facility where it is mechanically processed to remove all sand, gravel, and debris. The remaining silt and clay slurry is then pumped to the Area D Dewatering Facility located on Herman Melville Boulevard where it is mechanically dewatered and transported off-site for disposal.

The Site is divided into a series of Dredge Management Units (DMU) based primarily on contamination levels, contamination sources, and topography. In 2009, remediation activities at the Site included hydraulic dredging in four areas, M, G, J and L (Figure 2). Three of the four areas (Areas M, G and J) dredged during the 2009 season were in the vicinity of the Aerovox facility. These three areas comprise the majority of the estuary between the Wood Street Bridge and the Aerovox facility. The fourth area, Area L, is located south of the submerged cable crossing.



Figure 2. Basemap of 2009 Remediation Dredging Areas

The objectives of the 2009 sediment monitoring program were to collect sediment cores and perform sediment characterizations and analytical testing of PCBs to support the remedial dredging activities in Operational Unit #1 (OU1).

Sediment monitoring of the OU1 area in 2009 required the visual characterization of split sediment cores to determine the elevation of the transition between the OL layer and the underlying strata and sediment thickness of the “OL” layer. The OL layer is defined by the United Soil Classification System [USCS], as ‘organic silt, organic clay.’ Historical analytical data confirms that the OL layer contains the highest concentrations of PCB contaminants. Therefore, the identification of the OL layer is important in developing a dredge plan, monitoring dredging performance and assessing the overall performance of the dredging operation. Analysis of PCB contaminants in sediment core samples within the OL layer, and in others layers, further strengthens the correlation between PCB concentrations and the OL sediments, and confirms the need for further dredging. The successful completion of the sediment monitoring plan required close coordination with the USACE and the dredging contractor Jacobs Engineering (JE).

1.2.1 Pre-dredge Sediment Sampling

The entire upper harbor, including the DMUs and 2009 Dredge Areas, has been parceled into discrete 25-foot by 25 foot ‘z-blocks’. During remedial design, a geostatistical model was used to predict a target elevation for dredging each z-block, termed the z* elevation. This target dredge elevation represents the elevation below which PCB concentrations are predicted to be less than the 10 mg/kg (ppm) remediation criterion. Using target dredge elevations in combination with bathymetric data, a preliminary dredge plan was developed which estimated the required depth of dredging and the thickness of the overlying sediment to be removed. In 2009, Pre-Dredge sampling was performed in preparation for remedial dredging in 2010. The Pre-Dredge sediment sampling plan was designed to confirm the target dredge elevation estimates from the z-blocks, and to adjust elevations as needed. Coring locations were placed onto the z-block map to achieve sufficient spatial coverage for the evaluation of the target dredge elevations. Visual characterization and analytical data from the pre-dredge cores will be used by the USACE and JE to prepare the final 2010 dredge plan.

1.2.2 Progress dredge and Post-dredge Sediment Sampling

Progress-dredge and Post-dredge sediment sampling was conducted to assess the sediment condition during and following dredging operations, relative to the target dredge elevation set for the area of interest. The intent of the Progress- and Post-Dredge sampling was to confirm whether remediation dredging completed removal of contaminated sediments to concentrations at or below 10 ppm. The obvious difference between Progress- and Post-Dredge cores was that Progress-Dredge cores were taken during 2009 dredging activities and post-dredge cores were taken after the completion of all 2009 dredging activities. Another less discernable difference is the degree of data validation required for the two data sets. Both Progress- and Post-Dredge cores were visually characterized to determine the elevation and thickness of “OL” material remaining. All core samples, with the exception of cores collected in August, were subsampled for analytical testing to assess PCB concentrations in the sediment. August

cores were externally examined in the field and disposed; no analytical samples were collected. If PCB concentrations exceeded 10 ppm, the location was identified for further dredging, whether in 2009 or 2010.

2.0 METHODS

Methods used to collect and analyze sediment samples are summarized below and described in detail in the project Field Sampling Plan (Woods Hole Group 2009A) and Quality Assurance Project Plan (Woods Hole Group 2009B).

2.1 CORE LOCATIONS

All locations for the collection of sediment cores were approved by the USACE and USEPA, and provided electronically to WHG by JE. Locations were provided in Massachusetts State Plane Mainland coordinates, and were converted into latitude and longitude using the program Corpscon 6. The WHG navigation system required all waypoints to be entered in geographic coordinates.

2.2 CORE COLLECTION

Sediment cores were collected with a push-core sampling device and a 2 5/8 inch inner diameter clear polycarbonate core barrel. The length of core needed for collection was determined by the target dredge elevation relative to the bottom elevation at each core location. To ensure that the target dredge elevation was sampled, a core barrel was pushed into the sediment past the target dredge elevation horizon. A piston assembly inside the core barrel was used to create suction, thereby preventing excessive compaction during penetration and loss of sediment from the bottom of the barrel during recovery.

A water depth measurement was recorded and the water surface elevation was surveyed at each sampling location. Water surface elevation was surveyed relative to the vertical datum NGVD29 using gauged tide boards previously secured to a sheet pile with elevation markings. After the push-core device was assembled, the total length of the device was measured, and the piston was positioned just inside the lower edge of the core barrel. The coring assembly was lowered in the water until the leading edge of the barrel was at the sediment–water interface. At this point the piston attachment line was secured to the boat, fixing the elevation of the piston, creating a suction point at the sediment–water interface. The push-core was then driven into the sediment to the predetermined depth, and the distance between the top of the push-core assembly and the water surface was measured. During core barrel retrieval the piston line was held tight to maintain suction in the barrel and to overcome the suction holding the penetrated core barrel in place. Upon recovery of the core onto the survey vessel, the bottom end of the barrel was capped, the barrel was removed from the push-core device, and the core was stored in a vertical position.

2.3 CORE CALCULATIONS

Quality Assurance and Quality Control (QA/QC) calculations were performed following core recovery. These calculations used the measurements recorded during the coring

process to determine whether the core was acceptable (e.g. penetrated and recovered sediment from the target elevation). The required measurements and calculations are described in detail below and illustrated in Figure 3. All measurements were recorded in units of ± 0.1 feet.

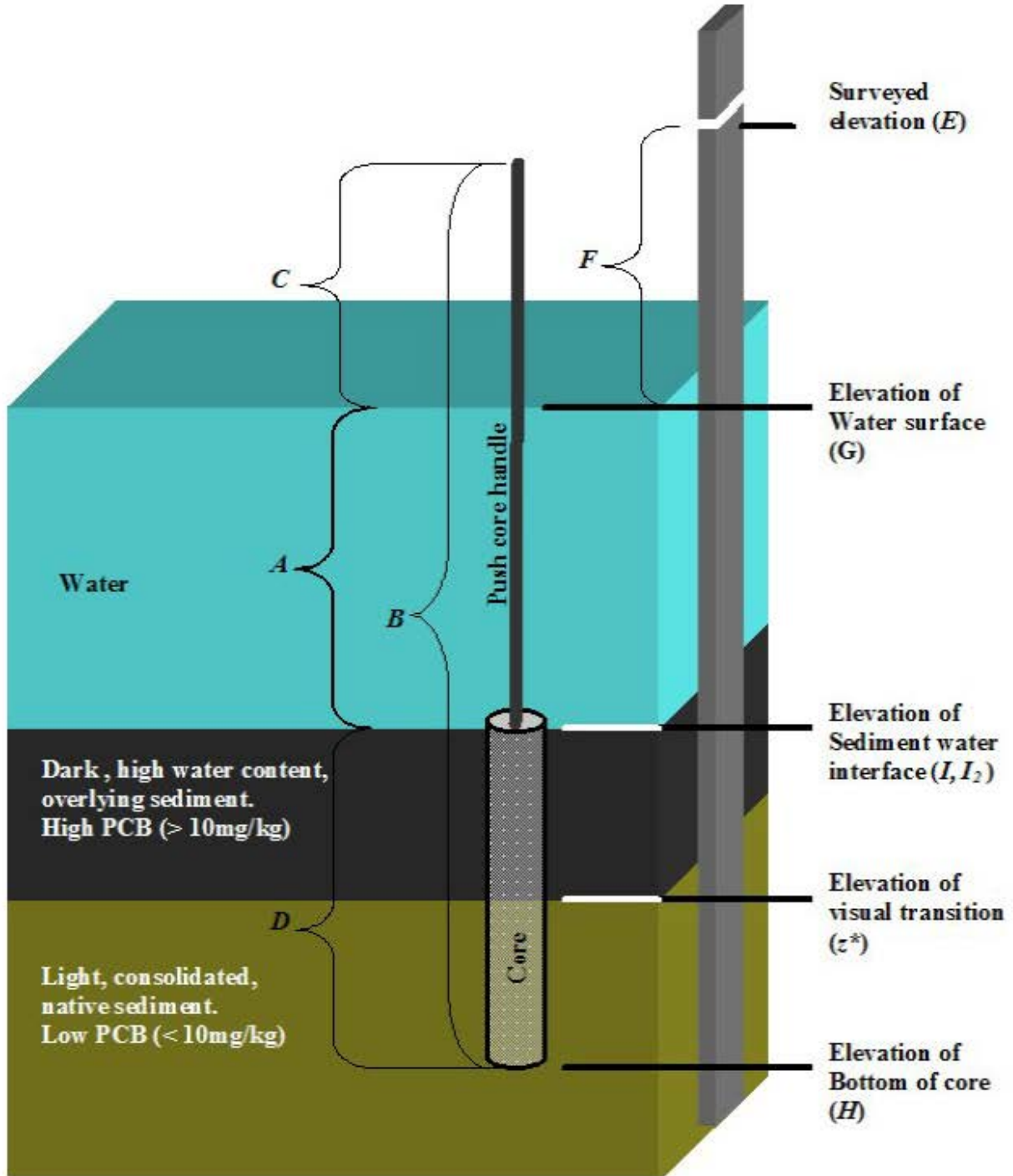


Figure 3. Graphical Representation of Sediment Core Measurements

Descriptions of coring parameters described in Figure 3:

A = Water depth. The water depth was recorded using a stadia rode.

B = Length of push-core assembly. Prior to deployment, the full length of the push-core assembly from the top of the handle to the bottom edge of the core liner was recorded.

C = Water surface to top of core assembly handle. Once the core assembly was fully penetrated, the length of the assembly remaining above the water surface was recorded.

D = Core Length. The core length retained in the core barrel, from bottom to top, was measured and recorded.

E = Surveyed elevation. Prior to operations, the dredge contractor installed a gauged tide board fixed to the sheet pile with markings indicating a survey elevation (NGVD 29). This elevation was recorded and served as the reference point for elevation calculations.

F = Water surface from surveyed elevation. After sample collection, the survey vessel navigated to the fixed gauged tide board and the distance from the water surface to the surveyed elevation was recorded.

From these measurements a number of calculations were made to determine true elevations:

$E - F =$ Elevation of water surface (G).

$G - (B - C) =$ Elevation of bottom of core (H).

The H elevation (bottom of core) was used to determine the elevation of all visual transitions, including apparent target dredge elevation, i.e.:

$H + (\text{distance to visual transition}) =$ **Elevation of visual transition** (target dredge elevation)

$H + D =$ Elevation of sediment-water interface (I).

The elevation of the sediment-water interface was also calculated from:

$G - A =$ Elevation of sediment-water interface (I₂).

If I and I₂ varied by more than 1.0 foot, the core was discarded and a new sample collected. The difference between I and I₂ could have been caused by 1) too much water at the top of the core, 2) compaction of the core sediment, or 3) sediment loss from the bottom of the core. Any one, or combination, of these factors can result in an unacceptable core sample.

2.4 EXTERNAL SEDIMENT CORE EXAMINATION

Acceptable cores were brought back to the field laboratory at the Sawyer Street facility for external inspection. The external inspection process included: 1) archival photography, and 2) a geological description through the polycarbonate core barrel, where the visual transitions between each type of sediment were recorded on a log sheet.

Although it is an efficient procedure, the external examination of the sediments through the transparent core barrel has proven difficult to provide: 1) an accurate physical description, and 2) the thicknesses of in-situ sediment strata. For example, during penetration, the core barrel can push overlaying sediment downward along the sides of the core barrel, obscuring the sediments that actually comprise that section of the core. This is common in the New Bedford Harbor sediments where the upper unconsolidated black silt is dragged downward in the core barrel, and causes a “streaking” effect when observed externally. It is often difficult to determine whether the streaking is an actual stratigraphic feature (e.g., mixing), or a remnant of the coring process. After the first round of cores were collected in August and these difficulties were observed, subsequent cores were split and described internally.

2.5 INTERNAL SEDIMENT CORE EXAMINATION

Except for the initial cores taken in August, all cores were split open, described and sampled. A split core enables an accurate physical description and measurement of thickness of the in-situ sediment strata, and allows for the collection of discrete sediment subsamples for laboratory analysis.

Each core barrel was placed into a clean 4 inch gutter and split by cutting along the entire length of the polycarbonate barrel with power shears. Cuts were made on opposite sides of the core barrel, 180 degrees apart. A clean piece of stainless steel wire (18 gauge) was used to slice through the middle of the barrel, using the two cuts in the barrel as guidelines. Care was used to prevent the wire from pulling obstructions (shells, rocks) down the core barrel and potentially mixing sediment layers. After splitting, the cores were rolled 90 degrees and separated. Following separation, the core was geologically described and photographed by a trained sedimentologist (codes for types/colors). Textural descriptions were performed according to ASTM standards. Color descriptions followed the Munsell color classification.

Sediment from half-foot sections of each split core was composited and sampled into 8 ounce glass jars for PCB analysis. Typically, this subsample was collected from the top 0.5 feet of the core. However, variations in core compositions required unique sampling schemes to best characterize the sediment in a given core. If the core had a clear transition from the “OL” to another sediment layer, a one half foot (0.5 foot) interval of sediment below the transition line was also sampled and composited for PCB analysis. Additional samples were collected for laboratory-based quality control analysis. All Progress- and Post-dredge samples were sent to Alpha Analytical Laboratories for PCB congener (NOAA 18) analysis. The 2010 Pre-dredge core samples were sent to the USEPA Office of Environmental Measurement and Evaluation for PCB Aroclor analysis.

2.6 POLYCHLORINATED BIPHENYL ANALYSES

The methods used by the laboratory have been summarized below and more detail can be found in detail in Alpha Analytical Laboratories SOP O-012 and the USEPA's SOP EIA-FLDPCB2 in the Quality Assurance Project Plan (Woods Hole Group 2009B).

Upon sample preparation an aliquot of a well mixed, homogeneous sediment sample is accurately measured for sample preparation. Generally, 50 grams of sediment is extracted. The New Bedford Harbor QAPP requires 30 g of sediment for extraction by Method 3540C Soxhlet Extraction, which is air dried to a minimum of >50% solids and generally >90% solids. The sample is spiked with surrogate compounds and then extracted using methylene chloride or a methylene chloride/acetone mixture. The extract is dried and exchanged to hexane during sample concentration. After extraction, clean-up techniques are applied as necessary. The extract may be treated with Aminoprpyl, Carbon Column, Florisil (3620B) or GPC (3640A) for hydrocarbon and lipid removal, and copper (3660B) for sulfur removal. The extract is exchanged into hexane and concentrated to the appropriate volume, generally 10mL, and transferred for analysis. Prior to analysis, the extract is cleaned with sulfuric acid (3665A). Alternatively, this method can be employed for lower detection limits by decreasing the final volume to 1-5mL.

After clean-up and re-concentration, the extracts are analyzed on a gas chromatograph (GC) which is fitted with two capillary columns of differing polarities each employing separate detectors. This process follows a modified USEPA Method 8082 (WHG 2009B). The extracts of PCB Congeners are spiked with internal standards (IS) prior to analysis. The target analytes are resolved on each column and detected using an electron capture detector (ECD). Analytes are introduced into the GC/ECD by injecting a known volume of the calibration standards, quality control samples, and sample extracts into the GC which is temperature and flow programmed to separate the analytes. Identification of the target analytes is accomplished by confirming a target hit on two dissimilar columns using Retention Time (RT) and Pattern Recognition (PR). Concentrations are calculated from the ECD response using internal standard techniques. Sample results were reported in micrograms per kilogram ($\mu\text{g}/\text{kg}$) for the individual congeners.

For each batch of 20 or fewer samples, a laboratory method blank, LCS/LCSD, MS and MSD was processed and analyzed with the field samples.

3.0 RESULTS

Results from the 2009 sediment monitoring activities are described below. Complete field data collection and description logs, and digital photographs of the split and un-split sediment cores are provided in Appendix A. Digital photographs of the split Post-Dredge cores were also uploaded to the New Bedford Harbor project database. In the database the core photographs are linked to the field collection information, and to any associated analytical results.

A typical sediment core in the upper harbor consisted of a surficial OL layer with varied underlying strata. The OL layer consists of unconsolidated to loosely consolidated fine

grained black organic sediment. The underlying strata are generally composed of moderate- to well-consolidated fine grained grey sediments, which vary in texture between silt and clay or a combination of both (e.g. clayey silt - ML/CL or silty clay - CL/ML). In certain locations the underlying strata also contained low amounts of sand. Previous years of monitoring data have shown that the OL layer contains the highest concentrations of PCB contaminants. For this reason, and for the purpose of remediation, it is important to determine the thickness of the OL layer and the transition from the OL layer to the underlying strata.

3.1 PRE-DREDGE CORE SAMPLING

Pre-Dredge cores for the 2010 season were collected on October 21 and 22, 2009. Cores were located at 22 locations within 3 areas: North Cove, South Cove and Dredge Area K (Figures 4 through 6). After collection, sediment cores were split open for internal sediment characterization and analytical sample collection. The internal sediment characterization was performed to confirm the presence of the OL layer and to determine the elevation of the transition between the OL and underlying strata. Results from sediment characterization and PCB Aroclors analysis performed by the EPA's laboratory are presented in Tables 1 and 2, Figures 7 through 9, and are summarized by Dredge Area below.

3.1.1 North Cove

The OL layer in the North Cove had a light to heavy sheen present, with a thickness that ranged from 0.5–0.98 feet. Underlying strata consisted of ML/CL sediment that transitioned to CL/ML at depth. The total PCB Aroclors concentration (mg/kg) of the OL ranged from 75.0 to 1030, with a mean of 474.29. The underlying strata had total PCB Aroclors concentrations that ranged from 0.0 to 67.00, with a mean of 14.60.

3.1.2 South Cove

The South Cove OL layer had a light to heavy sheen present, with a thickness that ranged from 0.9–1.36 feet. Underlying strata consisted of ML/CL sediment that transitioned to CL/ML at depth. The total PCB Aroclor concentration (mg/kg) of the OL ranged from 38.70 to 2560.00, with a mean of 1374.78. The underlying strata had total PCB Aroclor concentrations that ranged from 20.60 to 1650.00, with a mean of 660.60

3.1.3 Dredge Area K

Dredge Area K had an OL layer with a light to heavy sheen present, and a thickness that ranged from 0.0–0.9 feet. The underlying strata followed two distinct textural patterns. The sediment was either composed of ML/CL sediment that transitioned to CL/ML at depth, or a sand/gravel mixture that transitioned into a well-sorted fine sand. The total PCB Aroclor concentration (mg/kg) of the OL ranged from 9.90 to 319.00, with a mean of 83.36. Underlying strata had total PCB Aroclor concentrations that ranged from 0.50 to 93.00, with a mean of 33.59.

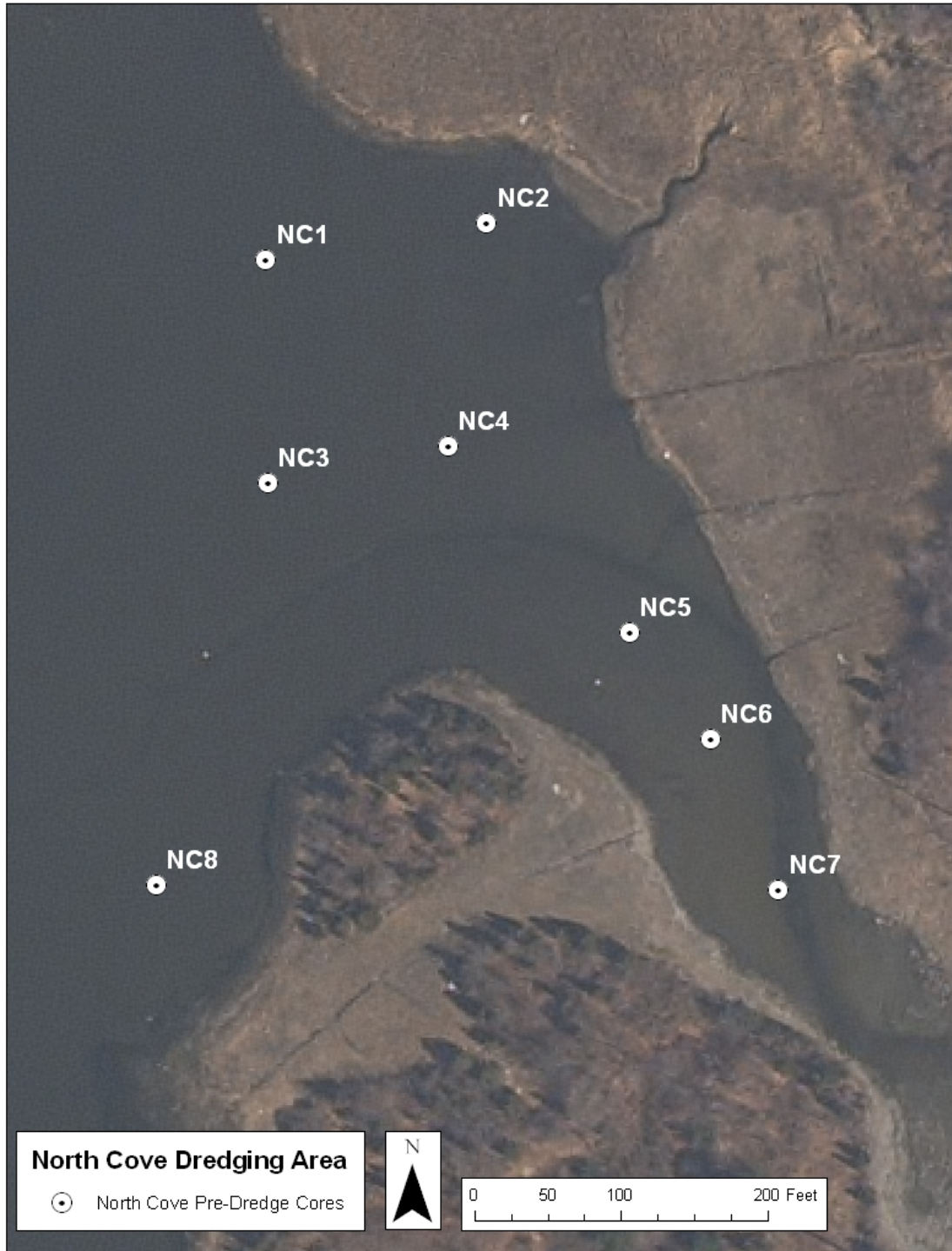


Figure 4. Basemap of North Cove Core Locations Collected in 2009

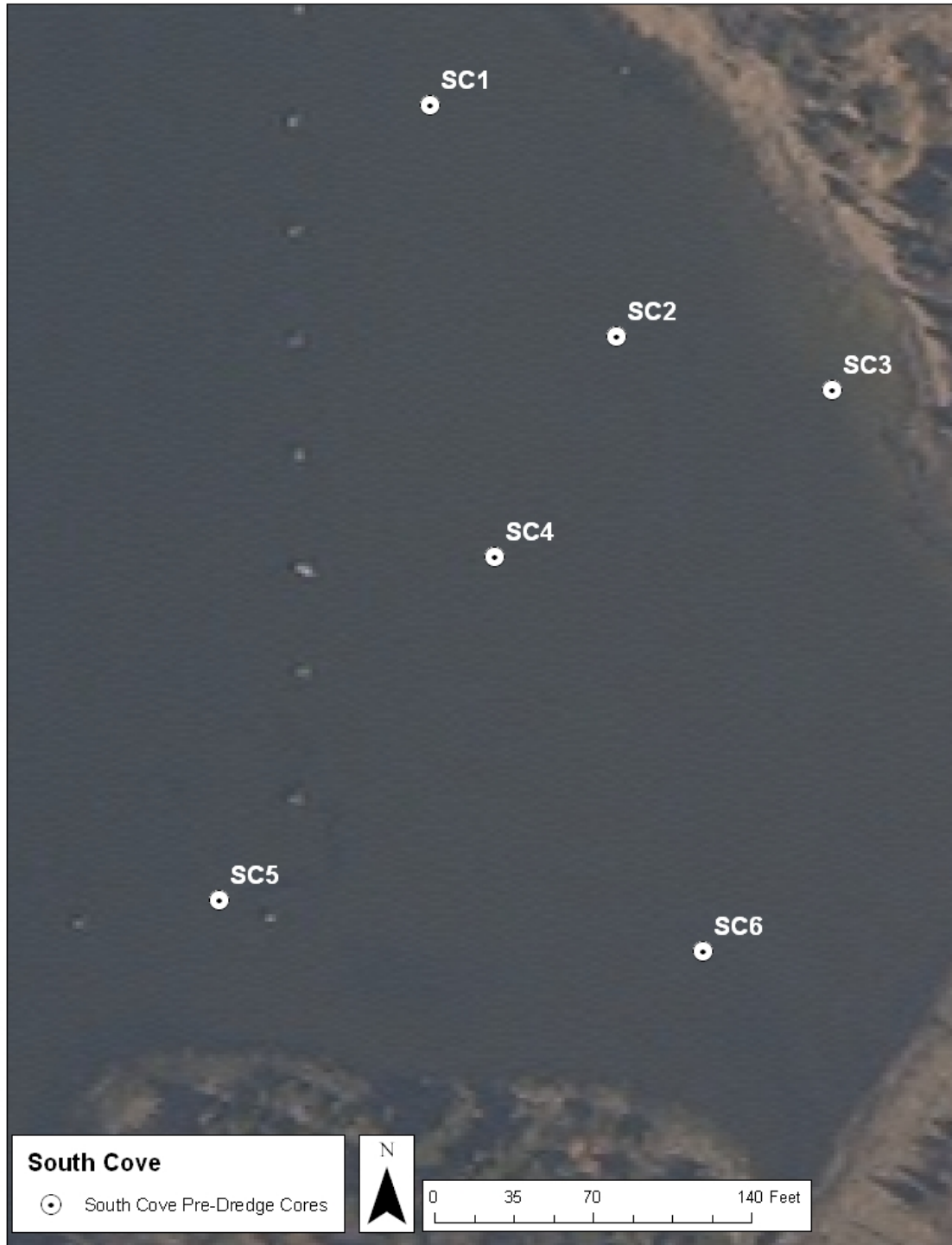


Figure 5. Basemap of South Cove Core Locations Collected in 2009



Figure 6. Basemap of Area K Core Locations Collected in 2009

Table 1. Elevation Data from 2010 Pre-dredge Sampling Event, October 21–22, 2009

Station ID	Northing NAD 83 MA, ft	Easting NAD 83 MA, ft	Elevation Measurements (NGVD 29ft)		Measured Sediment Thickness of 'OL' Layer Remaining (ft)
			Measured Elevation of Sediment Surface	Measured Elevation of Transition ('OL' to Underlying Strata)	
K1	2703647.78	815442.13	-6.96	-7.86	0.90
K2	2703825.49	815673.18	-2.1	-2.10	0.00
K3	2703722.59	815723.98	-2.9	-2.90	0.00
K4	2703649.55	815701.71	-3.65	-4.03	0.38
K5	2703528.25	815725.31	-4.28	-4.68	0.40
K6	2703497.20	815625.33	-4.9	-5.40	0.50
K7	2703450.14	815848.80	-3.5	-4.06	0.56
K8	2703426.53	815949.16	-1.46	-1.46	0.00
NC1	2707400.59	816249.76	-1.9	-2.43	0.53
NC2	2707425.91	816399.84	-1.3	-1.94	0.64
NC3	2707248.76	816250.80	-1.97	-2.95	0.98
NC4	2707273.90	816373.57	-1.61	-2.21	0.60
NC5	2707147.21	816497.38	-1.05	-1.95	0.90
NC6	2707074.71	816552.52	-1.05	-1.85	0.80
NC7	2706971.78	816598.77	-1.9	-2.40	0.50
NC8	2706974.94	816175.27	-2.2	-2.95	0.75
SC1	2706549.45	816123.55	-2.25	-3.61	1.36
SC2	2706446.77	816206.22	-2.22	-3.12	0.90
SC3	2706423.13	816302.01	-1.05	-2.05	1.00
SC4	2706349.22	816152.25	-1.85	-2.99	1.14
SC5	2706196.55	816030.35	-1.95	-2.91	0.96
SC6	2706173.73	816244.52	-1.65	-2.55	0.90

Table 2. Total PCB Concentrations of 2010 Pre-Dredge Cores, collected October 21–22, 2009.

Station ID	Core ID	Sample Interval (ft)	PCB Aroclors (mg/kg)
K1	S-09O-C041	0.0-0.5	319.00
		0.5-1.0	93.00
K2	S-09O-C034	0.0-0.5	21.40
		0.5-1.0	0.99
K3	S-09O-C035	0.0-0.5	21.60
		0.5-1.0	8.70
K4	S-09O-C036	0.0-0.5	32.00
		0.5-1.0	5.40
K5	S-09O-C037	0.0-0.5	34.00
		0.5-1.0	0.60
K6	S-09O-C040	0.0-0.5	189.00
		0.5-1.0	154.00
K7	S-09O-C038	0.0-0.5	40.00
		0.5-1.0	0.90
K8	S-09O-C039	0.0-0.5	9.90
		0.5-1.0	0.50
NC1	S-09O-C023	0.0-0.5	115.00
		0.5-1.0	2.50
NC2	S-09O-C022	0.0-0.5	280.00
		0.5-1.0	67.00
NC3	S-09O-C024	0.0-0.5	75.00
		0.5-1.0	6.60
NC4	S-09O-C021	0.0-0.6	1030.00
		0.6-1.1	9.50
NC5	S-09O-C020	0.5-1.0	470.00
		1.0-1.5	0.00
NC6	S-09O-C019	0.3-0.8	590.00
		0.8-1.3	2.50
NC7	S-09O-C018	0.0-0.5	760.00
		0.5-1.0	13.40
NC8	S-09O-C025	0.3-0.8	137.00
		0.8-1.3	15.30
SC1	S-09O-C026	0.0-0.5	1230.00
		0.5-1.0	20.60
SC2	S-09O-C027	0.0-0.5	1150.00
		0.5-1.0	43.00
SC3	S-09O-C028	0.0-0.5	2560.00
		0.5-1.0	1200.00
SC4	S-09O-C031	0.0-0.5	2560.00
		0.5-1.0	430.00
SC5	S-09O-C032	0.0-0.5	710.00
		0.5-1.0	620.00
SC6	S-09O-C033	0.0-0.5	38.70
		0.5-1.0	1650.00

* Note: These samples were analyzed for PCB aroclors by the EPA's laboratory.

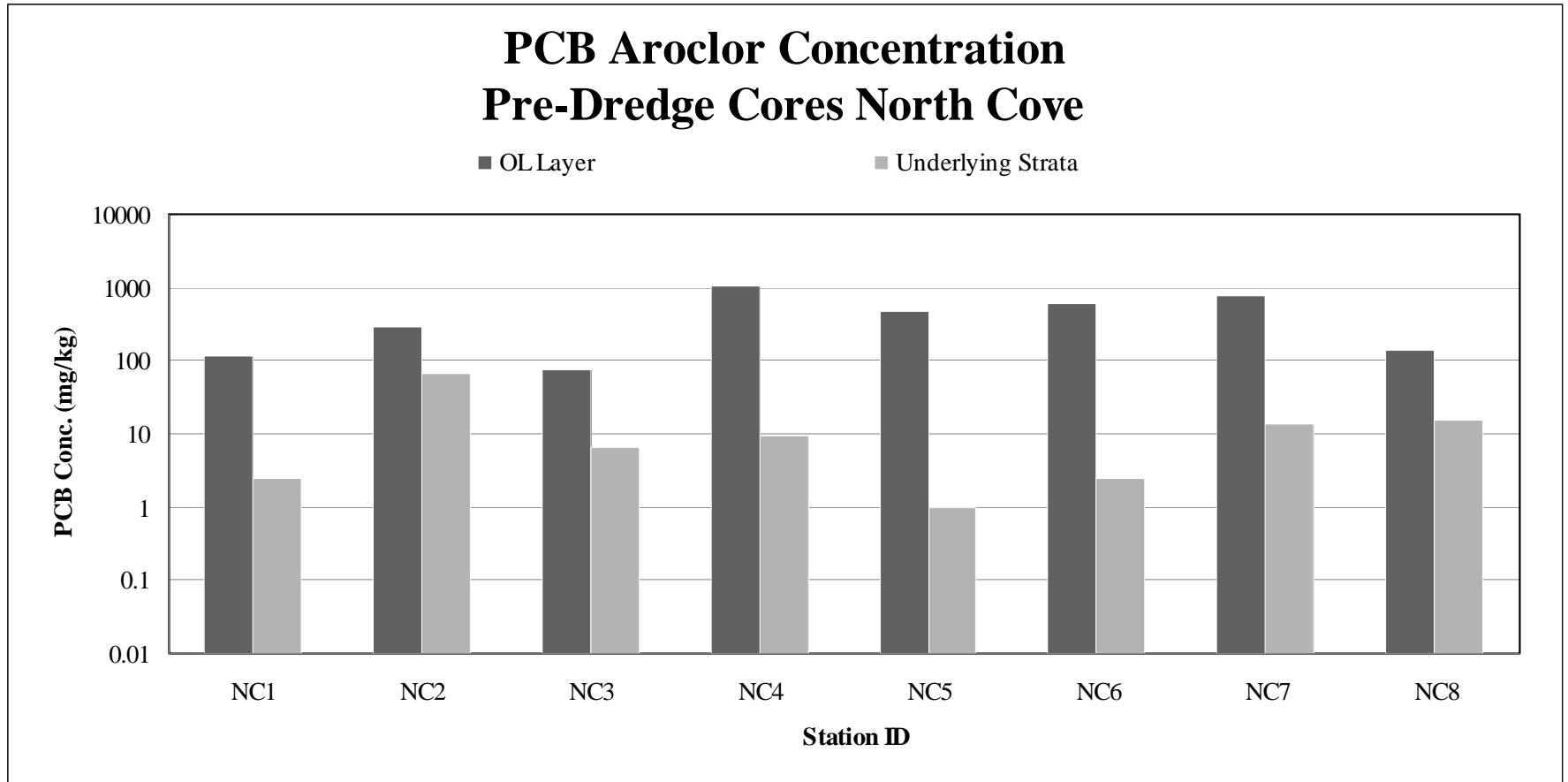


Figure 7. PCB Aroclor Concentration in North Cove Pre-dredge Cores

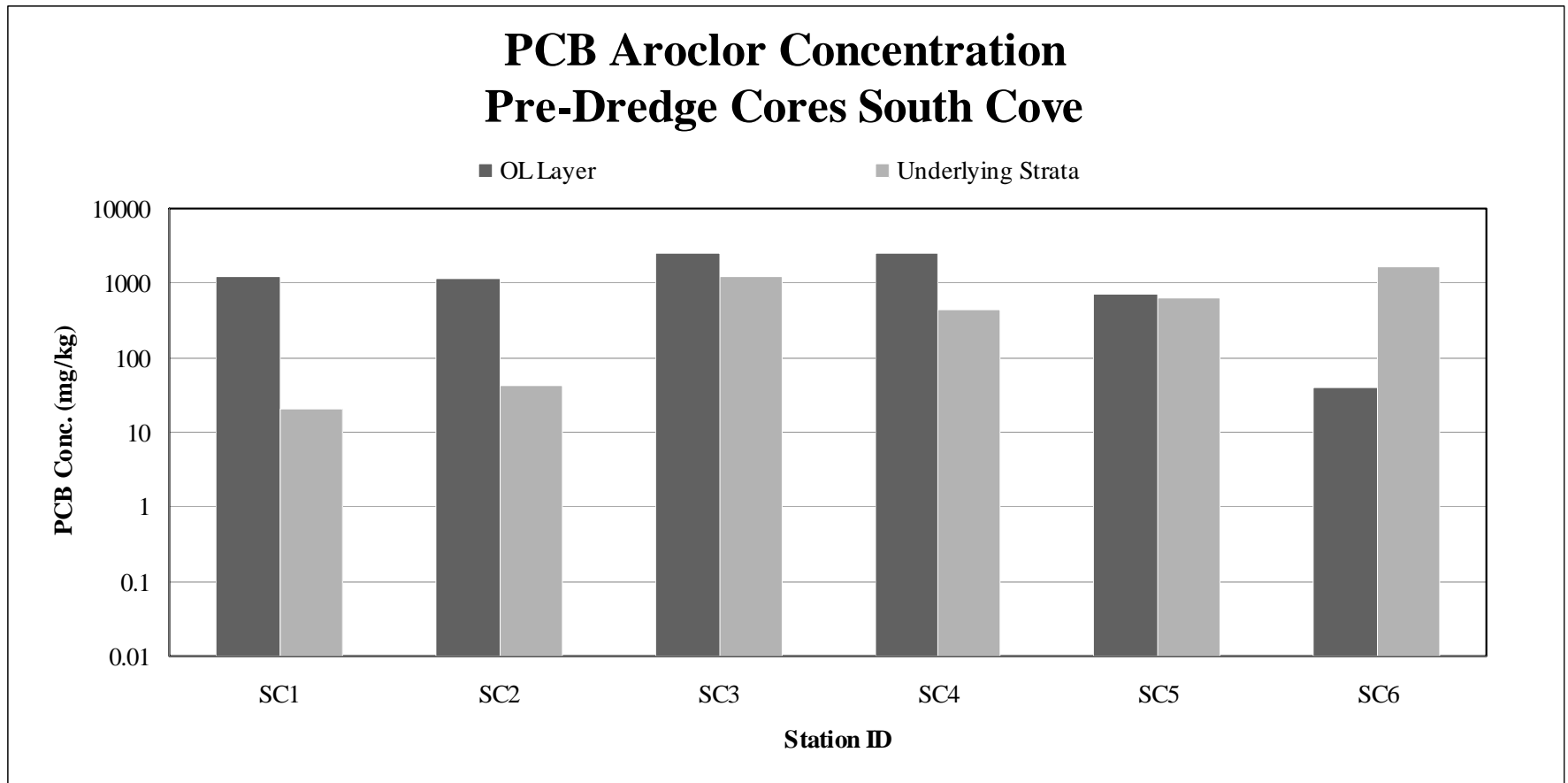


Figure 8. PCB Aroclor Concentration in South Cove Pre-dredge Cores

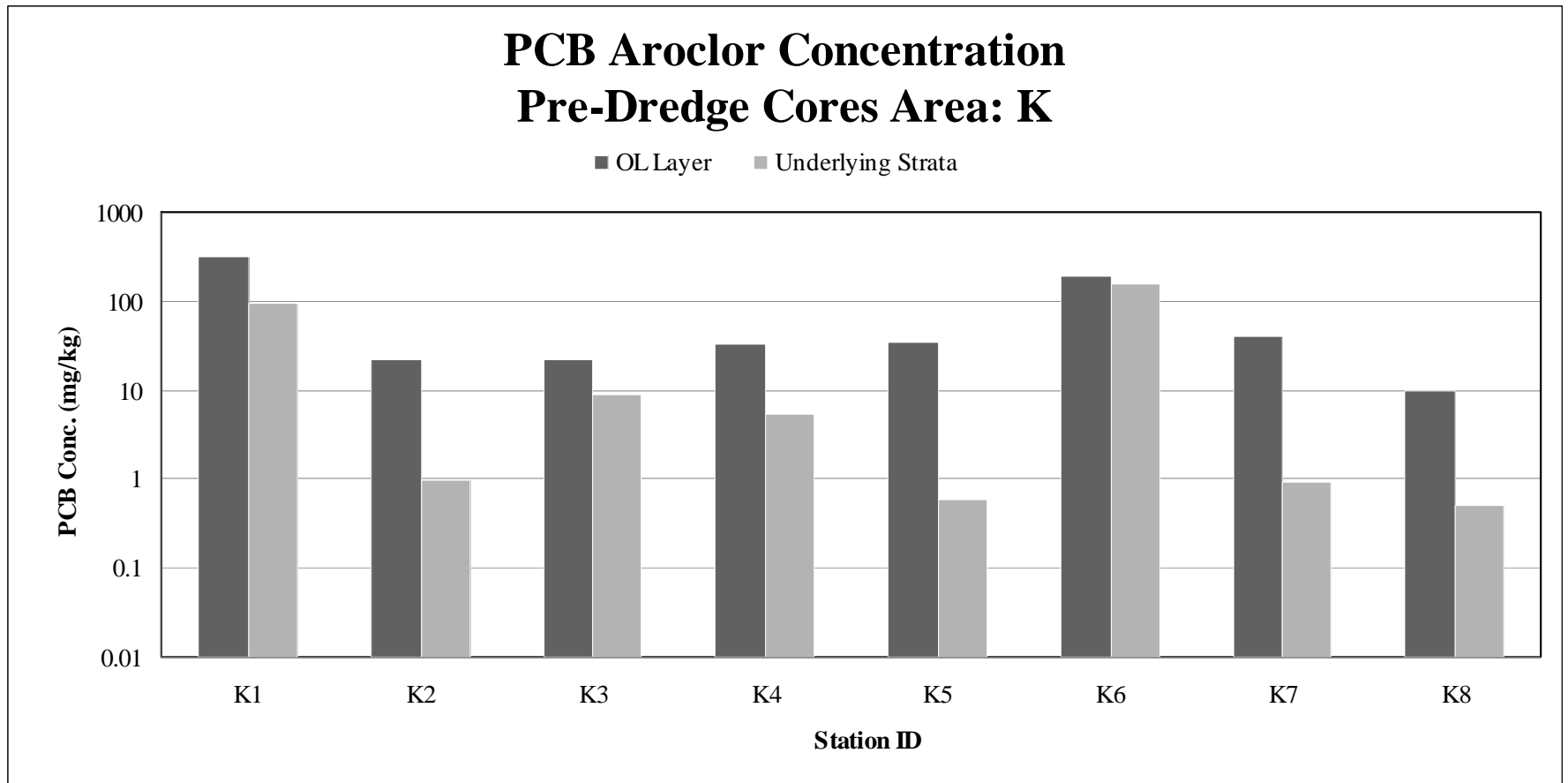


Figure 9. PCB Aroclor Concentration in Area K Pre-dredge Cores

3.2 PROGRESS-DREDGE AND POST-DREDGE CORE SAMPLING

Progress-Dredge and Post-Dredge cores were collected in August, September, November and December 2009. Cores were collected at 92 locations in Dredge Areas G, J, L, and M (Figures 10 through 13). During the September, November, and December collection events sediment cores were split open for internal sediment characterization and analytical sample collection. The internal sediment characterization was performed to confirm the presence of the OL layer and to determine the elevation of the transition between the OL and underlying strata. During the August collection event cores were externally examined in the field and disposed; no analytical samples were collected. Results from sediment characterizations and PCB congener analysis are presented in Tables 3 through 10, Figures 14 through 23 and summarized by Dredge Area below.

3.2.1 Area G

The thickness of the OL layer in Dredge Area G ranged from 0.0–1.3 feet. The underlying strata generally consisted of ML/CL or CL/ML sediment with small amounts of fine sand. The total PCB concentration (mg/kg) of the OL layer ranged from 3.81 to 371.00, with a mean of 134.01. The underlying strata had total PCB concentrations that ranged from 0.29 to 32.12, with a mean of 7.95.

3.2.2 Area J

The OL layer in Dredge Area J had a light to heavy sheen present and ranged in thickness from 0.0–1.33 feet. The underlying strata consisted of ML/CL sediment that transitioned to CL/ML at depth. The total PCB concentration (mg/kg) of the OL layer ranged from 9.94 to 1399.20, with a mean of 261.08. The underlying strata had total PCB concentrations that ranged from 0.03 to 391.32, with a mean of 50.20.

3.2.3 Area L

Dredge Area L had an OL layer with a light to heavy sheen and a strong petroleum odor present, and a thickness that ranged from 0.03–3.90 feet. The underlying strata consisted of ML/CL sediment that transitioned to CL/ML at depth. The total PCB concentration (mg/kg) of the OL layer ranged from 1.56 to 2148.19, with a mean of 321.59. Underlying strata had total PCB concentrations that ranged from 0.04 to 294.69, with a mean of 60.51.

3.2.4 Area M

The thickness of the OL layer in Dredge Area M ranged from 0.0–0.6 feet and had a slight petroleum odor. The underlying strata generally consisted of ML/CL or CL/ML sediment. The total PCB concentration (mg/kg) of the OL layer ranged from 1.12 to 55.49, with a mean of 16.59. Only two samples were collected from the underlying strata in Area M cores. These two samples resulted in total PCB concentrations 0.07 and 2.55 mg/kg.

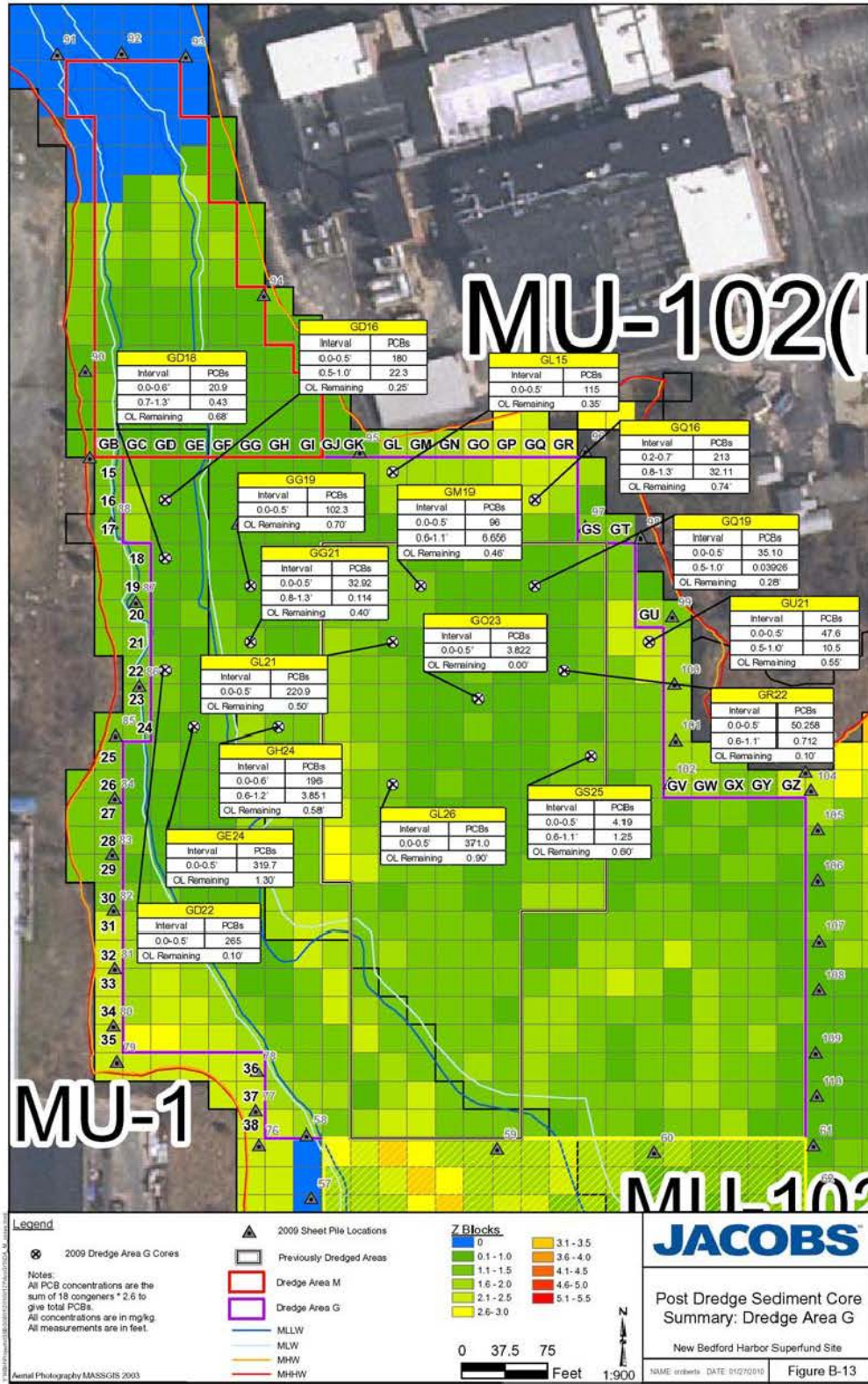


Figure 10. Area G Total PCB Concentrations and OL Thickness for 2009

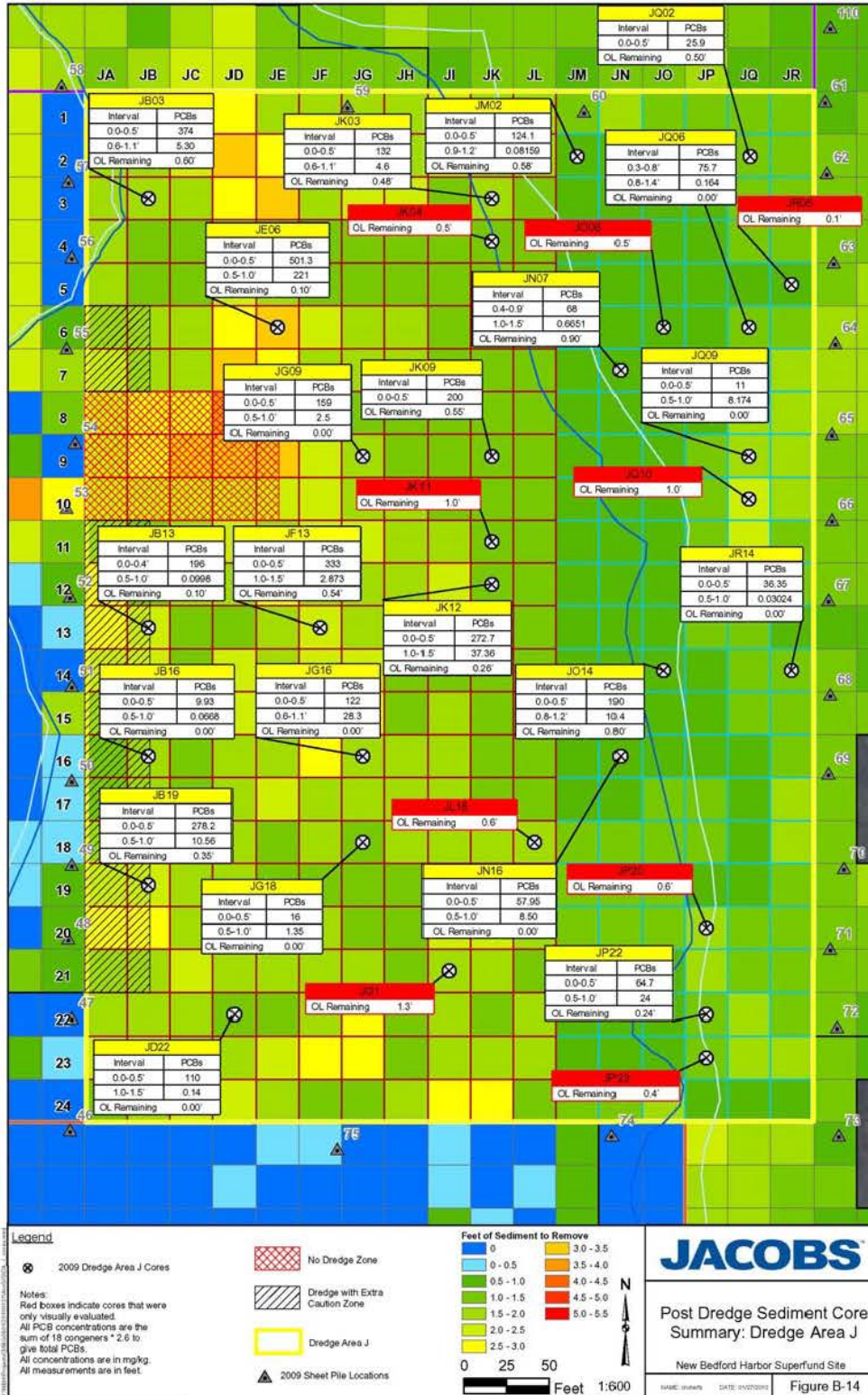


Figure 11. Area J Total PCB Concentrations and OL Thickness for 2009

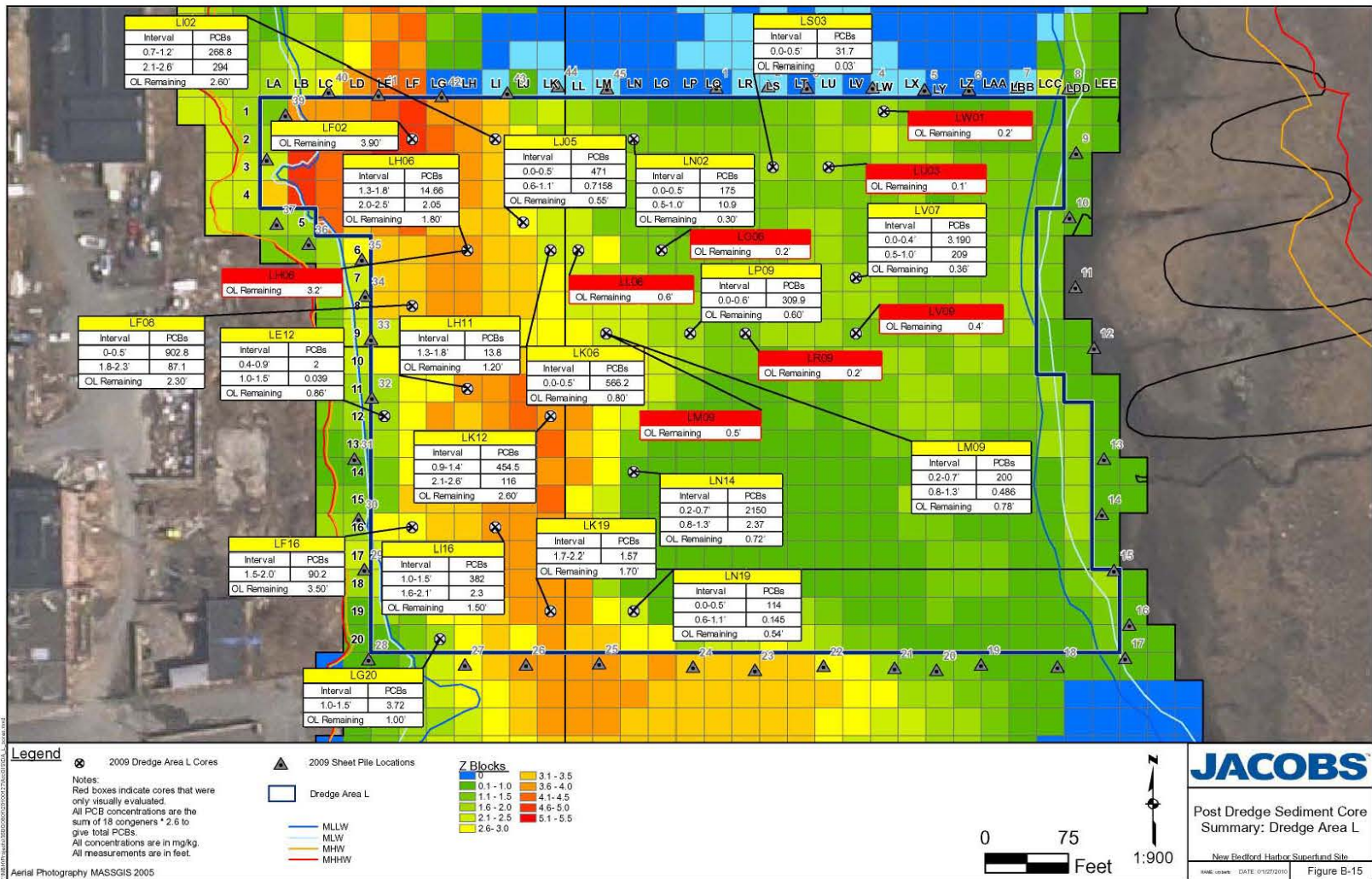


Figure 12. Area L Total PCB Concentrations and OL Thickness for 2009



Figure 13. Area M Total PCB Concentrations and OL Thickness for 2009

Table 3. Elevation Data from August 2009 Progress Dredge Sampling Event, August 12, 2009

Station ID	Northing NAD 83 MA, ft	Easting NAD 83 MA, ft	Elevation Measurements (NGVD 29 ft)			Measured Sediment Thickness of 'OL' Layer Remaining (ft)	Actual vs. Predicted Transition Elevation (ft) ^b
			Measured Elevation of Sediment Surface	Measured Elevation of Transition 'OL' to Underlying Strata)	Target Dredge Elevation ^a		
JR05	2706543.47	816137.25	-4.00	-4.10	NA	0.10	NA
JK04	2707173.89	815959.89	-4.90	-5.40	-4.80	0.50	-0.60
JO06	2707131.94	816042.14	-4.60	-5.10	-4.20	0.50	-0.90
JQ10	2707017.05	816115.79	-5.50	-6.50	-4.50	1.00	-2.00
JK11	2707003.74	815947.40	-5.90	-6.90	-4.90	1.00	-2.00
JL18	2707019.66	818251.35	-6.00	-6.60	NA	0.60	NA
JL18 (REP)	2707019.66	818251.35	-6.20	-6.90	NA	0.70	NA
JP20	2706773.78	816067.37	-5.90	-6.50	-4.70	0.60	-1.80
JP23	2706707.04	816076.93	-5.00	-5.40	-4.20	0.40	-1.20
JI21	2706754.59	815926.34	-6.10	-7.40	-6.80	1.30	-0.60
LH06	2704252.79	815101.00	-7.90	-11.10	-8.58	3.20	-2.52
LL04	2704295.95	815196.34	-7.10	-7.70	-6.88	0.60	-0.82
LM09	2704174.68	815224.49	-7.80	-8.30	-7.94	0.50	-0.36
LO06	2704253.94	815269.49	-7.40	-7.60	-6.37	0.20	-1.23
LR09	2704181.59	815347.40	-6.50	-6.70	-6.30	0.20	-0.40
LV09	2704182.24	815443.03	-5.80	-6.20	-5.68	0.40	-0.52
LU03	2704321.80	815423.86	-6.10	-6.20	-5.63	0.10	-0.57
LU03 (REP)	2704321.80	815423.86	-5.80	-5.90	-5.63	0.10	-0.27
LW01	2704376.77	815469.03	-5.70	-5.90	-5.20	0.20	-0.70

^a Source: Jacobs (2009)

^b Actual vs. Predicted = Measured Elevation of Visual Transition (ft) – Target Dredge Elevation (ft).

* Note: These samples were not analyzed.

Table 4. Elevation Data from September 2009 Progress Dredge Sampling Event, September 15–16, 2009

Station ID	Northing NAD 83 MA, ft	Easting NAD 83 MA, ft	Elevation Measurements (NGVD 29 ft)			Measured Sediment Thickness of 'OL' Layer Remaining (ft)	Actual vs. Predicted Transition Elevation (ft) ^b
			Measured Elevation of Sediment Surface	Measured Elevation of Visual Transition ('OL' to Underlying Strata)	Target Dredge Elevation ^a		
GD18	2707778.58	815573.27	-4.30	-4.98	-4.20	0.68	-0.78
GD22	2707675.36	815578.53	-5.20	-5.30	-4.70	0.10	-0.60
GE24	2707626.90	815597.07	-4.50	-5.80	-4.30	1.30	-1.50
GL21	2707701.03	815778.70	-3.76	-4.26	-2.50	0.50	-1.76
GG19	2707748.71	815646.33	-3.18	-3.88	-2.10	0.70	-1.78
GL26	2707573.46	815775.02	-2.50	-3.40	-3.00	0.90	-0.40
GH24	2707627.43	815674.48	-3.95	-4.53	-2.40	0.58	-2.13
JK24	2706675.83	815954.20	-5.90	-6.70	-7.60	0.80	0.90
JN21	2706749.24	816031.11	-5.80	-6.40	-5.40	0.60	-1.00
JK19	2706797.26	815948.82	-5.80	-5.80	-5.90	0.00	0.10
JQ18	2706822.58	816098.91	-4.60	-4.80	-4.00	0.20	-0.80
JP11	2706998.55	816074.93	-6.00	-6.00	-4.40	0.00	-1.60
JK09	2707052.61	815988.05	-6.25	-6.80	-4.50	0.55	-2.30
JN07	2707095.37	816024.18	-4.70	-5.60	-4.00	0.90	-1.60
JQ06	2707126.27	816101.38	-5.10	-5.10	-4.10	0.00	-1.00
JQ02	2707223.44	816100.71	-5.80	-6.30	-3.70	0.50	-2.60
JM02	2707228.82	816000.50	-5.80	-6.38	-4.10	0.58	-2.28
JK03	2707204.19	815950.58	-5.70	-6.18	-4.80	0.48	-1.38
LV07	2704224.78	815447.30	-5.90	-6.26	-5.62	0.36	-0.64
LS03	2704327.53	815373.73	-6.96	-7.50	-5.91	0.03	-1.59
LP09	2704175.17	815297.35	-7.35	-8.00	-6.98	0.60	-1.02
LF02	2704349.62	815050.25	-8.92	-12.83	-8.97	3.90	-3.86
LF08	2704197.79	815051.28	-8.28	-10.60	-7.50	2.30	-3.10
LK06	2704253.32	815178.42	-8.31	-9.10	-7.13	0.80	-1.97
LN02	2704350.98	815250.61	-6.60	-7.17	-6.20	0.30	-0.97

^a Source: Jacobs (2009)

^b Actual vs. Predicted = Measured Elevation of Visual Transition (ft) – Target Dredge Elevation (ft).

Table 5. Total PCB Concentrations of September Progress Dredge Cores

Station ID	Core ID	Sample Interval (ft)	Sum of 18 NOAA Congeners (mg/kg)	Total PCB ^a (mg/kg)
JK24	S-09S-C001	0.0-0.5	339.723	883.28
		1.2-1.7	7.554	19.64
JN21	S-09S-C002	0.0-0.5	191.787	498.65
		0.5-1.0	82.197	213.71
JK19	S-09S-C003	0.0-0.6	230.423	599.10
		0.6-1.2	34.793	90.46
JQ18	S-09S-C004	0.0-0.2	40.468	105.22
JP11	S-09S-C005	0.0-0.5	82.714	215.06
		1.0-1.2	0.108	0.28
JK09	S-09S-C006	0.0-0.5	77.100	200.46
JN07	S-09S-C007	0.0-0.5	26.025	67.67
		0.5-1.1	0.256	0.66
JQ06	S-09S-C008	0.3-0.8	29.110	75.69
		0.8-1.4	0.086	0.22
JQ02	S-09S-C009	0.0-0.5	9.961	25.90
JM02	S-09S-C010	0.0-0.5	47.715	124.06
		0.9-1.2	0.0314	0.08
JK03	S-09S-C011	0.0-0.5	50.778	132.02
		0.6-1.1	1.779	4.63
GD18	S-09S-C012	0.0-0.6	8.015	20.84
		0.7-1.3	0.166	0.43
GD22	S-09S-C013	0.0-0.5	102.368	266.16
GE24	S-09S-C014	0-0.5	122.946	319.66
GL21	S-09S-C015	0-0.5	84.974	220.93
GG19	S-09S-C016	0-0.5	39.356	102.33
GL26	S-09S-C017	0-0.5	142.695	371.01
GH24	S-09S-C018	0.0-0.6	75.323	195.84
		0.6-1.2	1.494	3.88
LV07	S-09S-C019	0.0-0.4	1.227	3.19
		0.5-1.0	80.288	208.75
LS03	S-09S-C020	0.0-0.5	12.178	31.70
LP09	S-09S-C021	0.0-0.5	119.186	309.90
LF08	S-09S-C023	0.0-0.5	347.240	902.80
		1.8-2.3	33.501	87.10
LK06	S-09S-C024	0.0-0.5	217.779	566.20
LN02	S-09S-C025	0.0-0.5	67.430	175.32
		0.5-1.0	4.360	11.33

^aTotal PCB = Sum NOAA 18 congeners * 2.6

Table 6. Elevation Data from October 2009 Progress Dredge Sampling Event, October 21–22, 2009

Station ID	Northing NAD 83 MA, ft	Easting NAD 83 MA, ft	Elevation Measurements (NGVD 29ft)			Measured Sediment Thickness of 'OL' Layer Remaining (ft)	Actual vs. Predicted Transition Elevation (ft) ^b
			Measured Elevation of Sediment Surface	Measured Elevation of Visual Transition ('OL' to Underlying Strata)	Target Dredge Elevation ^a		
GQ16	2707823.33	815900.80	-3.20	-3.94	-2.60	0.74	-1.34
GL15	2707846.69	815764.04	-2.60	-2.95	-2.20	0.35	-0.75
GD16	2707821.06	815568.42	-3.90	-4.15	-4.00	0.25	-0.15
GQ19	2707750.45	815901.30	-3.21	-3.49	-2.50	0.28	-0.99
GU21	2707696.48	816001.84	-3.70	-4.25	-2.20	0.55	-2.05
GS25	2707598.94	815947.87	-4.42	-5.02	-3.10	0.60	-1.92
JB03	2707202.94	815768.45	-6.92	-7.52	-6.10	0.60	-1.42
JE06	2707124.33	815819.08	-6.80	-6.90	-6.40	0.10	-0.50
JG09	2707063.94	815869.58	-5.86	-5.86	-4.60	0.00	-1.26
JO13	2706943.76	816057.09	-3.78	-4.03	-4.30	0.25	0.27
JQ15	2706901.44	816084.71	-3.10	-3.60	-4.00	0.50	0.40
JB13	2706953.76	815742.84	-7.90	-8.00	-6.80	0.10	-1.20
JG16	2706875.68	815870.87	-6.52	-6.52	-5.30	0.00	-1.22
LH11	2704125.25	815101.87	-8.25	-9.45	-8.62	1.20	-0.83
LI16	2703991.77	815121.00	-9.29	-10.79	-8.71	1.50	-2.08
LK19	2703919.20	815167.03	-9.92	-11.62	-9.75	1.70	-1.87
LG20	2703888.15	815067.06	-4.65	-5.65	-4.60	1.00	-1.05
LE12	2704100.43	815024.62	-6.77	-7.63	-5.34	0.86	-2.29
LF16	2703997.34	815048.10	-7.17	-10.67	-6.37	3.50	-4.30

^a Source: Jacobs (2009)

^b Actual vs. Predicted = Measured Elevation of Visual Transition (ft) – Target Dredge Elevation (ft).

Table 7. Total PCB Concentrations of October Progress Cores

Station ID	Core ID	Sample Interval (ft)	Sum of 18 NOAA Congeners (mg/kg)	Total PCB ^a (mg/kg)
JB03	S-09O-C004	0.0-0.5	143.966	374.31
		0.6-1.1	2.042	5.31
JE06	S-09O-C005	0.0-0.5	192.837	501.38
		0.5-1.0	84.871	220.66
JG09	S-09O-C006	0.0-0.5	61.200	159.12
		0.5-1.0	0.955	2.48
JO13	S-09O-C007	0.0-0.5	189.829	493.56
		0.5-1.1	150.506	391.32
JQ15	S-09O-C008	0.0-0.5	538.155	1399.20
		0.9-1.4	101.522	263.96
JB13	S-09O-C009	0.0-0.4	75.450	196.17
		0.5-1.0	0.0384	0.10
JG16	S-09O-C010	0.0-0.5	52.482	136.45
		0.6-1.1	10.921	28.39
GQ16	S09O-C001	0.2-0.7	81.796	212.67
		0.8-1.3	12.355	32.12
GL15	S-09O-C002	0.0-0.5	45.995	119.59
GD16	S-09O-C003	0.0-0.5	69.375	180.38
		0.5-1.0	8.559	22.25
GQ19	S-09O-C015	0.0-0.5	13.503	35.11
		0.5-1.0	0.113	0.29
GU21	S-09O-C016	0.0-0.5	18.268	47.50
		0.5-1.0	4.037	10.50
GS25	S-09O-C017	0.0-0.5	1.611	4.19
		0.6-1.1	0.480	1.25
LH11	S-09O-C011	1.3-1.8	5.349	13.91
LI16	S-09O-C012	1.0-1.5	146.55	381.04
		1.6-2.1	0.865	2.25
LK19	S-09O-C013	1.7-2.2	0.602	1.56
LG20	S-09O-C014	1.0-1.5	1.435	3.73
LE12	S-09O-C029	0.4-0.9	0.788	2.05
		1.0-1.5	0.015	0.04
LF16	S-09O-C030	1.5-2.0	34.726	90.29

^aTotal PCB = Sum NOAA 18 congeners * 2.6

Table 8. Elevation Data from Post-Dredge Sampling Event, December 14–15, 2009

Station ID	Northing NAD 83 MA, ft	Easting NAD 83 MA, ft	Elevation Measurements (NGVD 29 ft)			Measured Sediment Thickness of 'OL' Layer Remaining (ft)	Actual vs. Predicted Transition Elevation (ft) ^b
			Measured Elevation of Sediment Surface	Measured Elevation of Visual Transition ('OL' to Underlying Strata)	Target Dredge Elevation ^a		
GM19	2707749.77	815801.13	-3.55	-4.01	-2.70	0.46	-1.31
GR22	2707671.66	815924.61	-3.20	-3.30	-3.40	0.10	0.10
GO23	2707646.84	815847.37	-3.70	-3.70	-2.50	0.00	-1.20
GG21	2707700.15	815651.21	-3.00	-3.40	-2.50	0.40	-0.90
JQ09	2707053.39	816101.88	-5.05	-5.05	-4.10	0.00	-0.95
JR14	2706926.01	816125.52	-4.35	-4.35	-3.60	0.00	-0.75
JO14	2706925.48	816048.11	-5.80	-6.60	-4.10	0.80	-2.50
JN16	2706876.74	816025.68	-6.55	-6.55	-4.40	0.00	-2.15
JP22	2706725.23	816072.25	-5.00	-5.24	-4.60	0.24	-0.64
JD22	2706723.38	815803.61	-7.10	-7.10	-6.80	0.00	-0.30
JB19	2706801.96	815748.43	-6.90	-7.25	-6.80	0.35	-0.45
JB16	2706874.84	815747.93	-6.75	-6.75	-5.90	0.00	-0.85
JF13	2706948.40	815847.60	-6.00	-6.54	-5.50	0.54	-1.04
JK12	2706973.35	815943.05	-5.40	-5.66	-5.00	0.26	-0.66
JG18	2706827.13	815875.75	-6.35	-6.35	-5.10	0.00	-1.25
LN19	2703925.83	815248.96	-10.90	-11.44	-9.45	0.54	-1.99
LN14	2704053.37	815248.09	-9.00	-9.72	-8.20	0.72	-1.52
LK12	2704101.46	815174.90	-9.15	-11.75	-9.85	2.60	-1.90
LM09	2704174.68	815224.49	-9.25	-10.03	-7.94	0.78	-2.09
LH06	2704252.79	815101.00	-7.50	-9.30	-8.58	1.80	-0.72
LJ05	2704277.42	815150.93	-9.75	-10.30	-7.50	0.55	-2.80
LI02	2704350.11	815123.11	-7.80	-10.40	-7.83	2.60	-2.57
ME07	2708052.05	815598.72	-4.28	-4.88	-3.60	0.60	-1.28
MD10	2707972.91	815571.94	-4.05	-4.05	-4.36	0.00	0.31
MF12	2707924.67	815622.36	-4.50	-4.50	-3.46	0.00	-1.04
MI13	2707900.91	815699.92	-3.00	-3.10	-1.80	0.10	-1.30
MD14	2707875.75	815572.60	-4.20	-4.20	-3.71	0.00	-0.49

^a Source: Jacobs (2009)^b Actual vs. Predicted = Measured Elevation of Visual Transition (ft) – Target Dredge Elevation (ft).

Table 9. Total PCB Concentration of Post-Dredge Cores

Station ID	Core ID	Sample Interval (ft)	Sum of 18 NOAA Congeners (mg/kg)	Total PCB ^a (mg/kg)
JQ09	S-09D-C017	0.0-0.5	4.154	10.80
		0.5-1.0	3.144	8.17
JR14	S-09D-C018	0.0-0.5	13.980	36.35
		0.5-1.0	0.012	0.03
JO14	S-09D-C019	0.0-0.5	74.340	193.28
		0.8-1.2	3.996	10.39
JN16	S-09D-C020	0.0-0.5	22.294	57.96
		0.5-1.0	3.273	8.51
JP22	S-09D-C021	0.0-0.5	24.901	64.74
		0.5-1.0	9.321	24.23
JD22	S-09D-C022	0.0-0.5	43.139	112.16
		1.0-1.5	0.052	0.13
JB19	S-09D-C023	0.0-0.5	107.010	278.23
		0.5-1.0	4.059	10.55
JB16	S-09D-C024	0.0-0.5	3.824	9.94
		0.5-1.0	0.026	0.07
JF13	S-09D-C025	0.0-0.5	127.650	331.89
		1.0-1.5	1.105	2.87
JK12	S-09D-C026	0.0-0.5	104.850	272.61
		1.0-1.5	14.366	37.35
JG18	S-09D-C027	0.0-0.5	6.207	16.14
		0.5-1.0	0.518	1.35
GM19	S-09D-C013	0.0-0.5	36.570	95.08
		0.6-1.1	2.560	6.66
GR22	S-09D-C014	0.0-0.5	19.327	50.25
		0.6-1.1	0.274	0.71
GO23	S-09D-C015	0.0-0.5	1.466	3.81
GG21	S-09D-C016	0.0-0.5	12.663	32.92
		0.8-1.3	0.557	1.45
LN19	S-09D-C001	0.0-0.5	44.302	115.19
		0.6-1.1	0.056	0.15
LN14	S-09D-C002	0.2-0.7	826.225	2148.19
		0.8-1.3	0.912	2.37
LK12	S-09D-C003	0.9-1.4	174.754	454.36
		2.1-2.6	44.701	116.22
LM09	S-09D-C004	0.2-0.7	91.335	237.47
		0.8-1.3	0.189	0.49

Station ID	Core ID	Sample Interval (ft)	Sum of 18 NOAA Congeners (mg/kg)	Total PCB ^a (mg/kg)
LH06	S-09D-C005	1.3-1.8	38.139	99.16
		2.0-2.5	0.789	2.05
LJ05	S-09D-C006	0.0-0.5	180.553	469.44
		0.6-1.1	0.275	0.72
LI02	S-09D-C007	0.7-1.2	103.368	268.76
		2.1-2.6	113.343	294.69
ME07	S-09D-C008	0.0-0.5	21.344	55.49
		0.6-1.1	0.982	2.55
MD10	S-09D-C009	0.0-0.5	0.431	1.12
MF12	S-09D-C010	0.0-0.5	2.061	5.36
MI13	S-09D-C011	0.0-0.5	1.602	4.17
MD14	S-09D-C012	0.0-0.5	6.372	16.57
		0.5-1.0	0.026	0.07

^aTotal PCB = Sum NOAA 18 congeners * 2.6

Table 10. Results from Analysis of Variance (ANOVA) test between sediment layers in each area

Area	Sediment Layer	Average PCB Concentration (mg/kg)	P -value ^a
Area J	OL Layer	261.082	0.001
	Underlying Strata	50.201	
Area L	OL Layer	321.592	0.090
	Underlying Strata	60.513	
Area G	OL Layer	134.015	0.002
	Underlying Strata	7.955	
Area M	OL Layer	16.541	0.408
	Underlying Strata	1.311	
North Cove	OL Layer	432.125	0.004
	Underlying Strata	14.600	
South Cove	OL Layer	1374.783	0.176
	Underlying Strata	660.600	
Area K	OL Layer	83.363	0.276
	Underlying Strata	33.011	

^a P-value significant if less than or equal to 0.05

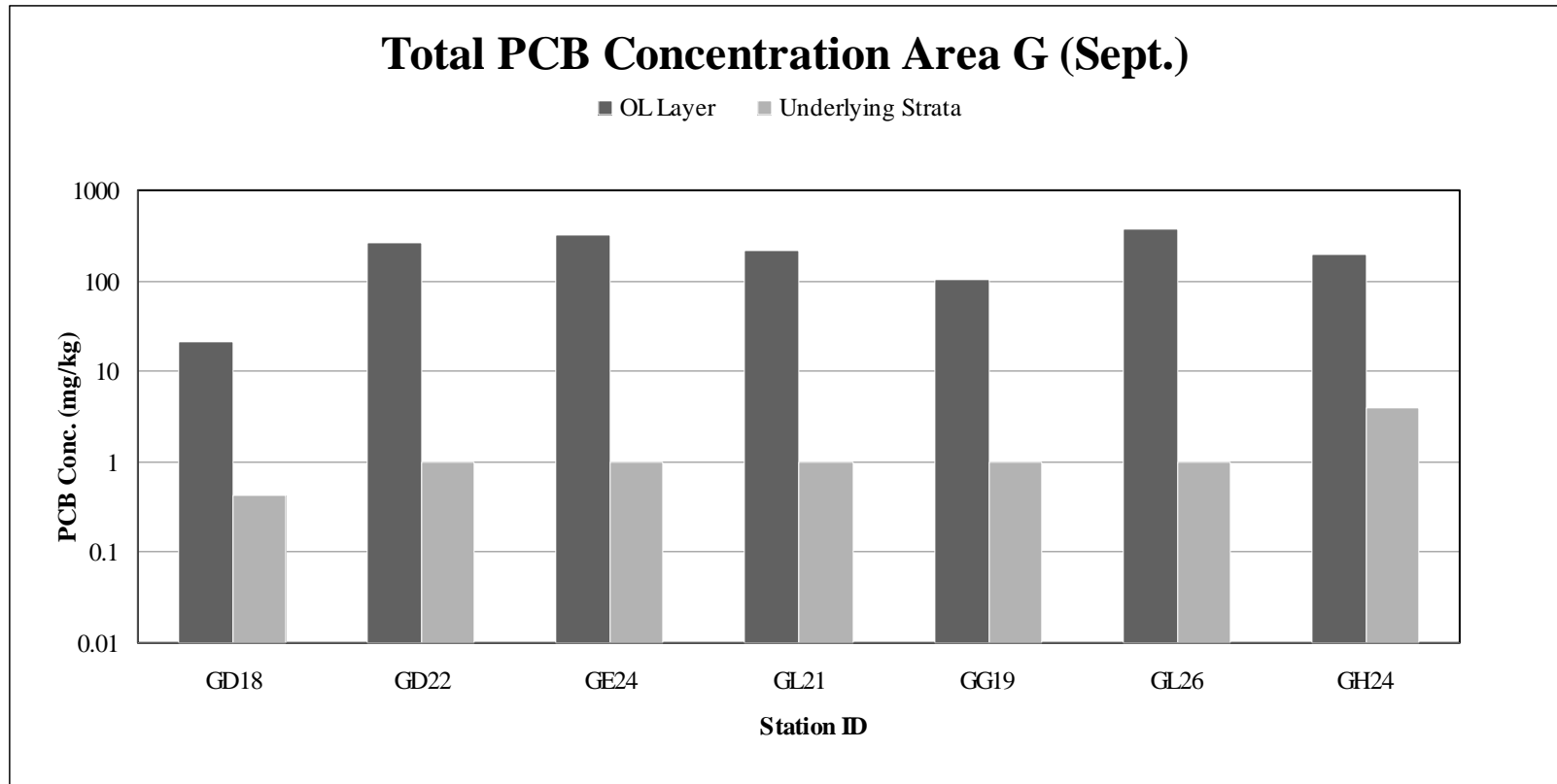


Figure 14. Total PCB Concentration in Area G for September Progress Cores

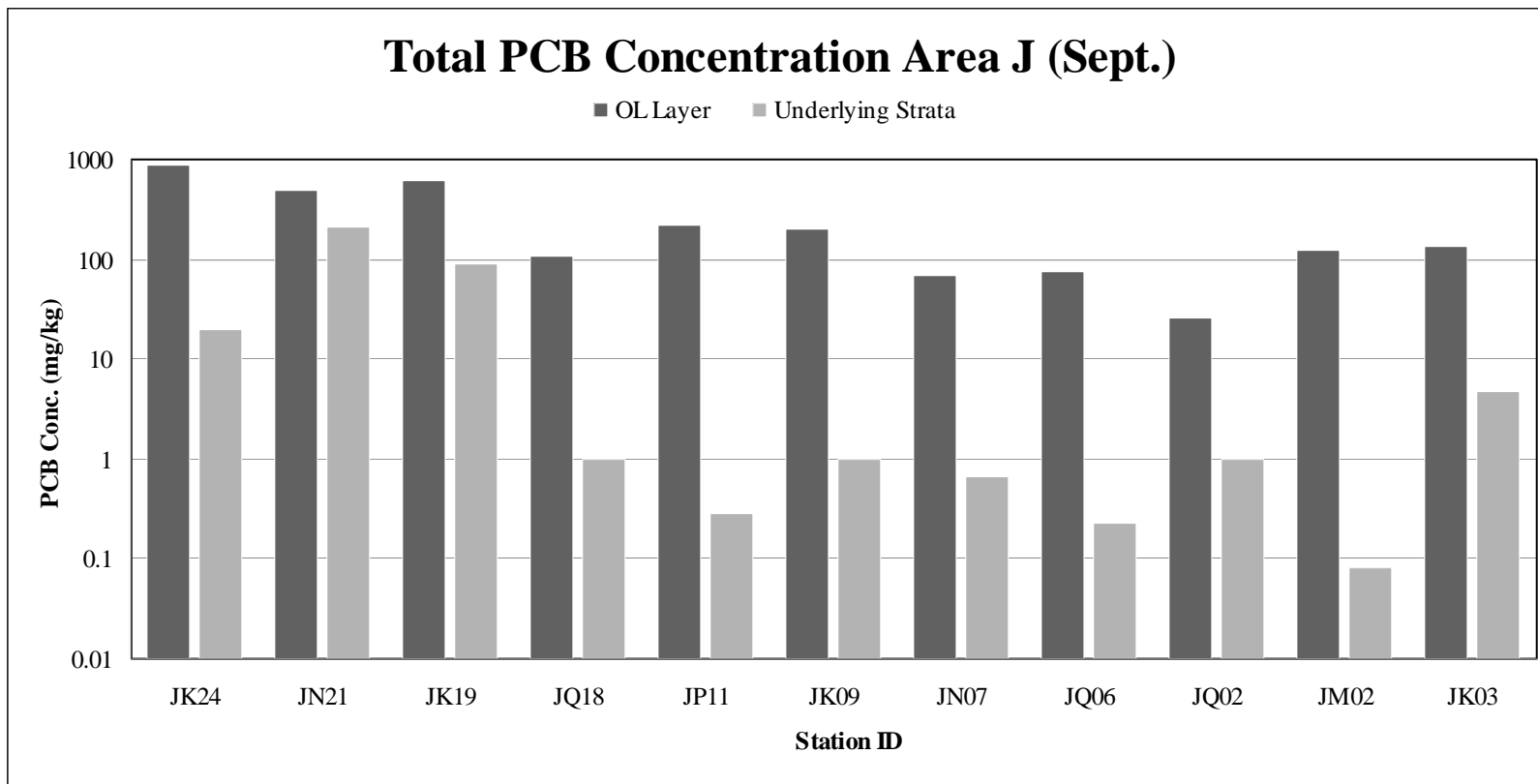


Figure 15. Total PCB Concentration in Area J during September Progress Cores

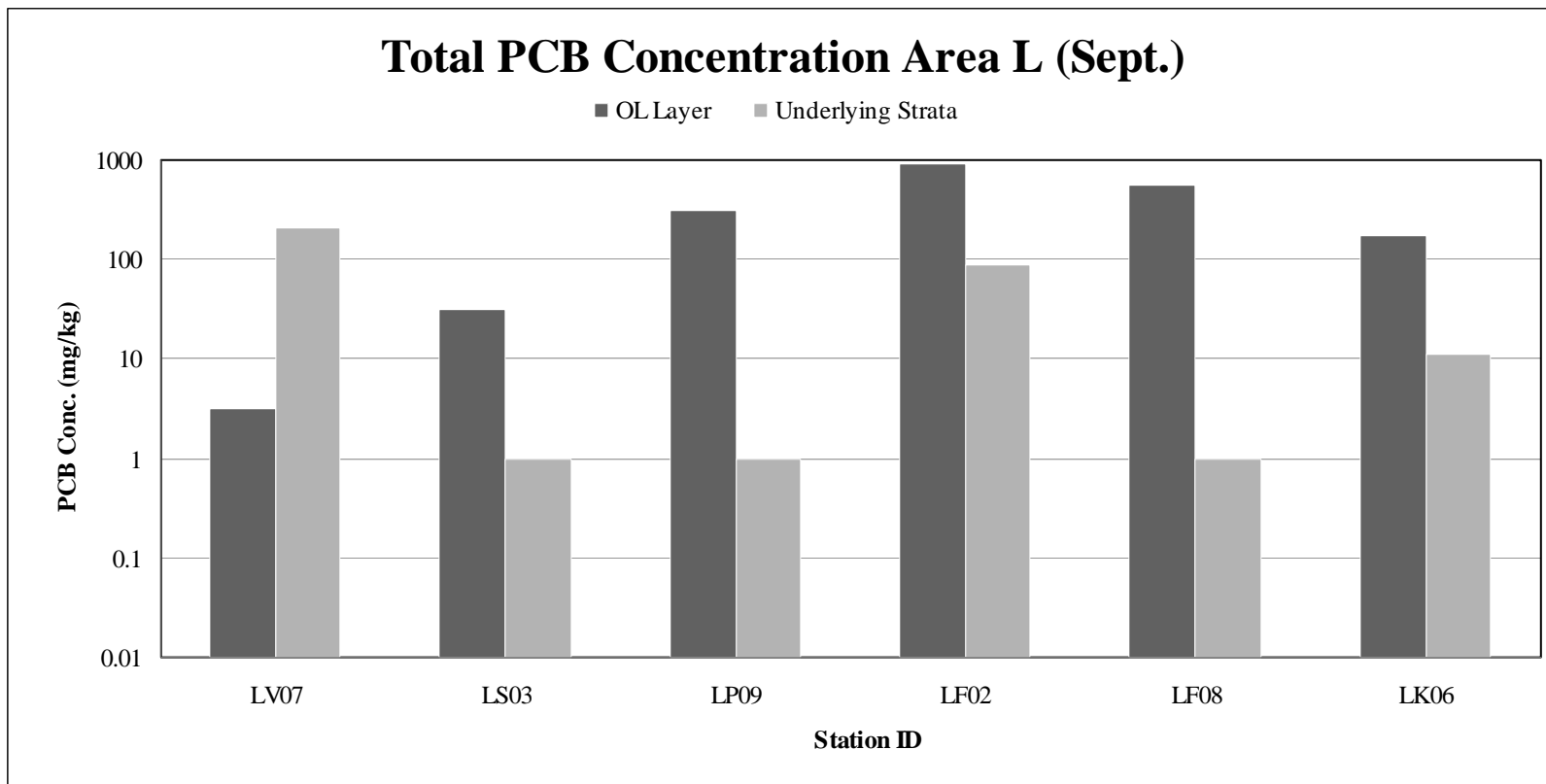


Figure 16. Total PCB Concentration in Area L for September Progress Cores

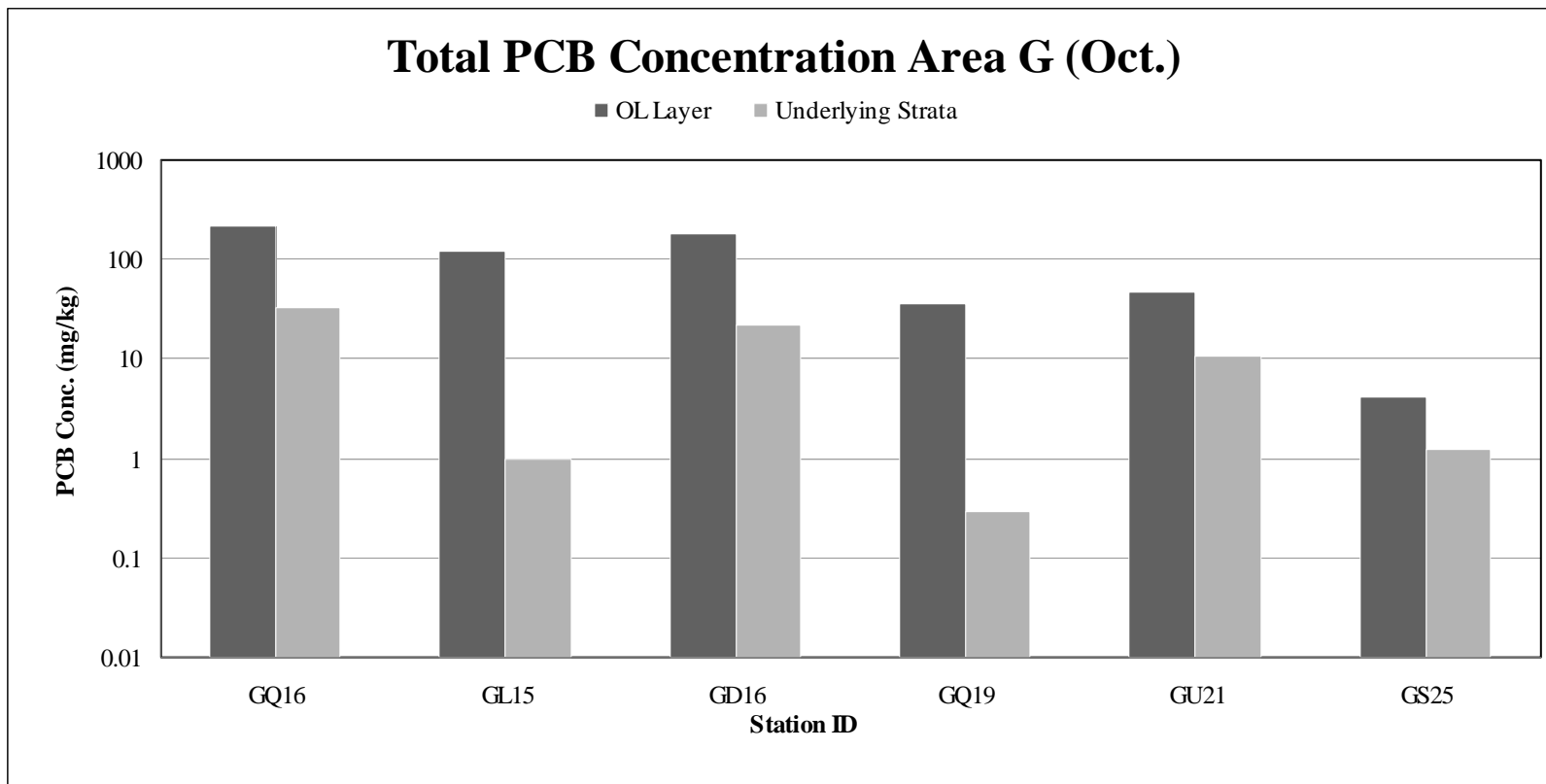


Figure 17. Total PCB Concentration in Area G for October Progress Cores

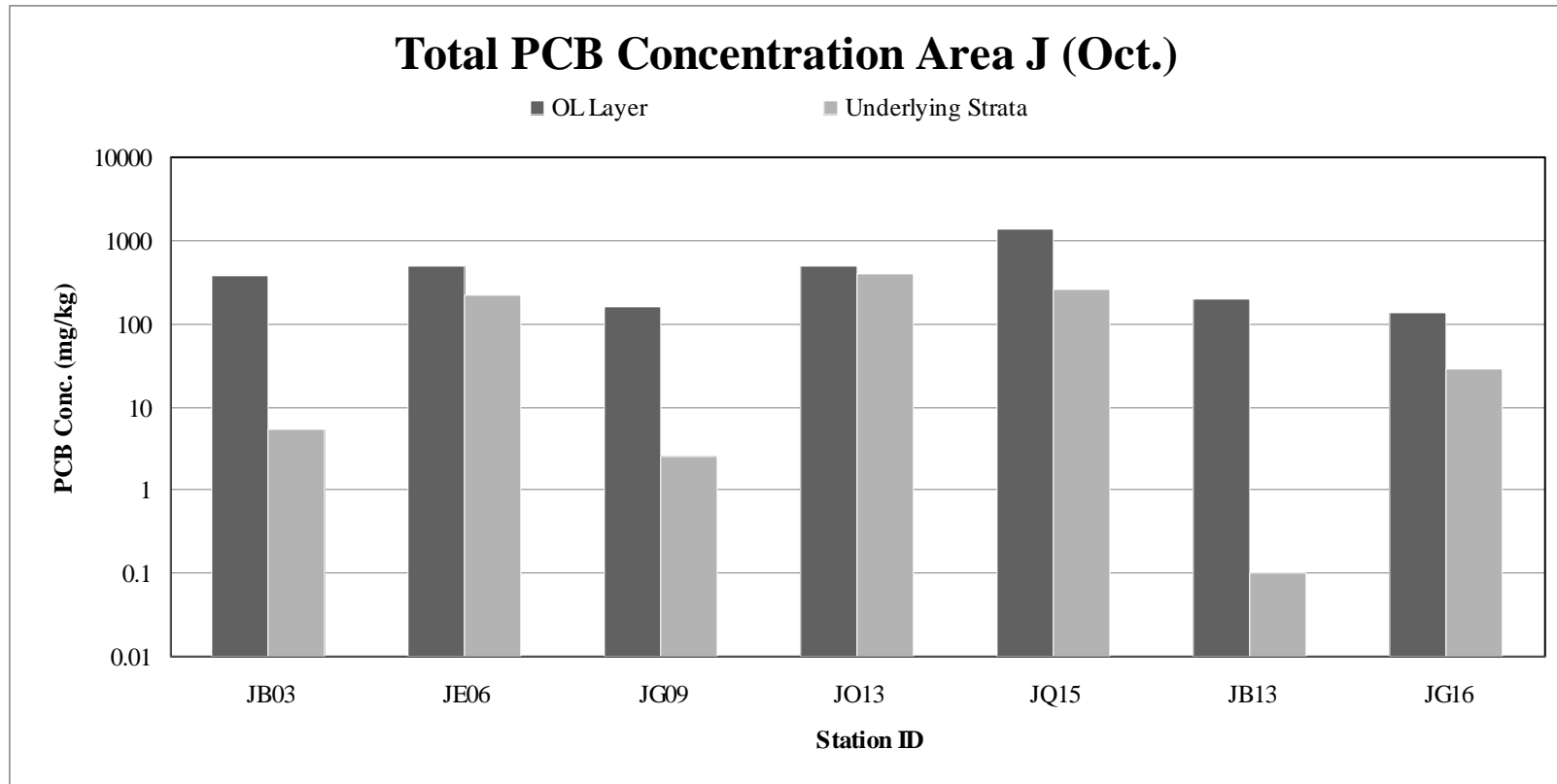


Figure 18. Total PCB Concentration in Area J for October Progress Cores

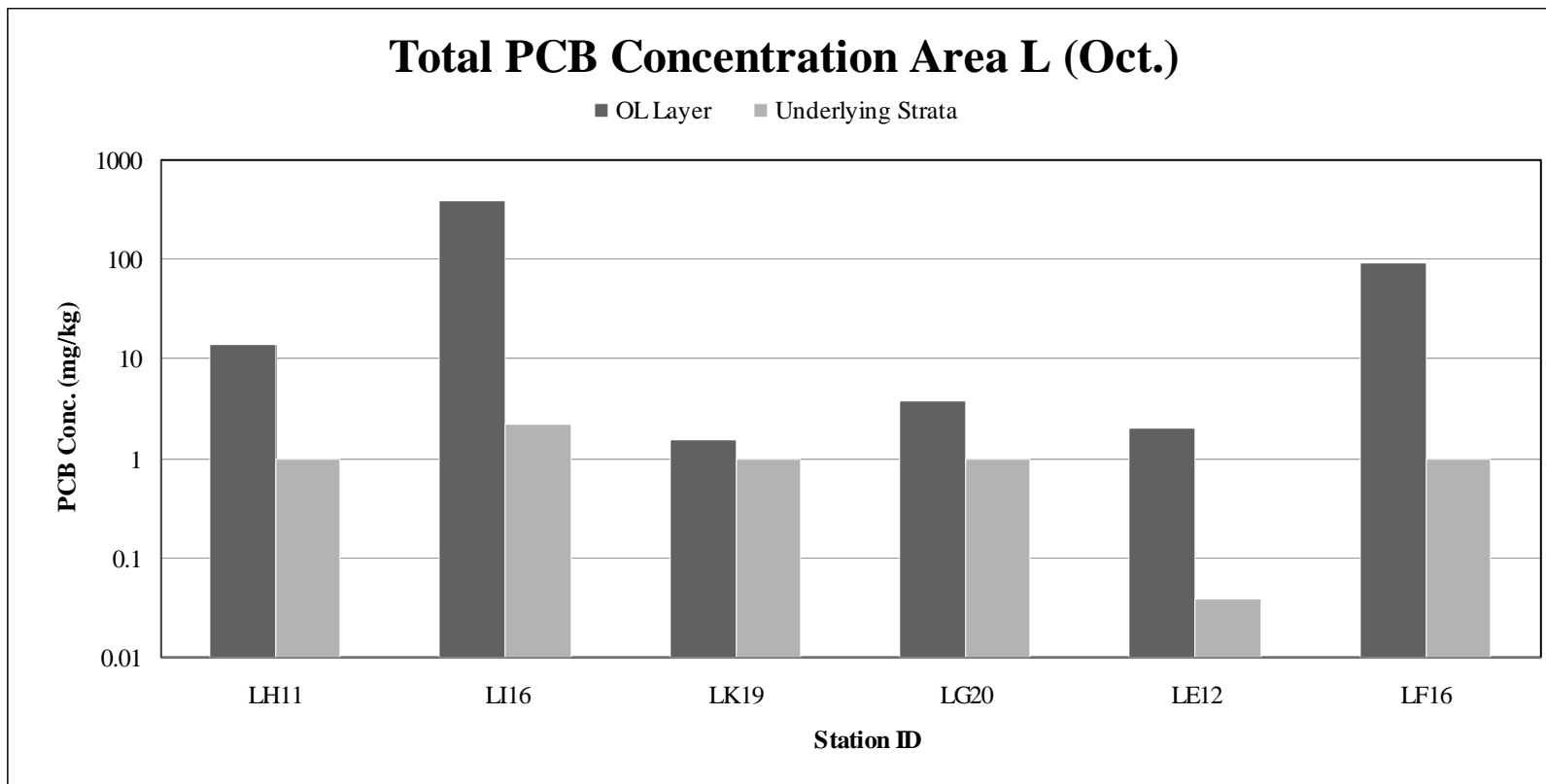


Figure 19. Total PCB Concentration in Area L for October Progress Cores

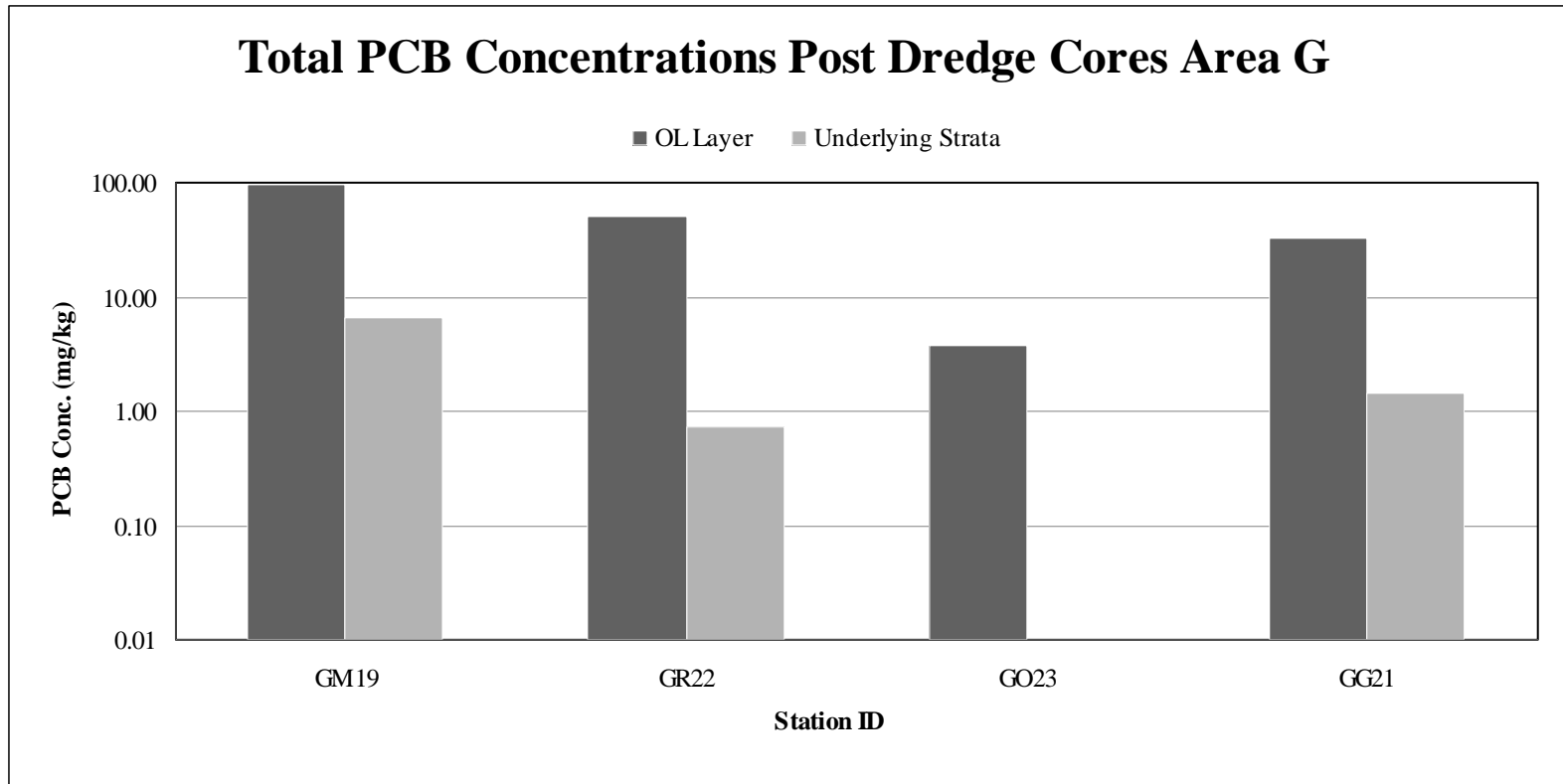


Figure 20. Total PCB Concentration in Post-Dredge Cores in Area G

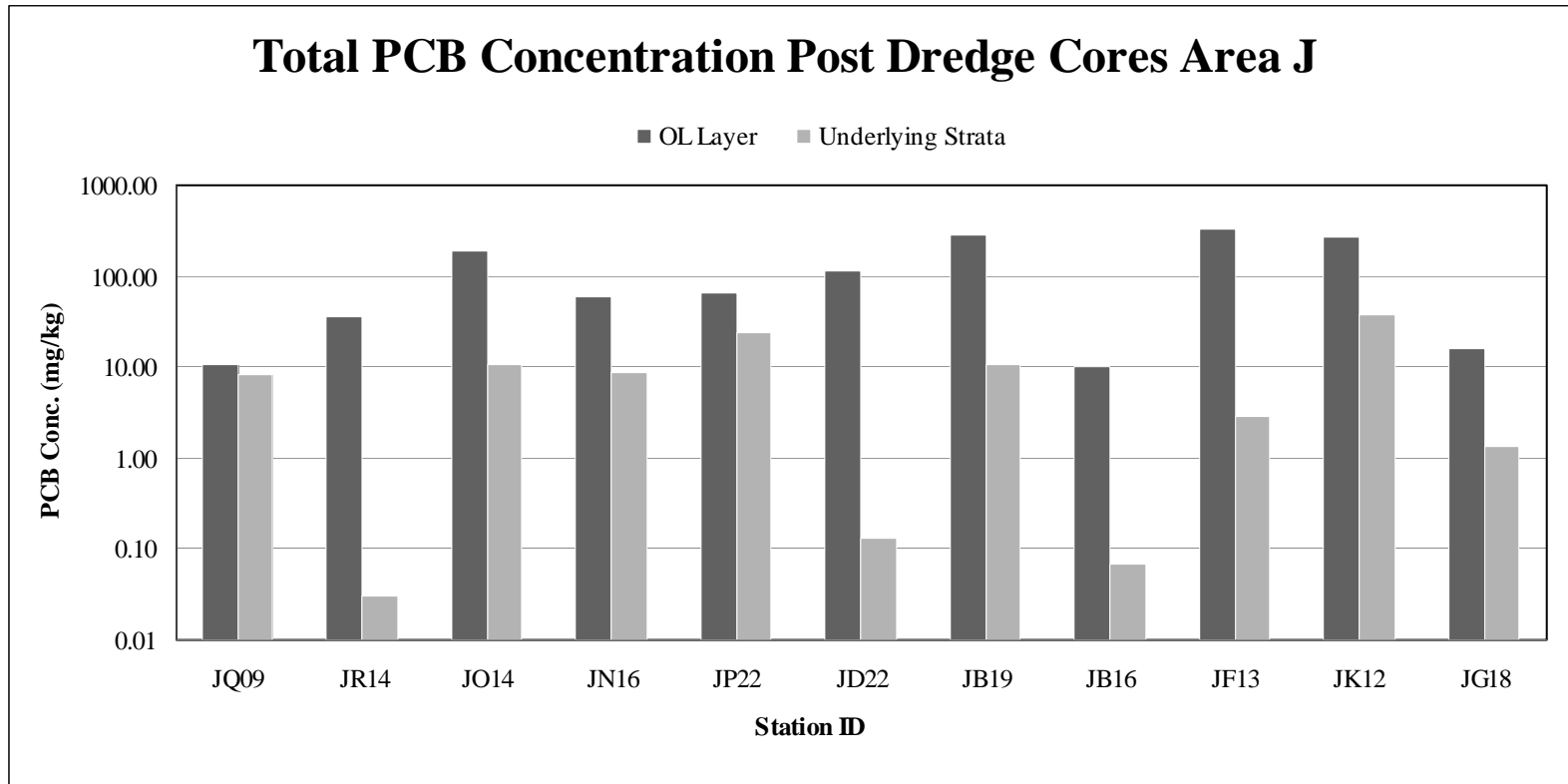


Figure 21. Total PCB Concentration in Area J of Post-Dredge Cores

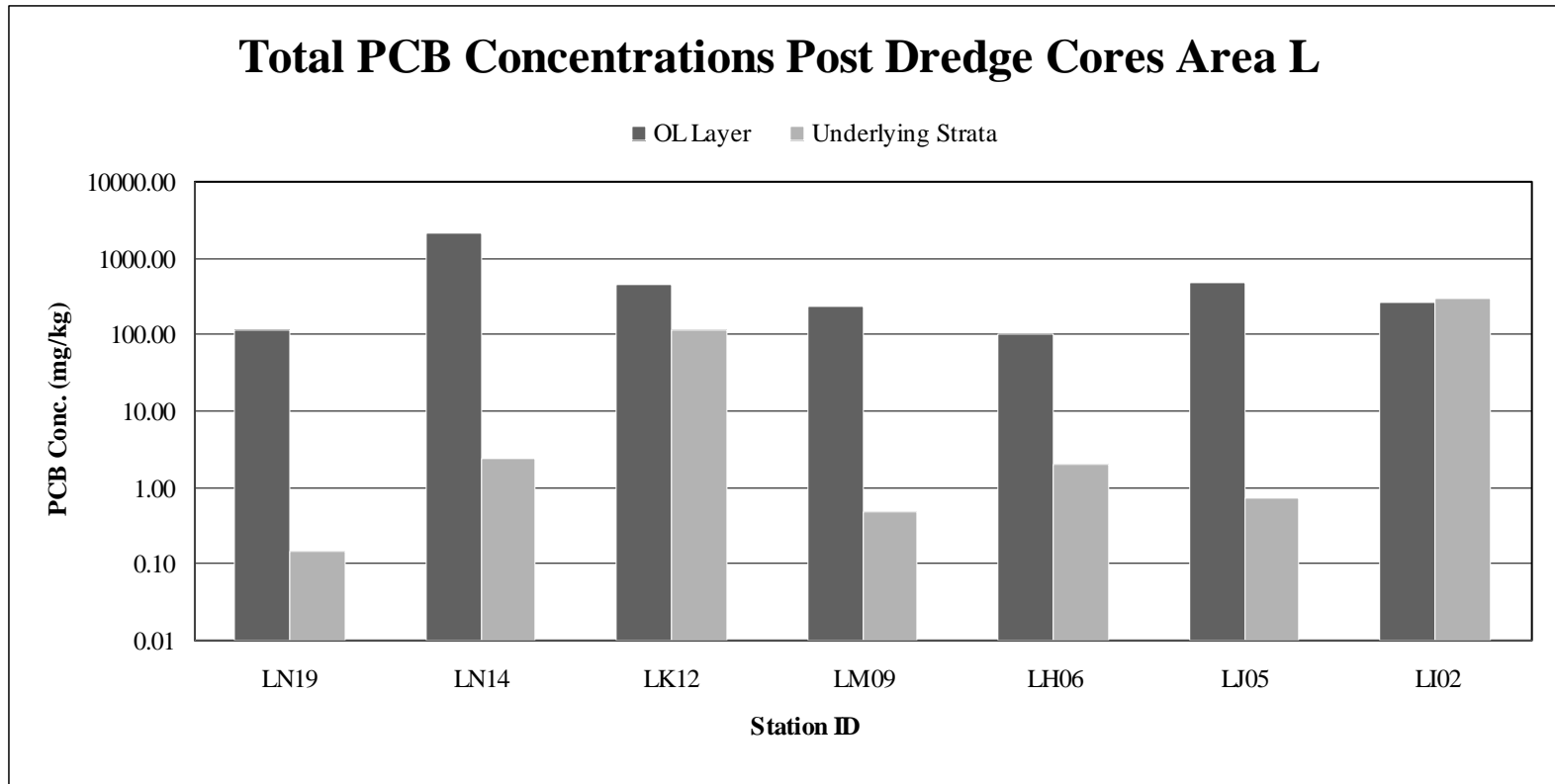


Figure 22. Total PCB Concentration in Post-Dredge Cores in Area L

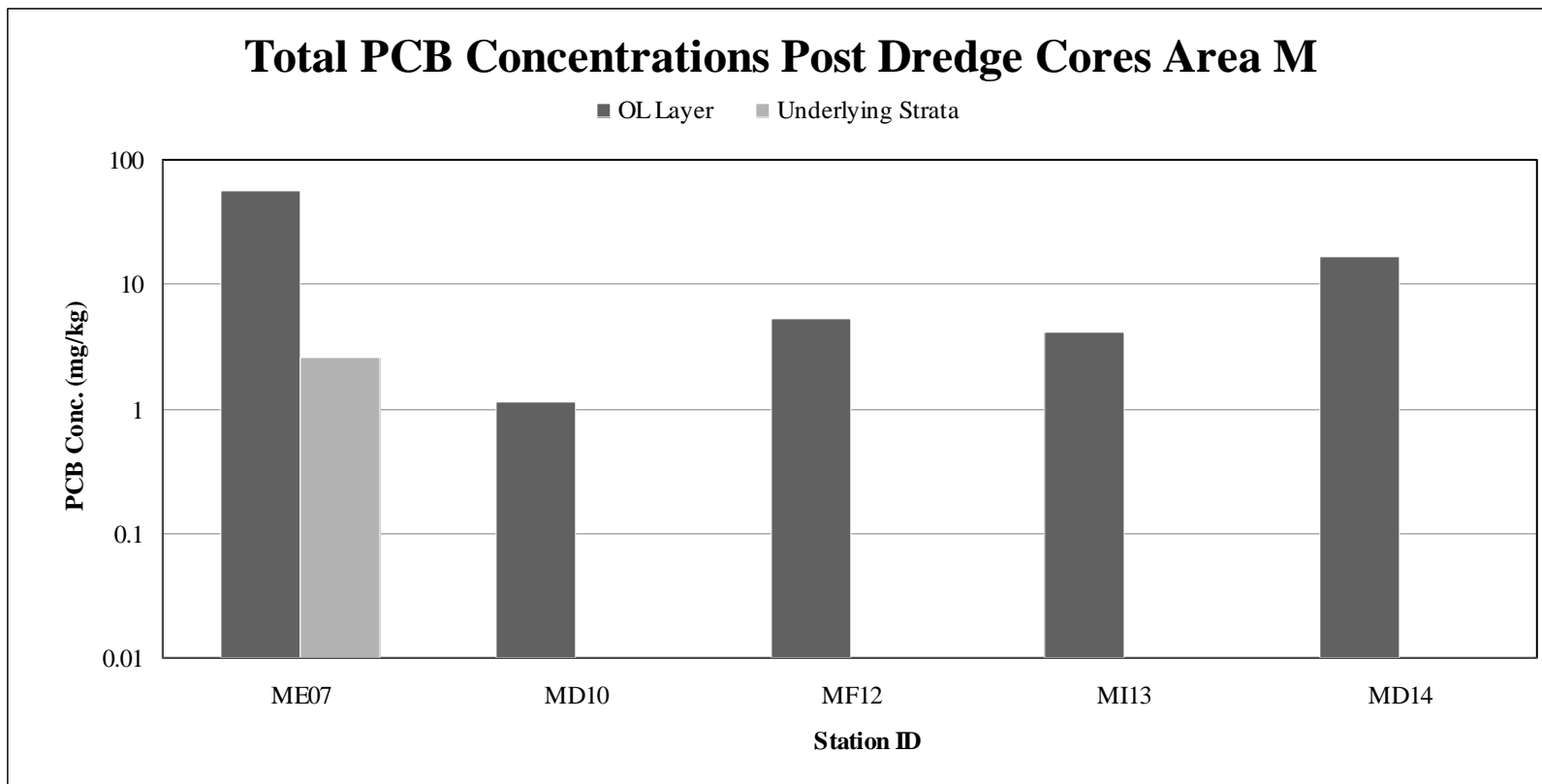


Figure 23. Total PCB Concentration in Area M from Post-Dredge Cores

4.0 DISCUSSION

This section discusses results of the sediment cores analyses and addresses trends in PCB concentrations to examine remediation efficiency, establish target dredge elevations, and plan for upcoming remediation events. It is important to note that the PCB concentration of the Pre-Dredge cores cannot be compared directly to the results from other coring events in 2009 since the total PCB concentrations of Pre-Dredge core sediments were reported from Aroclors rather than congeners (NOAA 18). However, the site-specific regression factor of 2.6, used in converting the NOAA 18 PCB congeners to total PCBs, was developed through comparisons of several hundred samples analyzed by Aroclors, homologues and congeners. Although the samples were analyzed by two different methods, the total PCB concentrations should be comparable.

Spatially, the PCB concentrations throughout active dredge Areas G, J, L and M exhibited no clear pattern. Portions of these areas were previously dredged, some multiple times, which may have had an impact of spatial distribution of the “OL” layers and PCB contaminants. Concentrations were evenly distributed throughout each area (Figures 10 through 13). The spatially homogenous distribution differs from previous years when concentrations were found to be more localized (i.e. “Hotspots”) within the dredge areas.

Results from PCB analyses of the Pre-Dredge core samples, which were collected in non-active dredge areas, did show a localized pattern. Area K exhibited the highest PCB concentrations towards the middle of the channel. In the South Cove the highest PCB concentrations were found on the northern half of the cove, closest to the Aerovox facility. The North Cove exhibited the highest concentrations within or adjacent to the natural channel; concentrations were generally lower on the flats.

In all 2009 sediment cores, with the exception of 3 cores, total PCB concentrations were higher in the samples collected from the OL layer than in the underlying strata. There was a significant statistical difference between the total PCB concentrations of the OL layer and underlying strata in Dredge Areas G and J and in the North Cove (Table 10). Statistical significance was determined by running an analysis of variance (ANOVA); results were deemed significant if p values were equal to or less than 0.05. Though there wasn't a significant difference between the layers in the other sampling areas, a clear trend in PCB concentration was still observed. The lack of significance can most likely be attributed to the smaller number of samples taken from the underlying strata (e.g. Area M). Despite the lack of statistically significant differences in all sampling areas, the relationship described in Table 10 supports the use of the visual transition between the OL and underlying strata as an adequate method to preliminarily distinguish highly contaminated surface sediment from less contaminated native sediments.

At all but a few core locations the target dredge elevation, known as “z*”, was within the OL layer and above the elevation of the visual transition. In some locations, the visual transition was observed to be up to 4.3 feet lower than z*. It is clear from these types of discrepancies that sediment core observations of the OL visual transition should supplement the use of z* as the target dredge elevation. The visual transition, as mapped

from sediment coring, can serve as a “benchmark” for confidently estimating: 1) the presence of PCB contamination, 2) the target dredge elevation required for successful removal of the highest PCB concentrations, and 3) volumes of contaminated sediment that require removal.

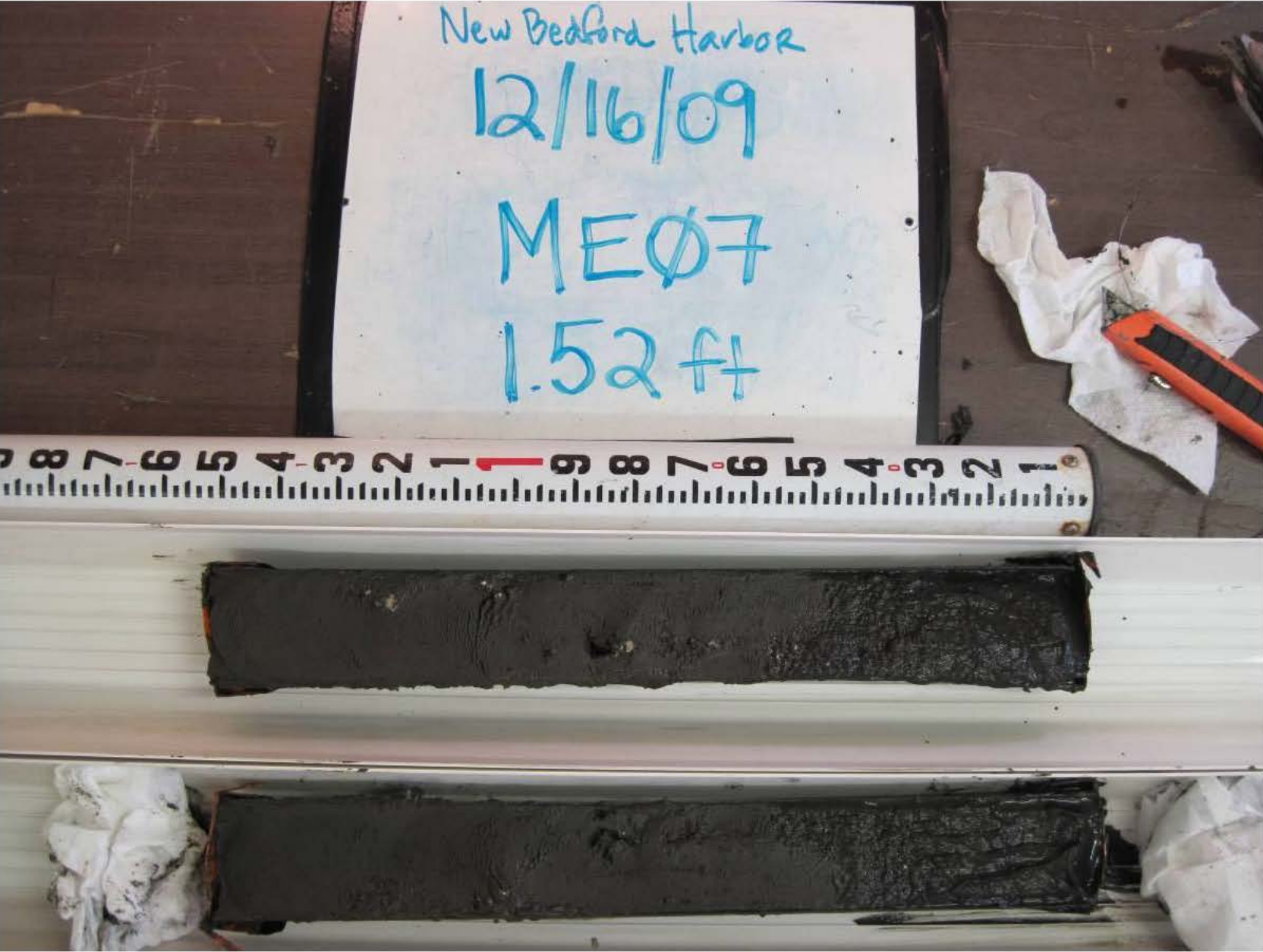
5.0 REFERENCES

Woods Hole Group. 2009A. Environmental Monitoring, Sampling and Analysis Water Quality Monitoring Field Sampling Plan. New Bedford Harbor Superfund Site, New Bedford, MA. Prepared under Contract W912WJ-09-D-0001 Task Order No 0010 for the U.S. Army Corps of Engineers New England District, Concord, MA.


Woods Hole Group. 2009B. Environmental Monitoring, Sampling and Analysis Quality Assurance Project Plan Addendum. New Bedford Harbor Superfund Site, New Bedford, Massachusetts. Prepared under Contract W912WJ-09-D-0001 Task Order No 0010 for the U.S. Army Corps of Engineers New England District, Concord, MA.

APPENDIX A: 2009 CORING PHOTOGRAPHS AND FIELD LOGS

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SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:
Station ID: <u>ME07</u>	Water Depth (A): <u>4.8</u>	
Core Sample ID: <u>S-09D-C008</u>	Length of Push Core Assembly (B): <u>12.0</u>	
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>5.5</u>	
Time On Station: <u>15:04</u>	Length of Core (from bottom) (D): <u>1.52</u>	
Latitude N: <u>41°40.650'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°54.984'</u>	Water Surface from Surveyed Elevation (F): <u>-1.7 (sheet pile #89)</u>	
GPS Accuracy: <u>10 ft.</u>	<u>@ 15:15</u>	
Predicted Tide (R): _____	All Measurements are + 0.1 feet	
Time of Collection: <u>15:07</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>15:13</u>		

Calculations for Determination of Z* Elevation

KGM 12/14/09

(G) Elevation (Elev.) of Water Surface (NGVD): E-F 2.8 - 0.7

(H) Elev. of the bottom of the core (NGVD): G - (B-C) 12/14/09 - 6.8 - 5.8

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) KGM - 5.88 - 4.88

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D -5.28 - 4.28

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A -4.1

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Internal description core split on 12/14/2009 @ 15:15

Elevation (NGVD) (C) Bottom = H	Logging Interval (USCS) Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.5	OL	Silt w/ organics and fine sand	Black (2.5Y/2.5)	Loose		Slight petrol	
0.6	OL	Silt w/ organics and fine sand	Black-v. dk gray (2.5Y/2.5) to (2.5Y/3.1)	Loose		Slight petrol	transition layer
1.1	M/CL	Silty clay - silty silt w/ occasional organic/wood debris & shellfrag.		Moderately consolidated		None	
1.52	M/CL	Silty clay or homogeneous clayey silt		well consolidated, firm.		None	

Comments:

Two samples	Time
0 - 0.5	12/14 15:30
0.6 - 1.1	12/14 15:30



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>ND10</u>	Water Depth (A): <u>4.55</u>
Core Sample ID: <u>S-09B-C009</u>	Length of Push Core Assembly (B): <u>11.8</u>
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>6.0</u>
Time On Station: <u>15:17</u>	Length of Core (from bottom) (D): <u>0.95</u>
Latitude N: <u>41° 40.637'</u>	
Longitude W: <u>70° 55.5499'</u>	
GPS Accuracy: <u>6ft</u>	
Predicted Tide (ft): <u>—</u>	
Time of Collection: <u>push core</u> ^{KEM wrong time} <u>12/14/09 15:22</u>	Surveyed Elevation (NGVD 29) (E): _____
Collection Mechanism: <u>push core</u>	Water Surface from Surveyed Elevation (F): <u>-1.6 (sheet pile # 89)</u>
Logged by: <u>KEM</u>	<u>@ 15:25</u>
Time Depart Station: <u>15:25</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

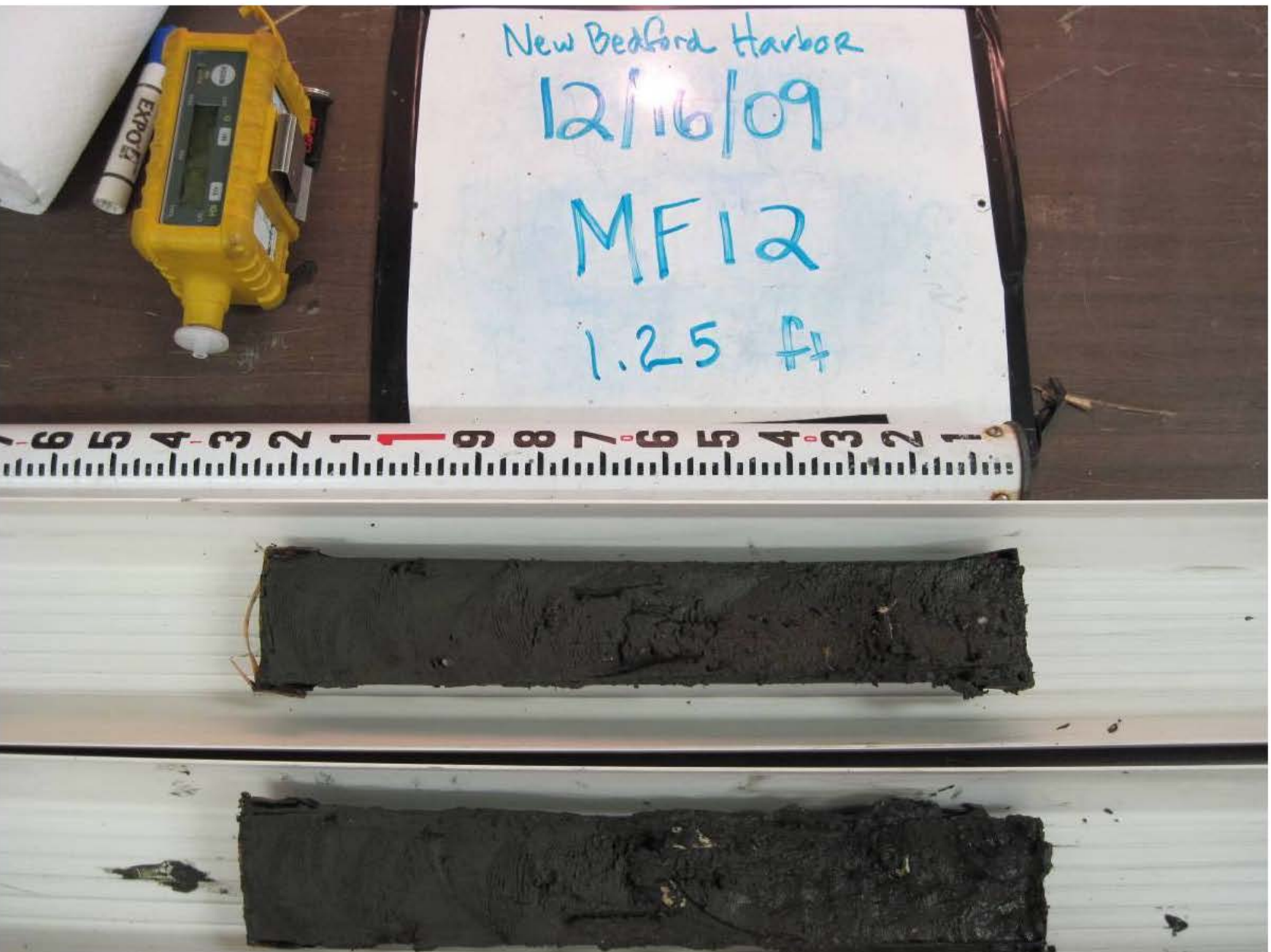
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>KEM 12/14/09</u> <u>2.9 0.8</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.0</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.15</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.05</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.75</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Internal description, core split @ 1540

Elevation (NGVD) Bottom = H	Lab. Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.1	ML	Sandy silt w/ small gravel	v. dk grey (2.5Y 3/1)	Loose-moderately consolidated	gravel	Slight petro	
0.2	ML	Silt	v. dk grey (2.5Y 3/1)	moderately consolidated		NA	
	M/CL	clayey silt - sifty clay		well consolidated		NA	
			v. dark grey (2.5Y 3/1)				
0.95							

Comments: One sample collected: time 0-0.5 12/14/09 @ 1545



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:
Station ID: <u>MF12</u>	Water Depth (A): <u>5.4</u>	
Core Sample ID: <u>S-09D-C010</u>	Length of Push Core Assembly (B): <u>11.7</u>	
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>4.75</u>	
Time On Station: <u>15:39</u>	Length of Core (from bottom) (D): <u>1.25</u>	
Latitude N: <u>41°40.629</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°57.979</u>	Water Surface from Surveyed Elevation (F): <u>-1.2 (Sheet pile # 89)</u>	
GPS Accuracy: <u>10 ft.</u>	<u>@ 15:43</u>	
Predicted Tide (ft): _____		
Time of Collection: <u>15:42</u>		
Collection Mechanism: <u>PUSH CORE</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>15:45</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation KGM 12/14/09

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.3</u> <u>1.2</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.75</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.5</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.5</u>
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-4.2</u>

(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)

Interval description, core split @ 16:00 on 12/14/09

Elevation (NGVD) to Bottom = H	Depth (USCS) Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.4		Organic Sandy silt w/shell frags	Black (2.5Y / 2.5 / 1)	Loose	coarse sand	NA	NOT an "OL" classification
0.8		Silt-sand Sandy silt w/gravel	Black - v dk gray (2.5Y 2.5 / 1 → 2.5Y / 7)	moderately consolidated	2φ gravel	NA	
1.25	M/C/L	clayey silt silty clay	v. dk grey (2.5Y 3 / 1)	well consolidated firm		NA	

Comments: One sample: 0 - 0.5 Time: 12/14; 1615



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:
Station ID: <u>MI13</u>	Water Depth (A): <u>4.3</u>	
Core Sample ID: <u>S-09D-C011</u>	Length of Push Core Assembly (B): <u>12.3</u>	
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>6.45</u>	
Time On Station: <u>15:49</u>	Length of Core (from bottom) (D): <u>1.45</u>	
Latitude N: <u>41° 40.625'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 57.962'</u>	Water Surface from Surveyed Elevation (F): <u>-1.0 (sheet pile #89)</u>	
GPS Accuracy: <u>10ft</u>	Time Depart Station: <u>15:55</u>	
Predicted Tide (ft): _____		
Time of Collection: <u>15:52</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>KEM</u>		
	All Measurements are + 0.1 feet	

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.4</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.45</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>3.1</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.0</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-2.9</u>

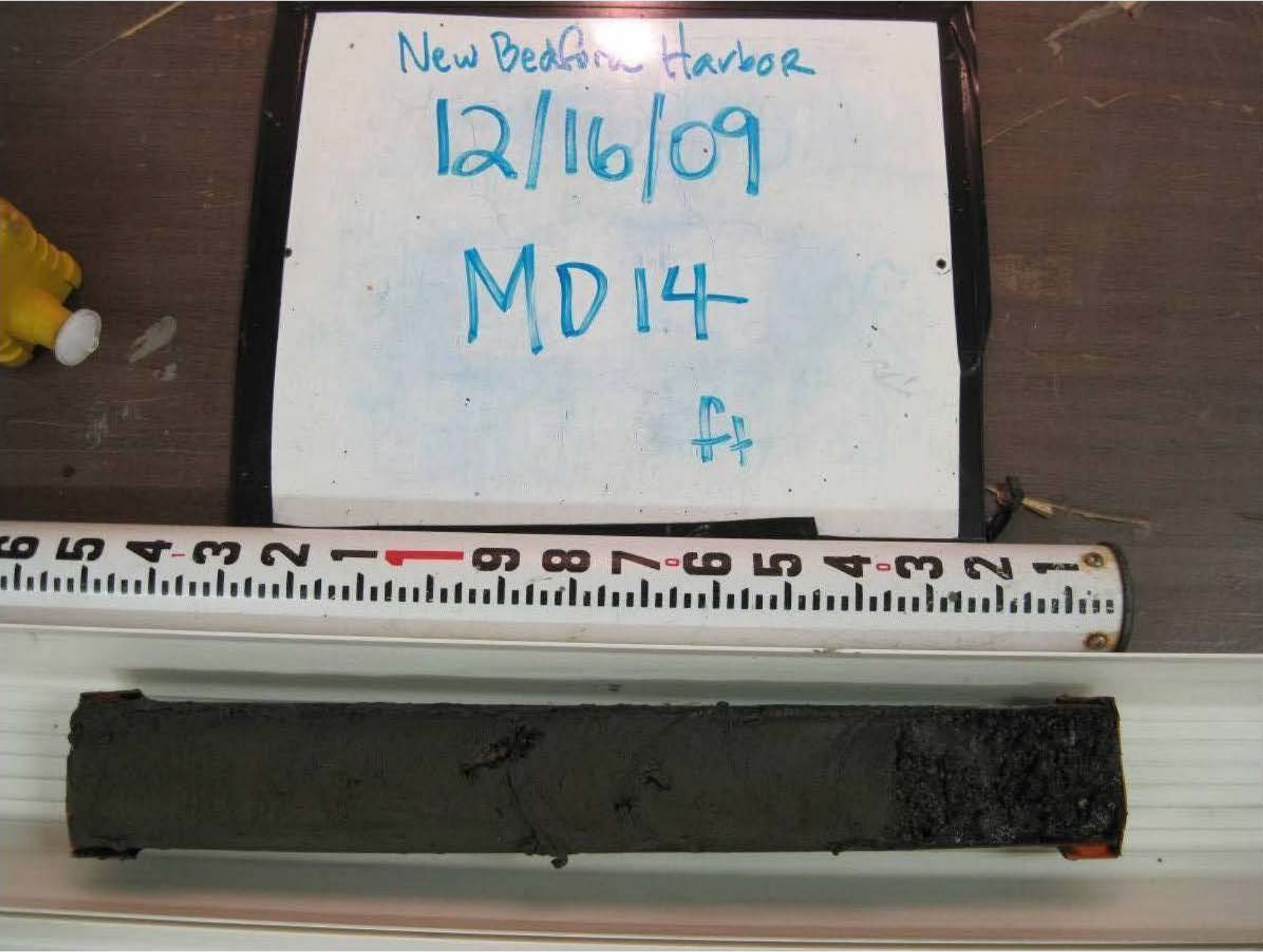
(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Internal description, core split 12/14/09 @ 1625

Elevation (NGVD) Below = H	Linearity - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.1	OL	Sandy silt w/ organics	Black (2.5 x 2.5)	Loose	med. sand	Slight petrol	- Slight sheen & odor
0.32		Silty sand w/ small gravel	v. dk grey (2.5 x 3/1)	Loose	gravel (-1 φ)	NA	
0.94	ML	Silt w/ low % sand & gravel	v. dk grey (2.5 x 3/1)	moderately well consolidated		NA	
1.45	ML / ML <u>DL</u> 12/16	Silt-clay silt w/ oyster shell frags	v. dk grey (2.5 x 3/1)	moderately well consolidated		NA	

Comments:

One sample: Time
0-0.5 12/14/09 @ 1640



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>MD14</u>	Water Depth (A): <u>5.35</u>	
Core Sample ID: <u>S-09D-C012</u>	Length of Push Core Assembly (B): <u>12.25</u>	
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>5.05</u>	
Time On Station: <u>16:07</u>	Length of Core (from bottom) (D): <u>1.50</u>	
Latitude N: <u>41° 40.621'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 54.990'</u>	Water Surface from Surveyed Elevation (F): <u>-0.9 (sheet pile #89)</u>	
GPS Accuracy: <u>17 ft.</u>	<u>016:13</u>	
Predicted Tide (ft): _____	<u>= +3.5 at sheet pile #69</u>	
Time of Collection: <u>16:11</u>		
Collection Mechanism: <u>PUSH CORE</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>16:13</u>		

All Measurements are + 0.1 feet
KGM 12/14/09
3.5 1.5

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.5</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.7</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.2</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.2</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.85</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)


Internal description, core split @ 12/16/09 16:35

Elevation (NGVD) (z*) Bottom - H	Label - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.34		SAND w/ silt & gravel; silty SAND	v. dk grey (2.5Y 3/1)	Moderately consolidated	gravel (2φ)	NA	
	MU/CL	Silty clay-silt w/ woody debris @ 0.7'	v. dk grey (2.5Y 3/1)	well consolidated homogeneous		NA	
1.50							

Comments: Two samples. Time:
0-0.5 12/16 16:45
0.5-1.0 12/16 16:45




SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>GD18</u> Core Sample ID: <u>S-09S-C012</u> Date: <u>12/8/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>Dew</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.30</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if ≠ I ₁ , within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	Linkage to USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.68		GRAVEL, SAND SILT w/ high % organics	v. dk grey				
0.90		Silty clay w/ poorly sorted sand & gravel & organics	dark grey				
		Clay	dark grey				
Comments: 2 samples 0 - 0.6 time 10:00 0.7 - 1.3 10:00							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>GD22</u>	Water Depth (A): _____
Core Sample ID: <u>S-095-C013</u>	Length of Push Core Assembly (B): _____
Date: <u>12/18/2009</u>	Water Surface to Top of Handle (C): _____
Time On Station: _____	Length of Core (from bottom) (D): <u>1.6</u>
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: _____	
Predicted Tide (ft): _____	
Time of Collection: _____	
Collection Mechanism: _____	
Logged by: <u>DRW</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD) G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____


(I₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ I₁, within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom + H)	Linkage to USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.1	OL	ORGANIC SILT	Black				
0.8		SAND, medium primarily, but fine-coarse also silt lense @ 0.25' (0.24-0.26)	dk Brown				
0.75		Sandy clay homogeneity	olive grey				
1.26		Sludge-like clayey sand	Black		medium sand	Slight Petrol odor	
1.4		SAND w/ clay & gravel	light brown				
1.6							

Comments:
 One sample Time: 1200
 0-0.5

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>GD22</u>	Water Depth (A): <u>4.6</u>	
Core Sample ID: <u>S-09S-C013</u>	Length of Push Core Assembly (B): <u>13.0</u>	
Date: <u>09/15/09</u>	Water Surface to Top of Handle (C): <u>5.8</u>	
Time On Station: <u>13:51</u>	Length of Core (from bottom) (D): <u>1.6</u>	
Latitude N: <u>41°40.588</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°054.989</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>13</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>14:00</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>0.4</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>- 6.8</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>- 6.0</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>- 5.2</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>- 4.2</u>


(Note if $\neq I_2$ within + 1.0 feet, discard and resample) ✓

Elevation (NGVD) ± Bottom - H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Sandy silt w/ clay	Dray Gray/Black	loose			
0.8		Clay	Olive Gray Clay	Firm			
1.45		Clay	Dark Grayish/Brown Clay				Alternative Horizon
1.6							Homogenous

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>GE24</u>	Water Depth (A): <u>5.2</u>	
Core Sample ID: <u>2-095-C014</u>	Length of Push Core Assembly (B): <u>12.0</u>	
Date: <u>09/15/09</u>	Water Surface to Top of Handle (C): <u>5.4</u>	
Time On Station: <u>14:11</u>	Length of Core (from bottom) (D): <u>1.4</u>	
Latitude N: <u>41° 40.580</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 54.905</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>13</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>14:17</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: <u>14:21</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>0.7</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.9</u>
$12.0 - 5.4 = 6.6$	
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-5.8</u>
$1.4 - 1.3 = 0.1$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.5</u>
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-4.5</u>

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (ft) Bottom - H	Lab. Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Clayey silt	Dark Gray to Black	Loose			Homogeneous
0.45		Clay	Dark Dark Gray	Firm			Homogeneous
1.3		Clay	Olive Gray	Firm			
1.4							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: _____ Core Sample ID: <u>GE24</u> Date: <u>9/30/09</u> <u>1520</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: _____ Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.4'</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	Laboratory Analysis or USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
	OL/CL	OL/CL Clay w/ High Organic content	dark olive grey	mod. consolidated			Sample: 0-0.5'
1.3' 1.32'		CLAYEY SAND	olive grey		med. SAND		
1.40'	CH	Clay	olive grey	Firm, Plastic, well sorted			
Comments:							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>GL21</u>	Water Depth (A): <u>3.5</u>
Core Sample ID: <u>S-095-C015</u>	Length of Push Core Assembly (B): <u>12</u>
Date: <u>09/16/09</u>	Water Surface to Top of Handle (C): <u>6.7</u>
Time On Station: <u>09:45</u>	Length of Core (from bottom) (D): <u>1.34</u>
Latitude N: <u>41°40.592</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°54.945</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>14</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>09:55</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>0.2</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.1</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.36</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.76</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.3</u>

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology (i.e. USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silty Clay	Dark Gray/Black	Firm			
0.6		Clay	Olive Gray	Firm			Plant Detritus + Shell Hash
1.34							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: _____ Core Sample ID: <u>GL21</u> Date: <u>9/30/09 1510</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: _____ Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.34'</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E - F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if $\neq I_2$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom + H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.5'	OL	Organic Clay	black to v. dark brown	Loose			Sample: 0-0.5'
1.34'	CL	Clay w/ shell matrix frags; (Some large, whole oyster shells)	olive grey	firm, mod-well consolidated clay matrix			
Comments:							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel: _____
	Client: USACE-NAE	Chief Scientist: _____

Station ID: <u>GG19</u>	Water Depth (A): <u>2.9</u>
Core Sample ID: <u>S-09S-CO16</u>	Length of Push Core Assembly (B): <u>13</u>
Date: <u>09/16/09</u>	Water Surface to Top of Handle (C): <u>7.5</u>
Time On Station: <u>10:08</u>	Length of Core (from bottom) (D): <u>2.32</u>
Latitude N: <u>41° 40.600</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>76° 54.974</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>14</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>10:15</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>10:23</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>0.0</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>- 5.5</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>- 4.18</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>- 3.18</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>- 2.9</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom - Ft)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silty Clay	Black	Firm/Moderately Pectid	Fine		
1.0		Sand/Clayey Sand	Olive Brown	Firm	Fine/Medium		Well-sorted
1.4		Clay	Olive Gray	Firm	Fine		Plant Detritus + Shell Hesh
2.32							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: _____	Water Depth (A): _____	
Core Sample ID: <u>0619</u>	Length of Push Core Assembly (B): _____	
Date: <u>9/30/09, 1442</u>	Water Surface to Top of Handle (C): _____	
Time On Station: _____	Length of Core (from bottom) (D): <u>2.32'</u>	
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: _____		
Predicted Tide (ft): _____		
Time of Collection: _____		
Collection Mechanism: _____		
Logged by: _____		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (z _{bottom} - H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
	OL	Organic clay w/ fine sand	dark grey - dark olive grey	Loose			Sample 0-0.5'
0.7'		Organic clay w/ sand	olive grey	Loose - moderately consolidated			
1.0'		Clayey SAND	Brownish-grey	firm			
1.2'		Clay w/ High % org. detritus and sand	olive grey	moderately consolidated			
1.8'		Clay		well sorted, firm.			
2.32		SMALL Frag					

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>GL26</u>	Water Depth (A): <u>1.9</u>
Core Sample ID: <u>S-09S-CO187</u>	Length of Push Core Assembly (B): <u>12</u>
Date: <u>09/16/09</u>	Water Surface to Top of Handle (C): <u>8.3</u>
Time On Station: <u>10:27</u>	Length of Core (from bottom) (D): <u>1.5</u>
Latitude N: <u>41°40.571</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°54.946</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>12</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>10:27</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.3</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.5</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-2.5</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-2.2</u>

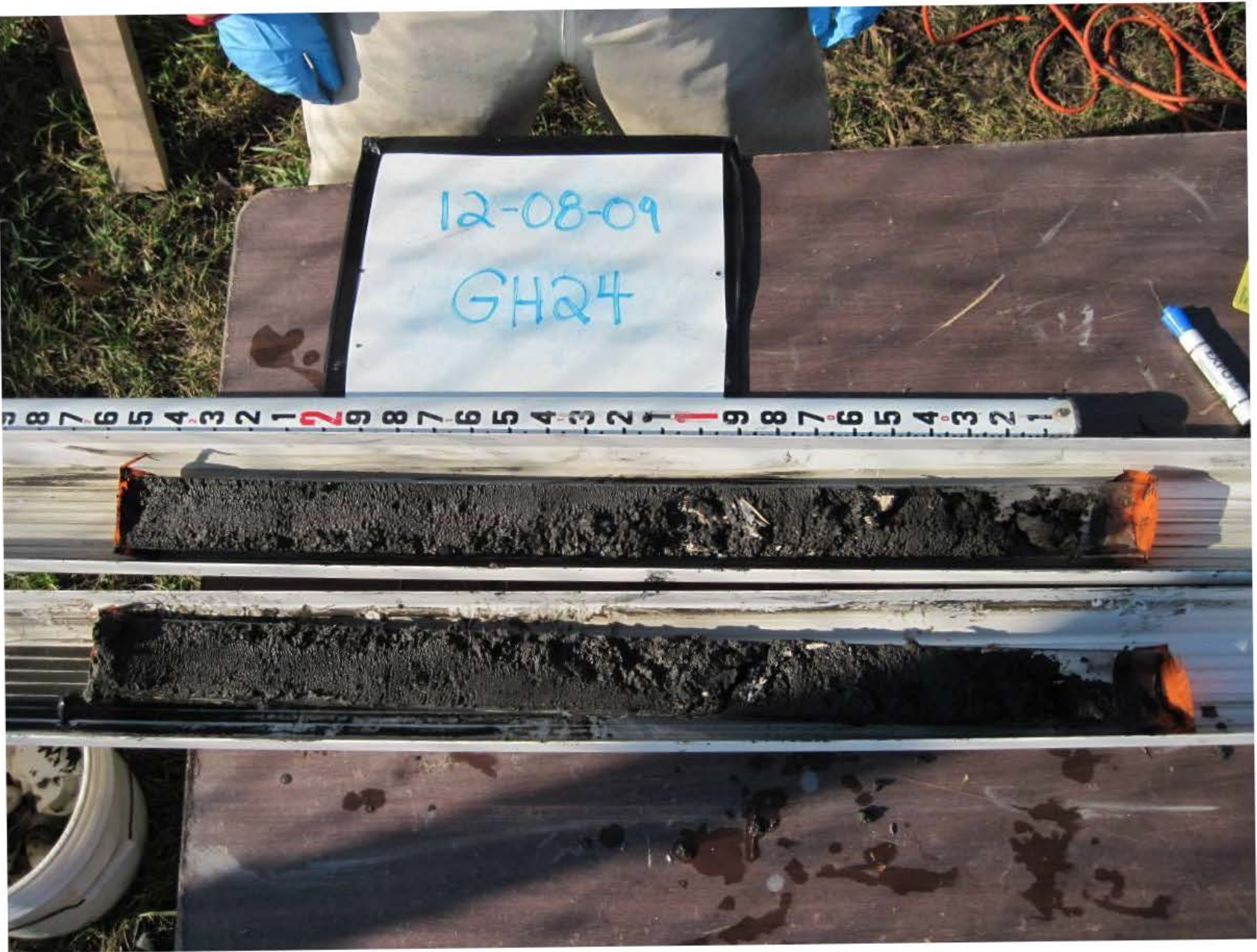
(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (ft) Bottom - H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silty Clay	Dark Gray				Homogenous
1.0		Sand	Grayish Brown	Firm			Well-sorted -possible thin layer?
1.05		Clay	Olive Gray	Firm			
1.5							


Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: _____ Core Sample ID: <u>GL26</u> Date: <u>9/30/09, 1455</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: _____ Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.5'</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom + H)	Soil/Lithology/USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.9'	OL		black to dark grey	Loose			Sample: 0-0.5'
1.1'		Clayey SAND	olive grey				
1.5'	CL	Clay	olive grey	well sorted, firm			
Comments:							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:
Station ID: <u>G124</u>	Water Depth (A): <u>2.7</u>	
Core Sample ID: <u>S-09S-C018</u>	Length of Push Core Assembly (B): <u>13</u>	
Date: <u>09/16/09</u>	Water Surface to Top of Handle (C): <u>7.1</u>	
Time On Station: <u>10:40</u>	Length of Core (from bottom) (D): <u>2.55</u>	
Latitude N: <u>41°40.380</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°54.968</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>12</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>10:44</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.6</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-6.5</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-5.15</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.95</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.3</u>

(Note if $\neq I_2$ within + 1.0 feet, discard and resample) ✓

Elevation (NGVD) (i.e. Bottom = H)	Logging - Inside USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0		Silty Clay	Black		Fine		
0.4		Clay	Dark Gray	Firm			With Organic detritus + shell hash
1.2		Clay	Olive Gray	Firm			With Organic detritus + shell hash
2.55 2.55							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>GH24</u>	Water Depth (A): _____
Core Sample ID: <u>S-195-CQ18</u>	Length of Push Core Assembly (B): _____
Date: <u>12/8/2009</u>	Water Surface to Top of Handle (C): _____
Time On Station: _____	Length of Core (from bottom) (D): <u>2.55</u>
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: _____	
Predicted Tide (R): _____	
Time of Collection: _____	
Collection Mechanism: _____	
Logged by: <u>DMW</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if $I_1 \neq I_2$ within + 1.0 feet, discard and resample)


Elevation of Core Bottom = H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.58	OL	silt w/ organics and fine sand lenses	Black				
1.0	ML	Clayey silt w/ sand & gravel and shell frags (coarser)	v. dk grey	loose			
		Clay w/ organic detritus	dk grey	homogenous			

Comments:

two samples
 0 - 0.6 time 10:25
 0.6 - 1.2 10:25



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: S-090-C001 Core Sample ID: G016 Date: 10/15/09 Time On Station: 09:23 Latitude N: 41°40.812 Longitude W: 70°54.918 GPS Accuracy: Predicted Tide (ft): Time of Collection: 09:32 Collection Mechanism: Push Core Logged by: D. Bailey Time Depart Station: 09:35	Water Depth (A): 3.2 Length of Push Core Assembly (B): 13.2 Water Surface to Top of Handle (C): 7.8 Length of Core (from bottom) (D): 2.20 Surveyed Elevation (NGVD 29) (E): - Water Surface from Surveyed Elevation (F): -	
All Measurements are + 0.1 feet		

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	0.0
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	-5.4
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	-4.86 -3.54
$2.20 - 0.74 = 1.46$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	-3.2
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	-3.2

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Limbog - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.74		Silty Clay	Very Dark Gray				- Homogenous - Organic detritus
2.20		Clay w/shell hash	Olive Gray				- Homogenous - Organic Detritus

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>GQ16</u>	Water Depth (A): _____
Core Sample ID: <u>S-090-C001</u>	Length of Push Core Assembly (B): _____
Date: <u>12/10/2009</u>	Water Surface to Top of Handle (C): _____
Time On Station: _____	Length of Core (from bottom) (D): <u>2.20</u>
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: _____	
Predicted Tide (ft): _____	
Time of Collection: _____	
Collection Mechanism: _____	
Logged by: <u>DRW</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD) E-F _____

(H) Elev. of the bottom of the core (NGVD) G - (B-C) _____

(z*) Elev. of visual transition (NGVD) (H + (distance to visual transition)) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD) H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD) G - A _____

(Note if ≠ I₁ within + 1.0 feet, discard and resample)


Elevation (NGVD) (Elev. Bottom + H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.74	oh	organic silt	Black - dark grey			pebbles	slight sheen
2.20	MLCL	Silty clay w/ fine-med sand and shell frags	dark olive grey	uniform/homogenous		H ₂ S	

Comments:

2 samples	time	QC sample W912WJ-09-D-0001 0.8 - 1.3 0902 No QC collected - DRW
0.2 - 0.7	0902	
0.8 - 1.3	0902	



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>S-090-C002</u> Core Sample ID: <u>G115</u> Date: <u>10/15/09</u> Time On Station: <u>09:42</u> Latitude N: <u>41°40.616</u> Longitude W: <u>70°54.948</u> GPS Accuracy: Predicted Tide (ft): Time of Collection: <u>09:50</u> Collection Mechanism: <u>Push Core</u> Logged by: <u>D. Bailey</u> Time Depart Station: <u>09:53</u>	Water Depth (A): <u>2.25</u> Length of Push Core Assembly (B): <u>7.7</u> Water Surface to Top of Handle (C): <u>3.4</u> Length of Core (from bottom) (D): <u>1.8</u> Surveyed Elevation (NGVD 29) (E): <u>-</u> Water Surface from Surveyed Elevation (F): <u>-</u>	
All Measurements are + 0.1 feet		

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.1</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.4</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.6</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-2.6</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-2.35</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (ft) ± Bottom = H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
		Sandy Clay	Dark Brownish Gray		Fine Sand		Homogenous - Organic detritus
1.0							
		Clay w/shell hash	Olive Gray	Well consolidated			Homogenous
1.8							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>GL15</u> Core Sample ID: <u>S-090-C002</u> Date: <u>11/17/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DWMSH</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.0'</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____ (H) Elev. of the bottom of the core (NGVD): G - (B-C) _____ (Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____ (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____ (I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____ (Note if $\neq I_2$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = F)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.35	OL	organic silt w/ fine sand	black,	Loose			
1.0	..	SAND w/ low % SILTS & CLAY	v dk. grey	firm			
1.8	ML	clayey silt w/ large shell frags.	dark olive grey	firm			
Comments: <u>one analytical sample @ 0-0.5'</u>							



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:	
Station ID: <u>S-090-C003</u>	Water Depth (A): <u>3.5</u>	Core Sample ID: <u>GDI6</u>	Length of Push Core Assembly (B): <u>7.8</u>
Date: <u>10/15/09</u>	Time On Station: <u>09:56</u>	Latitude N: <u>41°40.612</u>	Water Surface to Top of Handle (C): <u>2.6</u>
Longitude W: <u>70°54.991</u>	GPS Accuracy:	Predicted Tide (F):	Length of Core (from bottom) (D): <u>1.60</u>
Time of Collection: <u>10:04</u>	Collection Mechanism: <u>Push Core</u>	Logged by: <u>D. Bailey</u>	Surveyed Elevation (NGVD 29) (E):
Time Depart Station: <u>10:10</u>	Water Surface from Surveyed Elevation (F):		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.3</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.5</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-5.6 -4.7</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>1.6 - 0.5 = 1.1</u> <u>-3.9</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.9</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.50	-	Sandy Clay	Very Dark Grey	- Sand well sorted	Fine Grain Sand	-	Homogeneous
1.1	-	Sandy Clay w/shell hash	Brown olive Grey	-	-	-	Transition layer, possible mixture
1.6	-	Clay with organic detritus	Olive Grey/ Grey	-	-	-	1.4-1.5 wood detritus

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: GD16 Core Sample ID: S-090-C003 Date: 11/18/09 Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: KEM Time Depart Station:	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): 1.6φ Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F):	
All Measurements are + 0.1 feet		

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F

(H) Elev. of the bottom of the core (NGVD): G - (B-C)

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)

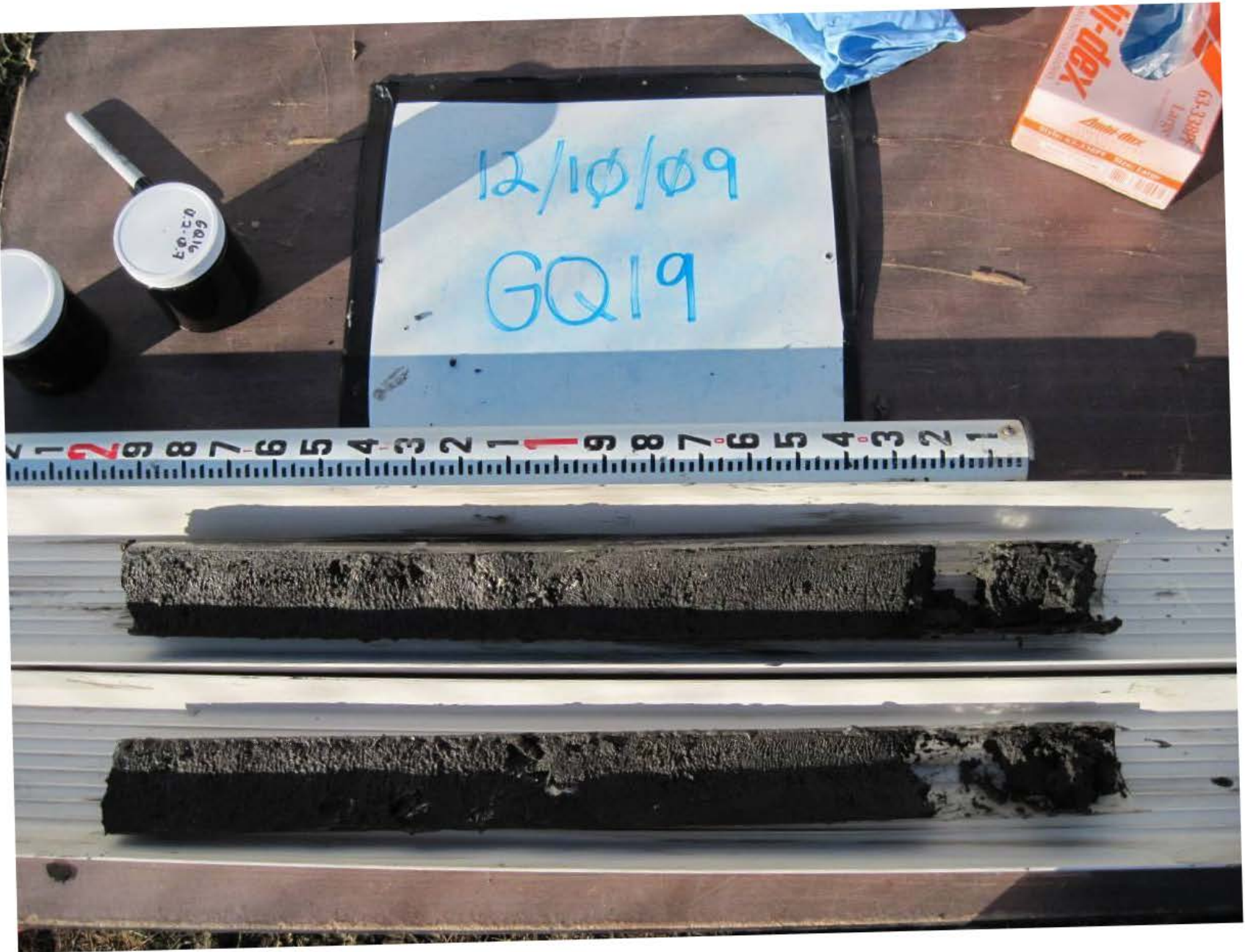
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (G.A. Bottom = H)	Language Inside USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
φ.φ							
0.25	OL	Silt w/ organics	Black	loose			-lots of organics
0.92	ML	Silty Sand w/shell hash - some clay	Very Dark Grey				-Sand is well sorted, grain size varied from fine to large
1.6φ		Clayey Silt	Olive Gray				W/ty organics and fine sand

Comments:
 Sampled @ 0-0.5 w/MSMD, 0.5-1.0



v

SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:	
Station ID: <u>6Q19</u>	Water Depth (A): <u>5.2</u>	Core Sample ID: <u>S0910-015</u>	Length of Push Core Assembly (B): <u>14.2</u>
Date: <u>10/21/09</u>	Length of Push Core Assembly (B): <u>14.2</u>	Time On Station: <u>09:00</u>	Water Surface to Top of Handle (C): <u>6.75</u>
Latitude N: <u>41° 40.600</u>	Water Surface to Top of Handle (C): <u>6.75</u>	Longitude W: <u>70° 54.918</u>	Length of Core (from bottom) (D): <u>1.94</u>
GPS Accuracy: <u>12 ft.</u>	Length of Core (from bottom) (D): <u>1.94</u>	Predicted Tide (ft): _____	Surveyed Elevation (NGVD 29) (E): _____
Time of Collection: <u>09:05</u>	Surveyed Elevation (NGVD 29) (E): _____	Collection Mechanism: <u>Push Core</u>	Water Surface from Surveyed Elevation (F): _____
Logged by: <u>KGM</u>	Water Surface from Surveyed Elevation (F): _____	Time Depart Station: <u>09:08</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>2.3</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.15</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.81</u>
$1.94 - 0.6 = 1.34$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.21</u>
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-2.9</u>

(Note if $\neq 1_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lineage - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0		Sandy clay w/ organics	dark gray	medium			organics
0.6		clay	olive gray w/ shell hash	firm			Sand is well sorted in clay shell hash
1.94							

Comments: heavy sheen on water at location: ~ 100' away from active dredging

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>GQ19</u> Core Sample ID: <u>S-090-C015</u> Date: <u>12/10/2009</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DEW</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.90</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if ≠ I ₁ , within + 1.0 feet, discard and resample)							
Elevation (NGVD) ± Bottom - H	Lithology - Include LISCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.28	OL	organic silt w/ fine sand	Black			Petrol	
1.90	ML/LW	clayey silt w/sand - silty clay w/sand - sand-silt clay variations in bedding texture, though not in any significant vertical layers	olive grey			slight H ₂ S	
Comments: Two samples, time 0 - 0.5' 0919 0.5 - 1.0' 0919 * potentially archive sample, analysis pending analysis results from 0-0.5 interval?							



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:	
Station ID: <u>6021</u>	Water Depth (A): <u>5.4</u>	Core Sample ID: <u>S070-#16 016</u>	Length of Push Core Assembly (B): <u>14.2</u>
Date: <u>10/21/09</u>	Water Surface to Top of Handle (C): <u>5.06</u>	Time On Station: <u>09:14</u>	Length of Core (from bottom) (D): 2.85 <u>2.85</u>
Latitude N: <u>41°40.591</u>	Surveyed Elevation (NGVD 29) (E): _____	Longitude W: <u>70°54.896</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>13 ft.</u>	All Measurements are + 0.1 feet		
Predicted Tide (ft): _____			
Time of Collection: <u>09:21</u>			
Collection Mechanism: <u>push core</u>			
Logged by: <u>KGM</u>			
Time Depart Station: <u>09:24</u>			

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>2.6</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-6.55</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.15</u>
$2.85 - 0.45 = 2.4$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.7</u>
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-2.8</u>

(Note if $\neq 1_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Logging (include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
<u>0</u>		<u>sandy clay</u>	<u>dark brown grey</u>	<u>medium</u>			<u>shell hash</u>
<u>0.45</u>		<u>clay</u>	<u>dark olive grey</u>	<u>firm</u>			
<u>1.2</u>		<u>clay</u>	<u>olive grey</u>	<u>firm</u>			
<u>2.0</u>							<u>lots of shell hash</u>
<u>2.3</u>							
<u>2.85</u>							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>GUZ1</u>	Water Depth (A): _____
Core Sample ID: <u>S-090-C016</u>	Length of Push Core Assembly (B): _____
Date: <u>11/17/2019</u>	Water Surface to Top of Handle (C): _____
Time On Station: _____	Length of Core (from bottom) (D): <u>2.85'</u>
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: _____	
Predicted Tide (ft): _____	
Time of Collection: _____	
Collection Mechanism: _____	
Logged by: <u>ORW</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____


(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology (Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.55	OL	organic silt w/ fine sand	v. dk grey-black	Loose			
2.46	ML	Clayey silt w/org	v. dk grey	Firm			
		Clay silt w/ sand, sand is med-coarse	v. dk grey	Firm			

Comments: Two analytical samples:
 0-0.5' → Congeners and Homologs
 0.5-1.0' → congeners only



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: New Bedford Chief Scientist:
Station ID: <u>GS25</u>	Water Depth (A): <u>6.5 // 5.7</u>	
Core Sample ID: <u>SD90-017</u>	Length of Push Core Assembly (B): <u>14.2</u>	
Date: <u>10/21/09</u>	Water Surface to Top of Handle (C): <u>5.95 5.0 // 5.7 #9</u>	
Time On Station: <u>09:29</u>	Length of Core (from bottom) (D): <u>2.7 // 1.98</u>	
Latitude N: <u>41°40.575</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°54.908</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>13 A</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>09:38 // 09:51</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>KBM</u>		
Time Depart Station: <u>09:56</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>2.8 // 2.9</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-6.4</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-5.17</u>
	<u>1.98 - 0.75 = 1.23</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.42</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.7</u>


(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (ft) or Bottom (ft)	Lithology - Inclusive USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0		silty clay	brown grey	medium			shell hash
0.75		clay	brown grey	firm			shell hash
1.98							

Comments: 1st attempt no good
 2nd attempt saved - HA short
 3rd attempt - barrel popped off - described
 4th attempt - lost

heavy sheen on water at target location (next to dredge)

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>GS 25</u>	Water Depth (A): _____
Core Sample ID: <u>S-090-C017</u>	Length of Push Core Assembly (B): _____
Date: <u>12/10/09</u>	Water Surface to Top of Handle (C): _____
Time On Station: _____	Length of Core (from bottom) (D): <u>2.0</u>
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: _____	
Predicted Tide (R): _____	
Time of Collection: _____	
Collection Mechanism: _____	
Logged by: <u>DRW</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

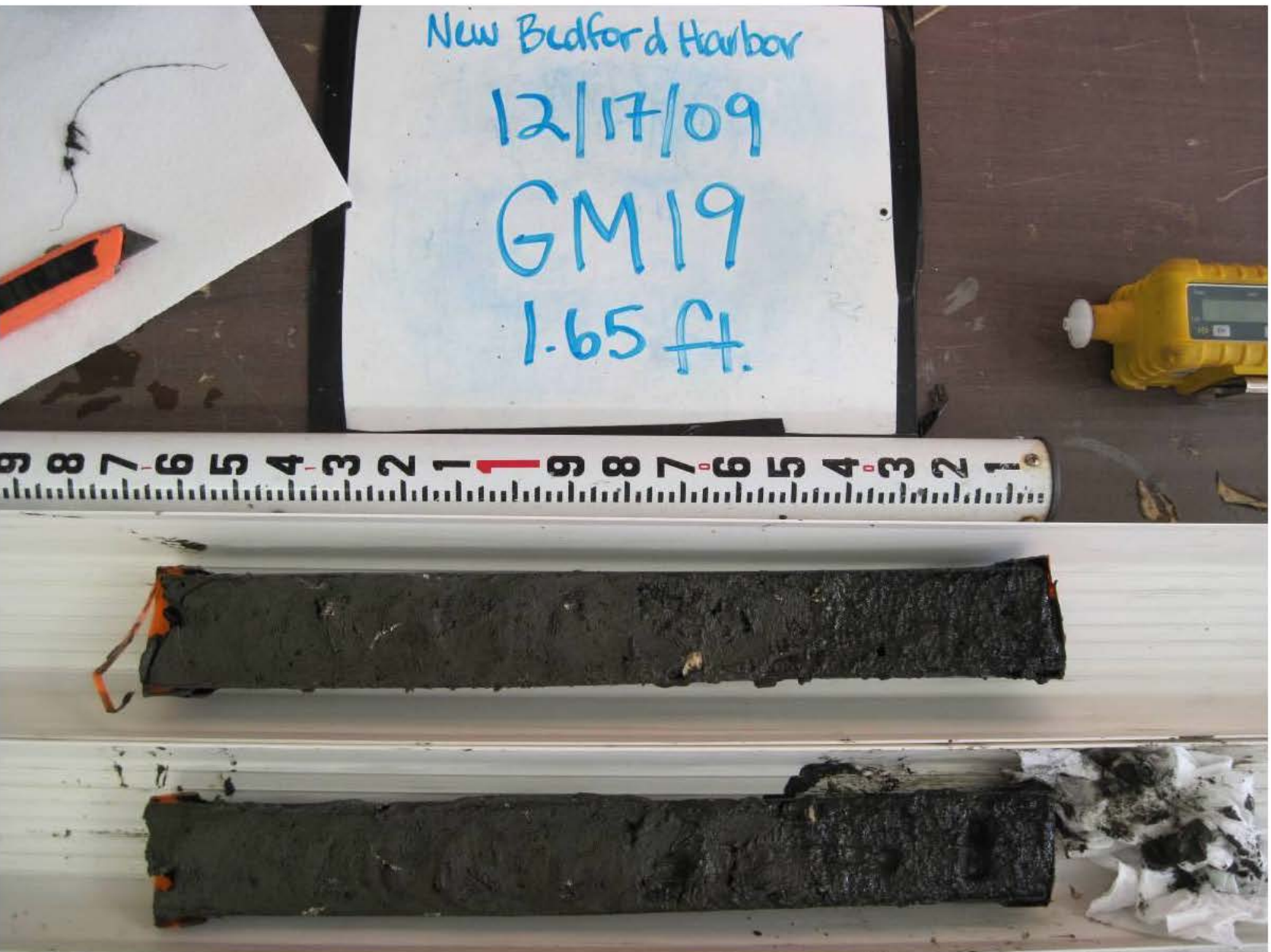
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Latitude USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.6	QC	Silty clay w/ fine sand and low % organics	olive grey			H ₂ S and slight petrol	slight sheen & A overlaying water that seeped out of split core
2.0	M/LCL	Silty clay matrix w/ sand and high % of whole oyster shells and shell frags	olive grey				

Comments: ~~Two~~ Two samples and one QC sample MSMSD
 0-0.5 Time 0940 0-0.5 MSMSD 0940
 0.5-1.1 0940 * potentially archive this sample w/ analysis
 Pending lab results of 0-0.5 sample.



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>GM19</u>	Water Depth (A): <u>5.4</u>	
Core Sample ID: <u>S-09D-C013</u>	Length of Push Core Assembly (B): <u>12.3</u>	
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>5.05</u>	
Time On Station: <u>09:07</u>	Length of Core (from bottom) (D): <u>1.65</u>	
Latitude N: <u>41° 40.600'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 54.940'</u>	Water Surface from Surveyed Elevation (F): <u>-0.35 (Sheet pile # 89 Area)</u>	
GPS Accuracy: <u>14ft.</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>09:14</u>		
Collection Mechanism: <u>Push core</u>		
Logged by: <u>KCM</u>		
Time Depart Station: <u>09:16</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

KCM 12/15/09

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>4.05</u> - <u>2.05</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.2</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.01</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.55</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.35</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)
Internal description, core split on 12/17/2009 @ 0925

Elevation (NGVD) (ft. Bottom + ft)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.46	"OL" (ml/sp)	SANDY silty silty sand	Black (SY 2 1/2)	Loose	med-sand	light pebb	
0.76	Cl/mc	Clay silt w/ Sand & oyster shell frags	dark olive grey (SY 3/2)	Loose - moderately consolidated	Coarse sand & oyster shell frags	H ₂ S	transition layer
1.65	Cl/mc	Clay silt. w/ high % fine-med sand and oyster shell frags	dark olive grey (SY 3/2)	well consolidated	- oyster shell frags - some gravel (1#)	H ₂ S	organic detritus

Comments:
 Two samples
 0 - 0.5 Time: 12/17 0935
 0.6 - 1.1 12/17 0935



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: GR22	Water Depth (A): 4.9	
Core Sample ID: 12S-09D-C014	Length of Push Core Assembly (B): 12.2	
Date: 12/15/09	Water Surface to Top of Handle (C): 5.7	
Time On Station: 09:19	Length of Core (from bottom) (D): 1.4	
Latitude N: 41° 40.587'	Surveyed Elevation (NGVD 29) (E):	
Longitude W: 70° 54.913'	Water Surface from Surveyed Elevation (F): 0.5 (shot pile #89 Area)	
GPS Accuracy: 14 ft		
Predicted Tide (ft):		
Time of Collection: 09:22		
Collection Mechanism: push core		
Logged by: KGM		
Time Depart Station:		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	KGM 12/15/09 <u>3.9</u> 1.9
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>- 4.6</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	12.2 - 5.7 = 6.5 <u>- 3.3</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	1.4 - 0.1 = 1.3 <u>- 3.2</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>- 3.0</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)
Internal description, core split 12/17/09 @ 0945

Elevation (Elev.) of Bottom + H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.1	CL	organic silt w/ fine sand	Black (5Y 2.5/1)	Loose	fine sand	Slight petrol	
0.3	ML/CL	Silty clay w/ fine sand	dark olive grey (5Y 3/2)	Loose	medium - fine sand	H ₂ S	
1.4	ML/CL	Silty clay w/ sand, organic detritus, and oyster shells (whole)	dark olive grey (5Y 3/2)	Moderately well consolidated	medium - fine sand oyster shell fragments of whole shells.	H ₂ S	

Comments: Two Samples: Time:
 0-0.5 12/17 0955
 0.6-1.1 12/17 0955



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>G023</u>	Water Depth (A): <u>4.8</u>	
Core Sample ID: <u>S-090-C015</u>	Length of Push Core Assembly (B): <u>12.2</u>	
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>5.9</u>	
Time On Station: <u>09:32</u>	Length of Core (from bottom) (D): <u>1.05</u>	
Latitude N: <u>41°40.583'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°54.930'</u>	Water Surface from Surveyed Elevation (F): <u>-0.85 (Sheepile #89) Arcam</u>	
GPS Accuracy: <u>12 ft</u>		
Predicted Tide (ft): <u>-</u>		
Time of Collection: <u>09:43</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>EGM</u>		
Time Depart Station: <u>09:50</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation KGM 12/17/09

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.55</u> <u>1.55</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.75</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.7</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.7</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.25</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Internal description, core split 12/17 @ 10:20

Elevation (NGVD) (i.e. Bottom = H)	USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
1.05	ML/CL w/ SAND	- silty clay - clayey silt with medium sand and long gravel.	Dank olive grey (5/ 3/2)	- moderately well consolidated	gravel (1φ) oyster shells (~5cm)	H ₂ S	
		- oyster shells are prevalent throughout core.					

Comments:

One sample collected: Time: 12/17, 10:30
0 - 0.5



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>GG21</u>	Water Depth (A): <u>4.1</u>
Core Sample ID: <u>S-09D-C016</u>	Length of Push Core Assembly (B): <u>12.2</u>
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>6.6</u>
Time On Station: <u>09:55</u>	Length of Core (from bottom) (D): <u>1.3</u>
Latitude N: <u>41° 40.592'</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70° 54.973'</u>	Water Surface from Surveyed Elevation (F): <u>-1.1 (sheetpile #89 ATEAM)</u>
GPS Accuracy: <u>14 ft.</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>09:58</u>	
Collection Mechanism: <u>push core</u>	
Logged by: <u>KGM</u>	
Time Depart Station: <u>10:01</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation KGM 12/15/09

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.3</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.3</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.4</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.0</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-2.8</u>

(Note if #1, within + 1.0 feet, discard and resample)
Internal Description, core split on 12/17/2009 @ 1035

Elevation (NGVD) (i.e. Bottom + H)	Lithology (include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.4	OL	sandy silt w/ organics	Black - Vdk grey (SY 2 1/2) - (SY 3/4)	loose	coarse sand	light petrol	vs light sheen
0.8	ML	Sandy silt	V dk grey (SY 3/4)	Loose - moderately consolidated	Coarse sand to small gravel (-1φ)	H ₂ S	Transition layer between OL and ML/CL - sand lenses @ 0.76'
1.3	cl/ML	Clayey silt w/ organic detritus	dk olive grey (SY 3/2)	moderately well - well consolidated (firm)	dk w/ 12/17	H ₂ S	homogenous texture and composition, firm

Comments: Two Samples and one QC sample
 0 - 0.5 Time: 1045
 0.8 - 1.3 Time: 1050
 0 - 0.5 MMSMSD Time: 1045 } 12/17/09



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>JK4</u>	Water Depth (A): <u>7.1 ft 6.8 ft</u>
Core Sample ID: <u>S-096-C010</u>	Length of Push Core Assembly (B): <u>13.9</u>
Date: <u>8/12/09</u>	Water Surface to Top of Handle (C): <u>5.4 ft</u>
Time On Station: <u>14:24</u>	Length of Core (from bottom) (D): <u>1.4 ft</u>
Latitude N: <u>40°50.5' - 40°40.505</u>	Surveyed Elevation (NGVD 29) (E): <u>5.0 ft</u>
Longitude W: <u>70°54.906</u>	Water Surface from Surveyed Elevation (F): <u>2.8 ft</u>
GPS Accuracy: <u>9 ft</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>14:28</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>Dave Bailey</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E - F	<u>2.2 ft</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-6.3</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-5.4</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.9</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-4.6</u>

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

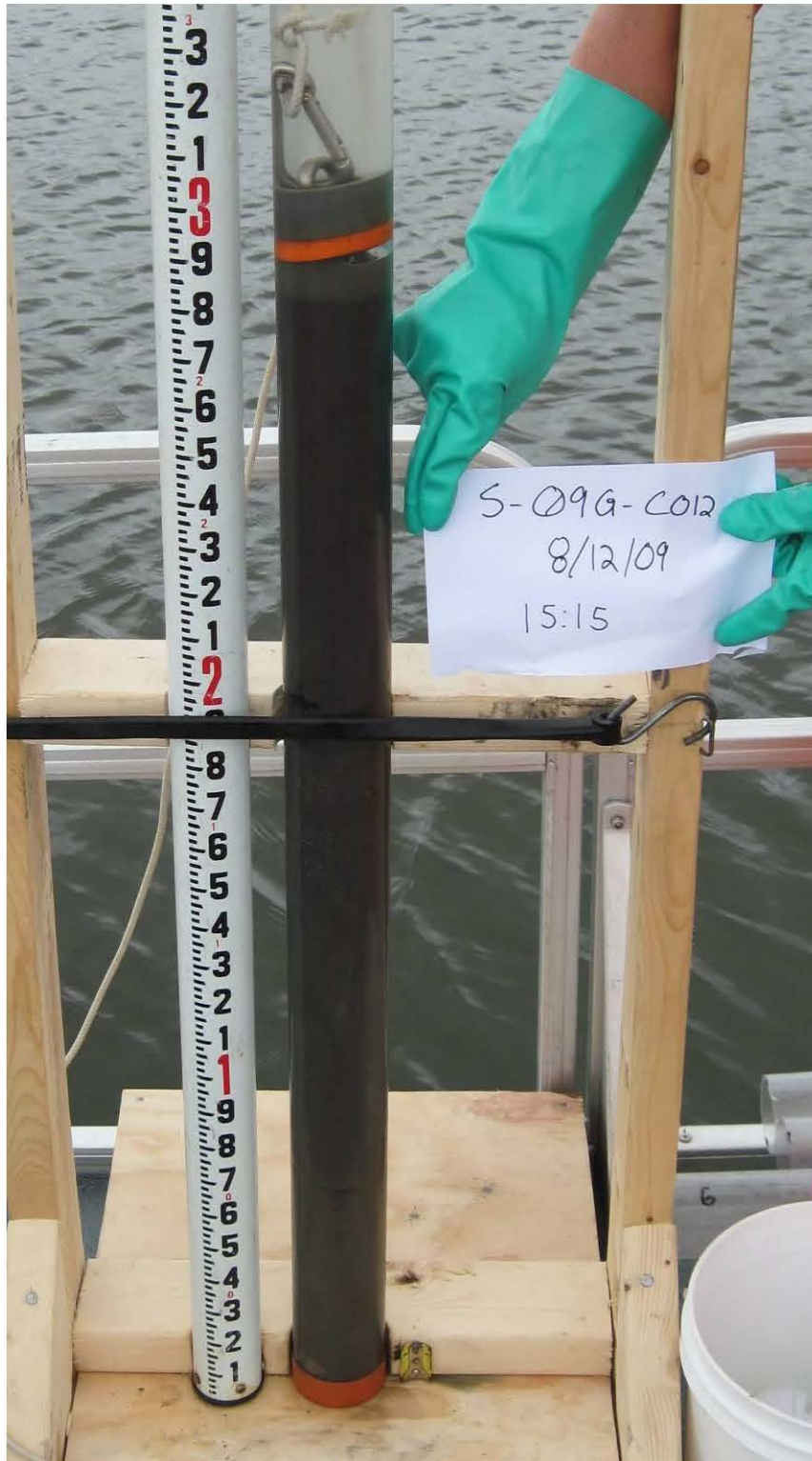
Elevation (NGVD) (i.e. Bottom = F)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0							
	Silt	Silt	Dark	loose	fine		
0.5							
	Clay Sand Shell Hash (well mixed)	Clay Sand Shell Hash (well mixed)	Olive Gray	Firm	Medium		
1.4 ft							

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:						
Station ID: <u>JO6</u> Core Sample ID: <u>S-09G-C011</u> Date: <u>8/12/09</u> Time On Station: <u>14:45</u> Latitude N: <u>41°40.448</u> Longitude W: <u>70°54.888</u> GPS Accuracy: <u>10 ft</u> Predicted Tide (ft): _____ Time of Collection: <u>14:48</u> Collection Mechanism: <u>Push Core</u> Logged by: <u>Dave Bailey</u> Time Depart Station: <u>14:54</u>	Water Depth (A): <u>6.6ft</u> Length of Push Core Assembly (B): <u>13.9ft</u> Water Surface to Top of Handle (C): <u>4.3ft</u> Length of Core (from bottom) (D): <u>3.0ft</u> Surveyed Elevation (NGVD 29) (E): <u>5.0 ft</u> Water Surface from Surveyed Elevation (F): <u>3.0ft</u>							
All Measurements are + 0.1 feet								
Calculations for Determination of Z* Elevation								
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>2.0ft</u>							
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-7.6</u>							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-5.1</u>							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.6</u>							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-4.6</u>							
(Note if ≠ I ₂ within + 1.0 feet, discard and resample)								
Elevation (NGVD) (i.e. Bottom + H)	0.0							
0.5 0.5	0.5	Silt	Black	Loose	Fine		-Light sheen	0.5
1.6	1.6	Sand Silt Shell Hash Well mixed	Blackish Gray	Firm	Fine			1.6
3.0ft	3.0ft	Sandy Clay	Olive Gray	Firm	Fine/ medium			
Comments: <u>Oyster in barrel</u>								



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>JQ10</u>	Water Depth (A): <u>6.9 ft</u>
Core Sample ID: <u>S-09G-C012</u>	Length of Push Core Assembly (B): <u>13.9 ft</u>
Date: _____	Water Surface to Top of Handle (C): <u>4.0 ft</u>
Time On Station: <u>15:07</u>	Length of Core (from bottom) (D): <u>2.8 ft</u>
Latitude N: <u>41040.479</u>	Surveyed Elevation (NGVD 29) (E): <u>5.0 ft</u>
Longitude W: <u>70054.872</u>	Water Surface from Surveyed Elevation (F): <u>3.4 ft</u>
GPS Accuracy: <u>11 ft</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>15:11</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>Dave Bailey</u>	
Time Depart Station: <u>15:12</u>	

All Measurements are + 0.1 feet

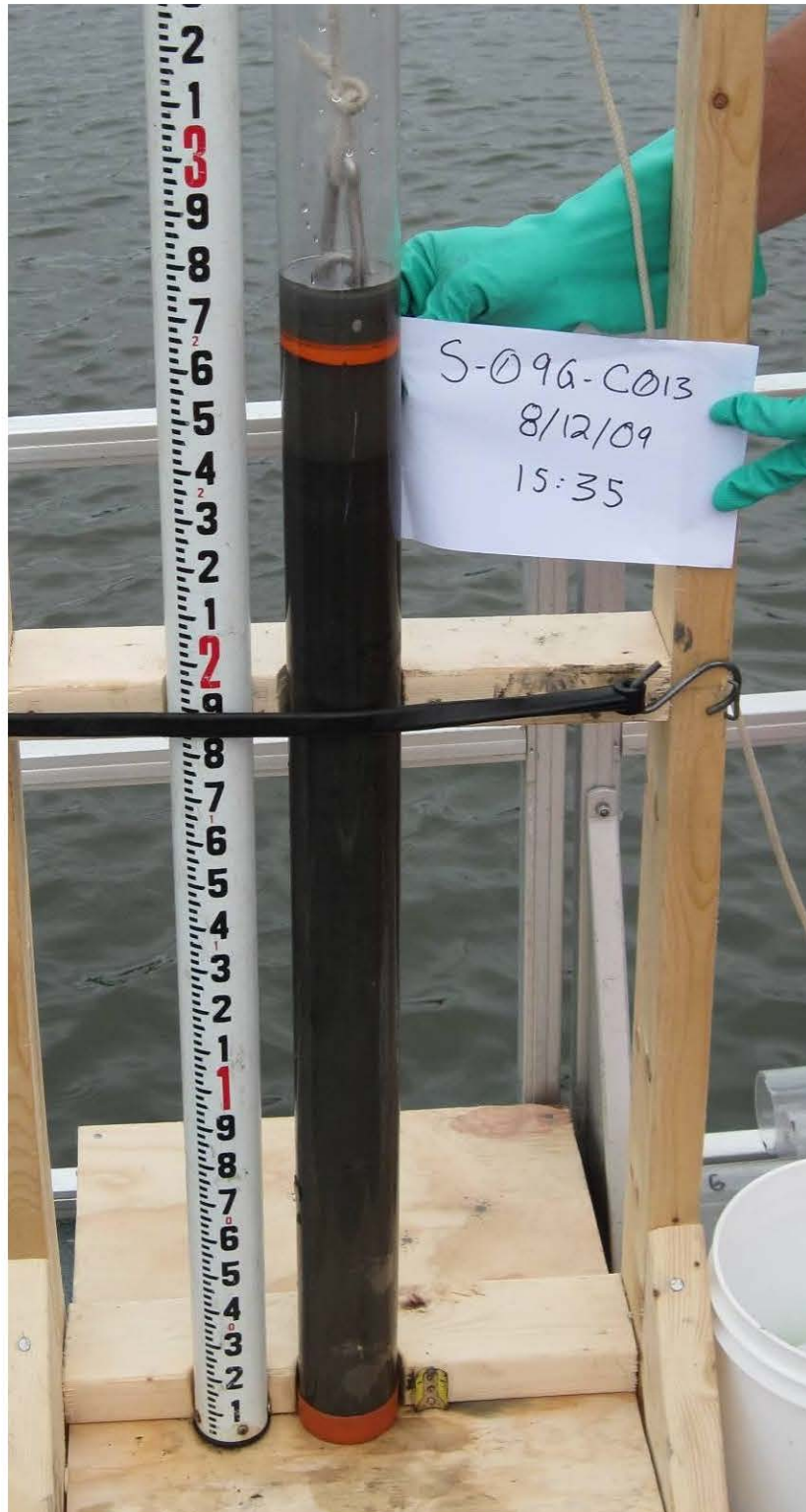
Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>1.8 ft</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-8.3</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-6.5</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-5.5</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-5.3</u>


(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
<u>0.0</u>							
	<u>0.2</u>	Silt	Black	loose	fine		
<u>1.0</u>		Silt Shell Hk's Clay (well mixed)	Dark Gray	Firm	fine		
<u>1.7 ft</u>		Silty Clay	Brownish Gray	Firm	fine		
<u>2.8 ft</u>							

Comments: Light sheen when dumped



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: JK11	Water Depth (A): 6.7 ft
Core Sample ID: S-09G-C013	Length of Push Core Assembly (B): 13.9 ft
Date: 8/12/09	Water Surface to Top of Handle (C): 4.4 ft
Time On Station: 15:23	Length of Core (from bottom) (D): 2.4 ft 2.4 ft
Latitude N: 41° 40.477	Surveyed Elevation (NGVD 29) (E): 5.0 ft
Longitude W: 70° 59.909	Water Surface from Surveyed Elevation (F): 3.8 ft
GPS Accuracy: 13 ft	
Predicted Tide (ft):	
Time of Collection: 15:27	
Collection Mechanism: Push Core	
Logged by: Dave Bailey	
Time Depart Station: 15:35	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	1.2
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	-8.3
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	-6.9
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	-5.9
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	-5.5


(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology (i.e. Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0							
	Silt	Silt	Black	Loose	Fine		
1.0							
	Shell Hash Sand Clay Organic Debris (Well Mixed)	Shell Hash Sand Clay Organic Debris (Well Mixed)	Olive Gray	Firm	Fine medium		
2.4 ft							

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>JL18</u>	Water Depth (A): <u>7.2 ft 7.1 ft</u>	
Core Sample ID: <u>S-096-014</u>	Length of Push Core Assembly (B): <u>13.9 ft</u>	
Date: <u>8/12/09</u>	Water Surface to Top of Handle (C): <u>4.7 ft</u>	
Time On Station: <u>15:41</u>	Length of Core (from bottom) (D): <u>2.2 ft</u>	
Latitude N: <u>41° 40.447</u>	Surveyed Elevation (NGVD 29) (E): <u>5.0 ft</u>	
Longitude W: <u>70° 52.903</u>	Water Surface from Surveyed Elevation (F): <u>4.0 ft</u>	
GPS Accuracy: <u>11 ft</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>15:43</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>Dave Bailey</u>		
Time Depart Station: <u>15:56</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>1.0 ft</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-8.2</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-6.6</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-8.2 -6.0</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-6.1</u>

(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = F)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0		Silty/Sandy Mixture	Black	Loose	Fine		
0.6		Clay	Olive Gray	Firm	Fine		Stratgy to 1.1
2.2							0.6 1.0

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>JL18</u>	Water Depth (A): <u>7.1 ft</u>
Core Sample ID: <u>S-096-014 (Rep)</u>	Length of Push Core Assembly (B): <u>13.9 ft</u>
Date: <u>8/12/09</u>	Water Surface to Top of Handle (C): <u>4.0 ft</u>
Time On Station: <u>15:41</u>	Length of Core (from bottom) (D): <u>2.8 ft</u>
Latitude N: <u>41°40.447</u>	Surveyed Elevation (NGVD 29) (E): <u>5.0 ft</u>
Longitude W: <u>70°39.903</u>	Water Surface from Surveyed Elevation (F): <u>4.1 ft</u>
GPS Accuracy: <u>11 ft</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>16:00</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>Dave Bailey</u>	
Time Depart Station: <u>16:05</u>	

All Measurements are + 0.1 feet

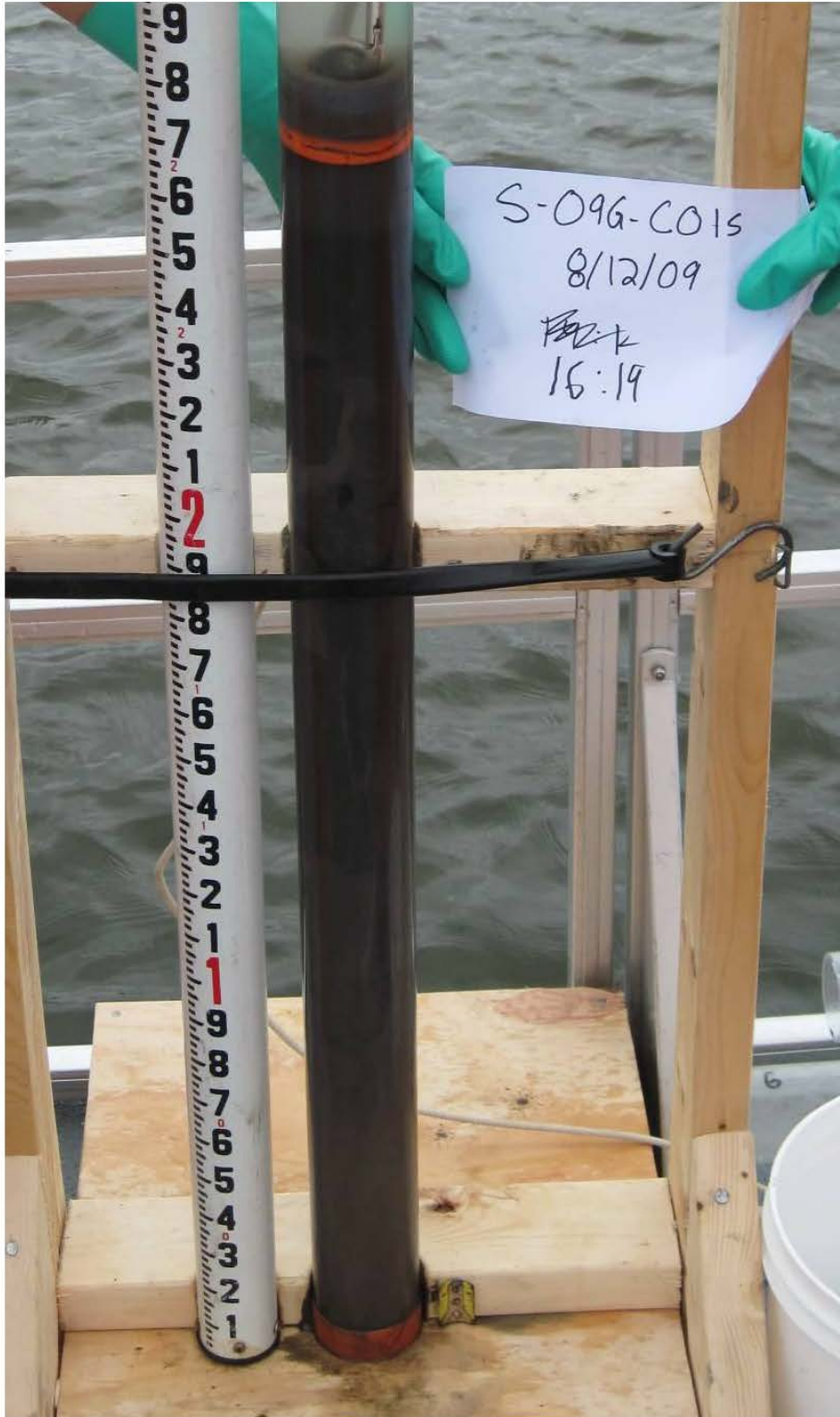
Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>0.9</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-9.0</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-6.9</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-6.2</u>
(L ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-6.2</u>


(Note if ≠ L₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0							
0.7	M	Silt	Black	Loose	Fine		
0.9		Clay Shell Hash	Light Olive Gray	Firm	Fine		
2.8		Clay Organic Debris	Olive Gray	Firm	Fine		

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>JP20</u>	Water Depth (A): <u>6.5 ft</u>	
Core Sample ID: <u>S-04G-C015</u>	Length of Push Core Assembly (B): <u>13.9 ft</u>	
Date: <u>8/12/09</u>	Water Surface to Top of Handle (C): 8.0 ft <u>4.9 ft</u>	
Time On Station: <u>16:08</u>	Length of Core (from bottom) (D): <u>2.5</u>	
Latitude N: <u>41°40.439</u>	Surveyed Elevation (NGVD 29) (E): <u>5.00 ft</u>	
Longitude W: <u>70°57.883</u>	Water Surface from Surveyed Elevation (F): <u>4.4 ft</u>	
GPS Accuracy: <u>1.9 ft</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>18:15</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>Dave Bailey</u>		
Time Depart Station: <u>16:19</u>		

All Measurements are + 0.1 feet

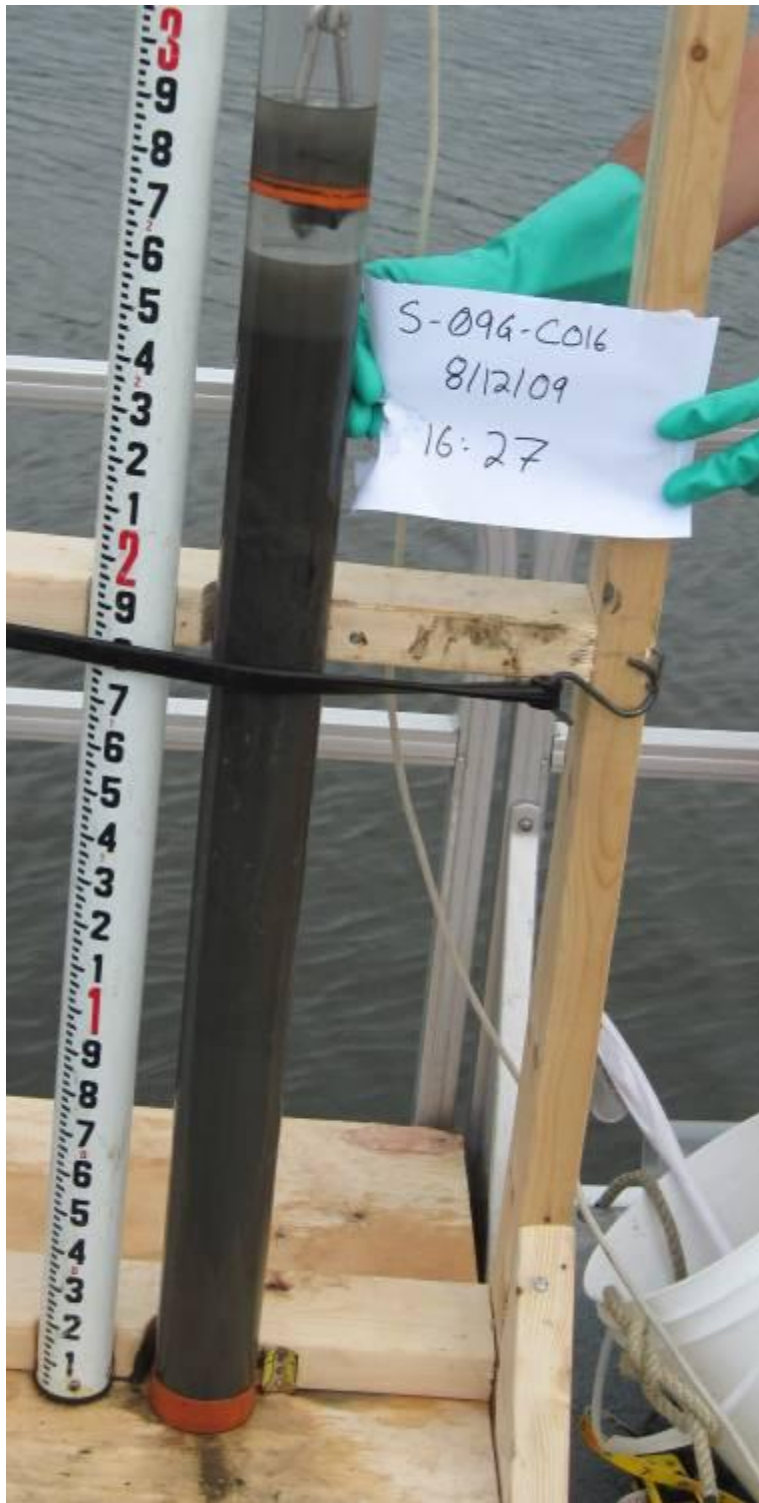
Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>0.6 ft</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-8.4</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-6.5</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-5.9</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-5.9</u>


(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = 0)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silty	Black	E loose	fine		
0.6	OL	Clay w/ streaks of silt	Light olive Gray	Firm	fine		
1.5		Clay w/ organics	Light Olive Gray	Firm	fine		
2.5							

Comments:
 - Heavy Sheen > when dumped
 - Heavy Odor



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>JP23</u>	Water Depth (A): <u>5.2 ft</u>
Core Sample ID: <u>S-096-C01C</u>	Length of Push Core Assembly (B): 6.0 ft <u>13.9 ft</u>
Date: <u>8/12/09</u>	Water Surface to Top of Handle (C): <u>6.0 ft</u>
Time On Station: <u>16:22</u>	Length of Core (from bottom) (D): <u>2.5 ft</u>
Latitude N: <u>41°40.928</u>	Surveyed Elevation (NGVD 29) (E): <u>5.0 ft</u>
Longitude W: <u>70°54.881</u>	Water Surface from Surveyed Elevation (F): <u>4.6 ft</u>
GPS Accuracy: <u>12 ft</u>	
Predicted Tide (ft):	
Time of Collection: <u>16:25</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>Dave Bailey</u>	
Time Depart Station: <u>16:30</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>0.4</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-7.5</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-5.4</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-5.0</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-4.8</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom + F)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0							
	OL	Silt	Black	Loose	fine		
0.4		Clay Shell-Hash	Black Olive Gray Brownish Black	Firm	fine		
6.9		Clay	Black Olive Gray	Firm	fine		
1.9		Clay	Light Olive Gray	Firm	fine		
2.5							

Comments:



Attachment 1
Sediment Sampling Log

Project Name: New Bedford Harbor Environmental Monitoring		Project #: W912WJ-09-D-DOCN-0010	
Location: New Bedford, MA		Vessel:	
Client: USACE NAE		Chief Scientist:	
Station ID: <u>JI21</u>	Time On Station: <u>16:39</u>	All Measurements are ± 0.1 feet	
Cow Sample ID: <u>S-096-0017</u>	Northing (NAD 83): 70° 54.914 <u>40.436</u>	Water Depth (A):	<u>6.3 ft</u>
Logged by: <u>Dave Bailey</u>	Easting (NAD 83): <u>70° 54.914</u>	Length of Push Core Assembly (B):	<u>13.9 ft</u>
Collection Mechanism: <u>Push Core</u>	GPS Accuracy: <u>10+</u>	Water Surface to Top of Handle (C):	<u>4.8 ft</u>
Date: <u>8/12/09</u>	Predicted Tide (F):	Length of Core (from bottom) (D):	<u>2.9 ft</u>
	Time of Collection: <u>16:41</u>	Surveyed Elevation (NGVD 29) (E):	<u>5.0 ft</u>
	Time Depart Station: <u>16:48</u>	Water Surface from Surveyed Elevation (F):	<u>4.9 ft</u>

Calculations for Determination of Z' Elevation

(G) Elevation of Water Surface (NGVD): E-F	<u>0.1</u>
(H) Elevation of the bottom of the core (NGVD): G - (B-C)	<u>-9.0</u>
(I*) Elevation of visual transition (NGVD): H + (distance to visual transition)	-7.7 <u>-7.4</u>
(J) Elevation of the sediment-water interface as measured from bottom of core (NGVD): H + D	<u>-6.1</u>
(K) Elevation of the sediment-water interface as measured from water depth (NGVD): G - A	<u>-6.2</u>

(Note if ≠ 1, within ± 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom + if Bottom = 0)	Sampling Interval (Feet)	Type	Color	Consistency	Maximum Particle Size	Other	Sample ID	Comments
<u>0.0</u>								
<u>1.3 ft</u>		<u>Silt</u>	<u>Black</u>	<u>Loose</u>	<u>Fine</u>			
<u>2.3</u>		<u>Clay</u>	<u>Olive Gray</u>	<u>Firm</u>	<u>Fine</u>			<u>1.3 ft</u>
<u>2.9</u>		<u>Clay</u>	<u>Olive Gray</u>	<u>Firm</u>	<u>Fine</u>			<u>2.3</u>
		<u>Marsh Material</u>						<u>2.9</u>

Comments



SEDIMENT FIELD SAMPLING LOG



Project Name: NBH Environmental Monitoring
Location: New Bedford, MA
Client: USACE-NAE

Project #: W912WJ-09-D-001, Task Order No. 0010
Vessel:
Chief Scientist:

Station ID: JK24 Water Depth (A): 5.7
 Core Sample ID: S-09S-C001 Length of Push Core Assembly (B): 13
 Date: 09/16/09 Water Surface to Top of Handle (C): 4.6
 Time On Station: 09:44 Length of Core (from bottom) (D): 2.9
 Latitude N: 41°40.423
 Longitude W: 70°54.908
 GPS Accuracy: 11
 Predicted Tide (ft): _____
 Time of Collection: 10:00 Surveyed Elevation (NGVD 29) (E): _____
 Collection Mechanism: Push Core
 Logged by: D. Bailey Water Surface from Surveyed Elevation (F): _____
 Time Depart Station: 10:10

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F -0.2
 (H) Elev. of the bottom of the core (NGVD): G - (B-C) -8.6
 13 - 4.6 = 8.4
 (z*) Elev. of visual transition (NGVD): H + (distance to visual transition) -6.7
 ~~2.9~~ 2.9 - 1.0 = 1.9
 (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D -5.7
 (J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A -5.9

(Note if $\neq 1/2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = 0)	Library - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silt	black	loose	fine		
1.0							
		Clay	Gray	Firm -compact	fine		-Contains Some organics
2.9							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:
Station ID: _____	Water Depth (A): _____	
Core Sample ID: <u>SK24</u>	Length of Push Core Assembly (B): _____	
Date: <u>9/30/09 1419</u>	Water Surface to Top of Handle (C): _____	
Time On Station: _____	Length of Core (from bottom) (D): <u>2.90'</u>	
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: _____		
Predicted Tide (ft): _____		
Time of Collection: _____		
Collection Mechanism: _____		
Logged by: _____		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(L) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____


(Note if $\neq l_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (feet Bottom + H)	Soil/Liability Code (USCS)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.8'	OL	CLAY SILTY CLAY w/organic detritus	Black to v. dk grey	Loosely Consolidated			Sample: 0-0.5'
1.3'	CL	Clay w/ low % fine sand	olive grey	moderately consolidated			
1.55	CL w/ shells	SHELLS HAS # FRAGS	olive grey				Sample: 1.2-1.7'
	CL	Clay w/ org. detritus	olive grey	Firm; well consolidated			

Comments:

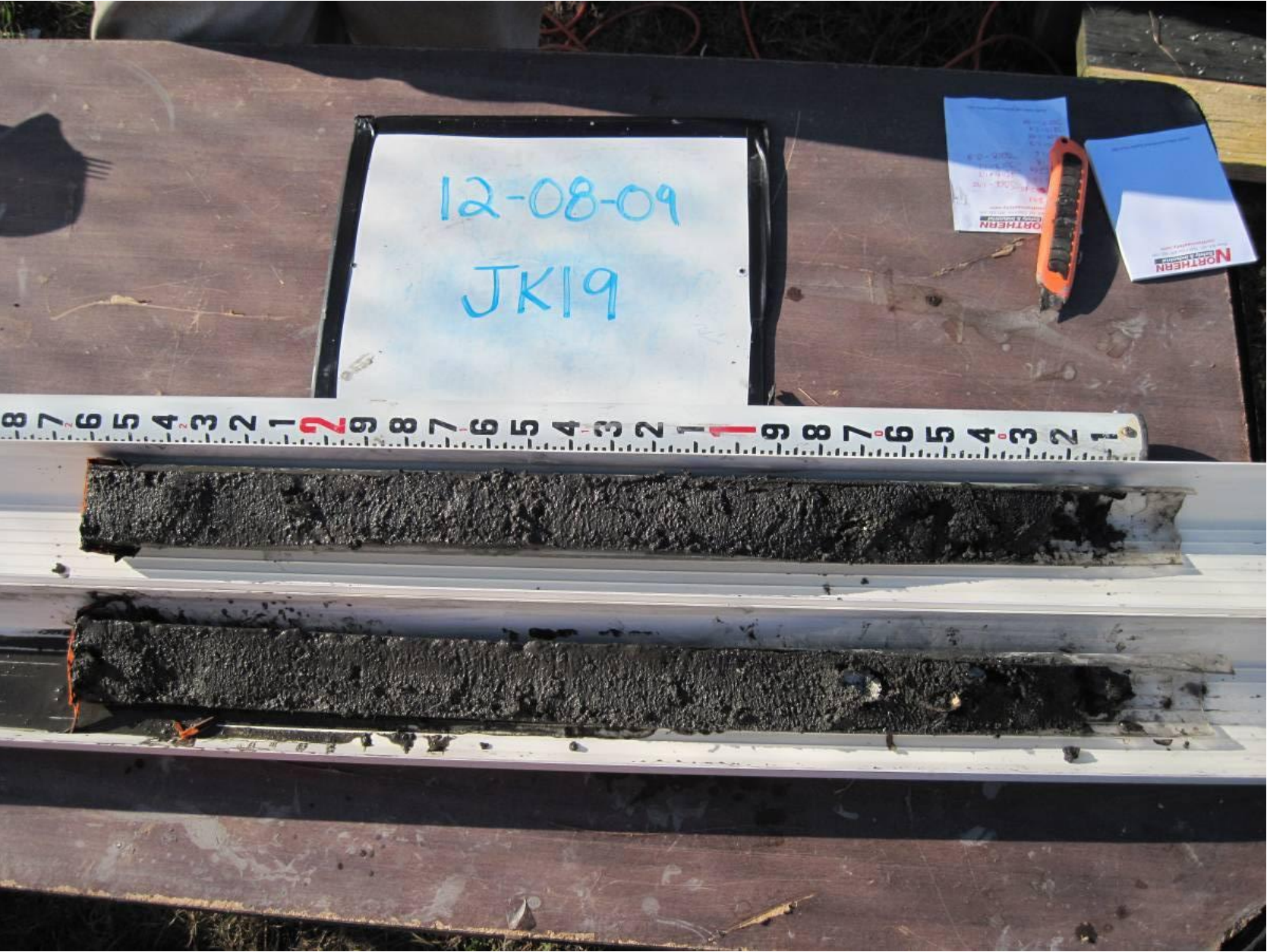


SEDIMENT FIELD SAMPLING LOG


	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JN21</u> Core Sample ID: <u>S-0905-C002</u> Date: <u>09/16/09</u> Time On Station: <u>10:15</u> Latitude N: <u>41040.435</u> Longitude W: <u>70054.891</u> GPS Accuracy: <u>17</u> Predicted Tide (ft): _____ Time of Collection: <u>10:19</u> Collection Mechanism: <u>Push Core</u> Logged by: <u>D. Bailey</u> Time Depart Station: <u>10:24</u>	Water Depth (A): <u>5.4</u> Length of Push Core Assembly (B): <u>14</u> Water Surface to Top of Handle (C): <u>6</u> Length of Core (from bottom) (D): 14 <u>2.44</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____	All Measurements are + 0.1 feet					
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.4</u>	_____					
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-8.4</u>	_____					
	<u>14 - 6 = 8</u>						
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-6.56</u>	_____					
	<u>2.44 - 0.6 = 1.84</u>						
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-5.96</u>	_____					
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-5.8</u>	_____					
(Note if ≠ I ₂ within + 1.0 feet, discard and resample) <input checked="" type="checkbox"/>							
Elevation (NGVD) (i.e. Bottom = H)	Depth (i.e. Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silt	Dark-Gray	Moderately Consolidated	Fine		
0.6		Clay	Gray	Firm	Fine		- Detritus - Containing some organics
2.44							
Comments:							

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JN21</u> Core Sample ID: <u>S-095-C002</u> Date: <u>12/02/2009</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DRW</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>2.44</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if $I_1 \neq I_2$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom + H)	Lithology - USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.6	OL	organic silt	v dk grey	Loose			
2.44	ML	organic clayey silt w/ some sand.	dark grey	moderately consolidated			
Comments: Two samples 0-0.5' 0.5-1.0' Time: 12:30 12:30							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:
Station ID: <u>JK19</u>	Water Depth (A): <u>4.9</u>	
Core Sample ID: <u>S-095-C003</u>	Length of Push Core Assembly (B): <u>14</u>	
Date: <u>09/15/09</u>	Water Surface to Top of Handle (C): <u>6.1</u>	
Time On Station: <u>10:30</u>	Length of Core (from bottom) (D): <u>2.6</u>	
Latitude N: <u>41°40.443</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°54.901</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>15</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>10:35</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.5</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-8.4</u>
$14 - 6.1 = 7.9$	
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-6.8</u>
$2.6 - 1.0 = 1.6$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-5.8</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-5.4</u>

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (Elev. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silt	Black to Dark Brown	Loose	Fine	Has	Containing Shell Hash, and organic detritus
0.5		Clay Silty/Clay	Dark Gray/Black	Firm			Some Shell Hash
1.0		Clay	Olive Gray	Firm			With organic detritus
2.6							

Comments: -Slight sheen on top of core.

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>JK19</u>	Water Depth (A): _____
Core Sample ID: <u>S-095-C003</u>	Length of Push Core Assembly (B): _____
Date: <u>12/8/09</u>	Water Surface to Top of Handle (C): _____
Time On Station: _____	Length of Core (from bottom) (D): <u>2.60</u>
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: _____	
Predicted Tide (ft): _____	
Time of Collection: _____	
Collection Mechanism: _____	
Logged by: <u>DW</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD) G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ I₁ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom + H)	Lithology (Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.56	<u>ML</u>	Silt w/ organics	black - dk grey			H ₂ O odor	
2.60	<u>ML/CL</u>	Silty clay w/ poorly sorted sand (fine-coarse) and organic debris				H ₂ O odor	

Comments: Two samples
 0 - 0.6' Time: 12:12
 0.6 - 1.2' 12:12



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>JQ18</u>	Water Depth (A): <u>3.0</u>
Core Sample ID: <u>S-095-C004</u>	Length of Push Core Assembly (B): <u>12</u>
Date: <u>04/15/09</u>	Water Surface to Top of Handle (C): <u>7.2</u>
Time On Station: <u>10:48</u>	Length of Core (from bottom) (D): <u>0.8</u>
Latitude N: <u>41°40.447</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°54.876</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>15</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>10:53</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>P. Bailey</u>	
Time Depart Station: <u>11:02</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.6</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.4</u>
$12 - 7.2 = 4.8$	
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.7</u>
$0.8 - 0.1 = 0.7$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.6</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.6</u>

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)


Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0		Silt	Dark Gray/Black	Very loose			
0.1		Fine Sand + Gravel Mixture (Poorly sorted)	Color varies from Gray to brown	Firm			Contains Shell Hash and Organics
0.8							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JQ18</u> Core Sample ID: <u>S-095-C004</u> Date: <u>12/8/2009</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: _____ Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>0.80</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I _s) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if $\neq 1/2$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) i.e. Bottom + H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.2	OH ML	sandy silt	v. dk grey		fine sand		
		SAND & gravel, and one cobble (3.5" max)	dark grey - grey		<u>Cobble</u>		
0.8							
Comments: <u>One sample 0-0.2' Time: 1305</u>							

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>JP11</u>	Water Depth (A): <u>4.3</u>	
Core Sample ID: <u>S-09S-C005</u>	Length of Push Core Assembly (B): <u>13</u>	
Date: <u>09/13/09</u>	Water Surface to Top of Handle (C): <u>5.7</u>	
Time On Station: <u>11:10</u>	Length of Core (from bottom) (D): <u>1.8</u>	
Latitude N: <u>41°40.476</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°54.881</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>8 ft</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>11:23</u>		
Collection Mechanism: _____		
Logged by: _____		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.5</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-7.8</u>
$13 - 5.7 = 7.3$	
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-6.7</u>
$1.8 - 0.7 = 1.1$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-6</u>
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-4.8</u>

(Note if $\neq 1/2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Sandy Silt	Dark Brown / Dark Grey	Loose			
0.7		Clay	Olive Gray	Firm			- Contains organic detritus and shell hash
1.8							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>SP11</u> <u>DJH</u>	Water Depth (A): _____	
Core Sample ID: _____	Length of Push Core Assembly (B): _____	
Date: <u>9/30/09</u> <u>1347</u>	Water Surface to Top of Handle (C): _____	
Time On Station: _____	Length of Core (from bottom) (D): _____	
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: _____	_____	
Predicted Tide (ft): _____	_____	
Time of Collection: _____	_____	
Collection Mechanism: _____	_____	
Logged by: _____	_____	
Time Depart Station: _____	_____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____


(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (z): Bottom - Ft	Liquidity - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.55			Dark Grey				Sample 0'-0.5'
			olive grey				Sample 1.0'-1.2'
1.00							

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: JKA Core Sample ID: S-09S-C006 Date: 09/15/09 Time On Station: 11:38 Latitude N: 41°40.405 Longitude W: 70°54.900 GPS Accuracy: 8ft Predicted Tide (ft): Time of Collection: 11:42 Collection Mechanism: Push Core Logged by: D. Bailey Time Depart Station: 11:50	Water Depth (A): 4.7 Length of Push Core Assembly (B): 13 Water Surface to Top of Handle (C): 5.9 Length of Core (from bottom) (D): 1.45 1.45 Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F):	
All Measurements are + 0.1 feet		

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	-0.6
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	-7.7
$13 - 5.9 = 7.1$ (z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	-6.65
$1.45 - 0.04 = 1.05$ (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	-6.25
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	-5.3

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Clayey Silt	Dark Gray	Loose			Some shell hash (fine)
0.4		Clay	Olive Gray	Firm			- Shell hash, organic detritus
1.45							

Comments:

SEDIMENT FIELD SAMPLING LOG

 Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: JK09 Core Sample ID: S-095-C006 Date: 12/9/2009 Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: P.W. Time Depart Station:	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): 1.45 Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____
All Measurements are + 0.1 feet	

Calculations for Determination of Z* Elevation

- (G) Elevation (Elev.) of Water Surface (NGVD) E-F _____
- (H) Elev. of the bottom of the core (NGVD) G - (B-C) _____
- (Z*) Elev. of visual transition (NGVD) H + (distance to visual transition) _____
- (I) Elev. of the sed-water interface as measured from bottom of core (NGVD) H + D _____
- (I₁) Elev. of the sed-water interface as measured from water depth (NGVD) G - A _____

(Note if ≠ I₁ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Latitude/Longitude USGS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.55	04 MC	silt w/ organics + little shell frags	v. dk grey	homogenous		H ₂ S odor	
1.0		matrix is clayey silt w/ cyster shells	v. dk grey	homogenous matrix			
1.45		clayey silt w/ some fine sand and veg high % cyster shells	v. dk grey				

Comments:

one sample collected


0 - 0.5

time 0932

S-095-C006-0-0.5



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>JN7</u>	Water Depth (A): <u>3.9</u>
Core Sample ID: <u>S-09S-C007</u>	Length of Push Core Assembly (B): <u>12.0</u>
Date: <u>9/15/09 09/15/09</u>	Water Surface to Top of Handle (C): <u>6.3</u>
Time On Station: <u>12:01</u>	Length of Core (from bottom) (D): <u>1.5</u>
Latitude N: <u>41°40.492</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°54.892</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>12ft</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>12:10</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>12:20</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.5</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-6.2</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-5.4</u>
	<u>12 - 6.3 = 5.7</u>
	<u>1.5 - 0.7 = 0.8</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.7'</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-4.4</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
00		Silt	Black to Dark Gray	loose	fine	H ₂ S	
03		Clayey Silt	Dark Gray	Firm			
07		Clay	Olive Gray	Firm			Organic Detritus
1.5							

Comments:
-Slight sheen on the top of core

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JN07</u> Core Sample ID: <u>S-095-C007</u> Date: <u>12/8/2009</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DRW</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.5</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom - H)	Lithology Code (USCS)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.9	OL	organic silt with poorly sorted sand & gravel	black				
1.5		clayey silt w/ fine sand, organic detritus & shell fragments	dark grey				
Comments: 2 samples: 0.4 - 0.9' time 11:25 1.0 - 1.5' time 11:25							



SEDIMENT FIELD SAMPLING LOG



Project Name: NBH Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE-NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Station ID: <u>JQG</u>	Water Depth (A): <u>4.3</u>
Core Sample ID: <u>S-09S-C008</u>	Length of Push Core Assembly (B): <u>12</u>
Date: <u>09/15/09</u>	Time On Station: <u>12:24</u>
Latitude N: <u>41°40.497</u>	Water Surface to Top of Handle (C): <u>5.8</u>
Longitude W: <u>70°54.875</u>	Length of Core (from bottom) (D): <u>1.4</u>
GPS Accuracy: <u>12 ft</u>	Surveyed Elevation (NGVD 29) (E): _____
Predicted Tide (ft): _____	Water Surface from Surveyed Elevation (F): _____
Time of Collection: <u>12:27</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>12:33</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.3</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-6.5</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-5.9</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-5.1</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-4.6</u>

(Note if I_2 within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom - ft)	USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silt	Black	loose	Fine		
0.4		Clay w/ organics + shellfish	Dark Olive Gray	Firm			Heterogeneous Mixture
0.8		Clay	Olive Gray	Firm			Homogeneous
1.4							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
Client: USACE-NAE	Chief Scientist:	

Station ID: <u>JQ06</u>	Water Depth (A): _____
Core Sample ID: <u>S-095-1008</u>	Length of Push Core Assembly (B): _____
Date: <u>12/8/09</u>	Water Surface to Top of Handle (C): _____
Time On Station: _____	Length of Core (from bottom) (D): <u>1.4</u>
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: _____	
Predicted Tide (ft): _____	
Time of Collection: _____	
Collection Mechanism: _____	
Logged by: <u>DZW</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) of Bottom of Core (H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.8	ML	organic silt w/ low % fine sand	v dk olive grey				
1.4		clayey silt w/ organic # shell frags	v dk olive grey				

Comments:

2 samples

0.3 - 0.8	fine:
	100%
0.8 - 1.4	100%

SEDIMENT FIELD SAMPLING LOG



Project Name: NBH Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE-NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Station ID: <u>J02</u>	Water Depth (A): <u>5.2</u>
Core Sample ID: <u>S-095-C009</u>	Length of Push Core Assembly (B): <u>13.0</u>
Date: <u>09/15/09</u>	Water Surface to Top of Handle (C): <u>5.4</u>
Time On Station: <u>12:38</u>	Length of Core (from bottom) (D): <u>2.2</u>
Latitude N: <u>41°40.513</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°54.875</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>14</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>12:41</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.4</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-8.0</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-6.6</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-5.8</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-5.6</u>

(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (ft) Below - Ft	Latitude, Longitude, Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0		Silt	Dark Gray to Black	loose			-Shell hash (very fine)
0.4		Clayey Silt	Dark Gray	Firm			Well Mixed
0.8		Silt	Olive Gray	Firm			Homogeneous
2.1 2.2		Rate @ very bottom	Bluish Olive Brown				

Comments:

SEDIMENT FIELD SAMPLING LOG



Project Name: NBH Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE-NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Station ID: JQ2 Water Depth (A): 5.2
 Core Sample ID: _____ Length of Push Core Assembly (B): 13.0
 Date: 9/30/09 13:33 Water Surface to Top of Handle (C): 5.4
 Time On Station: _____ Length of Core (from bottom) (D): 2.2
 Latitude N: _____
 Longitude W: _____
 GPS Accuracy: _____
 Predicted Tide (ft): _____
 Time of Collection: _____
 Collection Mechanism: _____
 Logged by: _____
 Time Depart Station: _____
 Surveyed Elevation (NGVD 29) (E): _____
 Water Surface from Surveyed Elevation (F): _____

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F -0.4
 (H) Elev. of the bottom of the core (NGVD): G - (B-C) _____
 (z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____
 (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____
 (I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (Use Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.50	Silt, w/ fine sand & shell fragments		dark grey				Sample: 0-0.5'
1.95	Clay w/ organic detritus		olive grey				
	Clay matrix w/sand & large organic detritus						

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
Client: USACE-NAE	Chief Scientist:	

Station ID: <u>JM2</u>	Water Depth (A): <u>4.8</u>
Core Sample ID: <u>S-09S-C010</u>	Length of Push Core Assembly (B): <u>12</u>
Date: <u>09/15/09</u>	Water Surface to Top of Handle (C): <u>5.0</u>
Time On Station: <u>12:55</u>	Length of Core (from bottom) (D): <u>1.5</u>
Latitude N: <u>41°40.514</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°054.897</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>13</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>12:58</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.3</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-7.3</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.5</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-5.8</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-5.1</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (Elev. Bottom - H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silt/ Clayey silt	Black/ Dark Gray	loose		H ₂ S	
0.7		Clay	Olive Gray	Firm			
1.5							

Comments: H₂S Odor, slight sheen on top

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>SM2</u>	Water Depth (A): _____	
Core Sample ID: _____	Length of Push Core Assembly (B): _____	
Date: <u>9/30/09, 1358</u>	Water Surface to Top of Handle (C): _____	
Time On Station: _____	Length of Core (from bottom) (D): _____	
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: _____		
Predicted Tide (ft): _____		
Time of Collection: _____		
Collection Mechanism: _____		
Logged by: _____		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____


(Note if I₁ ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0	Clay w/ some fine shell hash		dark grey to slight sheen	in/loosely consolidated			Sample: 0-0.5'
0.50							
	Clay w/ shell fragments		divergent				Sample: 0.9-1.2'
1.50							
Bottom							

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel: _____
	Client: USACE-NAE	Chief Scientist: _____
Station ID: <u>JK3</u>	Water Depth (A): <u>4.7</u>	
Core Sample ID: <u>S-09S-C011</u>	Length of Push Core Assembly (B): <u>13.0</u>	
Date: <u>09/15/09</u>	Water Surface to Top of Handle (C): <u>5.6</u>	
Time On Station: <u>13:11</u>	Length of Core (from bottom) (D): <u>1.8</u>	
Latitude N: <u>41°40.510</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°54.908</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>13 ft</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>13</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F -0.1

(H) Elev. of the bottom of the core (NGVD): G - (B-C) -7.5

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) -6.5
 $13.0 - 5.6 = 7.4$
 $1.8 - 0.9 = 1.0$

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD) H + D -5.7


(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A -4.8

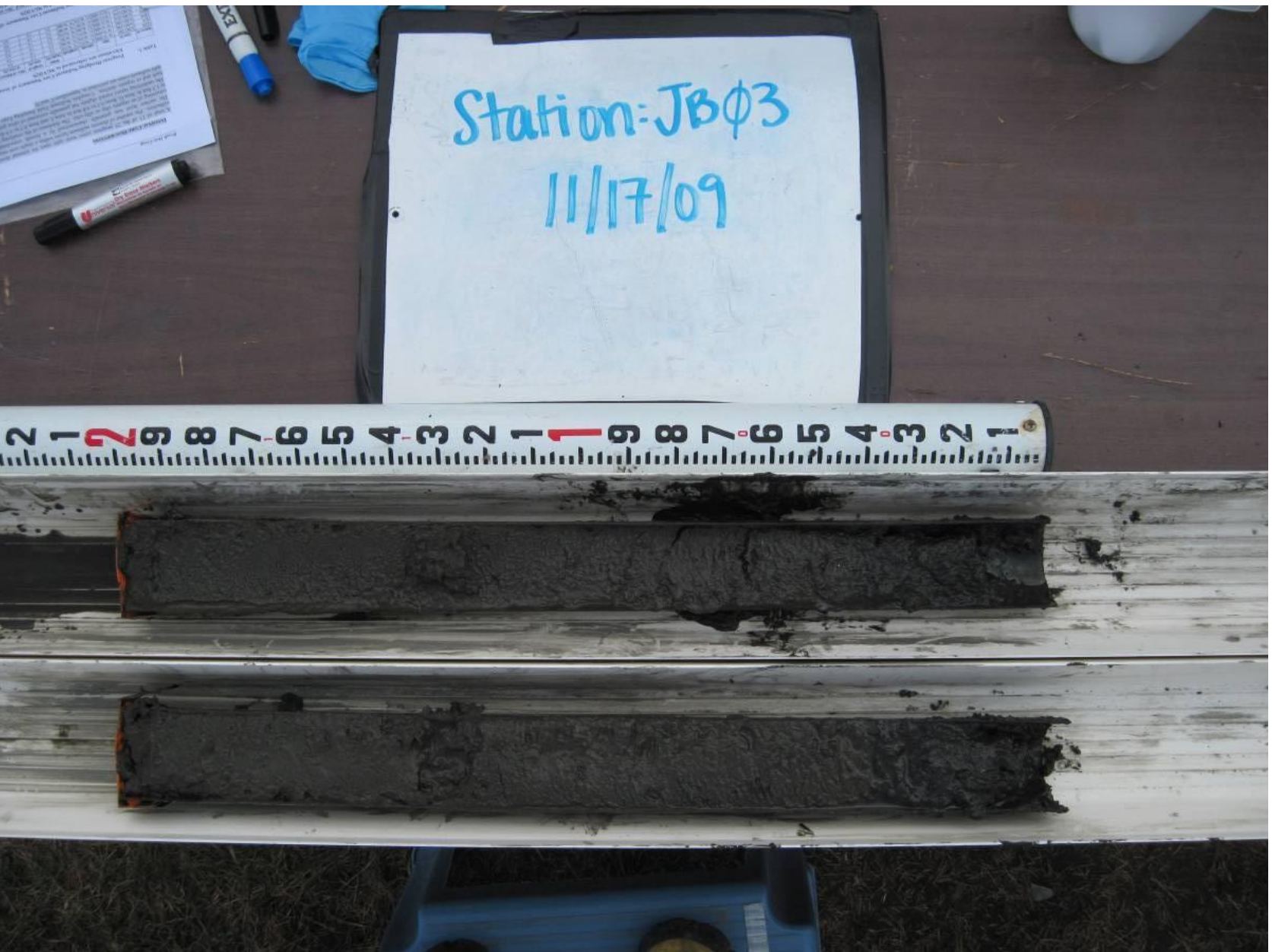
(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (Elev. Bottom = H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0		Silt	Dark Gray/Black	Loose			
0.4 0.4		Clay w/shell hash	Dark Gray/Dark Olive Gray	Firm			
0.8		Clay	Olive Gray	Firm			
1.8							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JK03</u> Core Sample ID: <u>S-09S-C011</u> Date: <u>12/8/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DRW</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.80</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if \neq , within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.48	<u>OV</u>	organic silt w/ fine sand	Black	noncohesive			Layer has compacted air due to freeze/thaw
1.0		silty clay matrix w/ sand lenses and occasional oyster shell frags	dk grey-grey				
Comments: <u>Two samples</u> Time: <u>11:09</u> <u>0-0.5</u> <u>11:09</u> <u>0.6-1.1</u>							



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring		Project #: W912WJ-09-D-0001, Task Order No. 0010	
Location: New Bedford, MA		Vessel:	
Client: USACE-NAE		Chief Scientist:	

Station ID: S-0910-004	Water Depth (A): 6.5
Core Sample ID: 3503	Length of Push Core Assembly (B): 12.8
Date: 10/15/09	Water Surface to Top of Handle (C): 4.7
Time On Station: 10:36	Length of Core (from bottom) (D): 1.98
Latitude N: 40°40.510	Surveyed Elevation (NGVD 29) (E): -
Longitude W: 70°54.948	Water Surface from Surveyed Elevation (F): -
GPS Accuracy:	
Predicted Tide (ft):	
Time of Collection: 10:45	
Collection Mechanism: Push Core	
Logged by: D. Bailey	
Time Depart Station: 10:44	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	-0.8
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	-8.9
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	-7.52
$1.98 - 0.6 = 1.38$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	-6.92
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	-7.3

(Note if $I_2 \neq I_1$ within + 1.0 feet, discard and resample) ✓

Elevation (NGVD) = Bottom - H	Lablog - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0		Sandy Clay	Dark Gray	loose to moderate consolidation			- Shell fragments
0.6 0.2		Clay	Olive Gray	Well consolidated			- Organic Detritus
1.98							

Comments:

SEDIMENT FIELD SAMPLING LOG


	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JB03</u> Core Sample ID: <u>S-090-C004</u> Date: <u>11/17/09</u> Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: <u>D Walsh</u> Time Depart Station:	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.98</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____	All Measurements are + 0.1 feet					
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____ (H) Elev. of the bottom of the core (NGVD): G - (B-C) _____ (z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____ (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____ (L) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____ (Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (ft. Bottom + ft)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.44		Organic silt,	v dk grey	Loose, homogeneous			visible sheens, high water content
1.98		Clayey silt w/ fine sand	v. dk olive grey	mod. consistency		H ₂ S	
Comments: <u>Two analytical samples collected: 0-0.5 and 0.6-1.1</u>							



SEDIMENT FIELD SAMPLING LOG


Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>S-090-005</u> Core Sample ID: <u>SE06</u> Date: <u>10/15/09</u> Time On Station: <u>10:51</u> Latitude N: <u>41°40.497</u> Longitude W: <u>70°54.937</u> GPS Accuracy: Predicted Tide (ft): Time of Collection: <u>10:58</u> Collection Mechanism: <u>Push Core</u> Logged by: <u>D. Bailey</u> Time Depart Station: <u>11:03</u>	Water Depth (A): <u>5.5</u> Length of Push Core Assembly (B): <u>14.2</u> Water Surface to Top of Handle (C): <u>6.7</u> Length of Core (from bottom) (D): <u>1.70</u> Surveyed Elevation (NGVD 29) (E): <u>-</u> Water Surface from Surveyed Elevation (F): <u>-</u>						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F		<u>-1.0</u>					
(H) Elev. of the bottom of the core (NGVD): G - (B-C)		<u>-8.5</u>					
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)		<u>-7.1</u>					
		<u>1.7 - 0.3 = 1.4</u>					
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D		<u>-6.8</u>					
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A		<u>-6.5</u>					
(Note if $\neq 1/2$ within + 1.0 feet, discard and resample) <input checked="" type="checkbox"/>							
Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0		Sandy Clay	Dark Gray	loosely consolidated			- Shell frags
0.3		Clay w/ organic detritus	Olive Gray	Well consolidated			- Some shell frags
1.70							
Comments:							

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JEP 6</u> Core Sample ID: <u>S-090-0005</u> Date: <u>12/9/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>Daw</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.7</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	Length of Push Core	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.1	0.1	Organic silt w/ fine sand	v dk olive grey	loose			- Shear observed on top sed
		Organic clay silt w/ fibrous org. & shell frags	dark olive grey			Strong H ₂ S ↓	
Comments:							
Two samples:							
				time			
0 - 0.5				12:50			
0.5 - 1.0				12:50			



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>S-090-C006</u>	Water Depth (A): <u>4.7</u>
Core Sample ID: <u>JG09</u>	Length of Push Core Assembly (B): <u>12.8</u>
Date: <u>10/15/09</u>	Water Surface to Top of Handle (C): <u>6.3</u>
Time On Station: <u>11:05</u>	Length of Core (from bottom) (D): <u>1.64</u>
Latitude N: <u>41°40.487</u>	Surveyed Elevation (NGVD 29) (E): <u>-</u>
Longitude W: <u>70°54.926</u>	Water Surface from Surveyed Elevation (F): <u>-</u>
GPS Accuracy: _____	
Predicted Tide (ft): _____	
Time of Collection: <u>11:10</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>11:18</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-1.0</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-7.5</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-6.26</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-5.86</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-5.7</u>

(Note if I_2 within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.4		Sand/Silt/Clay	Dark Gray	Unconsolidated/loosely consolidated			Shell fragments + trash
		Silty Clay	Gray				Slightly disturbed, possible burrow shell fragments
1.1		Clay	Olive Gray	Well consolidated			Organic detritus
1.64							

Comments:

SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring **Project #:** W912WJ-09-D-0001, Task Order No. 0010
Location: New Bedford, MA **Vessel:**
Client: USACE-NAE **Chief Scientist:**

Station ID: JG09 Water Depth (A): _____
 Core Sample ID: S-090-C006 Length of Push Core Assembly (B): _____
 Date: 12/9/2009 Water Surface to Top of Handle (C): _____
 Time On Station: _____ Length of Core (from bottom) (D): 1.60
 Latitude N: _____ Surveyed Elevation (NGVD 29) (E): _____
 Longitude W: _____ Time of Collection: _____
 GPS Accuracy: _____ Collection Mechanism: _____
 Predicted Tide (ft): _____ Logged by: DRW Water Surface from Surveyed Elevation (F): _____
 Time Depart Station: _____

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

- (G) Elevation (Elev.) of Water Surface (NGVD): E - F _____
- (H) Elev. of the bottom of the core (NGVD): G - (B-C) _____
- (Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____
- (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____
- (I_s) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____


(Note if ≠ I_s within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom - H)	Logging - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.3	ML	Silt w/ organics and fine sand	v. dk grey				
1.60		silty clay w/ fine sand and shell frags	dk grey	homogenous			shell @ 1.4'

Comments: 2 samples 0-0.5' time 1042
 0.5-1.0' 1042
 one QC sample collected from 0.5-1.0' - msmsd



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>S-090-C007</u>	Water Depth (A): <u>2.5</u>
Core Sample ID: <u>5013</u>	Length of Push Core Assembly (B): <u>7.2</u>
Date: <u>10/15/09</u>	Water Surface to Top of Handle (C): <u>3.1</u>
Time On Station: <u>11:25</u>	Length of Core (from bottom) (D): <u>1.12</u>
Latitude N: <u>41°40.467</u>	Surveyed Elevation (NGVD 29) (E): <u>-</u>
Longitude W: <u>70°54.885</u>	Water Surface from Surveyed Elevation (F): <u>-</u>
GPS Accuracy: _____	
Predicted Tide (ft): _____	
Time of Collection: <u>11:30</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>11:38</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.8</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.9</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.08 -4.08</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.78</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.3</u>

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (Elevation - H)	Lab. Code (Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0		Silty Clay w/ organics	Very Dark Gray	loose consolidation			
0.3		Clay	Olive Gray				- Dark gray streaking - Transition layer may be mixed
0.9		Clay	Olive Gray	Well consolidated			
1.18							


Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>5013</u> Core Sample ID: <u>S-090-0007</u> Date: <u>12/8/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DKW</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>1.10</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____	All Measurements are + 0.1 feet					
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____ (H) Elev. of the bottom of the core (NGVD) G - (B-C) _____ (z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____ (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____ (I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____ (Note if ≠ 1/2 within + 1.0 feet, discard and resample)							
Elevation (NGVD) i.e. Bottom = H	Logging Interval (S) Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.25	OL	organic silt w/ 10% sand	black	loose			
0.70	ML	clayey silt w/ sand sand is fine-med grained	v. dark grey				
1.10		old clay silt w/ organics and oyster shells	v. dk grey				
Comments: 2 samples: time * 0-0.5 0949 * 0.5-1.1 0949							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>S-090-0008</u>	Water Depth (A): <u>1.9</u>	
Core Sample ID: <u>SQ15</u>	Length of Push Core Assembly (B): <u>7.2</u>	
Date: _____	Water Surface to Top of Handle (C): <u>3.7</u>	
Time On Station: <u>11:41</u>	Length of Core (from bottom) (D): <u>1.40</u>	
Latitude N: <u>41°40.460</u>	Surveyed Elevation (NGVD 29) (E): <u>-</u>	
Longitude W: <u>70°54.879</u>	Water Surface from Surveyed Elevation (F): <u>-</u>	
GPS Accuracy: _____		
Predicted Tide (ft): _____		
Time of Collection: <u>11:57</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: <u>12:01</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-1.0</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.5</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.5</u>
$1.4 - 4 = 1$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.1</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-2.9</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (Elev. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
<u>0.0</u>		<u>Sand/ Organic Clay</u>	<u>Dark Gray</u>	<u>loose/ moderate consolidation</u>			
<u>0.4</u>		<u>Clay</u>	<u>Dark Gray</u>	<u>Well consolidated</u>			<u>Homogeneous</u>
<u>1.08</u>		<u>Clay</u>	<u>Olive Gray</u>	<u>Well consolidated</u>			
<u>1.4</u>							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JQ15</u>	Water Depth (A): _____						
Core Sample ID: <u>S-090-C008</u>	Length of Push Core Assembly (B): _____						
Date: <u>12/8/2009</u>	Water Surface to Top of Handle (C): _____						
Time On Station: _____	Length of Core (from bottom) (D): <u>1.4</u>						
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____						
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____						
GPS Accuracy: _____							
Predicted Tide (ft): _____							
Time of Collection: _____							
Collection Mechanism: _____							
Logged by: <u>DRW</u>							
Time Depart Station: _____							
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	_____						
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	_____						
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	_____						
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	_____						
(I ₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	_____						
(Note if ≠ I ₁ , within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom - H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.5	<u>OL</u>	silt w/ organics	v. dk brown - black			Peat odor H ₂ S odor, slight sheen.	
0.75	<u>ML</u>	silt w/ organics & thick % of sand & gravel	v. dk. grey		gravel - 1/8"		sand & gravel is poorly sorted
0.9		silt w/ organics	dark grey				
1.1		clayey silt	grey				
1.4		organiz silt, fibrous	dk brown				
Comments: <u>2 samples 0-0.5' 1.1-1.4' time 11:40 11:40</u>							



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:	
Station ID: <u>S-090-C009</u>	Water Depth (A): <u>6.3</u>	Core Sample ID: <u>J513</u>	Length of Push Core Assembly (B): <u>13.2</u>
Date: <u>10/15/09</u>	Time On Station: <u>12:08</u>	Latitude N: <u>41°40.469</u>	Water Surface to Top of Handle (C): <u>5.6</u>
Longitude W: <u>70°54.954</u>	GPS Accuracy:	Predicted Tide (ft):	Length of Core (from bottom) (D): <u>1.1</u>
Time of Collection: <u>12:15</u>	Collection Mechanism: <u>Push Core</u>	Surveyed Elevation (NGVD 29) (E): <u>-</u>	Water Surface from Surveyed Elevation (F): <u>-</u>
Logged by: <u>D. Bailey</u>	Time Depart Station: <u>12:18</u>	All Measurements are + 0.1 feet	

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-1.4</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-9</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-8.3</u>
$1.1 - 0.4 = .7$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-7.9</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-7.7</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (ft) ± Bottom Ht	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Clayey Sand	Dark Gray				
0.4		Sand with low % of silt + clay	Light Brown		Fine Sand		Homogenous well sorted fine sand
1.1							


Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JB13</u> Core Sample ID: <u>S-090-C009</u> Date: <u>11/17/2009</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>D/W</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): _____ Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ All Measurements are + 0.1 feet						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F (H) Elev. of the bottom of the core (NGVD): G - (B-C) (z*) Elev. of visual transition (NGVD): H + (distance to visual transition) (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D (I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A (Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom - H)	Lithology (i.e. USCS Code)	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.1	OL	SILT	v. dk grey				} analytical sample 0-0.4'
0.4	ML ^s	SAND w/ SILT	v. dk GRAY				
1.1		SAND med-grained w/ gravel	BROWN	firm			} analytical sample 0.5-1.0'
Comments: <u>Two analytical samples collected: 0-0.4' and 0.5-1.0'</u>							



SEDIMENT FIELD SAMPLING LOG


	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>S-090-C018</u> Core Sample ID: <u>JG16</u> Date: <u>10/15/09</u> Time On Station: <u>12:21</u> Latitude N: <u>41°40.456</u> Longitude W: <u>70°54.926</u> GPS Accuracy: Predicted Tide (ft): Time of Collection: <u>12:33</u> Collection Mechanism: <u>Push Core</u> Logged by: <u>D. Bailey</u> Time Depart Station: <u>12:40</u>	Water Depth (A): <u>5.2</u> Length of Push Core Assembly (B): 12 Water Surface to Top of Handle (C): <u>4.5</u> Length of Core (from bottom) (D): <u>2.18</u> Surveyed Elevation (NGVD 29) (E): <u>—</u> Water Surface from Surveyed Elevation (F): <u>—</u>	All Measurements are + 0.1 feet					
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	—	<u>-1.2</u>					
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	—	<u>-8.7</u>					
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	—	— <u>-7.12</u>					
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	$2.18 - 0.6 = 1.58$	— <u>-6.52</u>					
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A		<u>-6.4</u>					
(Note if ≠ I ₂ within + 1.0 feet, discard and resample) ✓							
Elevation (NGVD) (L & Bottom = H)	Lithology (USCS Core)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Clay w/ silt + sand	Gray	Moderate			- Organic detritus - Shell frags
0.6		Clay	olive Gray	Well consolidated			Homogeneous
2.18							
Comments: - Heavy sheen on water							

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JG16</u> Core Sample ID: <u>S-090-C010</u> Date: <u>11/17/09</u> Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: <u>KGM</u> Time Depart Station:	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): _____ Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____ (H) Elev. of the bottom of the core (NGVD): G - (B-C) _____ (Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____ (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____ (I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____ (Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom + H)	Longitude - Latitude USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0			vegetative at top				
0.5		clayey silt with fine sand	dark olive grey				oyster shell hash
1.1		↓	↓				
2.18							
Comments: <u>sample taken between 0.0' - 0.5' (and homolog taken) and 0.6 - 1.1 feet</u>							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>JQ69</u>	Water Depth (A): <u>6.2</u>
Core Sample ID: <u>S-09D-C017</u>	Length of Push Core Assembly (B): <u>13.1</u>
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>4.55</u>
Time On Station: <u>10:05</u>	Length of Core (from bottom) (D): <u>2.6</u>
Latitude N: <u>41° 40.485'</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70° 54.875'</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>13ft.</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>10:10</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>KGM</u>	
Time Depart Station: <u>10:16</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>+ 0.9 (sheetpile #48 Arcat)</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>- 7.65</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>13.1 - 4.55 = 8.55</u> <u>8.55 - 5.45 = 3.1</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>2.6 - 0.4 = 2.2</u> <u>- 5.45 = - 3.25</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>- 5.3</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)


In-kind description, core split on 12/17/09 @ 1115

Elevation (NGVD) (z*) Bottom - H	Lithology (include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.4	MU/CL	silty clay-clayey silt	dk grey (SY 3/1)	loose		H ₂ S	-No sheen noticed, despite field collection comments.
	MU/OL	Silty clay-clayey silt	dk olive grey (SY 3/2)	loose - moderate consolidated		H ₂ S	
1.0	MU/CL	silty clay-clayey silt	dk olive grey (SY 3/2)	well Consolidated		H ₂ S	
2.6							

Comments: *spotty sheen on top noticed during collection.*
- Two samples collected Time:
0 - 0.5' 11:20, 12/17
0.5 - 1.0' 11:20, 12/17



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>JR14</u>	Water Depth (A): <u>4.9</u>	
Core Sample ID: <u>S-09D-C018</u>	Length of Push Core Assembly (B): <u>13.35</u>	
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>6.75</u>	
Time On Station: <u>10:19</u>	Length of Core (from bottom) (D): <u>1.55</u>	
Latitude N: <u>41° 40.4641'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 54.8701'</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>10 ft.</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>10:26</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>KLM</u>		
Time Depart Station: <u>10:31</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>+ 0.7 (sheet pile #48 Area J)</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>- 5.9</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>13.35 - 6.75 = 6.6</u>
	<u>6.6 + 12/15/09</u>
	<u>- 4.75 = -4.35</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>- 4.35</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>- 4.2</u>


(Note if #1, within + 1.0 feet, discard and resample)
Internal Description, Core split on 12/17/09 @ 1155

Elevation (NGVD) (i.e. Bottom = H)	Lithology, include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
	ML	Sandy silt	dark grey (5Y 3/1)	Loose	Coarse sand	H ₂ S	No visible sheens, despite field collection comment.
0.4	SW-ML	silty sand	dark olive grey (5Y 3/2)	well consolidated	Small (-1φ)	H ₂ S	
		sand is poorly sorted					
		Oyster shell frags					
1.55							

Comments:
 - Spotty sheen on top noticed during collection
 - Two samples collected Time:
 0-0.5 12/17 12:00
 0.5-1.0 12/17 12:00



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel: _____
	Client: USACE-NAE	Chief Scientist: _____
Station ID: J014	Water Depth (A): 6.2	
Core Sample ID: S-09D-C019	Length of Push Core Assembly (B): 11.8	
Date: 12/15/09	Water Surface to Top of Handle (C): 4.2	
Time On Station: 10:34	Length of Core (from bottom) (D): 1.2	
Latitude N: 41° 40.464'	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: 70° 54.887'	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: 14 ft		
Predicted Tide (ft): —		
Time of Collection: 10:37		
Collection Mechanism: push core		
Logged by: KGM		
Time Depart Station: 10:40		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u> </u>
	+ 0.6
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u> </u>
	- 7.0
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u> </u>
	- 6.6
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u> </u>
	- 5.8
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u> </u>
	- 5.6

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Internal description, core split 12/17/09 @ 1210


Elevation of Core Bottom - ft	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.3	OL	organic silt w/ fine sand	Black - (5y 2.5/1)	Loose		light petrol # H ₂ S	
0.8	OL	organic silt w/ fine sand	v. dk grey (5y 3/1)	Loose		H ₂ S	
1.2	ML	silt - clayey silt w/ 10-15% organics & fine sand	v dk grey (5y 3/1)	moderately consolidated		H ₂ S	

Comments:

- spotty screen, slight odor on surface during collection
- two samples collected for analysis
 - 0 - 0.5 > 12/17 @ 1220
 - 0.8 - 1.2



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>JN16</u>	Water Depth (A): <u>6.7</u>	
Core Sample ID: <u>S-09D-C020</u>	Length of Push Core Assembly (B): <u>12.7</u>	
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>3.6</u>	
Time On Station: <u>10:42</u>	Length of Core (from bottom) (D): <u>2.03 2.05</u>	<u>KOM 12/15/09</u>
Latitude N: <u>40° 40.456'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 54.892'</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>15 ft.</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>10:49</u>		
Collection Mechanism: <u>Pushcore</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>10:53</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>+0.5</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-8.6</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-7.15</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-6.55</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-6.2</u>

(Note if ≠ 1₂ within + 1.0 feet, discard and resample)

Internal description, core split 1230 on 12/17/09

Elevation (NGVD) (z) Bottom - H	Soil Type / USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.6	ML	Silt w/ SAND & Shell frags	V. dk grey (5Y 3/1)	Loose		H ₂ S	- NO sheen visible on sedls despite field notes comment, sheen was visible on overlaying water
1.15	ML	Silt w/ higher % sand & gravel (shell frags)	↓	moderately consolidated	gravel (-1φ)	H ₂ S	
2.05	MYCL	Silty clay - clayey silt w/ organic detritus	↓	well consolidated		H ₂ S	- homogeneous texture, content, consistency


Comments:

- spotty sheen on surface, slight odor during collection
- Two samples collected for analysis:

0 - 0.5	Time	1245	12/17
0.5 - 1.0		1245	12/17



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>JP22</u>	Water Depth (A): <u>5.1</u>	
Core Sample ID: <u>S-09D-C021</u>	Length of Push Core Assembly (B): <u>13.2</u>	
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>6.2</u>	
Time On Station: <u>11:02</u>	Length of Core (from bottom) (D): <u>1.8</u>	
Latitude N: <u>41° 40' 43"</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 54' 88.2"</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>11 ft.</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>11:08</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>11:12</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>+ 0.2</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>- 6.8</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>- 5.28</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>- 5.0</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>- 4.9</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)


Internal description, core split 12/17/09 @ 1235

Elevation (NGVD) (i.e. Bottom + H)	Locality (i.e. USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.1	OL	organic silt w/ sand	Black (SY 2.5)	Loose		Slight petrol	Sheen visible when homogenizing 0-0.5 subsample interval.
0.24	ML	Silt w/ shell frags	v. dark grey (SY 3/1)	Loose		H ₂ S	
	ML/CL	Silt w/ organic detritus & shell frags.	dark olive grey	moderately consolidated		H ₂ S	
1.0	ML/CL	Silt w/ organic detritus & oyster shell frags.	dark olive grey	well consolidated		H ₂ S	
1.8							

Comments: - Spotty sheen on surface of core noted during collection
 - Two samples collected for analysis, and One QC sample (w/dmsd)
 0-0.5 } 12/17 1300 0.5-1.0' → 12/17 @ 1305
 0-0.5 msmsd }



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>JD22</u>	Water Depth (A): <u>6.6</u>	
Core Sample ID: <u>S-09P-C022</u>	Length of Push Core Assembly (B): <u>12.2</u>	
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>3.5</u>	
Time On Station: <u>11:17</u>	Length of Core (from bottom) (D): <u>1.6</u>	
Latitude N: <u>41° 40.431'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 54.941'</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>12 #</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>11:20</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>11:26</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F φ. φ

(H) Elev. of the bottom of the core (NGVD): G - (B-C) -8.7

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) 12.2 - 3.5 = 8.7
7.36 - 7.1

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D -7.1

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A -6.6

(Note if ≠ 1, within + 1.0 feet, discard and resample)

Internal description, core split 12/17/09 @ 13:10

Elevation (NGVD) (± Bottom - H)	Lithology (Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.26	ML (fot)	Silt w/ organics	V. dk grey (SY 3/1)	Loose		H ₂ S	- Homogenous in texture
0.94	ML	Sandy Silt w/ shell frags	V. dk. grey (SY 3/1)	Loose - moderately consolidated	Coarse sand	H ₂ S	
1.6	ML/CL	Silt w/ organic detritus	Dark olive grey (SY 3/2)	well consolidated		H ₂ S	

Comments: spotty sheen on sediment surface noted during collection
- Two samples collected for analysis:
0 - 0.5 > 12/17 @ 1325
1.0 - 1.5



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>JB19</u> Core Sample ID: <u>S-09D-C023</u> Date: <u>12/15/09</u> Time On Station: <u>11:29</u> Latitude N: <u>41°40.444</u> Longitude W: <u>70°54.953</u> GPS Accuracy: <u>14 ft.</u> Predicted Tide (ft): <u>—</u> Time of Collection: <u>11:35</u> Collection Mechanism: <u>push core</u> Logged by: <u>KLM</u> Time Depart Station: <u>11:41</u>	Water Depth (A): <u>6.6</u> Length of Push Core Assembly (B): <u>13.7</u> Water Surface to Top of Handle (C): <u>5.05</u> Length of Core (from bottom) (D): <u>1.95</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____
All Measurements are + 0.1 feet	

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.2</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-8.85</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-7.25</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-6.9</u>
(I _s) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-6.8</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Internal description, core split on 12/17/09 @ 13:15


Elevation (NGVD) (ft) Bottom - Ft	Liquor - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.35	OL (ML)	Silt w/ organics	Black (5/ 2.5)	Loose		Slight petrol	organics and particulate, not fibrous.
	ML	Silt w/ organics	v. dk grey (5/ 3/1)	Loose - moderately consolidated		H ₂ S	
1.24	ML/CL	Silty clay, clayey silt w/ organics	v. dk. grey (5/ 3/1)	well consolidated		strong chemical odor	
1.95							- PID recorded "HIGH" VOC readings. - Heterogeneous texture, consistency

Comments:

- Two samples collected for analysis
 0-0.5 > 12/17 @ 1330
 0.5-1.0



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>JB16</u>	Water Depth (A): <u>6.1</u>	
Core Sample ID: <u>S-09D-C024</u>	Length of Push Core Assembly (B): <u>13.75</u>	
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>6.0</u>	
Time On Station: <u>11:42</u>	Length of Core (from bottom) (D): <u>1.3</u>	
Latitude N: <u>41° 40.456</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 54.953</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>15 ft.</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>11:45</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>1 KGM</u>		
Time Depart Station: <u>11:51</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

- (G) Elevation (Elev.) of Water Surface (NGVD: E-F) -0.3
- (H) Elev. of the bottom of the core (NGVD): G - (B-C) -8.05
- (z*) Elev. of visual transition (NGVD): H + (distance to visual transition) 13.75 - 6.0 = 7.75
KGM 12/21/09
= 6.95 6.75
- (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D 13.75 - 1.3 = 12.45
- 6.75
- (I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A -6.4

(Note if ≠ 1, within + 1.0 feet, discard and resample)


Internal description, Core split 12/17/09 @ 1435

Elevation (NGVD) (i.e. Bottom + H)	Lunology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.2	M/L	SILT-clayey silt	(2.5 x 3/4) v. dk grey	loose			
1.08	M/L	clayey-silt w/ organic detritus	v. dark grey (2.5 x 3/4)	well consolidated			
1.3	OH	organic material/detritus (peat like)	v. dk (10yr 3/4) brown - dk yellowish brown (10yr 4/8)				

Comments: spotty sheen on surface
- two samples collected for analysis
0-0.5 > 12/17 @ 1455
0.5-1.0



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>JF13</u>	Water Depth (A): <u>6.1</u> ^{KGM 12/15/09} <u>5.4</u>
Core Sample ID: <u>S-09D-C025</u>	Length of Push Core Assembly (B): <u>13.2</u>
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>5.3</u>
Time On Station: <u>11:55</u>	Length of Core (from bottom) (D): <u>2.2</u>
Latitude N: <u>41°40.468'</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°54.931'</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>11 ft</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>12:00</u>	
Collection Mechanism: <u>push core</u>	
Logged by: <u>KGM</u>	
Time Depart Station: <u>12:05</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F -0.3

(H) Elev. of the bottom of the core (NGVD): G - (B-C) -8.2

$13.2 - 5.3 = 7.9$

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) -6.54

$2.2 - 0.54 = 1.66$

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D -6.0

(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A -5.7

(Note if $\neq 1/2$ within + 1.0 feet, discard and resample)

Internal description, core split @ 1505 on 12/17/09

Elevation (NGVD) (i.e. Bottom + H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.54	OL	Silt w/ organics and 100% fine sand	Black (2.5Y 2.5/1)	loose		Slight Petrol	Slight sheen on sediment.
0.96	M _L	Silt w/ organic detritus	V. dk grey (2.5Y 3/1)	loose - moderate consolidation		H ₂ S	possible sheen
2.20	M _L /CL	Clayey silt - silty clay w/ organic detritus	V. dk grey	well consolidated		H ₂ S	

Comments: spotty sheen on core surface when collected


- 2 samples collected for analysis

0-0.5 > 12/17 @ 1515

1.0-1.5




SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>JK12</u>	Water Depth (A): <u>5.0</u>						
Core Sample ID: <u>S-09D-C026</u>	Length of Push Core Assembly (B): <u>12.5</u>						
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>5.6</u>						
Time On Station: <u>12:08</u>	Length of Core (from bottom) (D): <u>1.9</u>						
Latitude N: <u>41°40.472'</u>	Surveyed Elevation (NGVD 29) (E): _____						
Longitude W: <u>70°54.910'</u>	Water Surface from Surveyed Elevation (F): _____						
GPS Accuracy: <u>14ft.</u>							
Predicted Tide (ft): <u>-</u>							
Time of Collection: <u>12:12</u>							
Collection Mechanism: <u>push core</u>							
Logged by: <u>KGM</u>							
Time Depart Station: <u>12:16</u>							
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F		<u>-0.4</u>					
(H) Elev. of the bottom of the core (NGVD): G - (B-C)		<u>-7.3</u>					
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	$12.5 - 5.6 = 6.9$	<u>-5.66</u>					
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	$1.9 - 0.26 = 1.64$	<u>-5.4</u>					
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A		<u>-5.4</u>					
(Note if ≠ 1, within + 1.0 feet, discard and resample)							
<u>Internal Description, core split @ 1524 on 12/17/09</u>							
Elevation (NGVD) (i.e. Bottom = H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Oder	Comments
<u>0.26</u>	<u>OL</u>	<u>organic silt</u>	<u>Black (2.5y 2.5/1)</u>	<u>loose</u>		<u>Slight petrol</u>	<u>Slight sheen homogeneous texture & composition</u>
<u>0.86</u>	<u>ML</u>	<u>organic silt w/ fine sand</u>	<u>dk olive grey - v. dk grey (varies) (2.5Y 3/2 - 2.5Y 3/1)</u>	<u>loose</u>		<u>H₂S</u>	<u>Slight sheen</u>
<u>1.22</u>	<u>ML</u>	<u>organic silt w/shell frags</u>	<u>v. dk grey (2.5Y 3/1)</u>	<u>Loose to moderately consolidated</u>		<u>H₂S</u>	<u>Slight sheen</u>
<u>1.9</u>	<u>M/CL</u>	<u>Clayey silt w/ some coarse fine sand & oyster shells</u>	<u>v. dk grey (2.5Y 3/1)</u>	<u>well consolidated</u>		<u>H₂S</u>	<u>No sheen</u>
Comments: <u>Spotty sheen on surface of core noted during collection.</u> * Two samples collected for analysis <u>0-0.5 > 12/17/09 @ 1527</u> <u>1.0-1.5</u>							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>JG18</u>	Water Depth (A): <u>5.7</u>
Core Sample ID: <u>S-09D-C027</u>	Length of Push Core Assembly (B): <u>12.2</u>
Date: <u>12/15/09</u>	Water Surface to Top of Handle (C): <u>4.6</u>
Time On Station: <u>12:21</u>	Length of Core (from bottom) (D): <u>1.65</u>
Latitude N: <u>40° 40.448'</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70° 54.925'</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>15 ft</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>12:25</u>	
Collection Mechanism: <u>push core</u>	
Logged by: <u>KGM</u>	
Time Depart Station: <u>12:28</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.4</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-8.0</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-7.0 - 6.35</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-6.35</u>
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-6.1</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Internal description, core split 12/17/2009 @ 1545

Elevation (NGVD) (i.e. Bottom + F)	Lithology (include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.7	ML	Silt w/ organics and fine sand	v. dk grey (2.5Y 3/1)	Loose		H ₂ S	
1.65	^{deep} ML	Silt - clayey silt w/ organic detritus and fine med sand	v. dk grey (2.5Y 3/1)	well consolidated		H ₂ S	

Comments:


- Two samples collected for analysis

0-0.5 > 12/17/09 @ 1555

0.5-1.0



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LL4</u>	Water Depth (A): <u>8.6 ft.</u>	
Core Sample ID: <u>S-096-C002</u>	Length of Push Core Assembly (B): 15.9 ft.	
Date: <u>8/2/09</u>	Water Surface to Top of Handle (C): 3.7 ft.	
Time On Station: <u>10:27</u>	Length of Core (from bottom) (D): <u>3.4 ft.</u>	
Latitude N: 41° <u>41° 40.032'</u>	Surveyed Elevation (NGVD 29) (E): <u>4.0 ft.</u>	
Longitude W: <u>70° 55.078</u>	Water Surface from Surveyed Elevation (F): 1.7 ft. <u>2.3 ft.</u>	
GPS Accuracy: <u>10 ft.</u>		
Predicted Tide (ft):		
Time of Collection: <u>10:37 10:46</u>		
Collection Mechanism: <u>Push core</u>		
Logged by: <u>K. McCartney</u>		
Time Depart Station: <u>10:57</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F (tide board)	<u>2.3 ft.</u> <u>1.7 ft.</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-9.9 ft.</u> <u>-10.5 ft.</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-8.9 ft.</u> <u>-9.3 ft.</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-6.5 ft.</u> <u>-7.1 ft.</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-6.3 ft.</u> <u>-6.9 ft.</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (G.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0							
0.6	<u>OL</u>	<u>silt</u>	<u>black</u>	<u>loose</u>	<u>fine</u>		
1.2		<u>silt/clay sand</u>	<u>gray/black</u>	<u>loose mix</u>	<u>fine</u>		<u>Blurred transition</u>
		<u>clay</u>	<u>olive gray</u>	<u>firm</u>	<u>fine</u>		
3.4							

Comments: heavy sheen seen when core was dumped



SEDIMENT FIELD SAMPLING LOG



Project Name: NBH Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE-NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Station ID: LM9 Water Depth (A): 9.5 ft.
 Core Sample ID: S-096-C003
 Date: 8/12/09 Length of Push Core Assembly (B): 15.9 ft.
 Time On Station: 11:05 Water Surface to Top of Handle (C): 2.0 ft.
 Latitude N: 41° 40.012 Length of Core (from bottom) (D): 3.9 ft.
 Longitude W: 70° 55.072 Surveyed Elevation (NGVD 29) (E): 4.0 ft.
 GPS Accuracy: 10 ft. Water Surface from Surveyed Elevation (F): 2.2 ft. 1.8 ft.
 Predicted Tide (ft): _____
 Time of Collection: 11:08
 Collection Mechanism: push core
 Logged by: K. McCartney
 Time Depart Station: 11:21

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

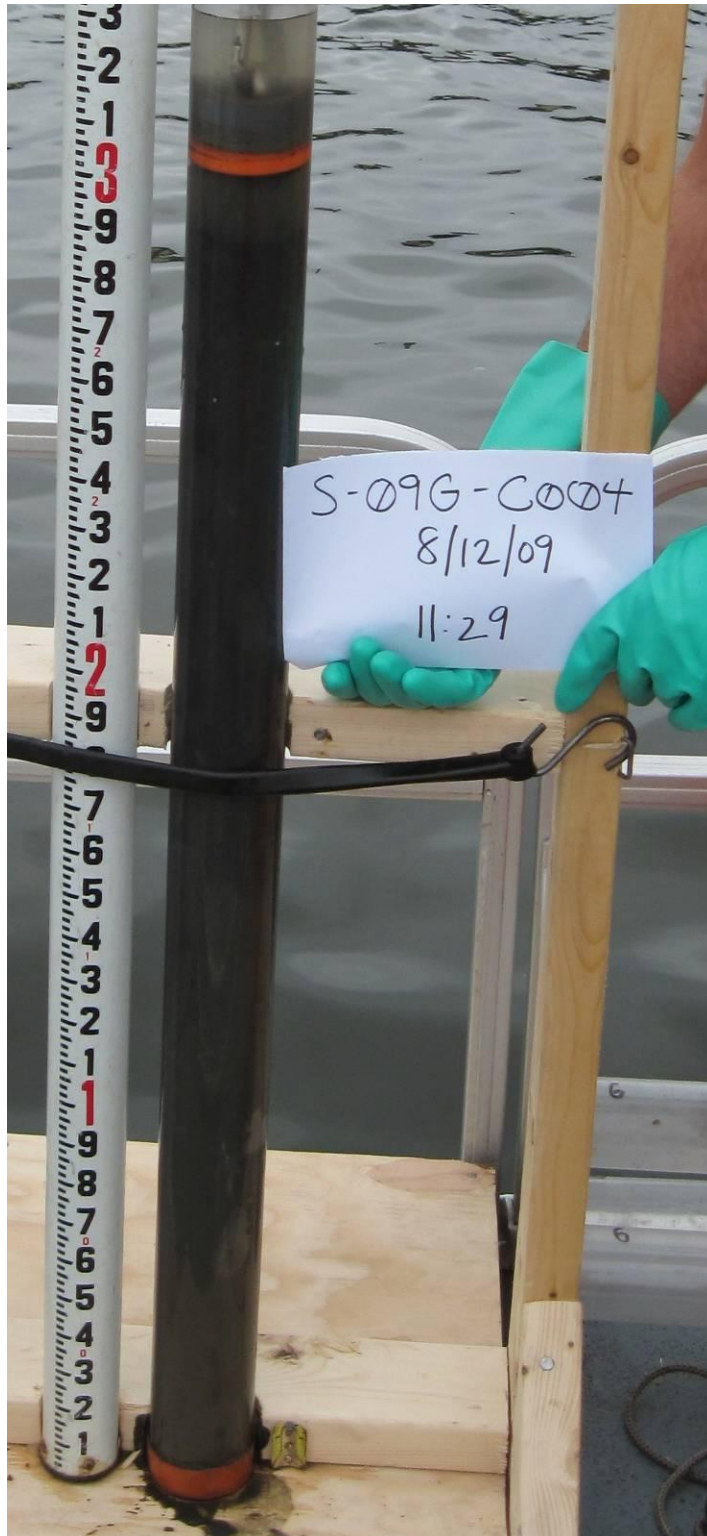
(G) Elevation (Elev.) of Water Surface (NGVD): E-F 1.8 ft. 2.2 ft.
 (H) Elev. of the bottom of the core (NGVD): G - (B-C) -12.1 ft. -11.8 ft.
 (Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) ~~-8.2 ft.~~ -9.5 ft. -9.1 ft.
 (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D -8.2 ft. -7.8 ft.
 (I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A -7.7 ft. -7.3 ft.

(Note if ≠ I₂ within + 1.0 feet, discard and resample)


Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		silt	black	loose	fine		
0.5		silt	black				
1.3	clay sand	clay sand	gray	mix	fine		blurred
	clay sand	clay sand	gray	firm	fine		
3.9							strong H ₂ S / chemical odor when dumped

Comments:

heavy sheen seen when core was dumped



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LO6</u>	Water Depth (A): <u>9.5 ft</u>	
Core Sample ID: <u>S-096-C008</u>	Length of Push Core Assembly (B): <u>15.9 ft.</u>	
Date: <u>8/12/09</u>	Water Surface to Top of Handle (C): <u>3.2 ft.</u>	
Time On Station: <u>11:26</u>	Length of Core (from bottom) (D): <u>2.9 ft.</u>	
Latitude N: <u>41° 40.025'</u>	Surveyed Elevation (NGVD 29) (E): <u>4.0 ft.</u>	
Longitude W: <u>70° 55.062'</u>	Water Surface from Surveyed Elevation (F): <u>2.4 ft 1.6</u>	
GPS Accuracy: <u>1 ft.</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>11:29</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>K. McCartney</u>		
Time Depart Station: <u>11:39</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>1.6 ft. 2.4</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-11.1 ft. -10.3</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-8.4 ft. -7.6</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-8.2 ft. -7.4</u>
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-7.9 ft. -7.1</u>


(Note if $\neq 1_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Color	Comments
0.0		silt	black	loose	fine		
0.2							
		clay	brown gray	firm	fine		
1.5							
		clay	gray	firm	fine		streaking of darker silt
2.9							

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LR9</u>	Water Depth (A): <u>9.1 ft.</u>	
Core Sample ID: <u>S-096-C005</u>	Length of Push Core Assembly (B): <u>15.9 ft.</u>	
Date: <u>8/12/09</u>	Water Surface to Top of Handle (C): <u>3.9 ft.</u>	
Time On Station: <u>11:45</u>	Length of Core (from bottom) (D): <u>2.9 ft.</u>	
Latitude N: <u>41° 46.013</u>	Surveyed Elevation (NGVD 29) (E): <u>4.0 ft.</u>	
Longitude W: <u>70° 55.045</u>	Water Surface from Surveyed Elevation (F): <u>2.6 ft. 1.4</u>	
GPS Accuracy: <u>11 ft.</u>		
Predicted Tide (ft):		
Time of Collection: <u>11:49</u>		
Collection Mechanism: <u>Push core</u>		
Logged by: <u>K. McCartney</u>		
Time Depart Station: <u>11:59</u>		

All Measurements are + 0.1 feet

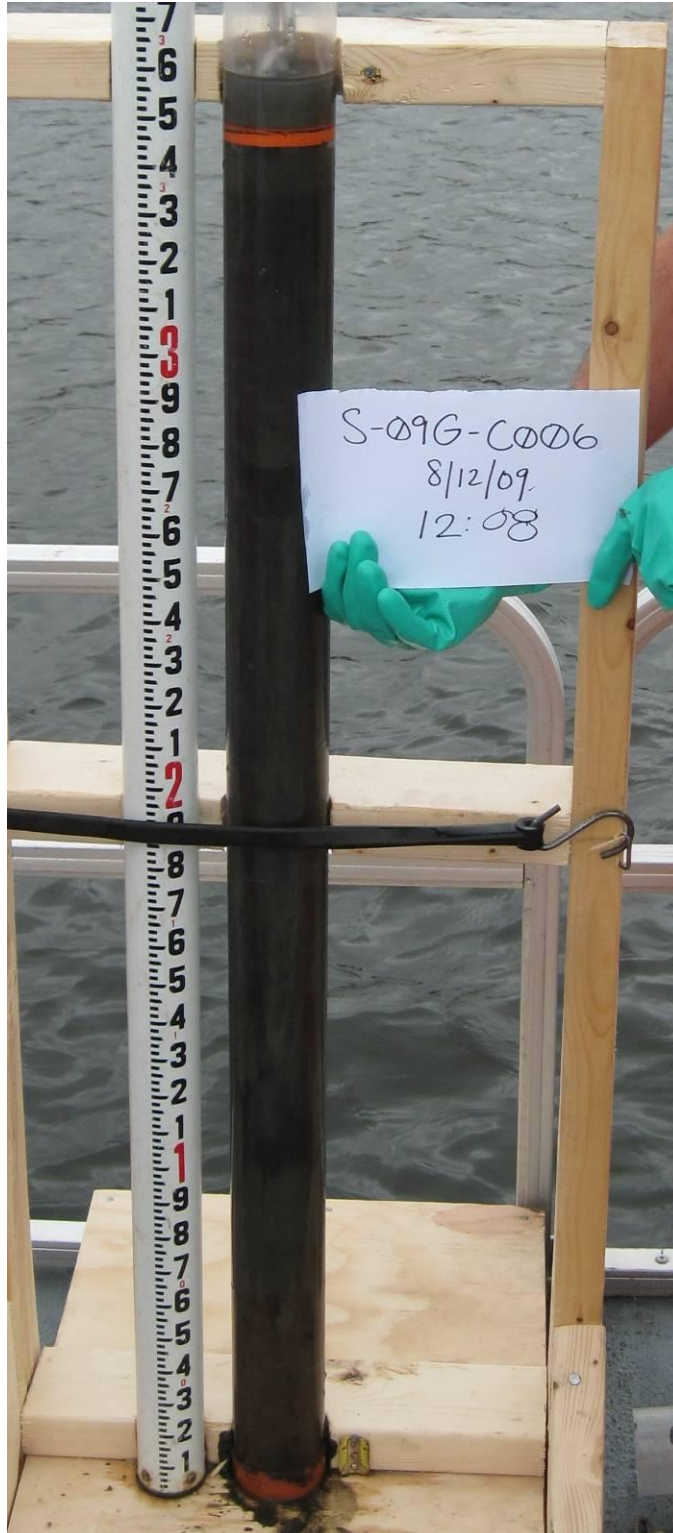
Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>1.4 ft. 2.6</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-10.6 ft. -9.4</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-7.7</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-7.7 ft. -6.5</u>
(I _s) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-7.7 ft. -6.5</u>

(Note if ≠ I_s within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		silt	black	loose	fine		
0.2		silty clay	blackish gray	firmish	fine		streaking
1.2		clay	gray	firm	fine		
2.9							

Comments:
 very slight sheen when core was dumped



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
Client: USACE-NAE	Chief Scientist:	

Station ID: <u>LV9</u>	Water Depth (A): <u>8.2 ft.</u>
Core Sample ID: <u>S-09G-C006</u>	Length of Push Core Assembly (B): <u>15.9 ft.</u>
Date: <u>8/12/09</u>	Water Surface to Top of Handle (C): <u>4.0 ft.</u>
Time On Station: <u>12:04</u>	Length of Core (from bottom) (D): <u>3.4 ft.</u>
Latitude N: <u>41° 40.013</u>	Surveyed Elevation (NGVD 29) (E): <u>4.0 ft.</u>
Longitude W: <u>70° 55.024</u>	Water Surface from Surveyed Elevation (F): <u>2.7 ft. 1.3</u>
GPS Accuracy: <u>10 ft.</u>	
Predicted Tide (ft):	
Time of Collection: <u>12:08</u>	
Collection Mechanism: <u>push core</u>	
Logged by: <u>K. McCartney</u>	
Time Depart Station: <u>12:18</u>	

All Measurements are + 0.1 feet

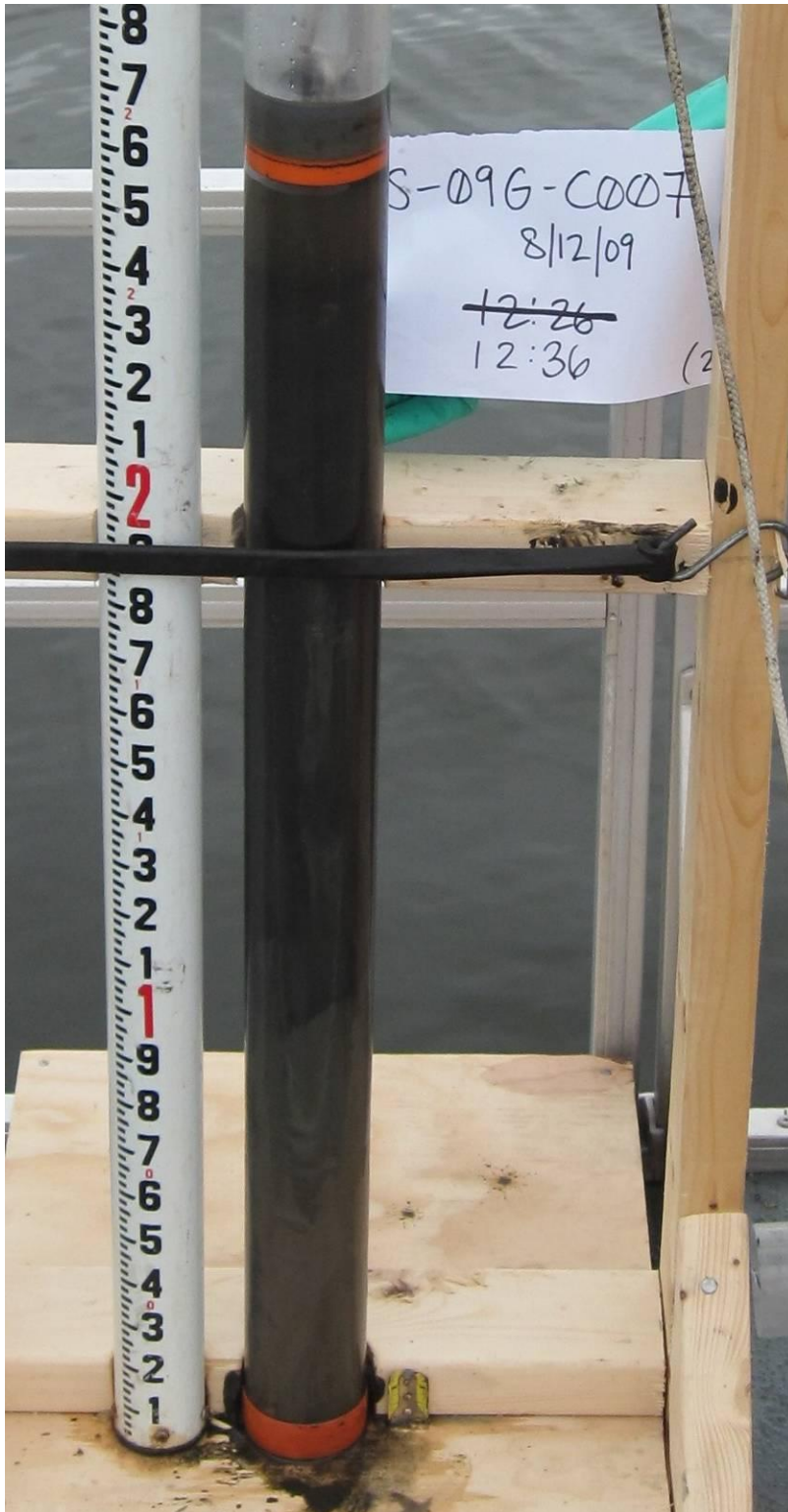
Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>1.3 ft. 2.7 ft</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-10.8 ft. -9.2 ft</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u> -6.2 ft.</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-7.2 ft. -5.8 ft.</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-6.9 ft. -5.5 ft.</u>


(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Linearity - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0							
0.4	2	Silt	black	loose	fine		
		silty clay	brownish gray	firm	fine	streaky	
2.9		woody organic	orangy brown	loose	medium		marshy organic wood detritus & peaty in clay
3.4							

Comments: bottom 0.5 ft was organic peaty marsh material in clay



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LU3</u>	Water Depth (A): <u>8.4 ft.</u>	
Core Sample ID: <u>S-098-C007</u>	Length of Push Core Assembly (B): <u>15.9 ft.</u>	
Date: <u>8/12/09</u>	Water Surface to Top of Handle (C): <u>5.0 ft.</u>	
Time On Station: <u>12:24</u>	Length of Core (from bottom) (D): <u>2.1 ft.</u>	
Latitude N: <u>41° 40.036</u>	Surveyed Elevation (NGVD 29) (E): <u>4.0 ft.</u>	
Longitude W: <u>70° 55.028</u>	Water Surface from Surveyed Elevation (F): <u>2.7 ft. 1.3 ft</u>	
GPS Accuracy: <u>9 ft.</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>12:26</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>K. McCartney</u>		
Time Depart Station: 12:27 <u>12:47</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD: E-F) 1.3 ft. 2.7 ft

(H) Elev. of the bottom of the core (NGVD): G - (B-C) -9.6 ft. -8.2 ft.

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) -7.6 ft. -6.2 ft.

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D -7.5 ft. -6.1 ft.


(L) Elev. of the sed-water interface as measured from water depth (NGVD): G - A -7.1 ft. -5.7 ft.

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. bottom = 0)	Lithology - USCS (include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Olor	Comments
0.0							
0.1		silt	black	loose	fine		
		silt	blackish	firm	fine		
		clay sand	gray				
0.7							streaky
		clay sand	olive gray	firm	fine		
2.1							

Comments: not photograph (1 of 2 at this location)

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LU3</u>	Water Depth (A): <u>8.4 ft.</u>	
Core Sample ID: <u>S-096-C007 REP</u>	Length of Push Core Assembly (B): <u>15.9 ft.</u>	
Date: <u>12/11/09</u>	Water Surface to Top of Handle (C): <u>4.9 ft.</u>	
Time On Station: <u>12:24</u>	Length of Core (from bottom) (D): <u>2.4 ft.</u>	
Latitude N: <u>41° 40.036</u>	Surveyed Elevation (NGVD 29) (E): <u>4.0 ft.</u>	
Longitude W: <u>70° 55.028</u>	Water Surface from Surveyed Elevation (F): <u>2.8 ft. 1.2 ft.</u>	
GPS Accuracy: <u>9 ft.</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>12:36</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>K. M. Carney</u>		
Time Depart Station: <u>12:47</u>		

All Measurements are + 0.1 feet

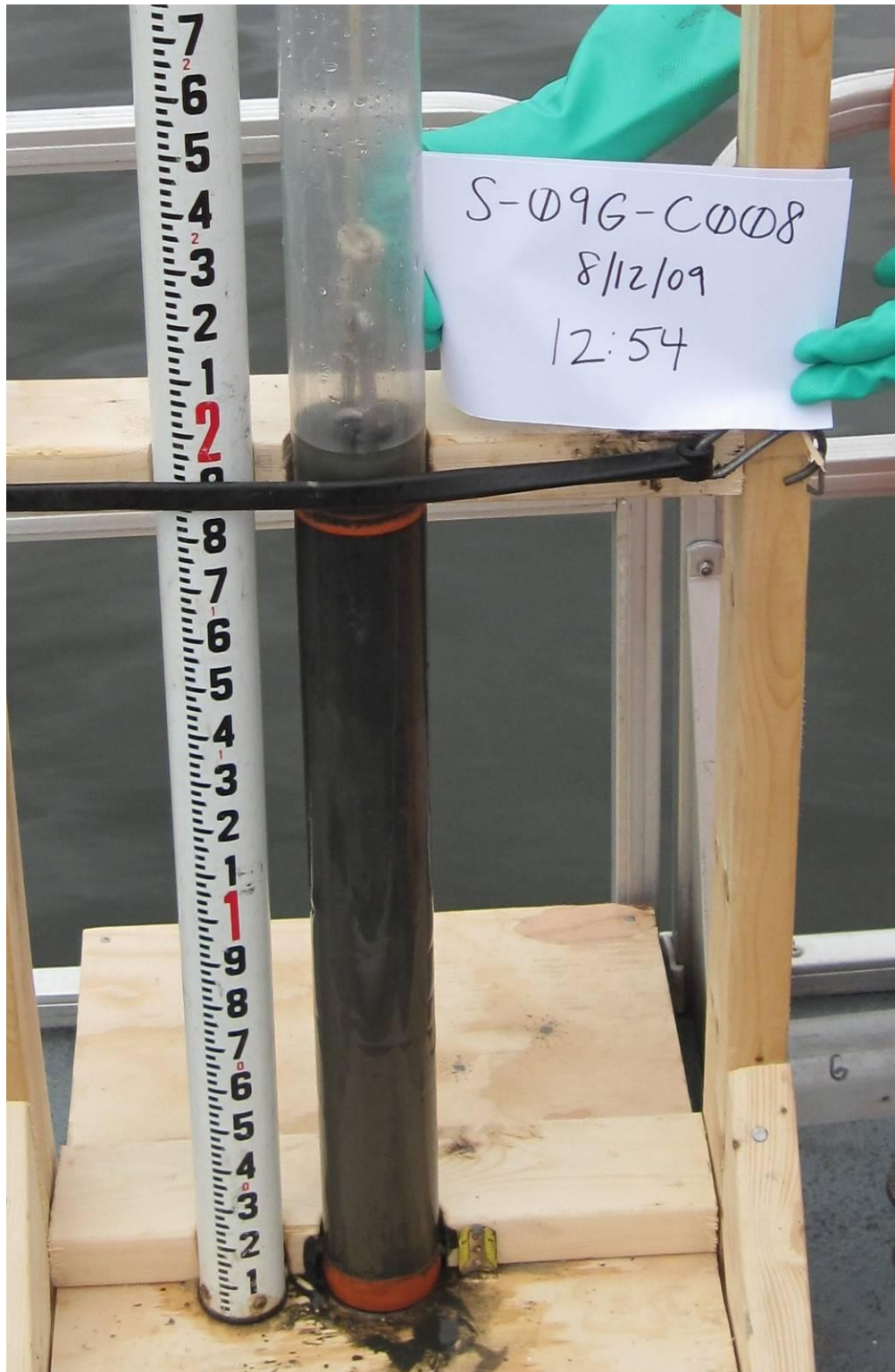
Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>+2 ft. 2.8 ft.</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-9.8 ft. -8.2 ft.</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-7.5 ft. -5.9 ft.</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-7.4 ft. -5.8 ft.</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-7.2 ft. -5.6 ft.</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (ft.) Bottom = H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		silt	black	loose	fine		
0.1							
		silty clay mix	blackish gray	firm	fine		Streaky
1.4							
		clayey sand	olive gray	firm	fine		
2.4							

Comments:
photographed (2 of 2 at this location)



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>LW1</u>	Water Depth (A): <u>8.3 ft.</u>
Core Sample ID: <u>S-096-C008</u>	Length of Push Core Assembly (B): <u>15.9 ft.</u>
Date: <u>8/12/09</u>	Water Surface to Top of Handle (C): <u>5.5 ft.</u>
Time On Station: <u>12:51</u>	Length of Core (from bottom) (D): <u>1.8 ft.</u>
Latitude N: <u>41° 40.045'</u>	Surveyed Elevation (NGVD 29) (E): <u>4.0 ft.</u>
Longitude W: <u>70° 55.018'</u>	Water Surface from Surveyed Elevation (F): <u>2.9 1.1 ft.</u>
GPS Accuracy: <u>8 ft.</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>12:54</u>	
Collection Mechanism: <u>push core</u>	
Logged by: <u>K. McCartney</u>	
Time Depart Station: <u>13:02</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>7.1 ft. 2.9 ft</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-7.3 ft. -7.5 ft.</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-7.7 ft. -5.9 ft.</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-7.5 ft. -5.7 ft.</u>
(L) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-7.2 ft. -5.4 ft.</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)


Elevation (NGVD) (i.e. Bottom + H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0							
0.2		Silty mix	black	loose	fine sand		streaking
		clay	olive gray	firm	fine sand		
1.8							

Comments:

Slight sheen when dumped



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LV7</u>	Water Depth (A): <u>4.7</u>	
Core Sample ID: <u>S-09S-C019</u>	Length of Push Core Assembly (B): <u>13</u>	
Date: <u>09/16/09</u>	Water Surface to Top of Handle (C): <u>6.3</u>	
Time On Station: <u>11:00</u>	Length of Core (from bottom) (D): <u>1.60</u>	
Latitude N: <u>41°40.020</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°55.023</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>12</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>11:15</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.8</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-7.5</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-6.3</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-5.9</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-5.5</u>


(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0			Blackish streaking from Core Barrel				
0.4		Clay	Olive Gray	Firm	Fine		Homogeneous
1.60							

Handwritten note: - Possible layer, but ~~appears~~ looks similar to bottom portion

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
Client: USACE-NAE	Chief Scientist:	

Station ID: <u>LV07</u>	Water Depth (A): _____
Core Sample ID: <u>S-095-C019</u>	Length of Push Core Assembly (B): _____
Date: <u>12/10/2009</u>	Water Surface to Top of Handle (C): _____
Time On Station: _____	Length of Core (from bottom) (D): <u>1.6'</u>
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): <u>2</u>
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: _____	
Predicted Tide (ft): _____	
Time of Collection: _____	
Collection Mechanism: _____	
Logged by: <u>DRW</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E - F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) Bottom - H	Lithology (Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.36	<u>OL</u>	Organic silt w/ fine sand	black			petrol	
1.6		Sandy silt w/ organic detritus	dk grey to olive grey	homogenous ↓		H ₂ S	

Comments:

Two samples
 0 - 0.4' True
 1105
 0.5 - 1.0' 1105



SEDIMENT FIELD SAMPLING LOG



Project Name: NBH Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE-NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Station ID: LS3 Water Depth (A): 5.7
 Core Sample ID: S-09S-C020
 Date: 09/16/09 Length of Push Core Assembly (B): 13
 Time On Station: 11:26 Water Surface to Top of Handle (C): 4.6
 Latitude N: 41°40.037
 Longitude W: 70°55.039 Length of Core (from bottom) (D): 2.14
 GPS Accuracy: 11ft
 Predicted Tide (ft): _____
 Time of Collection: 11:31 Surveyed Elevation (NGVD 29) (E): _____
 Collection Mechanism: Push Core Water Surface from Surveyed Elevation (F): _____
 Logged by: D. Bailey
 Time Depart Station: 11:35

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F -0.7
 (H) Elev. of the bottom of the core (NGVD): G - (B-C) -9.1
 $13 - 4.6 = 8.4$
 (z*) Elev. of visual transition (NGVD): H + (distance to visual transition) -7.36
 $2.14 - 0.4 = 1.74$
 (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D -6.96
 (I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A -6.4
 (Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom - H)	Liology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Clayey Sand	Dark Gray				
0.2		Clay	Olive Gray	streaked with		Dark Gray	from above
0.4							
		Clay	Olive Gray	Firm			
2.14							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel: _____
	Client: USACE-NAE	Chief Scientist: _____

Station ID: <u>LS3</u> Core Sample ID: _____ Date: <u>9/30/09, 1640</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: _____ Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>2.4' 2.0'</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____
---	---

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____


(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Soil Type (USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.03'		Clay	Black	Arm			top angled
		Clay w/ trace or low % sand & gravel.	olive grey	Arm	max gravel size is -2 φ.		Sample: 0-0.5'
2.0'							

Comments: _____



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:
Station ID: <u>LP9</u>	Water Depth (A): <u>6.1</u>	
Core Sample ID: <u>S-095-CO21</u>	Length of Push Core Assembly (B): <u>13.0</u>	
Date: <u>09/16/09</u>	Water Surface to Top of Handle (C): <u>4.1</u>	
Time On Station: <u>11:40</u>	Length of Core (from bottom) (D): 2.25 <u>2.25</u>	
Latitude N: <u>41°40.012</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°55.056</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>14</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>11:46</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.7</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-9.6</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-7.55</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-7.35</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-6.8</u>

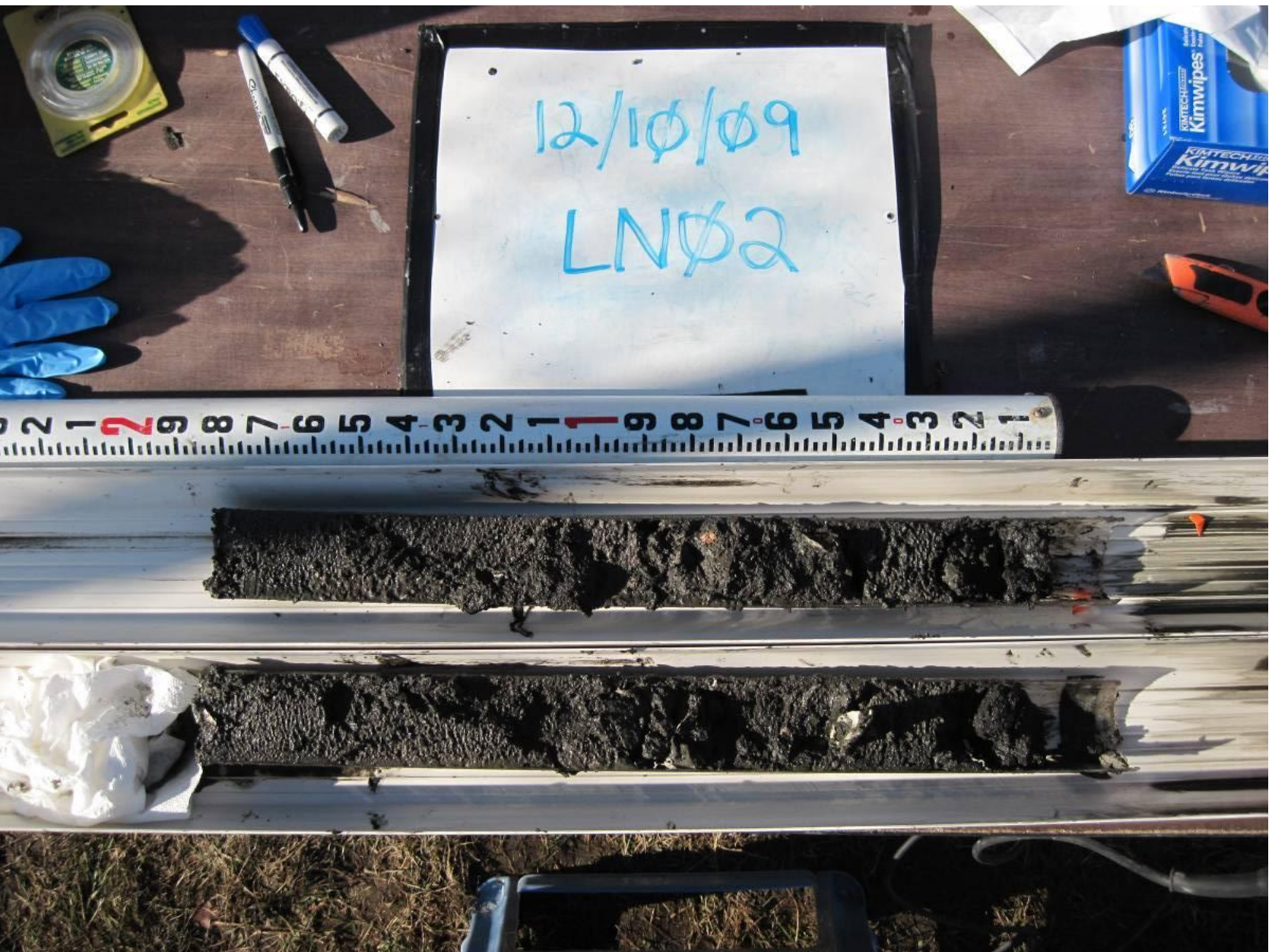
(Note if ≠ I₂ within + 1.0 feet, discard and resample) ✓

Elevation (NGVD) i.e. Bottom = H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0		Clay sand	Dark Olive Gray	Firm			
0.2							
		Clay	Olive Gray	Firm			Organic Detritus + Shell Hash
2.25							


Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>LP9</u>	Water Depth (A): _____						
Core Sample ID: _____	Length of Push Core Assembly (B): _____						
Date: <u>14:06, 10/01/09</u>	Water Surface to Top of Handle (C): _____						
Time On Station: _____	Length of Core (from bottom) (D): _____						
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____						
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____						
GPS Accuracy: _____							
Predicted Tide (ft): _____							
Time of Collection: _____							
Collection Mechanism: _____							
Logged by: _____							
Time Depart Station: _____							
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	_____						
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	_____						
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	_____						
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	_____						
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	_____						
(Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	Lithology (include USCS Code)	Type	Color	Consistency	Minimum Particle Size	Odor	Comments
0.6	OL	silty clay w/ fine sand	Black	loose	-	Has odor	-
2.25	CL	Clay w/shell hash and some sand	olive gray	firm	-	-	-
Comments:							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LF2</u>	Water Depth (A): <u>6.8</u>	
Core Sample ID: <u>S-09S-C020</u>	Length of Push Core Assembly (B): <u>17.0</u>	
Date: <u>09/16/09</u>	Water Surface to Top of Handle (C): <u>4.2</u>	
Time On Station: <u>12:04</u>	Length of Core (from bottom) (D): <u>5.08</u>	
Latitude N: <u>41°40.041</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°55.110</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>12ft</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>12:25</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-1.2</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-14.0</u>
$17 - 4.2 = 12.8$	
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-12.29</u>
$5.08 - 3.37 = 1.71$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-8.92</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-8.0</u>

(Note if $\neq I_2$ within + 1.0 feet, discard and resample) ✓

Elevation (NGVD) (ie Balance = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0		Clayey Silt	Black	Loose top 0.4ft Moderate from 0.4-3.37	Fine	Has	
3.37		Clay	Olive Gray	Firm			Organic Detritus + Shell Hash
5.03							

Comments: Sheen on water when collecting

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: _____	Water Depth (A): _____
Core Sample ID: <u>LF2</u>	Length of Push Core Assembly (B): _____
Date: <u>1540, 9/30/09</u>	Water Surface to Top of Handle (C): _____
Time On Station: _____	Length of Core (from bottom) (D): _____
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: _____	
Predicted Tide (ft): _____	
Time of Collection: _____	
Collection Mechanism: _____	
Logged by: _____	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (z*) Bottom = H	Lithology, Inorganic USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
3.9'	OL	Clay w/ High % organic detritus	Black to N. dk. Grey			high odor & <u>shear</u>	NO sample collected
5.08'	CL	Clay w/ shell wash and some sand	olive grey				

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel: _____
	Client: USACE-NAE	Chief Scientist: _____

Station ID: <u>LF8</u>	Water Depth (A): <u>6.6</u>
Core Sample ID: <u>S-095-C023</u>	Length of Push Core Assembly (B): <u>15.1</u>
Date: <u>09/16/09</u>	Water Surface to Top of Handle (C): <u>3.6</u>
Time On Station: <u>12:40</u>	Length of Core (from bottom) (D): <u>4.22</u>
Latitude N: <u>41° 40.016</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70° 55.110</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>11 ft</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>12:55</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-1.0</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-12.5</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-10.58</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-8.28</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-7.6</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Clayey Silt	Black	Moderate	Fine	AmS	
2.3		Clay	Olive Gray	Firm	Fine		Organic Detritus + Shell Hash
4.22							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:
Station ID: <u>LF8</u>	Water Depth (A): _____	
Core Sample ID: _____	Length of Push Core Assembly (B): _____	
Date: <u>9/30/09 10:20</u>	Water Surface to Top of Handle (C): _____	
Time On Station: _____	Length of Core (from bottom) (D): <u>4.22'</u>	
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: _____		
Predicted Tide (ft): _____		
Time of Collection: _____		
Collection Mechanism: _____		
Logged by: _____		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E - F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____


(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
	OL	Clay w/ Organics	black		High	Oil sheen & H ₂ S odor	Sample: 0-0.5'
2.3'							Sample: 1.8-2.3'
2.9'		Clay w/ High density shell hash	olive grey	Firm			
4.22'		Clay, Homogeneous, w/ occasional shell layers @ 3.05' & 3.3'	olive grey	Firm			Leather sole found @ bottom of core.

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LK6</u>	Water Depth (A): <u>7.0</u>	
Core Sample ID: <u>S-095-C024</u>	Length of Push Core Assembly (B): <u>13</u>	
Date: <u>09/16/09</u>	Water Surface to Top of Handle (C): <u>3.2</u>	
Time On Station: <u>13:09</u>	Length of Core (from bottom) (D): <u>2.39</u>	
Latitude N: <u>41°40.025</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°55.082</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>12ft</u>		
Predicted Tide (ft): <u>13th</u>		
Time of Collection: <u>13:15</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>- 0.9</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>- 10.7</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>- 9.01</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>- 8.31</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>- 7.9</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample) ✓

Elevation (NGVD) (L ₂ Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silty Clay	Black	Loose			
0.7		Clay	Olive Gray	Firm			Organic Detritus + Shell Hash
2.39							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: _____	Water Depth (A): _____	
Core Sample ID: <u>LK06</u>	Length of Push Core Assembly (B): _____	
Date: <u>9/30/09</u>	Water Surface to Top of Handle (C): _____	
Time On Station: <u>1610</u>	Length of Core (from bottom) (D): <u>2.39'</u>	
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: _____		
Predicted Tide (ft): _____		
Time of Collection: _____		
Collection Mechanism: _____		
Logged by: _____		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

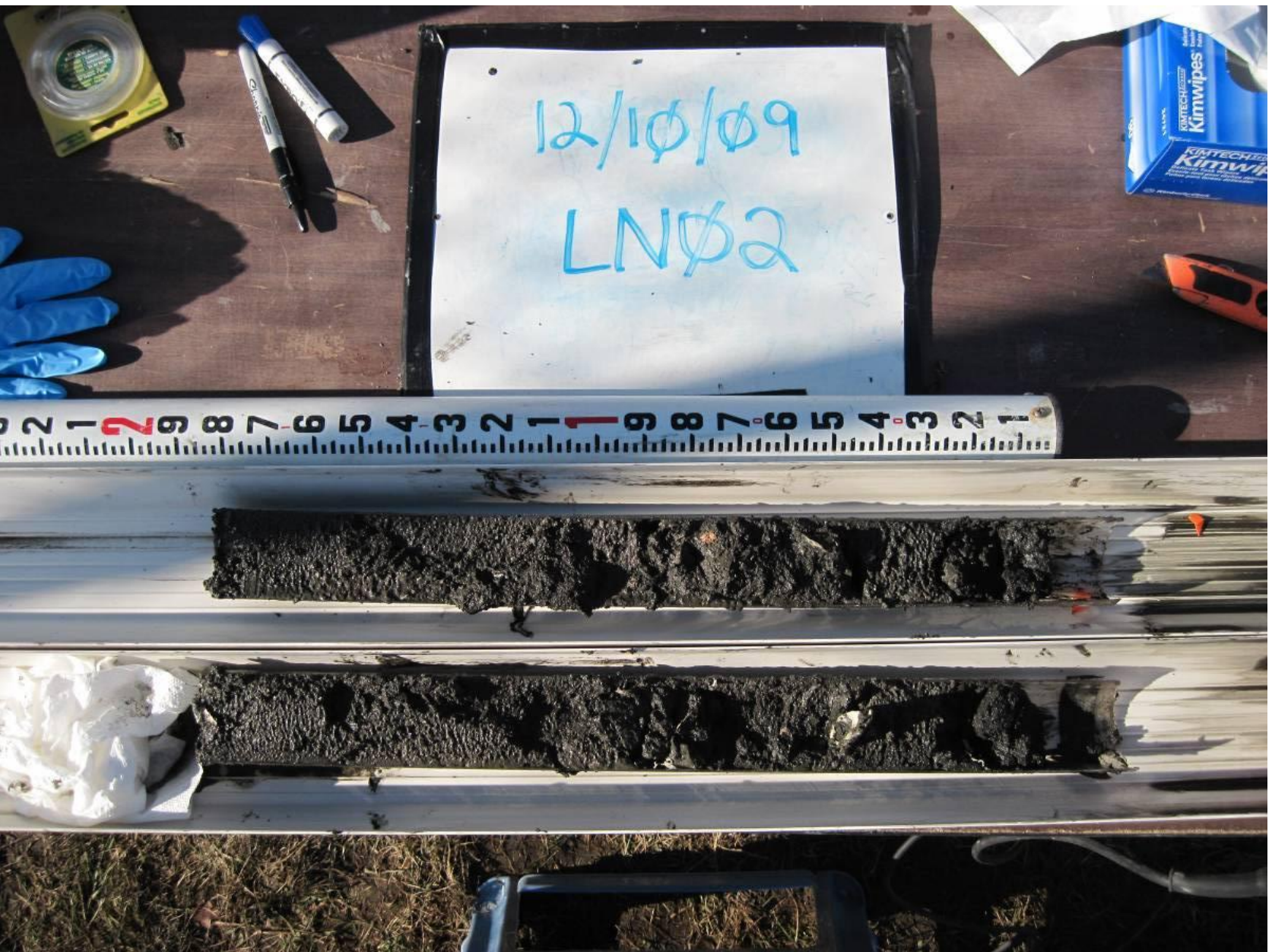
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____


(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology Unit or USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0'	OL	Clay w/ high % organics	Black to v. dk. grey	Loose		oil sheen & H ₂ S odor	Sample: 0-0.5'
2.39'		Clay w/ low % sand & shell frags throughout	olive grey	firm, mod-well consolidated			

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LN2</u> Core Sample ID: <u>S-095-C025</u> Date: <u>09/16/09</u> Time On Station: <u>13:28</u> Latitude N: <u>41° 40.041</u> Longitude W: <u>70° 55.066</u> GPS Accuracy: <u>12ft</u> Predicted Tide (ft): _____ Time of Collection: <u>13:36</u> Collection Mechanism: <u>Push Core</u> Logged by: <u>D. Bailey</u> Time Depart Station: _____	Water Depth (A): <u>5.9</u> Length of Push Core Assembly (B): <u>13.0</u> Water Surface to Top of Handle (C): <u>5.0</u> Length of Core (from bottom) (D): <u>2.83 1.83'</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____	
All Measurements are + 0.1 feet		


Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.7</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-8.7</u>
$13.0 - 5.0 = 8.0$	
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-7.27</u>
$1.83' - 0.4 = 1.43$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-6.87</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-6.4</u>
(Note if $\neq I_2$ within + 1.0 feet, discard and resample) <input checked="" type="checkbox"/>	

Elevation (NGVD) (Elev. Bottom = H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silty Clay	Dark Gray Black	Loose			Possible Mixture
0.2 0.4		Clay	Olive Gray	Firm			Organic Detritus + Shell Hash
1.83' 2.83							

Comments:

SEDIMENT FIELD SAMPLING LOG


Project Name: NBH Environmental Monitoring **Project #:** W912WJ-09-D-0001, Task Order No. 0010
Location: New Bedford, MA **Vessel:**
Client: USACE-NAE **Chief Scientist:**

Station ID: LN02 Water Depth (A): _____
 Core Sample ID: S-09S-C025
 Date: 12/10/2009 Length of Push Core Assembly (B): _____
 Time On Station: _____ Water Surface to Top of Handle (C): _____
 Latitude N: _____ Length of Core (from bottom) (D): 1.83
 Longitude W: _____ Surveyed Elevation (NGVD 29) (E): _____
 GPS Accuracy: _____ Water Surface from Surveyed Elevation (F): _____
 Predicted Tide (ft): _____
 Time of Collection: _____
 Collection Mechanism: _____
 Logged by: DEW
 Time Depart Station: _____

All Measurements are + 0.1 feet

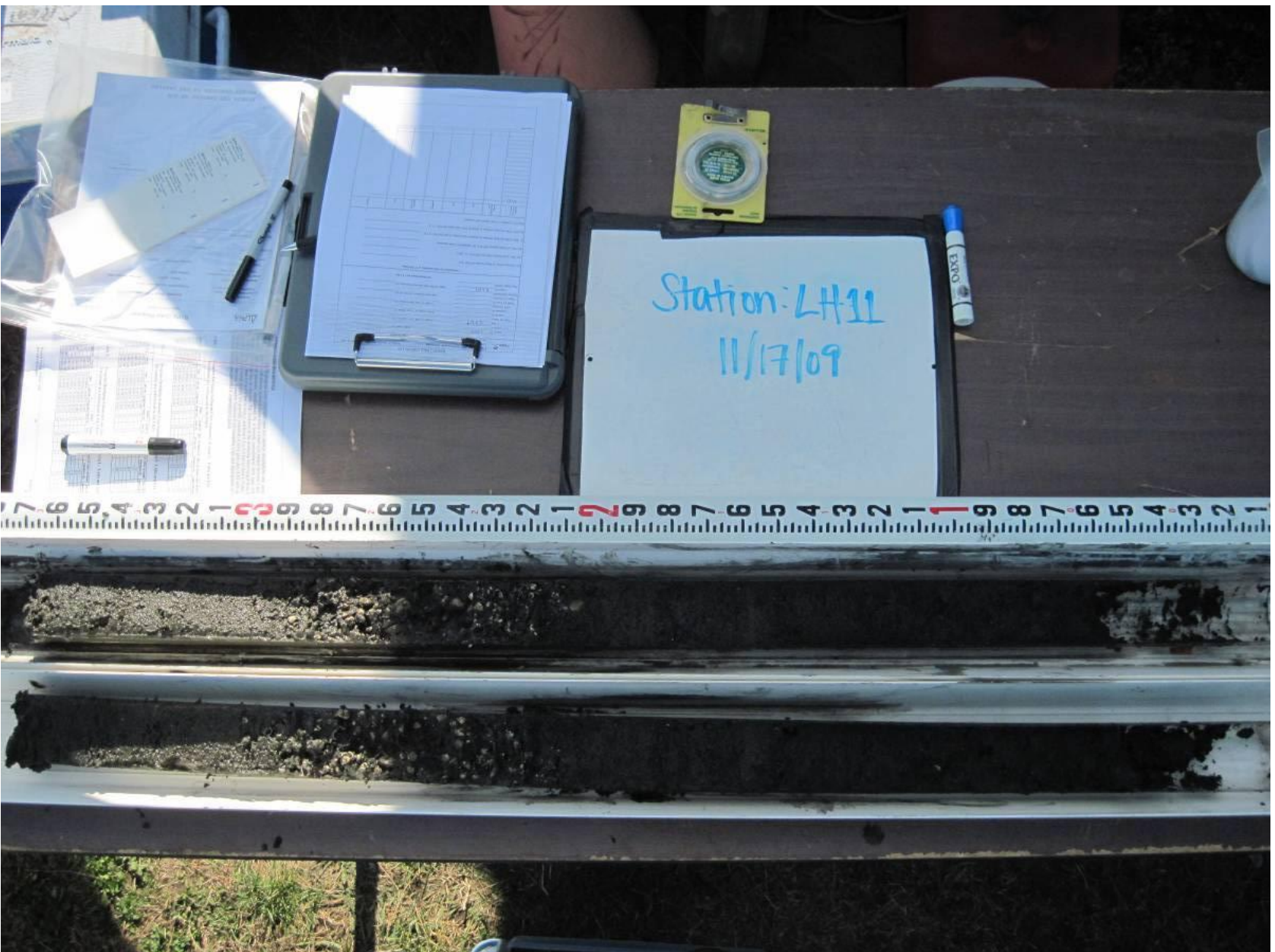
Calculations for Determination of Z* Elevation

- (G) Elevation (Elev.) of Water Surface (NGVD) E - F _____
- (H) Elev. of the bottom of the core (NGVD) G - (B-C) _____
- (z*) Elev. of visual transition (NGVD) H + (distance to visual transition) _____
- (I) Elev. of the sed-water interface as measured from bottom of core (NGVD) H + D _____
- (I₂) Elev. of the sed-water interface as measured from water depth (NGVD) G - A _____


(Note if $\neq \frac{1}{2}$ within + 1 0 feet, discard and resample)

Elevation (NGVD) (in Bottom - H)	Log No. (Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.3	OL	organic silt yellow fine sand	black to v. dk grey			Slight retro silt	
0.9	MU	claysilt - silt to silt w/sand (med-fine) and some gravel	v. dk grey		gravel - 1φ	H ₂ S	
1.83		clayey clayey silt w/ fine sand and org. detritus	dk grey			H ₂ S	

Comments: Two samples 0-0.5' Time: 1045
 0.5-1.0' 1045 * potentially archive sample w/ analysis the results of sample @ 0-0.5'



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel: _____
	Client: USACE-NAE	Chief Scientist: _____
Station ID: <u>S-090-C011</u>	Water Depth (A): <u>7.2</u>	
Core Sample ID: <u>LH11</u>	Length of Push Core Assembly (B): <u>15.3</u>	
Date: <u>10/15/09</u>	Water Surface to Top of Handle (C): <u>4.5</u>	
Time On Station: <u>12:49</u>	Length of Core (from bottom) (D): <u>3.65</u>	
Latitude N: <u>41°40.004</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°55.099</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: _____		
Predicted Tide (ft): _____		
Time of Collection: <u>12:56</u>		
Collection Mechanism: <u>Push Core</u>		
Logged by: <u>D. Bailey</u>		
Time Depart Station: <u>13:00</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-1.1</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-11.9</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) $3.65 - 1.86 = 1.79$	<u>-10.11</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-8.25</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-8.3</u>

(Note if $\neq I_2$ within ± 1.0 feet, discard and resample)

Elevation (NGVD) or Bottom (ft)	Latitude - Includes USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
		Mud (clay)	Very Dark Gray	Moderate			Homogenous
1.86		Clay w/shell Hash	Olive Gray	Well consolidated			Homogenous
3.65							

Comments:

SEDIMENT FIELD SAMPLING LOG



Project Name: NBH Environmental Monitoring Project #: W912WJ-09-D-0001, Task Order No. 0010
 Location: New Bedford, MA Vessel:
 Client: USACE-NAB Chief Scientist:

Station ID: LH11 Water Depth (A): _____
 Core Sample ID: S-090-C011 Length of Push Core Assembly (B): _____
 Date: 11/17/09 Water Surface to Top of Handle (C): _____
 Time On Station: _____ Length of Core (from bottom) (D): _____
 Latitude N: _____ Surveyed Elevation (NGVD 29) (E): _____
 Longitude W: _____ Water Surface from Surveyed Elevation (F): _____
 GPS Accuracy: _____
 Predicted Tide (ft): _____
 Time of Collection: _____
 Collection Mechanism: _____
 Logged by: KBM All Measurements are + 0.1 feet
 Time Depart Station: _____

Calculations for Determination of Z* Elevation

- (G) Elevation (Elev.) of Water Surface (NGVD): E - F
- (H) Elev. of the bottom of the core (NGVD): G - (B-C)
- (z*) Elev. of visual transition (NGVD): H + (distance to visual transition)
- (I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D
- (I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A

(Note if $I_1 \neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom + H)	Latitude USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0	<u>OL</u>	<u>organic clayey silt</u>	<u>black</u>				
1.2	<u>M.C.</u>	<u>organic silt (clayey) w/ occasional sand lenses</u>	<u>very dark grey</u>				
2.0							<u>very high concentration of bivalve fragments, many whole articulated shells 0.01' - 0.1' dia</u>
2.9		<u>highly organic clayey silt</u>	<u>very dark olive grey</u>			<u>H₂S</u>	
3.65							


Comments: sample taken at 1.3-1.8 feet



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>S-090-C012</u>	Water Depth (A): <u>7.6</u>	Core Sample ID: <u>LT16</u>	Length of Push Core Assembly (B): <u>15.3</u>				
Date: <u>10/16/09</u>	Time On Station: <u>13:08</u>	Latitude N: <u>41°39.982</u>	Water Surface to Top of Handle (C): <u>3.95</u>				
Longitude W: <u>70°55.095</u>	GPS Accuracy:	Predicted Tide (ft):	Length of Core (from bottom) (D): <u>2.96</u>				
Time of Collection: <u>13:17</u>	Collection Mechanism: <u>Push Core</u>	Time Depart Station: <u>13:20</u>	Surveyed Elevation (NGVD 29) (E):				
Logged by: <u>D. Bailey</u>	Water Surface from Surveyed Elevation (F):						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.9</u>						
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-12.25</u>						
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-10.69</u>						
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-9.29</u>						
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-8.5</u>						
(Note if ≠ 1, within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = 0)	Litology - Include USCS Code	Type	Color	Consistency	Minimum Particle Size	Odor	Comments
		Mud (clay)		Moderate			Homogenous
1.4		Clay w/shell hash + sand	Dark Olive Gray				
1.84		Clay	Olive Gray	Well consolidated			Homogenous - Some Organic Detritus
2.96							
Comments: - sheen + strong H ₂ S odor @ top of core							

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>LI16</u> Core Sample ID: <u>S-090-C012</u> Date: <u>12/10/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DRW</u> Time Depart Station: _____	Water Depth (A) _____ Length of Push Core Assembly (B) _____ Water Surface to Top of Handle (C) _____ Length of Core (from bottom) (D) <u>3.0</u> Surveyed Elevation (NGVD 29) (E) _____ Water Surface from Surveyed Elevation (F) _____						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD) E-F _____							
(H) Elev. of the bottom of the core (NGVD) G - (B-C) _____							
(z*) Elev. of visual transition (NGVD) H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD) H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD) G - A _____							
(Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Depth (NGVD) (ft) Bottom - H	Lithology (Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
1.5	OL	organic silt, fibrous plant material	Black	homogenous		strong Petrol	
2.3		Silty clay matrix w/ sand w/ high concentration of Bivalve shells (max size 1/2" or 1 cm)	dark olive grey	silty clay matrix looks as if it was winnowed away, leaving higher conc. of shell shells.		H ₂ S	
3.0		Silty clay w/ sand and organic detritus	olive grey	homogenous		strong H ₂ S	
Comments: Two Samples fine: 1.0 - 1.5 1000 1.6 - 2.1 1000							



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring		Project #: W912WJ-09-D-0001, Task Order No. 0010	
Location: New Bedford, MA		Vessel:	
Client: USACE-NAE		Chief Scientist:	
Station ID: S-090-C013	Water Depth (A): 8.5		
Core Sample ID: LK19	Length of Push Core Assembly (B): 15.25		
Date: 10/16/09	Water Surface to Top of Handle (C): 3.05		
Time On Station: 13:25	Length of Core (from bottom) (D): 3.08		
Latitude N: 41°39.970	Surveyed Elevation (NGVD 29) (E): -		
Longitude W: 70°55.085	Water Surface from Surveyed Elevation (F): -		
GPS Accuracy:			
Predicted Tide (ft):			
Time of Collection: 13:25 13:34			
Collection Mechanism: Push Core Push Core			
Logged by: D. Bailey			
Time Depart Station: 13:39			

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation



(G) Elevation (Elev.) of Water Surface (NGVD): E-F	-0.8
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	-13
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	-11.62
	3.08 - 1.70 = 1.38
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	-9.92
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	-9.3

(Note if I_2 within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
		Mod (clay)	Very Dark Gray	Moderate			Homogenous
1.70		Clay w/shell wash	Olive Gray	Well consolidated			Organic Detritus
3.08							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: LK19 Core Sample ID: S-090-C013- Date: 11/17/09 Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: KGM Time Depart Station:	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F):	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E - F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

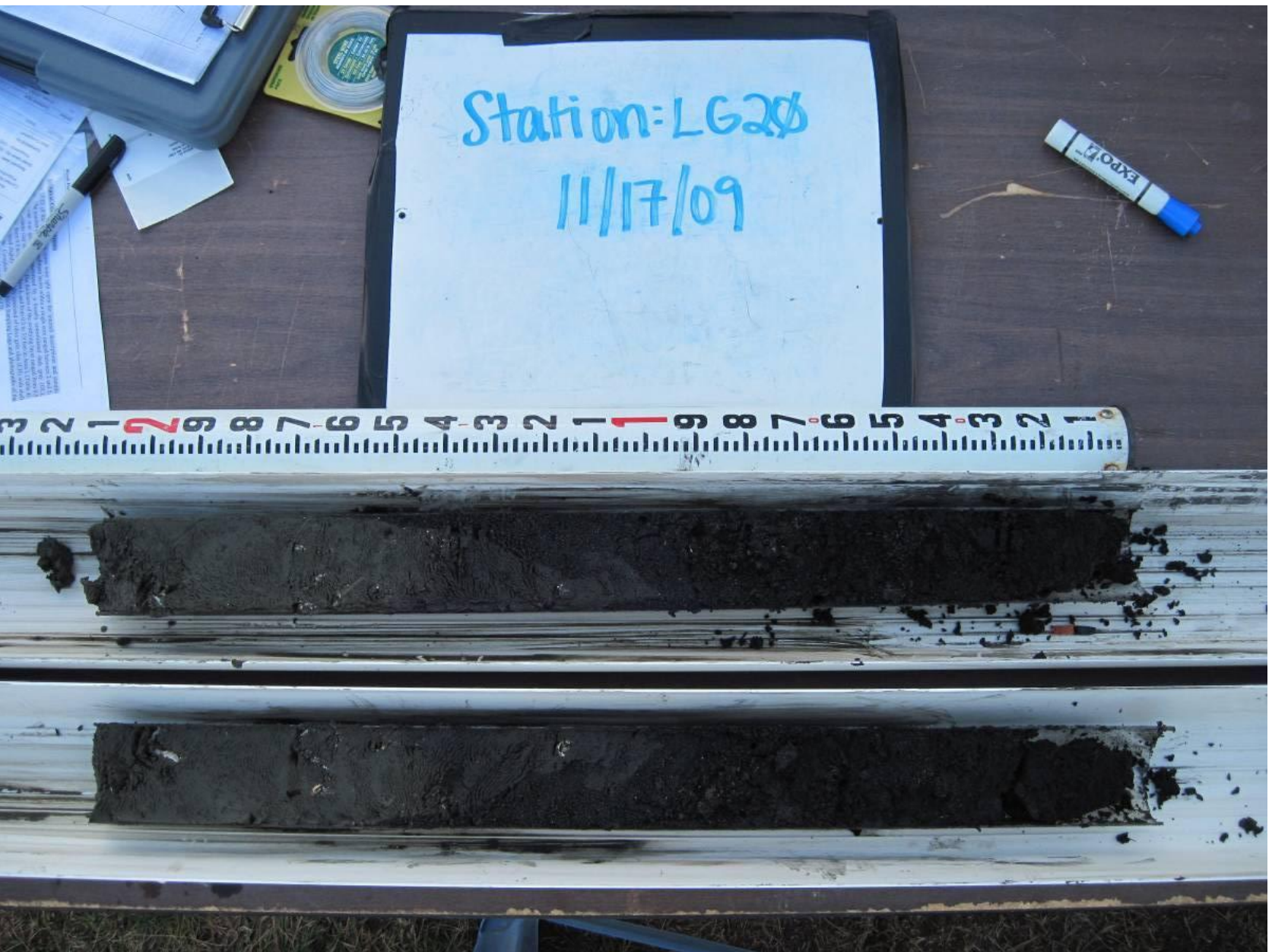
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____


(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		organic silt	black/dark grey			petroleum	Sheen
1.5		organic transition layer					
1.7		silty clay	dark olive grey				high % shell hash
2.2		silty clay	olive grey			H ₂ S	
3.08							

Comments: Sample taken between 1.7 - 2.2 feet high shell content in area of sample



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>S-090-C014</u> Core Sample ID: <u>LG20</u> Date: <u>10/15/09</u> Time On Station: <u>13:41</u> Latitude N: <u>41°39.965</u> Longitude W: <u>70°55.107</u> GPS Accuracy: Predicted Tide (ft): Time of Collection: <u>13:48</u> Collection Mechanism: <u>Push Core</u> Logged by: <u>D. Bailey</u> Time Depart Station: <u>13:55</u>	Water Depth (A): <u>3.65</u> Length of Push Core Assembly (B): <u>13.3</u> Water Surface to Top of Handle (C): <u>7.25</u> Length of Core (from bottom) (D): <u>2.10</u> Surveyed Elevation (NGVD 29) (E): <u>-</u> Water Surface from Surveyed Elevation (F): <u>-</u>						
All Measurements are +0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F		<u>-0.7</u>					
(H) Elev. of the bottom of the core (NGVD): G - (B-C)		<u>-6.75</u>					
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)		<u>-2.05 -5.65</u>					
	<u>2.10 - 1.0 = 1.1</u>						
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D		<u>-4.65</u>					
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A		<u>-4.35</u>					
(Note if ≠ 1, within + 1.0 feet, discard and resample) <input checked="" type="checkbox"/>							
Elevation (NGVD) of Bottom - ft	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
		Sandy clay	Black	Moderate	Fine sand		Well sorted Fine sand Homogeneous
1.0			Dark Gray				Transition layer
1.46		Clay w/shell fragments	Olive Gray				Homogeneous
2.10							
Comments:							

SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LG20</u> Core Sample ID: <u>S-090-C014</u> Date: <u>11/17/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>KGM</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): _____ Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F

(H) Elev. of the bottom of the core (NGVD): G - (B-C)

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0							
0.65	su	silty fine/medium sand organic	black				sand gets coarser with depth
1.0	mu/ol	sand w/ silt & clay	black				
1.5		sand mixed w/ dark grey clayey silt			Shell fragments		coarser sand than overlying layer
		clayey silt	dark olive grey				angled transition
2.1							


Comments: sample taken at 1.0-1.5 feet



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>LE12</u> Core Sample ID: <u>S990-029</u> Date: <u>10/21/09</u> Time On Station: <u>13:32</u> Latitude N: <u>41° 40.000</u> Longitude W: <u>70° 55.116</u> GPS Accuracy: <u>21 ft.</u> Predicted Tide (ft): _____ Time of Collection: <u>13:35</u> Collection Mechanism: <u>push core</u> Logged by: <u>KGM</u> Time Depart Station: <u>13:40</u>	Water Depth (A): <u>7.9</u> Length of Push Core Assembly (B): <u>15.2</u> Water Surface to Top of Handle (C): <u>5.2</u> Length of Core (from bottom) (D): <u>2.33</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>0.9</u>	_____					
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-9.1</u>	_____					
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-7.37</u>	_____					
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>2.33 - 0.6 = 1.73</u>	_____					
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-6.77</u>	_____					
	<u>-7.0</u>	_____					
(Note if $\neq 1/2$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom + H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0	---	---	---	---	---	---	---
		clay	dark olive grey	firm			shell hash
0.6	---	---	---	---	---	---	---
		clay	medium dark olive grey	firm			transition layer shell hash
1.8	---	---	---	---	---	---	---
		clay	olive grey	firm			shell hash
2.33	---	---	---	---	---	---	---
Comments:							

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
Client: USACE-NAE	Chief Scientist:	

Station ID: <u>LE12</u>	Water Depth (A): _____
Core Sample ID: <u>S-090-C029</u>	Length of Push Core Assembly (B): _____
Date: <u>12/10/2009</u>	Water Surface to Top of Handle (C): _____
Time On Station: _____	Length of Core (from bottom) (D): <u>2.3</u>
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: _____	
Predicted Tide (ft): _____	
Time of Collection: _____	
Collection Mechanism: _____	
Logged by: <u>DRW</u>	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD) E-F _____

(H) Elev. of the bottom of the core (NGVD) G - (B-C) _____

(z*) Elev. of visual transition (NGVD) (H + (distance to visual transition)) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD) H + D _____

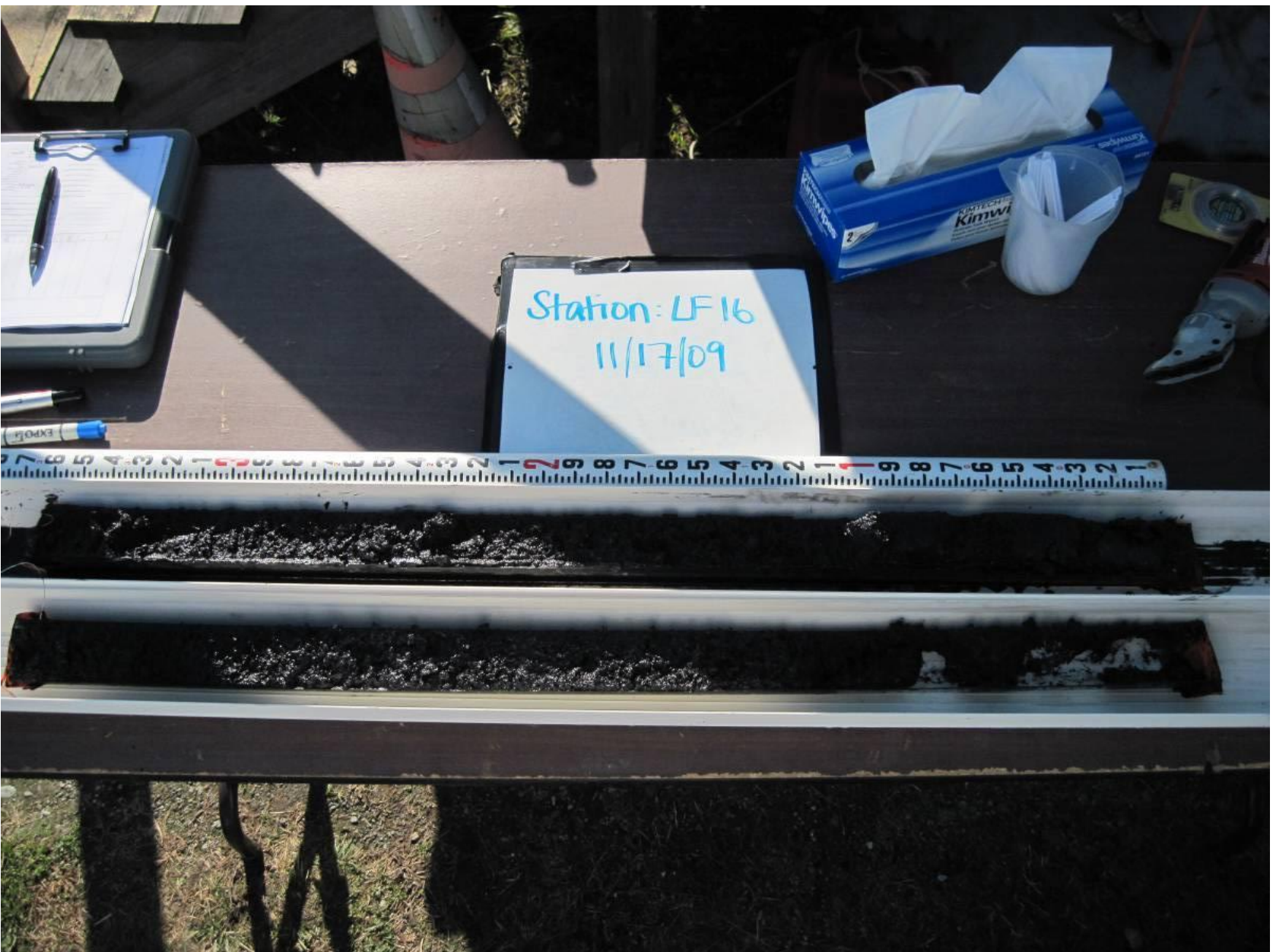
(I₁) Elev. of the sed-water interface as measured from water depth (NGVD) G - A _____

(Note if $\neq I_1$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom + H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
<u>0.85</u>	<u>OL</u>	<u>Organic silt w/ 40% fine sand</u>	<u>Black - v. dk grey</u>	<u>homogenous</u>		<u>Revol</u>	<u>Heavy sheen</u>
<u>1.4</u>	<u>ML</u>	<u>Silt</u>	<u>v. dark grey</u>	<u>homogen</u>		<u>H₂S</u>	<u>no sheen</u>
<u>2.1</u>		<u>Silt matrix w/ high concentration of brachiopod shells (<1cm)</u>	<u>v dk grey</u>			<u>H₂S</u>	
<u>2.3</u>		<u>Silty clay w/ org. detritus, no shells</u>	<u>dk grey - olive grey</u>	<u>homogenous</u>		<u>H₂S</u>	

Comments:

Two samples	Time:
0.4 - 0.9	1025
1.0 - 1.5	1025



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:	
Station ID: LF16	Water Depth (A): 7.3	Core Sample ID: S090-030	Length of Push Core Assembly (B): 15.3 / 15.3
Date: 10/21/09	Time On Station: 13:56	Latitude N: 41° 29' 9.23"	Water Surface to Top of Handle (C): 4.0 / 4.0
Longitude W: 70° 55' 11"	GPS Accuracy: 21 ft.	Predicted Tide (F):	Length of Core (from bottom) (D): 8.53
Time of Collection: 14:00	Collection Mechanism: push core	Time of Depart Station: 14:10	Surveyed Elevation (NGVD 29) (E):
Logged by: KGM	Water Surface from Surveyed Elevation (F):		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	0.6 / 0.6
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	-10.7
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	-10.7
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	-7.17
(L) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	-6.7

(Note if $\neq l_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Minimum Particle Size	Odor	Comments
0.0							
		silty clay	dark grey/black	medium			
		↓	↓	↓			
3.53							

Comments: 1st core: 3.8 ft long but shows no clay transition layer
 2nd core: overpenetrated
 Kept 1st core

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LP16</u> Core Sample ID: <u>S-090-C030</u> Date: <u>11/17/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: <u>Push core</u> Logged by: <u>KGM</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): _____ Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____	
All Measurements are + 0.1 feet		

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F

(H) Elev. of the bottom of the core (NGVD): G - (B-C)

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D

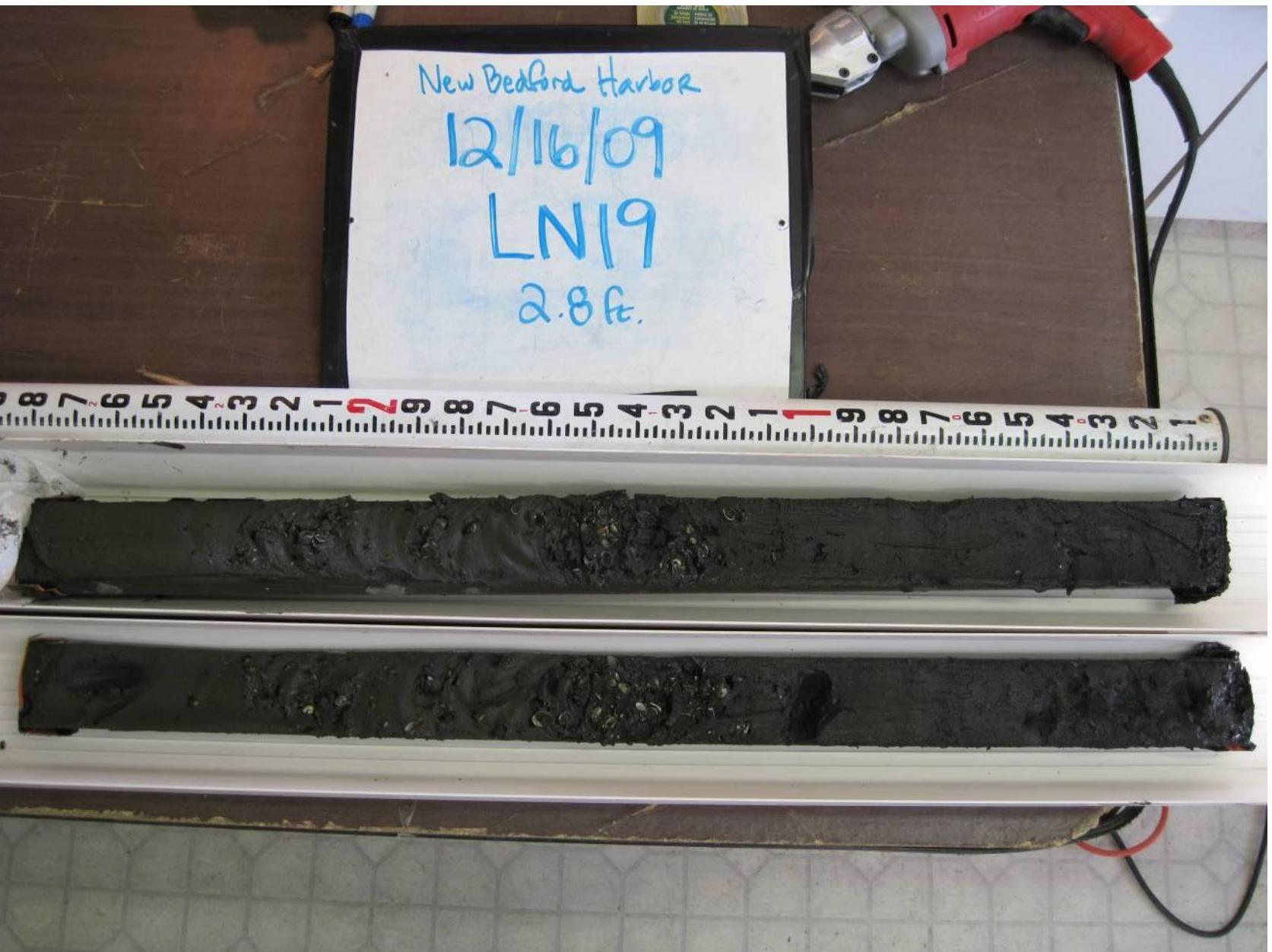
(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A

(Note if $I_2 \neq I_1$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom + H)	Linkage to Package USGS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		highly organic clay with sand	dark grey/black	moderately consolidated		petroleum odor, H ₂ S	visible sheen
		↓	↓	↓	↓	↓	↓
3.5							

Comments:

~~Core is not main~~ Sandy content varies through core, ex: sample taken at 1.5-2.0 feet is highly sandy: contains > 50% sand



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>LN19</u>	Water Depth (A): <u>9.6</u>
Core Sample ID: <u>S-0910-0001</u>	Length of Push Core Assembly (B): <u>14.2</u>
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>1.7</u>
Time On Station: <u>12:17</u>	Length of Core (from bottom) (D): <u>2.8</u>
Latitude N: <u>41° 39.971'</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70° 55.067'</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>12 ft.</u>	
Predicted Tide (ft): <u>—</u>	
Time of Collection: <u>12:29</u>	
Collection Mechanism: <u>push core</u>	
Logged by: <u>KGM</u>	
Time Depart Station: <u>12:33</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-1.2</u> NGVD 29 (sheet # 21: Area 4)
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-13.7</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-11.44</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-10.9</u>
(I ₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-10.8</u>

(Note if ≠ I₁ within + 1.0 feet, discard and resample)

Internal description, core split 12/15/09 @ 11:05

Elevation (NGVD) (i.e. Bottom + H)	Lunology (i.e. Core)	Type	Color	Consistency	Maximum Particle Size	Other	Comments
<u>0.1</u>	<u>OL</u>	<u>organic silt fibrous</u>	<u>Black</u>	<u>Loose</u>		<u>retrol</u>	<u>sheen (Heavy)</u>
<u>0.54</u>	<u>OL/ML</u>	<u>Silt w/ organics and shell hash</u>	<u>Black-v. dk grey (SY 2.5 - SY 3.1)</u>	<u>moderately consolidated</u>	<u>shell frag</u>	<u>H₂S, slight petrol</u>	<u>Slight sheen</u>
<u>debris 1.08, 1.26</u>	<u>ML</u>	<u>Silt w/ organics & low % fine sand</u>	<u>v. dk grey (SY 3.1) colors bands</u>	↓	<u>shell frag</u>	<u>H₂S</u>	<u>possible sheen</u>
<u>1.58</u>		<u>Silt-clayey silt Matrix w/ high conc. shells</u>	<u>dark olive grey (SY 3.2)</u>	<u>moderately well consolidated</u>	<u>~1cm shell</u>	<u>H₂S</u>	<u>* high conc. of bivalve shells, approx 1 cm width.</u>
<u>2.30</u>		<u>Silt-clayey silt w/ shells & organics</u>	<u>dark olive grey (SY 3.2)</u>	↓	<u>Shell hash (course sand sized)</u>	<u>H₂S</u>	<u>occasional bivalve shells, higher conc. layer" 2.1-2.2"</u>
<u>2.80</u>		<u>clayey silt w/ organics detritus</u>	<u>dark olive grey (SY 3.2)</u>	↓	<u>fine-med sand</u>	<u>H₂S</u>	<u>homogenous, no shells.</u>


Comments: Two samples Time: one OC Time:

0-0.5' 12/16, 12:15 0.6-1.1 MSMSD 12:20, 12/16

0.6-1.1' 12/16, 12:20



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LN14</u>	Water Depth (A): <u>7.8</u>	
Core Sample ID: <u>S-09D-C062</u>	Length of Push Core Assembly (B): <u>12.8</u>	
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>2.6</u>	
Time On Station: <u>12:41</u>	Length of Core (from bottom) (D): <u>2.2</u>	
Latitude N: <u>41° 39.992</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 55.067</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>10ft</u>		
Predicted Tide (ft): <u>-</u>		
Time of Collection: <u>12:49</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>12:54</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-1.0 (Sheet pile #21 Area)</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-11.2</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-9.72</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-9.0</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-8.8</u>

(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)

Internal description, core split 12/14/09 @ 1155

Elevation (NGVD) (Elev. Bottom - H)	Library (Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.72	OL	Highly organic silt, fibrous	Black (SY 2.5/1)	loose/unconsolidated		Petrol	High stream silt
1.10	ML	Silt w/ fine med sand and shell hash	dark olive grey (SY 3/2)	moderately consolidated	shell hash	H ₂ S	
1.48		silt w/ fine sand; homogenous.	dark olive grey (SY 3/2)	moderately well consolidated			
2.20		Silty sand w/ shell frags and gravel	dark olive grey (SY 3/2)	↓	-2φ gravel	↓	

Comments:

Two samples Time:

0.2 - 0.7' 12/10, 1230

0.8 - 1.3' 12/10, 1230



SEDIMENT FIELD SAMPLING LOG

WOODS HOLE GROUP	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LK12</u>	Water Depth (A): <u>8.6</u>	
Core Sample ID: <u>S-09D-C003</u>	Length of Push Core Assembly (B): <u>14.25</u>	
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>2.35</u>	
Time On Station: <u>13:01</u>	Length of Core (from bottom) (D): <u>3.55</u>	
Latitude N: <u>41°40.000</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°55.083</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>10 ft.</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>13:06</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>KEM</u>		
Time Depart Station: <u>13:11</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.8 (sheet pile # 21 Areal)</u> <u>12/21/09 KEM</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-11.9 - 12.7</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>KEM 12/21</u> <u>10.55 - 11.75</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-9.15</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-9.4</u>

(Note if # 1₂ within + 1.0 feet, discard and resample)

Interim description, core split 12/16/09 @ 1245

Elevation (NGVD) (Elev. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
1.46	OL	highly organic silt, fibrous	Black (SY 2.5/1)	Loose		Retrol	high/strong screen
2.6	OL/ML	organic silt mixed w/ silt w/ fine sand and shells-shell frags	Black and dark olive grey "mottled" (patches of SY 2.5 and SY 3.2)	Loose	1cm shell, (bivalve)	H ₂ S	Layer of transition between "OL" and ML - possibly disturbed in dredging process?
3.55	ML	silt or clayey silt w/ occasional shell layers	dark olive grey (SY 3.2)	Moderately well consolidated	1cm bivalve shell	H ₂ S	- good, well-defined transition between OL/ML above and ML (this layer). - consistency was a good indicator @ transition of layers. - shell/bivalve layer @ 3.1-3.26'

Comments:

Two Samples:	Time:	
0.9 - 1.4	12/16	13:00
2.1 - 2.6	12/16	13:06



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:
Station ID: <u>LM09</u>	Water Depth (A): <u>8.4</u> ^{KCM 12/14/09} <u>8.2</u>	
Core Sample ID: <u>S-09D-C004</u>	Length of Push Core Assembly (B): <u>13.7</u>	
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>2.6</u>	
Time On Station: <u>13:20</u>	Length of Core (from bottom) (D): <u>2.55</u>	
Latitude N: <u>41° 40.012'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 55.072'</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>10ft</u>		
Predicted Tide (ft): <u>-</u>		
Time of Collection: <u>13:25</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>13:30</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.7 (sheet pile #21: Area L)</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-11.8</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-10.03</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-9.25</u>
(1 ₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-8.9</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

* Internal description, core split 12/14/09 @ 1318


Elevation (NGVD) (L) Bottom = H	Lithology (L) USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.78	OL/ML	Organic silt	Black - (5/2.5/1 to 5/3/2) dark olive grey	Loose		- pebbles	- seems like a mixture of OL and ML, distinct from OL. Slight sheen
2.55	ML	Silt w/ organic detritus and occasional shell frags	dark olive grey (5/3/2)	moderately well consolidated		- 3cm bay scallop shell	- definitely ML, distinct from overlaying layer by consistency in "firmness", color, and homogeneous texture.

Comments:

Two samples Fine:
 0.2-0.7 , 12/14 @ 1322
 0.6-1.3 , 12/14 @ 1322



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LH06</u>	Water Depth (A): <u>7.4</u>	
Core Sample ID: <u>S-09D-C005</u>	Length of Push Core Assembly (B): <u>15.65</u>	
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>4.0</u>	
Time On Station: <u>13:34</u>	Length of Core (from bottom) (D): <u>4.45</u>	
Latitude N: <u>41°40.025'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°55.099'</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>10 ft.</u>		
Predicted Tide (ft): <u>-</u>		
Time of Collection: <u>13:44</u>		
Collection Mechanism: <u>pushcore</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>13:50</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.3 (sheet pile #21 axial)</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-11.95</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-9.3</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-7.5</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-7.7</u>

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)
 * Internal description, core split on 12/16/09 @ 1405

Elevation (NGVD) (i.e. Bottom = H)	Sampling Interval (USCS) Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
1.8	OL	Organic silt w/ sand;	Black (SY 2.5/1)	Loose	Coarse sand	Rehol	heavy sheen
3.56	ML	Silt, homogenous	v. dk grey (SY 3/1)	moderately consolidated		H ₂ S	
4.45	ML	ML silt to clayey silt. w/ shells & shell frags	(SY 3/2) dk olive grey	moderately-well consolidated		H ₂ S	

Comments:
 Two samples: Time:
 1.3-1.8 12/16, 1415
 2.0-2.5 12/16, 1415



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>LJ05</u>	Water Depth (A): <u>9.1</u>	
Core Sample ID: <u>S-09D-C006</u>	Length of Push Core Assembly (B): <u>14.2</u>	
Date: <u>12/14/09</u>	Water Surface to Top of Handle (C): <u>2.5</u>	
Time On Station: <u>13:56</u>	Length of Core (from bottom) (D): <u>2.25</u>	
Latitude N: <u>41°40.029'</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70°55.088'</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>10 ft</u>		
Predicted Tide (ft): <u>-</u>		
Time of Collection: <u>14:02</u>		
Collection Mechanism: <u>PUSH CORE</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>14:07</u>		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>-0.3 (sheet pile # 21: AREAL)</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-12.0</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-10.3</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-9.75</u>
(1 ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-9.4</u>

(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)

* Interval Description, core split 12/14/09 @ 1435

Elevation (NGVD) Bottom - ft	Lithology, include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.55	OL	Organic silt	Black (by 25/T)	Loose		fetal	
2.25	ML	Silt → Clayey silt w/ Organic detritus and shell frags	dark olive gray	Moderately well to well (consolidated)	med. sand and shell (2 cm) but predominantly a fine grained matrix.	H ₂ S	Definitive horizontal break between OL and ML layers.
							- Sand mixed into matrix below 1.5' as well as shells @ 2.0-2.1

Comments:

Two samples:	Time:
0-0.5'	12/14 14:40
0.6-1.1'	12/10 14:40



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>1102</u>	Water Depth (A): <u>7.7</u>
Core Sample ID: <u>S-010-0007</u>	
Date: <u>12/14/09</u>	Length of Push Core Assembly (B): <u>13.6</u>
Time On Station: <u>14:15</u>	Water Surface to Top of Handle (C): <u>2.8</u>
Latitude N: <u>41°40.041</u>	Length of Core (from bottom) (D): <u>3.0</u>
Longitude W: <u>70°55.094</u>	Surveyed Elevation (NGVD 29) (E): _____
GPS Accuracy: <u>10 ft.</u>	Water Surface from Surveyed Elevation (F): _____
Predicted Tide (ft): <u>—</u>	
Time of Collection: <u>14:31</u>	
Collection Mechanism: <u>push core</u>	
Logged by: <u>KGM</u>	
Time Depart Station: <u>14:38</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>0.0</u> (sheet pile # 21: Area L)
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-10.8</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>6.0</u> ^{12/11/09} <u>-10.4</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-7.8</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-7.7</u>

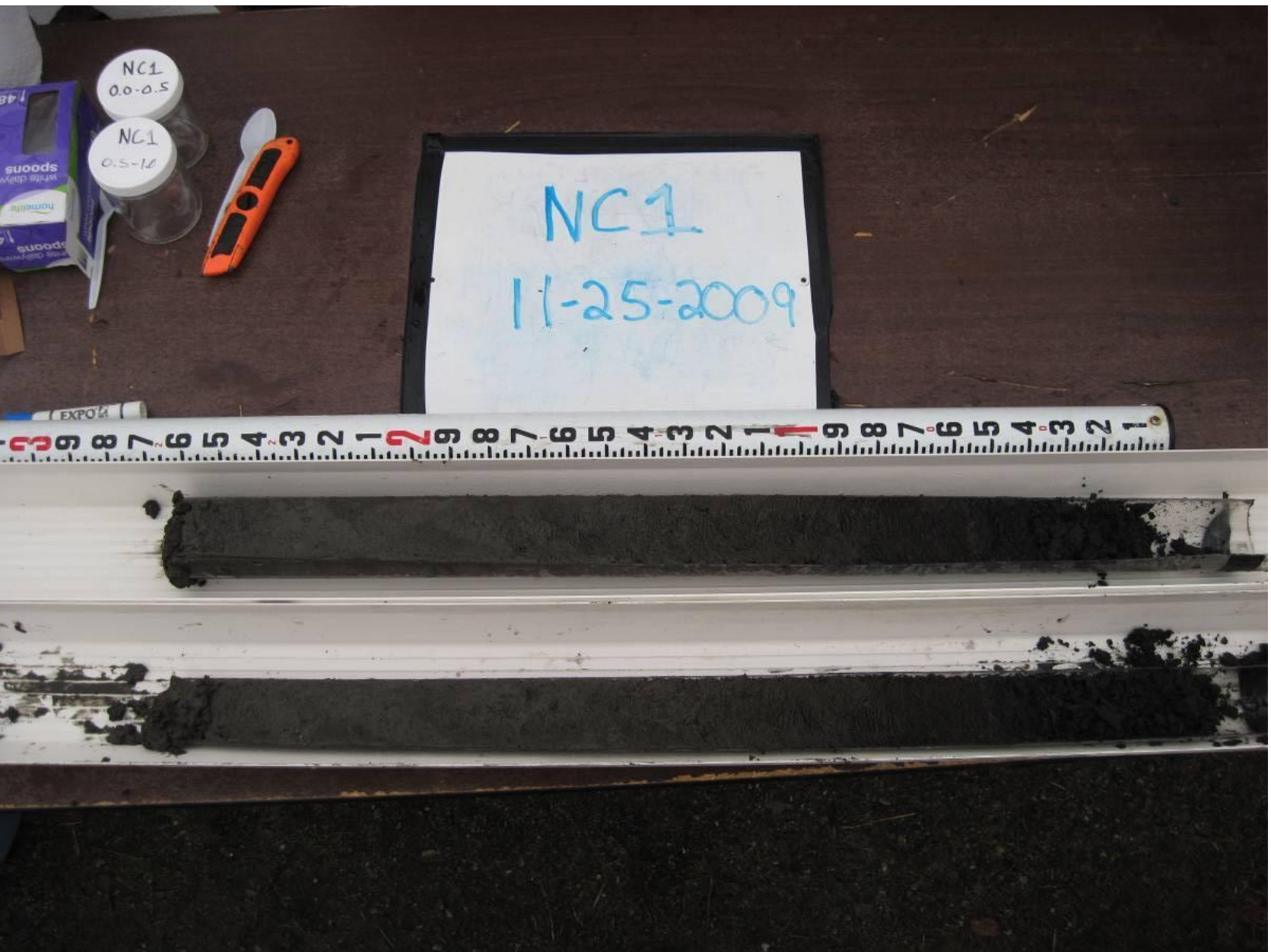
(Note if #1₂ within + 1.0 feet, discard and resample)

* Interim Description, core split 12/14/09 @ 1450

Elevation (NGVD) (ft) Bottom - 1"	Landing, include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
1.2	OL	organic silt	Black (SY 25/1)	Loose		petrol	heavy sheen
2.26	OL/ML	organic silt - clayey silt	Black (SY 25/2)	loose - moderately consolidated		Petrol / H ₂ S	sheen
2.6	OL/ML	organic silt - clayey silt	Black - dark olive grey	moderately consolidated		Slight Petrol / H ₂ S	color varies in patches (SY 2.5 - SY 3/2) ^{new 12/10}
3.0	ML	silt - clayey silt	Dark olive grey	moderately well consolidated	- Shell (bivalve) ~ 2 cm		color is SY 3/2

Comments:

Two Samples:	Time:
0.7 - 1.2	12/14 1500
2.1 - 2.6	12/14 1500



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring		Project #: W912WJ-09-D-0001, Task Order No. 0010	
Location: New Bedford, MA		Vessel:	
Client: USACE-NAE		Chief Scientist:	
Station ID: <u>NC1</u>	Water Depth (A): <u>4.4</u>	Core Sample ID: <u>SD90-6023</u>	Length of Push Core Assembly (B): <u>14.5</u>
Date: <u>10/21/09</u>	Time On Station: <u>11:30</u>	Latitude N: <u>41° 40.547</u>	Water Surface to Top of Handle (C): <u>7.0</u>
Longitude W: <u>70° 54.842</u>	GPS Accuracy: <u>15 ft</u>	Predicted Tide (ft): _____	Length of Core (from bottom) (D): <u>2.6</u>
Time of Collection: <u>11:35</u>	Collection Mechanism: <u>push core</u>	Surveyed Elevation (NGVD 29) (E): _____	Water Surface from Surveyed Elevation (F): _____
Logged by: <u>KGM</u>	Time Depart Station: <u>11:38</u>	All Measurements are + 0.1 feet	

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.0</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.5</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-2.7</u>
$2.6 - 0.8 = 1.8$	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-1.9</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-1.4</u>

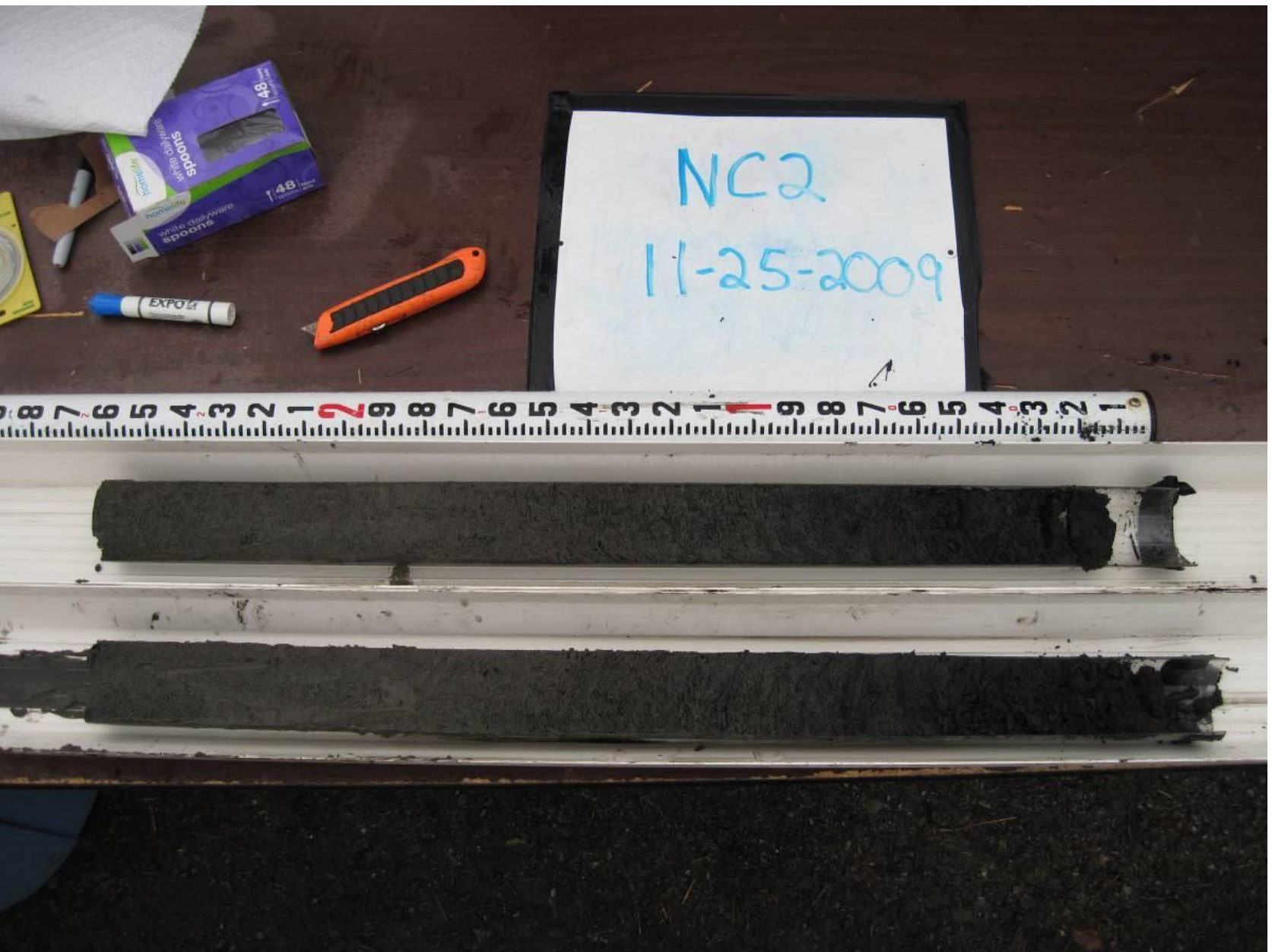
(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (ft.) Bottom - H	Lineage - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0	OL	silty clay	black	firm			shell hash
0.8		clay	dark olive grey	firm			
1.3		clay	olive grey	firm			
2.6							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>NC1</u> Core Sample ID: <u>S-090-C023</u> Date: <u>11/25/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>Dew</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>2.6</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	Latitude/Longitude USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.53	02	Silt w/organics homogeneous	Black				} all layers homogeneous in texture
0.90		clay silt w/organics	v. dk brown				
1.44		Silty clay w/ high % organics	dk grey-olive grey				
2.6		silty clay w/ fine sand and low % organics	dk olive grey				
Comments: Two samples: 0-0.5' Time: 0845 0.5-1.0' 0845							



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:	
Station ID: <u>NC2</u>	Water Depth (A): <u>3.9</u>	Core Sample ID: <u>S090-0022</u>	Length of Push Core Assembly (B): <u>14.25</u>
Date: <u>10/21/09</u>	Time On Station: <u>11:13</u>	Latitude N: <u>41° 40.546</u>	Water Surface to Top of Handle (C): <u>7.3</u>
Longitude W: <u>70° 54.809</u>	GPS Accuracy: <u>14 ft.</u>	Predicted Tide (F): _____	Length of Core (from bottom) (D): <u>2.65</u>
Time of Collection: <u>11:20</u>	Collection Mechanism: <u>push core</u>	Logged by: <u>KGM</u>	Surveyed Elevation (NGVD 29) (E): _____
Time Depart Station: <u>11:25</u>			Water Surface from Surveyed Elevation (F): _____

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.0</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-3.95</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-1.75</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-1.3</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-0.9</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
<u>0.0</u>							
<u>0.18</u>		<u>silt</u>	<u>brown</u>	<u>loose</u>			
<u>0.45</u>		<u>silty clay</u>	<u>black</u>	<u>medium</u>			
<u>0.6</u>		<u>clayey sand</u>	<u>brown</u>	<u>medium</u>			
<u>1.2</u>		<u>sandy clay</u>	<u>black</u>	<u>medium</u>			
		<u>clay</u>	<u>olive grey</u>	<u>firm</u>			
<u>2.65</u>							

Comments:

SEDIMENT FIELD SAMPLING LOG

<p>Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE</p>	<p>Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:</p>
<p>Station ID: <u>NC 2</u> Core Sample ID: <u>S-090-C022</u> Date: <u>11/25/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DRLW</u> Time Depart Station: _____</p>	<p>Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>2.7</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____</p>

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.64	O	Silt, homogeneous w/organics	Black				Sheen noticeable
1.7	MC	Silty clay w/ high % organics	dk olive grey				"Transition" layer Z* boundary.
		silty clay - low % organics	dk olive grey - olive grey				

Comments: Two Samples: Time: _____
 0 - 0.5' 0906
 0.5 - 1.0' 0906



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:	
Station ID: NC3	Water Depth (A): 4.5	Core Sample ID: S090-E024	Length of Push Core Assembly (B): 15.1
Date: 10/21/09	Time On Station: 11:41	Latitude N: 41°40.517	Water Surface to Top of Handle (C): 7.9
Longitude W: 70°54.842	GPS Accuracy: 16 ft	Length of Core (from bottom) (D): 2.33	Surveyed Elevation (NGVD 29) (E):
Predicted Tide (ft):	Time of Collection: 11:48	Water Surface from Surveyed Elevation (F):	
Collection Mechanism: push core	Logged by: KGM		
Time Depart Station: 11:51			

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>2.9</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.3</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>2.9 -2.52</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>2.33 - 0.55 = -1.78</u> <u>-1.97</u>
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-1.6</u>

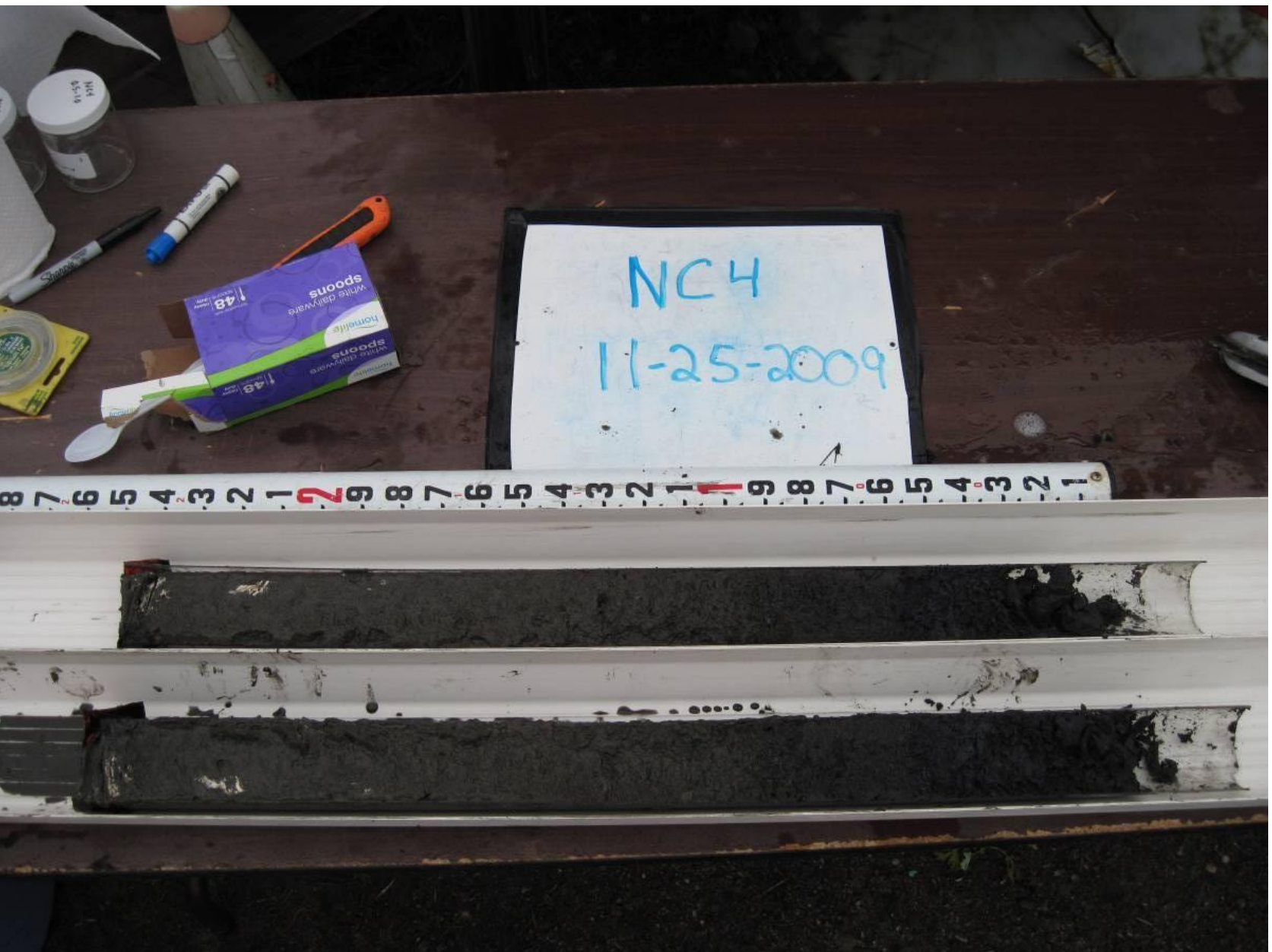
(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Elevation (NGVD) (L) Bottom = H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0		silty clay	dark grey	medium			
0.55		clay	brown grey	firm			
1.2		clay	olive grey	firm			shell hash
2.33							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>NC3</u> Core Sample ID: <u>S-090-C024</u> Date: <u>11/25/09</u> Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: Time Depart Station:	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): <u>2.3'</u> Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F): <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if $\neq I_2$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.32	OL	Silt w/ high organic content	Black				Heavy silt
0.98	OL	Silty clay w/ high organic content	V. dk brown - Black				Heavy silt
2.3		Silty clay w/ organics & shell fragments	dark olive grey				← transition between silt/sand
Comments: Two samples: Time: 0 - 0.5' 0930 0.5 - 1.0' 0930							



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring		Project #: W912WJ-09-D-0001, Task Order No. 0010	
Location: New Bedford, MA		Vessel:	
Client: USACE-NAE		Chief Scientist:	
Station ID: <u>NC4</u>	Water Depth (A): <u>4.1</u>		
Core Sample ID: <u>S090 f021</u>	Length of Push Core Assembly (B): <u>13.9</u>		
Date: <u>10/21/09</u>	Water Surface to Top of Handle (C): <u>6.7</u>		
Time On Station: <u>10:56</u>	Length of Core (from bottom) (D): <u>2.49</u>		
Latitude N: <u>41°40.521</u>	Surveyed Elevation (NGVD 29) (E): _____		
Longitude W: <u>70°54.815</u>	Water Surface from Surveyed Elevation (F): _____		
GPS Accuracy: <u>18</u>			
Predicted Tide (ft): _____			
Time of Collection: <u>11:03</u>			
Collection Mechanism: <u>push core</u>			
Logged by: <u>RGM</u>			
Time Depart Station: _____			

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.1</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.1</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-2.21</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-1.61</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-1.0</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Class	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0	<i>o/y/m</i>	silty clay	dark grey	firm	-	-	-
0.6							
1.2		clay w/ sand(?)	dark grey	firm	-	-	-
		clay	olive grey	firm	-	-	w/ shell hash
2.49							


Comments:

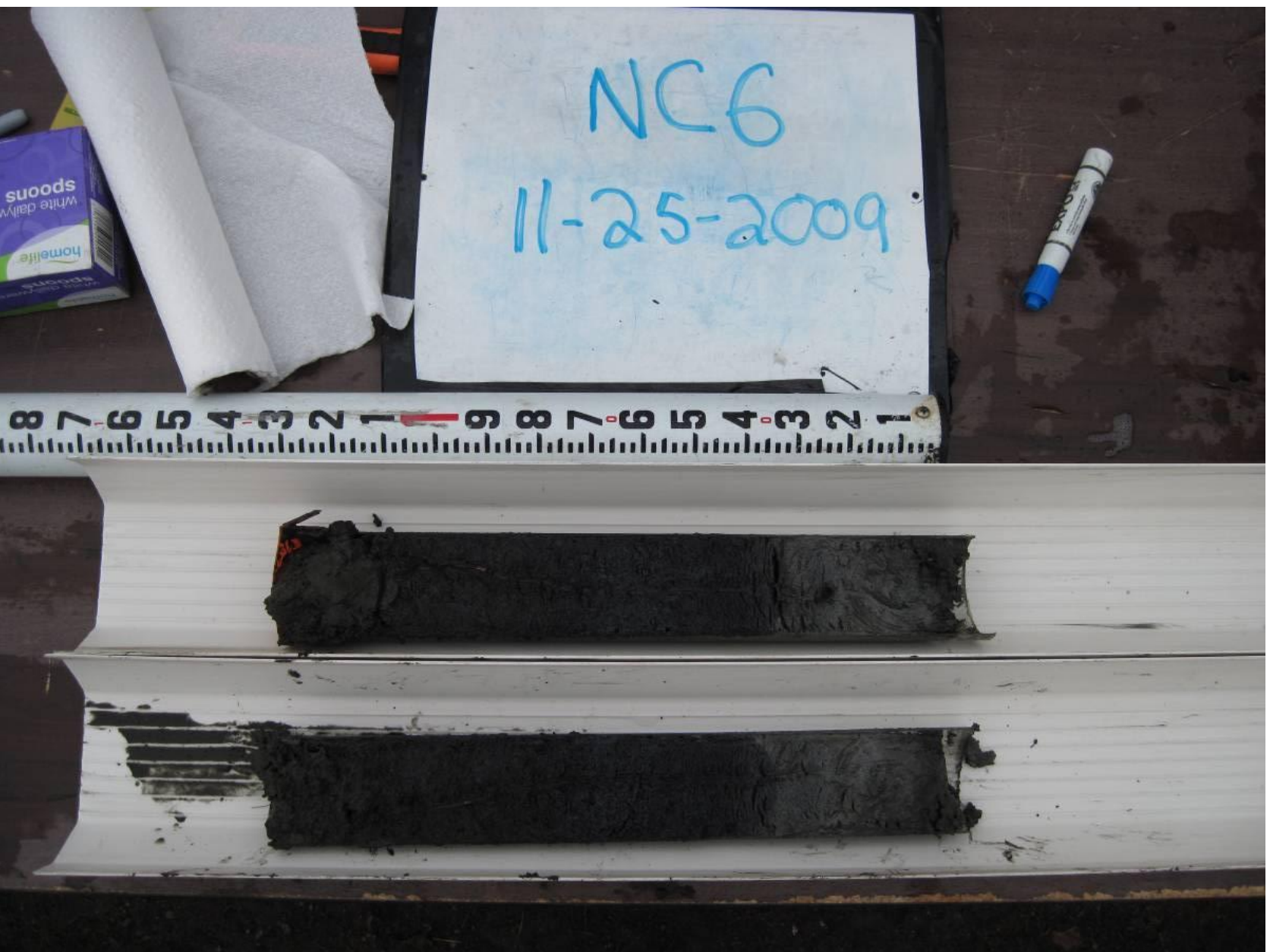


SEDIMENT FIELD SAMPLING LOG


Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>NCS</u>	Water Depth (A): <u>3.9</u>	Core Sample ID: <u>S090-0020</u>	Length of Push Core Assembly (B): <u>14.35</u>				
Date: <u>10/21/09</u>	Length of Push Core Assembly (B): <u>14.35</u>	Time On Station: <u>10:42</u>	Water Surface to Top of Handle (C): <u>7.4</u>				
Latitude N: <u>41°40.500</u>	Water Surface to Top of Handle (C): <u>7.4</u>	Longitude W: <u>70°54.788</u>	Length of Core (from bottom) (D): <u>2.6</u>				
GPS Accuracy: <u>18 ft.</u>	Length of Core (from bottom) (D): <u>2.6</u>	Predicted Tide (ft): _____	Surveyed Elevation (NGVD 29) (E): _____				
Time of Collection: <u>10:50</u>	Surveyed Elevation (NGVD 29) (E): _____	Collection Mechanism: <u>push core</u>	Water Surface from Surveyed Elevation (F): _____				
Logged by: <u>KGM</u>	Water Surface from Surveyed Elevation (F): _____	Time Depart Station: <u>10:52</u>					
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.3</u>						
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-3.65</u>						
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-2.35</u>						
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-1.05</u>						
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-0.6</u>						
(Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (ft.) Bottom - H	Limlog - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0	---	---	---	---	---	---	---
		silty clay	dark brown grey	medium to firm (wet loose at top)			
1.3	---	---	---	---	---	---	---
		clay	olive grey	firm			minimal shell hash
2.6	---	---	---	---	---	---	---
Comments:							

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>NC5</u> Core Sample ID: <u>S-090-C020</u> Date: <u>11/25/09</u> Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (R): Time of Collection: Collection Mechanism: Logged by: <u>DRW</u> Time Depart Station:	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): <u>2.6</u> Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F):						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	Latitude/Longitude USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.3	01	Silty clay, organics	black, v. dk grey				Sheen
0.9	02	Clayey silt w/ organics (high %)	Black				Heavy sheen & odor
1.4		Silty clay w/ organics	v. dk brown				light sheen, transition between High sheen (02) and clearer red @ bottom
2.6		Silty clay w/ organics and shell hash	dark olive grey - olive grey				
Comments: Two samples: 0.5' - 1.0' Time: 1020 1.0' - 1.5' Time: 1020							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>NC6</u>	Water Depth (A): <u>3.6</u>	
Core Sample ID: <u>S090-0019</u>	Length of Push Core Assembly (B): <u>12.6 // 11.8</u>	
Date: <u>10/21/09</u>	Water Surface to Top of Handle (C): <u>6.95 // 7.7</u>	
Time On Station: <u>10:23</u>	Length of Core (from bottom) (D): <u>1.3</u>	
Latitude N: <u>41° 40.488</u>	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: <u>70° 54.776</u>	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: <u>14A</u>		
Predicted Tide (ft): _____		
Time of Collection: <u>10:26 // 10:35</u>		
Collection Mechanism: <u>push core</u>		
Logged by: <u>KGM</u>		
Time Depart Station: <u>10:39</u>		

All Measurements are + 0.1 feet

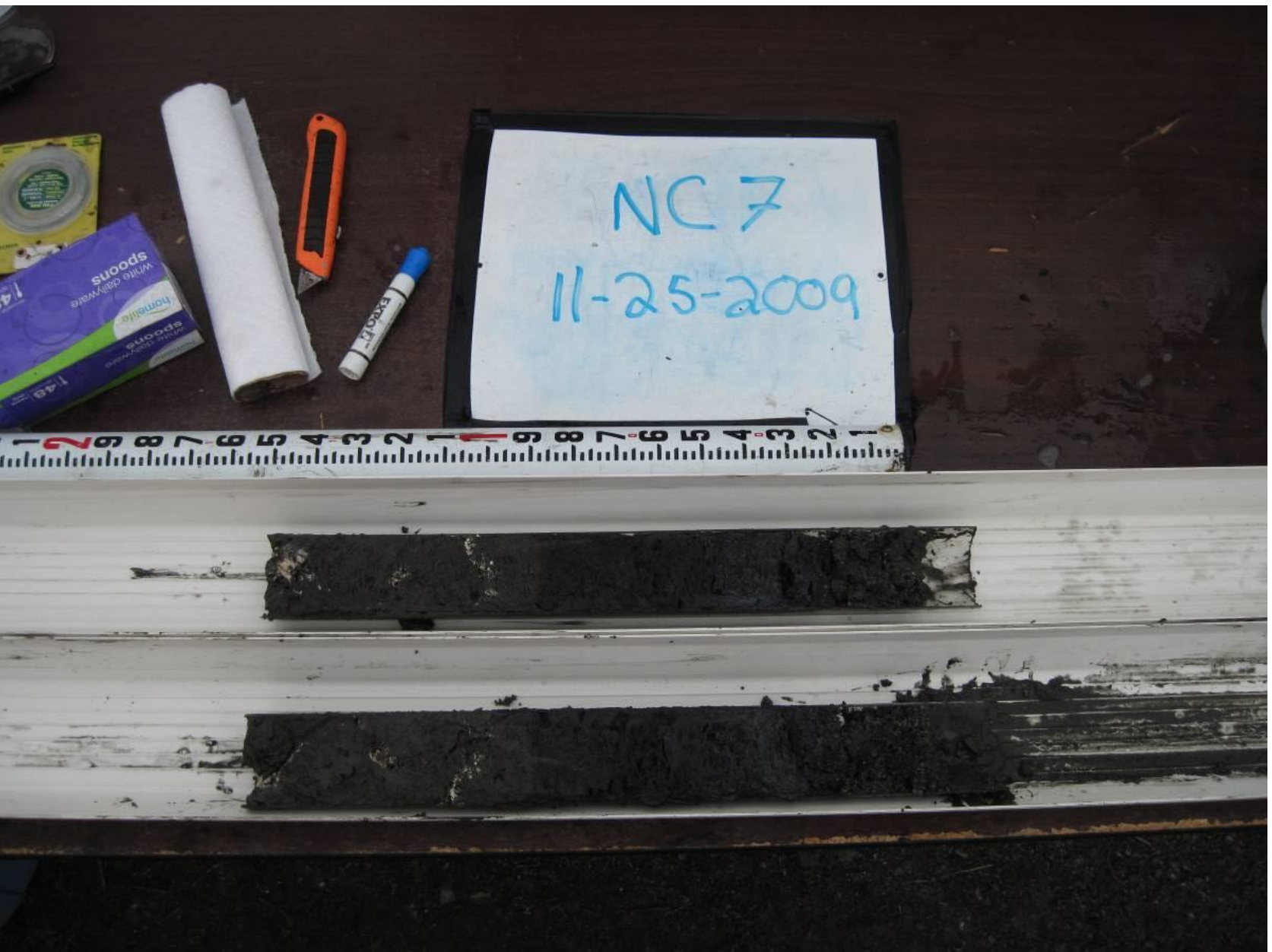
Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>2.7 3.3</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>- 2.35</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>- 1.18</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>- 1.05</u>
(l) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>- 0.3</u>

(Note if ≠ 1, within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0							
0.13		silty clay	dark gray	firm			
		clay	olive gray	firm			
0.5							
		clay	dark black	firm			
1.3							

Comments: 1st attempt > 0.5 ft too short
 2nd attempt > 1.0 ft too short, keeping 1st attempt



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>NC7</u> Core Sample ID: <u>S090-ED18</u> Date: <u>10/21/09</u> Time On Station: <u>10:07</u> Latitude N: <u>41°40.471</u> Longitude W: <u>70°54.766</u> GPS Accuracy: <u>14 ft.</u> Predicted Tide (ft): _____ Time of Collection: <u>10:12</u> Collection Mechanism: <u>push core</u> Logged by: <u>KBM</u> Time Depart Station: <u>10:16</u>	Water Depth (A): <u>4.5</u> Length of Push Core Assembly (B): <u>14.3</u> Water Surface to Top of Handle (C): <u>7.7</u> Length of Core (from bottom) (D): <u>1.5</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____
All Measurements are + 0.1 feet	

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.2</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-3.4</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-2.0</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-1.9</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-1.3</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (Le Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0	---	sil	dark grey	loose	very fine	---	---
0.1	---	sandy clay	grey	---	small to medium	---	well sorted
0.3	---	clay	dark grey	firm	---	---	---
0.95	---	clay	olive grey	firm	---	---	shell hash
1.5	---	---	---	---	---	---	---

Comments:

SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>N07</u> Core Sample ID: <u>S-090-C018</u> Date: <u>11/25/09</u> Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: <u>ORW</u> Time Depart Station:	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): <u>1.5'</u> Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F): <p align="center">All Measurements are + 0.1 feet</p>

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Olor	Comments
0.24	OL	SAND, Poorly sorted w/low% fines	grey-dark grey		fine gravel (-1φ)		
0.5	OL	Clayey silt w/organics	Black				heavy sheen
0.88	ML	silty clay	v. dark brown				slight sheen
		silty clay w/low% sand and shell frags	dark olive grey				

Comments:

Two Samples
 0 - 0.5' Time 1105
 0.5 - 1.0' 1105



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>NC8</u> Core Sample ID: <u>S090-C025</u> Date: <u>10/21/09</u> Time On Station: <u>11:56</u> Latitude N: <u>41° 40.472</u> Longitude W: <u>70° 54.859</u> GPS Accuracy: <u>12 ft.</u> Predicted Tide (R): Time of Collection: <u>12:00</u> Collection Mechanism: <u>push core</u> Logged by: <u>KGM</u> Time Depart Station: <u>12:05</u>	Water Depth (A): <u>4.1</u> Length of Push Core Assembly (B): <u>14.65</u> Water Surface to Top of Handle (C): <u>7.0</u> Length of Core (from bottom) (D): <u>2.85</u> Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F):
All Measurements are + 0.1 feet	

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>2.6</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.05</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.8</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-2.2</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-1.5</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0							
0.25		sandy clay	dark grey	medium			with ulva
		sandy clay (fine sand)	very dark grey	firm			
1.6		clay	olive grey	firm			shell hash
2.85							

Comments:

SEDIMENT FIELD SAMPLING LOG

<p>Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE</p>	<p>Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:</p>
<p>Station ID: NCB Core Sample ID: S-090-C025 Date: 11/25/09 Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: DRW Time Depart Station:</p>	<p>Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): 2.9 Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F):</p>
<p>All Measurements are + 0.1 feet</p>	

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ I₂ within + 1.0 feet, discard and resample)


Elevation (NGVD) (i.e. Bottom = H)	Lithology (Include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.3	OL	Silty clay w/ organics	Black v. dk brown				
0.75	OL	Clayey silt w/ high % organics	Black	loose			Heavy silt
1.3		Sand-silt-clay w/ high organic content	V. dk brown		fine-med sand		slight silt
2.9		Silty clay w/ sand	dk olive gray				

Comments:

Two Samples: Time:
 0.3 - 0.8' 11:30
 0.8 - 1.3' 11:30



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>SC 1</u>	Water Depth (A): _____	
Core Sample ID: <u>SQ90-C026</u>	Length of Push Core Assembly (B): _____	
Date: <u>11/24/09</u>	Water Surface to Top of Handle (C): _____	
Time On Station: _____	Length of Core (from bottom) (D): <u>2.7</u>	
Latitude N: _____	Surveyed Elevation (NGVD 29) (E): _____	
Longitude W: _____	Water Surface from Surveyed Elevation (F): _____	
GPS Accuracy: _____		
Predicted Tide (ft): _____		
Time of Collection: _____		
Collection Mechanism: _____		
Logged by: <u>DNW</u>		
Time Depart Station: _____		

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ I₁ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom - ft)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.6	OL	Silt with fine sand & organics	Black	Loose		Refral odor	Heavy sheen
1.36	OL/ML	organic clayey silt	Dark olive grey	moderately consolidated			Transition layer? slight sheen
2.7		silty clay, homogeneous large oyster shell @ 2.6' - 2.7'	Dark olive grey	well consolidated			no sheen

Comments:

2 samples: Time:

 0 - 0.5' 0935

 0.5 - 1.0' 0935



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE		Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:	
Station ID: <u>SC2</u>	Water Depth (A): <u>37 // 3.4</u>	Core Sample ID: <u>S090-0027</u>	Length of Push Core Assembly (B): <u>15.2 // 13.15</u>
Date: <u>0/21/09</u>	Water Surface to Top of Handle (C): <u>8.8 6.95 // 7.2</u>	Time On Station: <u>12:40</u>	Length of Core (from bottom) (D): <u>2.23</u>
Latitude N: <u>41° 40.385</u>	Surveyed Elevation (NGVD 29) (E): _____	Longitude W: <u>70° 54.853</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>13 ft.</u>	All Measurements are + 0.1 feet		
Predicted Tide (ft): _____			
Time of Collection: <u>13:00</u>			
Collection Mechanism: <u>push core</u>			
Logged by: <u>KGM</u>			
Time Depart Station: <u>13:06</u>			

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>1.5</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.45</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.22</u>
<u>2.23 - 1 = 1.23</u>	
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-2.22</u>
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-1.9</u>

(Note if ≠ 1.2 within + 1.0 feet, discard and resample)

Elevation (NGVD) i.e. Bottom = H	Latitude - Longitude USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0	---	silty clay	dark grey	medium	---	---	fine sand mixed in
1.0	---	clay	olive grey	firm	---	---	streaking
2.23	---	---	---	---	---	---	---

Comments: 1st attempt unsuccessful - too loose. Sheen appeared when dumped
 2nd attempt too short
 3rd attempt successful - discarding 2nd cone, kept 3rd



SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring		Project #: W912WJ-09-D-0001, Task Order No. 0010	
Location: New Bedford, MA		Vessel: _____	
Client: USACE-NAE		Chief Scientist: _____	
Station ID: SC3	Water Depth (A): 2.2		
Core Sample ID: S090-0028	Length of Push Core Assembly (B): 12.55		
Date: 10/21/09	Water Surface to Top of Handle (C): 8.5		
Time On Station: 13:12	Length of Core (from bottom) (D): 1.7		
Latitude N: 41° 40.381	Surveyed Elevation (NGVD 29) (E): _____		
Longitude W: 70° 54.832	Water Surface from Surveyed Elevation (F): _____		
GPS Accuracy: 18A			
Predicted Tide (ft): _____			
Time of Collection: 13:15			
Collection Mechanism: push core			
Logged by: KGM			
Time Depart Station: 13:18			

All Measurements are + 0.1 feet

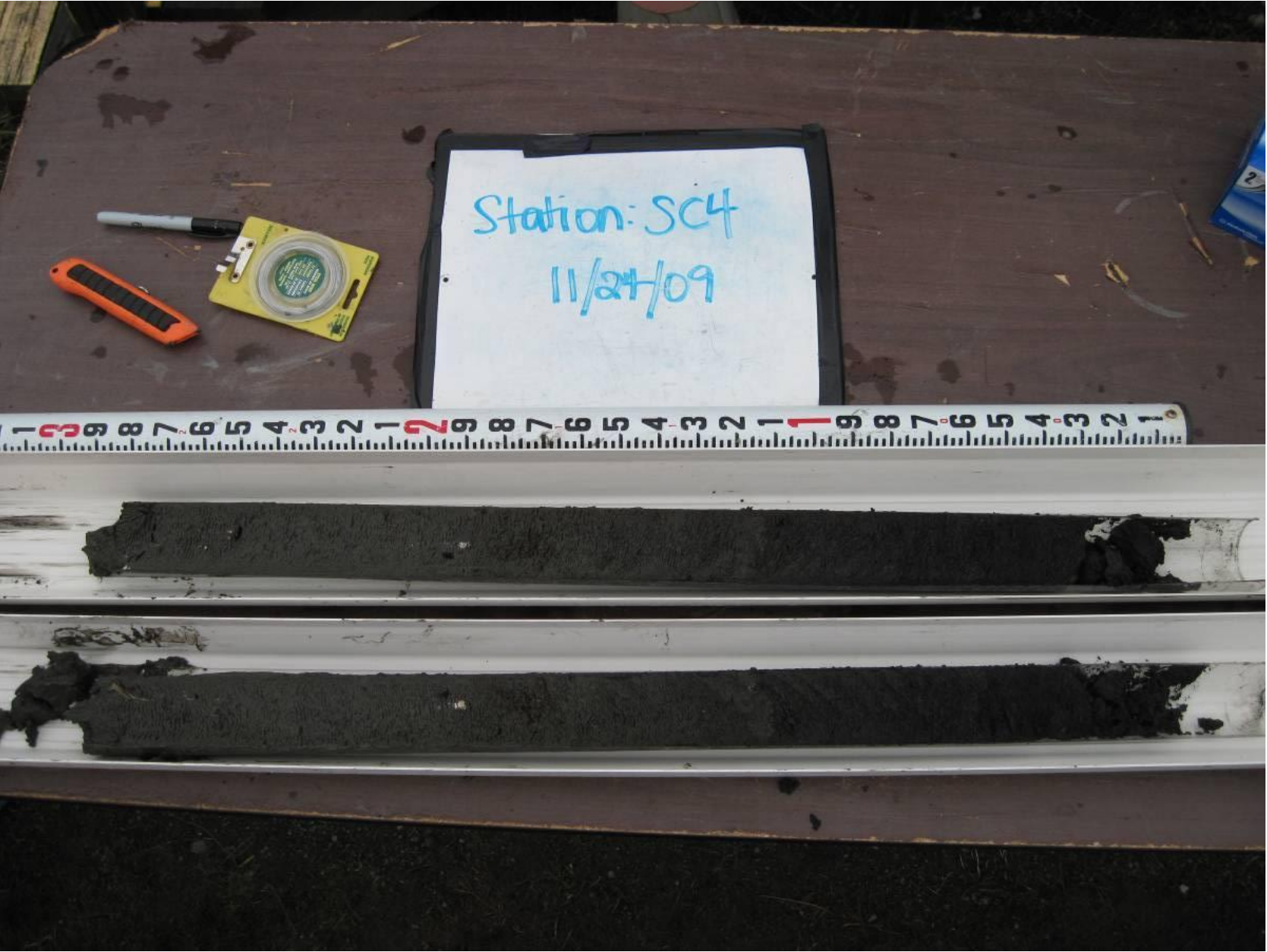
Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>1.3</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>- 2.75</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>1.7 - 1.65</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>- 1.05</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>- 0.9</u>


(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation from Bottom - ft	Depth - ft	Type	Color	Consistency	Maximum Particle Size	Oils	Comments
0.0							
0.3		sandy clay	brown	loose			ulva
		sandy clay	dark grey	medium			
1.1		clay	dark olive grey	firm			
1.4		clay	olive grey	firm			
1.7							

Comments:



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
Client: USACE-NAE	Chief Scientist:	

Station ID: <u>SC4</u>	Water Depth (A): <u>3.0</u>
Core Sample ID: <u>SW90-0031</u>	Length of Push Core Assembly (B): <u>14.2</u>
Date: <u>10/22/09</u>	Water Surface to Top of Handle (C): <u>7.95</u>
Time On Station: <u>6:47</u>	Length of Core (from bottom) (D): <u>2.9</u>
Latitude N: <u>41°40.361</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°54.865</u>	Water Surface from Surveyed Elevation (F): <u>7.95</u>
GPS Accuracy: <u>10'</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>08:51</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>08:57</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>1.5</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	9.5 <u>-4.75</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.05</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-1.85</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-1.5</u>

(Note if I_2 within + 1.0 feet, discard and resample)

Elevation (NGVD) Bottom + H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silty clay	dark grey	medium			
1.2		clay	olive grey	firm			shell hash
2.9							

Comments:

SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: SC4 Core Sample ID: SC4 SC4-5 Date: 8-29-09 CP 31 Time On Station: 11/24/09 Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: DRW Time Depart Station:	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): 2.9 Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F): <p align="center">All Measurements are + 0.1 feet</p>

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____


(Note if ≠ I₁ within + 1.0 feet, discard and resample)

Elevation (NGVD) (Elev. Bottom = H)	Lithology (i.e. include USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.8	OC	Clayey Silt, some organics	black	homogenous		H ₂ S odor & petrol	heavy sheen
1.14	OC/ML	Silty clay some org	v. dark grey	homogenous			
2.9		Silty clay some organic detritus, shell hash	olive grey	homogenous		H ₂ S	

Comments: Two Samples: Time:
 0 - 0.5' 1620
 0.5 - 1.0' 1620



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>SC5</u>	Water Depth (A): <u>3.3</u>
Core Sample ID: <u>S090-0032</u>	Length of Push Core Assembly (B): <u>13.9</u>
Date: <u>10/22/09</u>	Water Surface to Top of Handle (C): <u>7.35</u>
Time On Station: <u>09:04</u>	Length of Core (from bottom) (D): <u>3.0</u>
Latitude N: <u>40°40.344</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°54.892</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>10'</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>09:08</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>09:12</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>1.6</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.95</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.5</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-1.95</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-1.7</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom - H)	Locality, Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		sandy clay	dark grey/black	moderately firm	very fine sand		Ulva, shell hash
1.65		clay	dark olive grey	firm			Ulva, shell hash
3.0							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>SC5</u> Core Sample ID: <u>S-090-C032</u> Date: <u>11/24/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DRW</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>3.0'</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____	All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology (i.e. USCS Code)	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.96	OL	Highly organic clayey silt; homogeneous	v. OK. Grey-Black				- 0.5-0.9 HEAVY STAIN, - UVA Frag.
1.4	ML	Silty clay w/ high organics; homogeneous	dark brown				
3.0'		Silty clay w/ high organics, SAND & gravel	olive grey	poorly sorted			

Comments:

Two samples
 0-0.5 time: 1042
 0.5-1.0 1042



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel: _____
Client: USACE-NAE	Chief Scientist: _____	

Station ID: SC6	Water Depth (A): 2.8
Core Sample ID: S090-C033	Length of Push Core Assembly (B): 14.25
Date: 10/22/09	Water Surface to Top of Handle (C): 7.95
Time On Station: 09:18	Length of Core (from bottom) (D): 2.85
Latitude N: 41° 40.346	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: 70° 54.845	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: 19'	
Predicted Tide (ft): _____	
Time of Collection: 09:20	
Collection Mechanism: Push Core	
Logged by: D. Bailey	
Time Depart Station: _____	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>1.8</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-4.5</u>
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-2.6</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-1.65</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	_____


$2.85 - 0.95 = -1.9$

(Note if I_2 within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom - H)	Lithology - USCS Include Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0		silty clay	dark grey/black	medium			no hash
0.95		clay	brown grey	firm			
1.65		clay	dark olive grey	firm			
2.85							

Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: SC6 Core Sample ID: S-090-C033 Date: 11/24/09 Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: DRW Time Depart Station:	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): 2.9 Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F):	
All Measurements are + 0.1 feet		

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

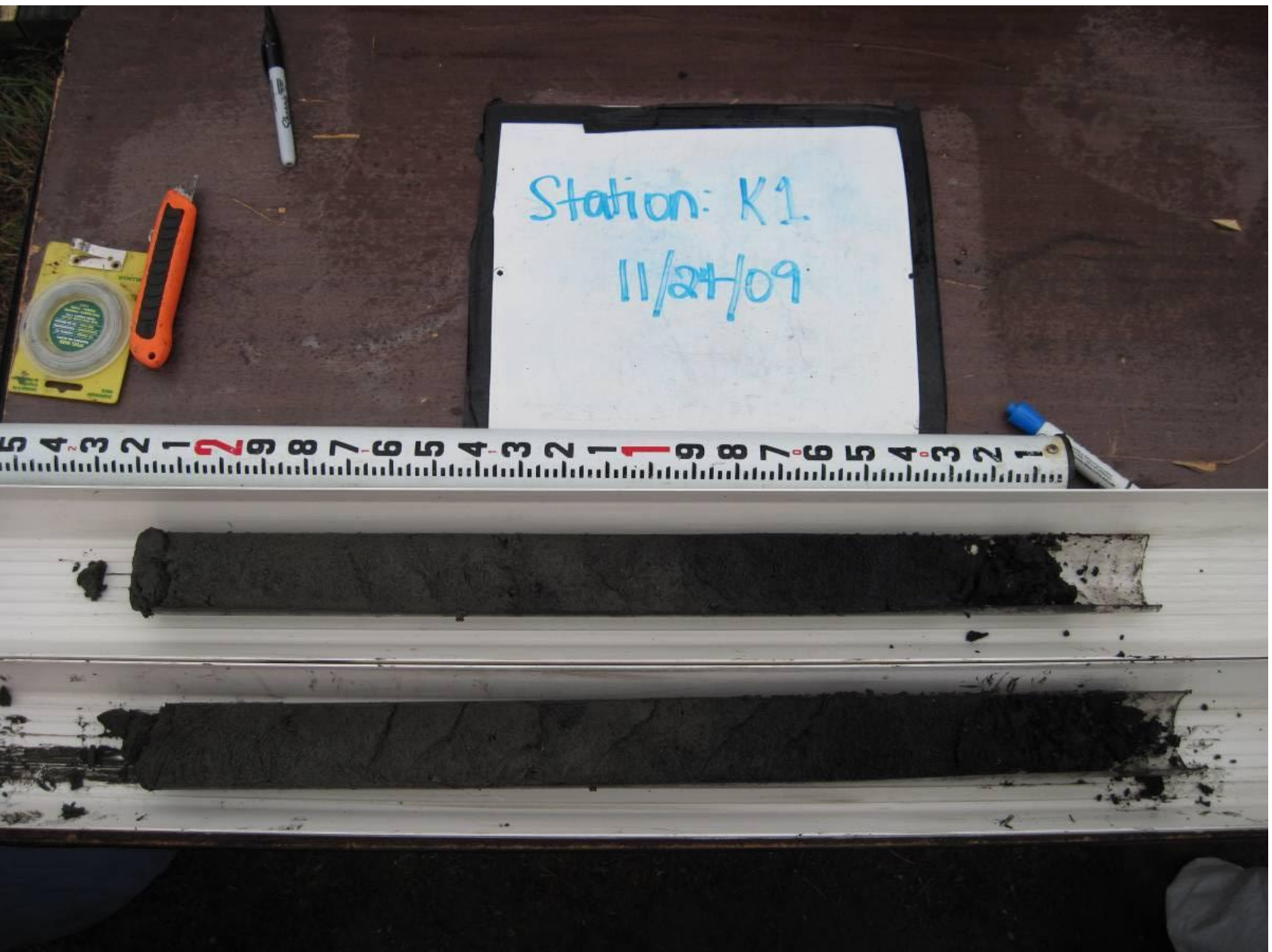
(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if $I_1 \neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (L ₁ Bottom = H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.6	Oily	Organic silt	Black				Heavy sheen
0.9		Organic clayey silt, trace sand/low sand content	Very dk Brown				Sheen
2.9		Silty clay w/organics	olive grey				


Comments:

Two samples:	Time
0 - 0.5	1057
0.5 - 1.0	1057






SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>K2</u> Core Sample ID: <u>SD10-0034</u> Date: <u>10/22/09</u> Time On Station: <u>10:03</u> Latitude N: <u>41°39.954</u> Longitude W: <u>70°54.974</u> GPS Accuracy: <u>11'</u> Predicted Tide (ft): _____ Time of Collection: <u>10:06</u> Collection Mechanism: <u>Push Core</u> Logged by: <u>D. Bailey</u> Time Depart Station: <u>10:10</u>	Water Depth (A): <u>4.5</u> Length of Push Core Assembly (B): <u>12.75</u> Water Surface to Top of Handle (C): <u>6.6</u> Length of Core (from bottom) (D): <u>1.35</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____	All Measurements are + 0.1 feet					
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>2.7</u>	_____					
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-3.45</u>	_____					
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-2.55</u>	_____					
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>1.35 - 0.45</u> <u>-2.1</u>	_____					
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G ₂ - A	<u>-1.8</u>	_____					
(Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (Elev. Bottom + H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0	---	clayey sand	dark grey	medium firm	---	---	---
0.45	---	sand	brown	firm	---	---	Well sorted Sand
0.85	---	sand	tan grey	firm	very fine from 0.85 - 1.03	---	well sorted Sand
1.35	---	---	---	---	---	---	---
Comments:							

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>K2</u> Core Sample ID: <u>S-090-C-021</u> Date: <u>11/24/09</u> Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: <u>RLW</u> Time Depart Station:	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): <u>1.4'</u> Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F):	
All Measurements are + 0.1 feet		

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

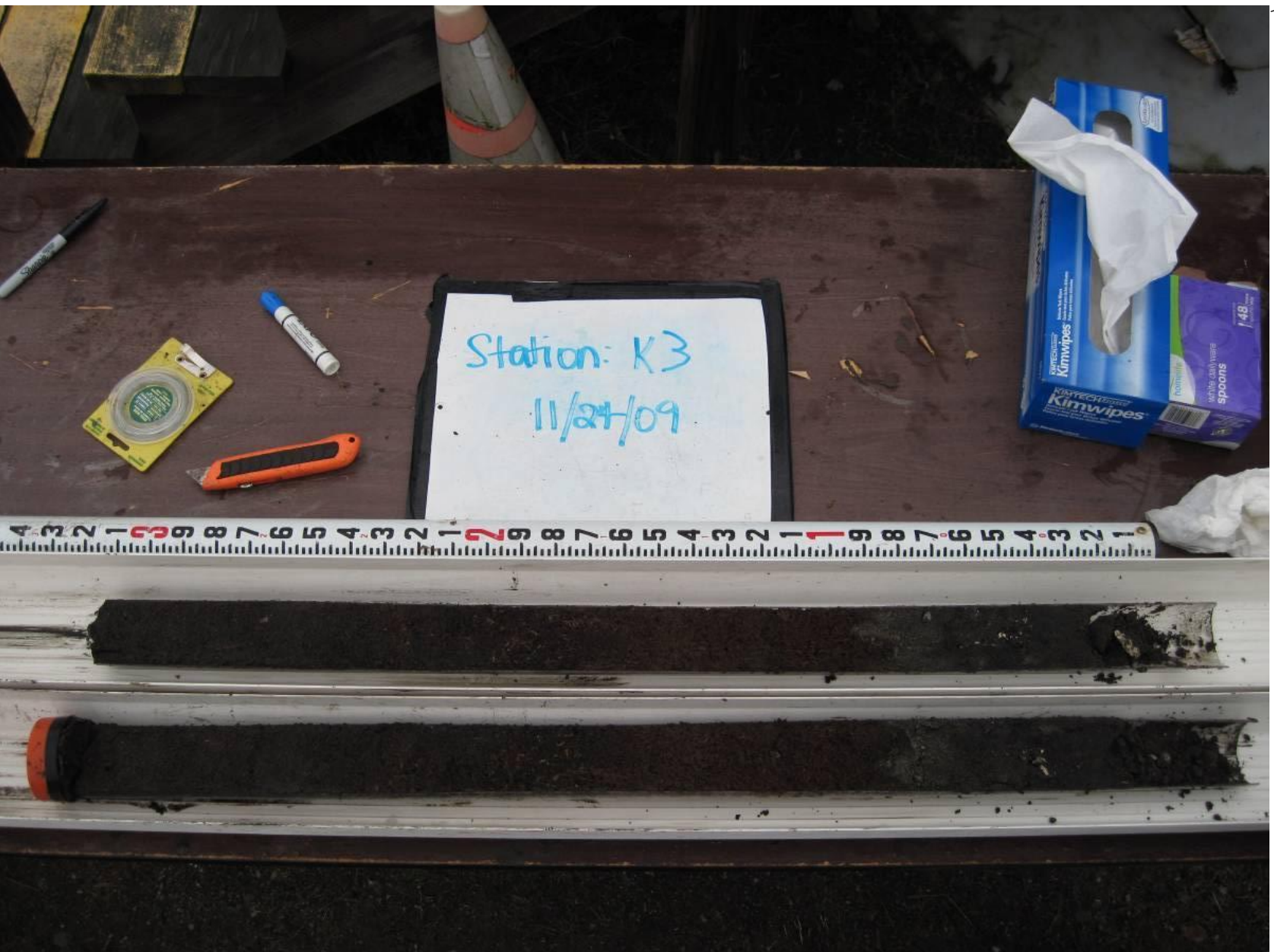
(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ I₂ within + 1.0 feet, discard and resample)


Elevation (ft) Bottom = H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.38		SAND & gravel, poorly sorted, some organics & oyster shell	Dark grey		-2 φ gravel		
0.60		Sand & gravel, poorly sorted	grey brown		-2 φ gravel		
1.1		Very fine sand, v. well sorted	brown				
1.4		fine sand, well sorted	yellow brown				

Comments: Two
See Samples:
0 - 0.5'
0.5 - 1.0'


Time:
1211
1211



SEDIMENT FIELD SAMPLING LOG


	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>K3</u>	Water Depth (A): <u>5.1</u>						
Core Sample ID: <u>S090-0035</u>	Length of Push Core Assembly (B): <u>14.25</u>						
Date: <u>10/22/09</u>	Water Surface to Top of Handle (C): <u>5.4</u>						
Time On Station: <u>10:16</u>	Length of Core (from bottom) (D): 3.2 <u>3.15</u>						
Latitude N: <u>41° 39' 43"</u>	Surveyed Elevation (NGVD 29) (E): _____						
Longitude W: <u>70° 54' 43"</u>	Water Surface from Surveyed Elevation (F): _____						
GPS Accuracy: <u>9 ft</u>							
Predicted Tide (ft): _____							
Time of Collection: <u>10:18</u>							
Collection Mechanism: <u>Push Core</u>							
Logged by: <u>D. Bailey</u>							
Time Depart Station: <u>10:25</u>							
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>2.8</u>						
(H) Elev. of the bottom of the core (NGVD) G - (B-C)	<u>-6.05</u>						
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-3.65</u>						
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>3.15 - 0.75 = 2.4</u> <u>-2.9</u>						
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-2.3</u>						
(Note if ≠ 1/2 within + 1.0 feet, discard and resample)							
Elevation (NGVD) (Elev. Bottom - H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0	---	sandy clay	black/dark grey	medium	---	---	shell hash
0.75	---	clay	dark olive grey (brown where peat is most dense)	firm	---	---	peaty organics throughout, varying densities, may have some sand mixed in
3.15	---	---	---	---	---	---	---
Comments:							

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>K3</u> Core Sample ID: <u>S-090-0035</u> Date: <u>11/24/09</u> Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: Time Depart Station: <u>0720</u>	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): <u>3.2¹</u> Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F): <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if ≠ I ₂ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	Latitude/Longitude USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.70	<u>JK</u>	v. fine sand w/ silt and steel wash	v. dk gray				
0.92		Poorly sorted sand w/ gravel	dk gray				
1.96		Highly organic soft peat like w/ clay	dk reddish brown				
3.2'		Sandy clay w/ High % of organics, fibers	v. dk brown		Sandy is poorly sorted fine-course		
Comments: Two samples: 0-0.5' Time: 1223 0.5-1.0' 1223							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
Client: USACE-NAE	Chief Scientist:	

Station ID: <u>K4</u>	Water Depth (A): <u>6.2</u>
Core Sample ID: <u>5090-0036</u>	Length of Push Core Assembly (B): <u>14.2</u>
Date: <u>10/22/09</u>	Water Surface to Top of Handle (C): <u>4.95</u>
Time On Station: <u>10:29</u>	Length of Core (from bottom) (D): <u>2.6</u>
Latitude N: <u>41° 39.925</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70° 54.968</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>8 ft</u>	
Predicted Tide (Ft): _____	
Time of Collection: <u>10:35</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>10:39</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.0</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-6.25</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.2</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.65</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.2</u>

(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)

Elevation (Elev.) of Bottom = H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		Silty clay	black	medium			
0.55		clay	olive grey with brown organics	firm			heavy with peaty organics (0.7 - 2.6 appears all peat)
2.6							


Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>K4</u> Core Sample ID: <u>S-0910-C036</u> Date: <u>11/24/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DRW</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>2.6'</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if ≠ 1/2 within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.38	OL	Silty sand	v. dk grey-black	homogenous			
0.70		Sandy clay sand & fine	grey	homogenous			Clast of peat included in sandy clay matrix
2.6'		Peat, fibrous... some clay, very uniform.	brown-redish brown				
Comments: Two samples: Time: 0-0.5' 1242 0.5-1.0' 1242							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
Client: USACE-NAE	Chief Scientist:	

Station ID: <u>K5</u>	Water Depth (A): <u>6.7</u>
Core Sample ID: <u>S090-0037</u>	Length of Push Core Assembly (B): <u>15.2</u>
Date: <u>10/22/09</u>	Water Surface to Top of Handle (C): <u>5.85</u>
Time On Station: <u>10:42</u>	Length of Core (from bottom) (D): <u>0.0 2.07</u>
Latitude N: <u>41°39.905</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°54.963</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>18 ft</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>10:47</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>10:51</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD: E-F)	<u>3.0</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-6.35</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.83</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.28</u>
(J) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>3.7</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) i.e. Bottom - H	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	O ₂	Comments
0.0		silty clay	black	medium			shell hash
0.55		clay	grey	firm			
1.55		clayey sand	brown / olive grey	firm			
1.8							
2.07		sand	brown	firm			


Comments:

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>K5</u> Core Sample ID: <u>S-090-C037</u> Date: <u>11/24/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DW</u> Time Depart Station: <u>DW</u>	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>2.1</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>						
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if $\neq \frac{1}{2}$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = F)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.4	G	Sandy silt	Black-v. dk grey	homogenous	fine-med sand		sheen is noticeable
1.75		Sand, w/gravel, poorly sorted	grey-dark grey		max gravel $\approx -2\phi \rightarrow -3\phi$		
		v. fine sand, well sorted	brown				
Comments: Two samples and one QC (ms/msd) 0-0.5' 0.5-1.0' 0-0.5-MSMSD							



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>K6</u>	Water Depth (A): <u>7.5</u>
Core Sample ID: <u>S0906040</u>	Length of Push Core Assembly (B): <u>14.1</u>
Date: <u>10/22/09</u>	Water Surface to Top of Handle (C): <u>3.6</u>
Time On Station: <u>11:24</u>	Length of Core (from bottom) (D): <u>2.3</u>
Latitude N: <u>41034.900</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>7054.485</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>15.4</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>11:31</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>11:36</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.3</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-7.2</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-5.6</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-4.9</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-4.2</u>

$2.3 - 0.7 = 1.6$

(Note if $\neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (Elev. Bottom - H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		silty clay	black	medium			w/ organics
0.7		clay	dark olive grey	firm			
1.05		clay	olive grey	firm			
2.3							

Comments:

SEDIMENT FIELD SAMPLING LOG

Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Station ID: <u>K6</u> Core Sample ID: <u>9-170-C040</u> Date: <u>11/24/09</u> Time On Station: _____ Latitude N: _____ Longitude W: _____ GPS Accuracy: _____ Predicted Tide (ft): _____ Time of Collection: _____ Collection Mechanism: _____ Logged by: <u>DRW</u> Time Depart Station: _____	Water Depth (A): _____ Length of Push Core Assembly (B): _____ Water Surface to Top of Handle (C): _____ Length of Core (from bottom) (D): <u>2.3'</u> Surveyed Elevation (NGVD 29) (E): _____ Water Surface from Surveyed Elevation (F): _____ <p align="center">All Measurements are + 0.1 feet</p>

Calculations for Determination of Z* Elevation

(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____

(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____

(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____

(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____

(I₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____

(Note if ≠ 1/2 within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Lithology - include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.5	OL etc.	Clayey-silt w/ shell hash	Black				
0.8		Silty clay homogeneous	Black				slight sheen
2.3		Silty clay w/ low% w/ organics, nonhomogeneous	dk olive grey				

Comments: Two samples
 0-0.5' Time: 1310
 0.5-1.0' 1310



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>K7</u>	Water Depth (A): <u>6.1</u>
Core Sample ID: <u>S090-0038</u>	Length of Push Core Assembly (B): <u>13.05</u>
Date: <u>10/22/09</u>	Water Surface to Top of Handle (C): <u>4.5</u>
Time On Station: <u>10:55</u>	Length of Core (from bottom) (D): <u>2.05</u>
Latitude N: <u>41° 29.892</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70° 54.936</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>16ft</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>11:00</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>P. Bailey</u>	
Time Depart Station: <u>11:05</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.0</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	<u>-5.55</u>
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	<u>-4.15</u>
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	<u>-3.5</u>
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-3.1</u>

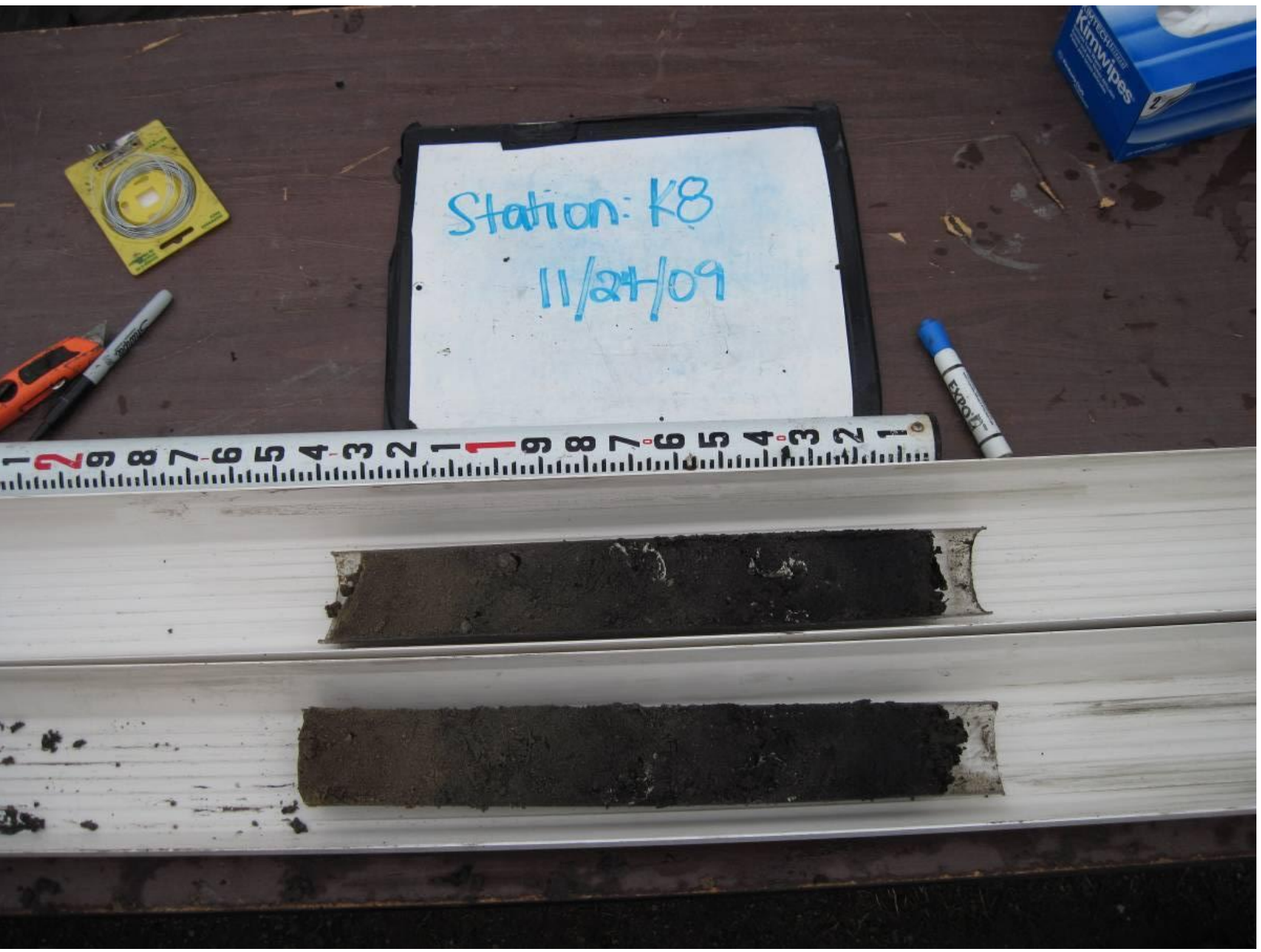
(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (ft) Bottom - 1ft	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.0		sandy clay	dark grey	medium			slight shell hash, Ulva
0.65		clay	dark olive grey	firm			
2.05							


Comments: Very heavy core, very solid

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: S-090-C038 Core Sample ID: K7 Date: 11/24/09 Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: DRW Time Depart Station:	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): 2.1' Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F):						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(L) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if $\neq I_2$ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom + H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.56	OL	Silty sand well sorted w/shell frags	Black				
2.1	.	Poorly sorted sand & gravel. - sand is fine-coarse - gravel is - 1/4" - 2"	Grey				
Comments:							
Two samples:				Time:			
0 - 0.5'				1325			
0.5 - 1.0'				1325			



SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring	Project #: W912WJ-09-D-0001, Task Order No. 0010
	Location: New Bedford, MA	Vessel:
	Client: USACE-NAE	Chief Scientist:

Station ID: <u>K8</u>	Water Depth (A): <u>4.6</u>
Core Sample ID: <u>S090-0039</u>	Length of Push Core Assembly (B): <u>12.6</u>
Date: <u>10/22/09</u>	Water Surface to Top of Handle (C): <u>6.5</u>
Time On Station: <u>11:10</u>	Length of Core (from bottom) (D): <u>1.34</u>
Latitude N: <u>41°39.808</u>	Surveyed Elevation (NGVD 29) (E): _____
Longitude W: <u>70°54.914</u>	Water Surface from Surveyed Elevation (F): _____
GPS Accuracy: <u>± 1.6ft</u>	
Predicted Tide (ft): _____	
Time of Collection: <u>11:15</u>	
Collection Mechanism: <u>Push Core</u>	
Logged by: <u>D. Bailey</u>	
Time Depart Station: <u>11:19</u>	

All Measurements are + 0.1 feet

Calculations for Determination of Z* Elevation


(G) Elevation (Elev.) of Water Surface (NGVD): E-F	<u>3.3</u>
(H) Elev. of the bottom of the core (NGVD): G - (B-C)	4.6 - 2.8
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition)	3.3 - 2.01
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D	3.3 - 1.46
(I ₂) Elev. of the sed-water interface as measured from water depth (NGVD): G - A	<u>-1.3</u>

(Note if ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (Le. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Other	Comments
0.0		sandy clay	dark grey	medium			with organics
0.55		clayey sand	medium brown grey	firm			with organics
0.9		sand	brown	firm			sand is well sorted
1.34							

Comments: very heavy / dense core

SEDIMENT FIELD SAMPLING LOG

	Project Name: NBH Environmental Monitoring Location: New Bedford, MA Client: USACE-NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:					
Station ID: <u>KB</u> Core Sample ID: <u>S-090-C039</u> Date: <u>4/24/09</u> Time On Station: Latitude N: Longitude W: GPS Accuracy: Predicted Tide (ft): Time of Collection: Collection Mechanism: Logged by: <u>DMW</u> Time Depart Station:	Water Depth (A): Length of Push Core Assembly (B): Water Surface to Top of Handle (C): Length of Core (from bottom) (D): <u>1.3'</u> Surveyed Elevation (NGVD 29) (E): Water Surface from Surveyed Elevation (F):						
All Measurements are + 0.1 feet							
Calculations for Determination of Z* Elevation							
(G) Elevation (Elev.) of Water Surface (NGVD): E-F _____							
(H) Elev. of the bottom of the core (NGVD): G - (B-C) _____							
(Z*) Elev. of visual transition (NGVD): H + (distance to visual transition) _____							
(I) Elev. of the sed-water interface as measured from bottom of core (NGVD): H + D _____							
(I ₁) Elev. of the sed-water interface as measured from water depth (NGVD): G - A _____							
(Note if ≠ I ₁ within + 1.0 feet, discard and resample)							
Elevation (NGVD) (i.e. Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Comments
0.7		Sand, poorly sorted, w/ shell hash/clumps	Varies Black @ surface to v. dk grey/grey @ 0.7 ft.				
1.3'		Sand, moderately sorted, medium grained texture - some gravel	Color varies - 0.7-1.0 is dark brown - 1.0 to 1.3 is brown		→ -1 → -2 φ		
Comments: Two samples: Time 0-0.5' 1345 0.5-1.0' 1345							

**APPENDIX B: ALPHA ANALYTICAL LABORATORY REPORTS AND
ANALYTICAL DATA**

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ANALYTICAL REPORT

Lab Number:	L0914102
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Lee Weishar
Project Name:	T0-0010 NBH
Project Number:	T0-0010-001C
Report Date:	11/03/09

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0914102-01	S-09S-C009-0-0.5	NEW BEDFORD, MA	09/30/09 13:33
L0914102-02	S-09S-C005-0-0.5	NEW BEDFORD, MA	09/30/09 13:47
L0914102-03	S-09S-C005-1.0-1.2	NEW BEDFORD, MA	09/30/09 13:47
L0914102-04	S-09S-C010-0-0.5	NEW BEDFORD, MA	09/30/09 13:58
L0914102-05	S-09S-C010-0.9-1.2	NEW BEDFORD, MA	09/30/09 13:58
L0914102-06	S-09S-C001-0-0.5	NEW BEDFORD, MA	09/30/09 14:19
L0914102-07	S-09S-C001-1.2-1.7	NEW BEDFORD, MA	09/30/09 14:19
L0914102-08	S-09S-C016-0-0.5	NEW BEDFORD, MA	09/30/09 14:42
L0914102-09	S-09S-C017-0-0.5	NEW BEDFORD, MA	09/30/09 14:55
L0914102-10	S-09S-C015-0-0.5	NEW BEDFORD, MA	09/30/09 15:10
L0914102-11	S-09S-C014-0-0.5	NEW BEDFORD, MA	09/30/09 15:20
L0914102-12	S-09S-C024-0-0.5	NEW BEDFORD, MA	09/30/09 16:10
L0914102-13	S-09S-C023-0-0.5	NEW BEDFORD, MA	09/30/09 16:20
L0914102-14	S-09S-C023-1.8-2.3	NEW BEDFORD, MA	09/30/09 16:20
L0914102-15	S-09S-C020-0-0.5	NEW BEDFORD, MA	09/30/09 16:40
L0914102-16	S-09S-C021-0-0.6	NEW BEDFORD, MA	10/01/09 14:20

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the report issued on 10/30/09. The report was amended to include results for NOAA 18 Congeners only.

PCB Congeners by 8082

The WG383917-4/-5 MS/MSD recoveries are outside the acceptance criteria for several compounds. The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

Case Narrative (continued)

the sample utilized for the MS/MSD.

The majority of samples were analyzed with dilution due to the high levels of target analytes. In dilutions of 1:10 or greater the surrogates were diluted out of the sample and therefore not reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 11/03/09

ORGANICS



PCBS



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-01
Client ID: S-09S-C009-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 21:23
Analyst: JR

Date Collected: 09/30/09 13:33
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	1350		ug/kg	270	200
Cl3-BZ#28	1700		ug/kg	270	200
Cl4-BZ#52	2780		ug/kg	270	200



11030912:02

Project Name: T0-0010 NBH**Lab Number:** L0914102**Project Number:** T0-0010-001C**Report Date:** 11/03/09**SAMPLE RESULTS**

Lab ID: L0914102-01
Client ID: S-09S-C009-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/28/09 04:49
Analyst: JR

Date Collected: 09/30/09 13:33
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	466		ug/kg	67.5	50
Cl4-BZ#66	843		ug/kg	67.5	50
Cl5-BZ#101	698		ug/kg	67.5	50
Cl5-BZ#105	ND		ug/kg	67.5	50
Cl6-BZ#128	ND		ug/kg	67.5	50
Cl6-BZ#138	408		ug/kg	67.5	50
Cl7-BZ#170	ND		ug/kg	67.5	50
Cl7-BZ#180	79.9		ug/kg	67.5	50
Cl8-BZ#195	ND		ug/kg	67.5	50
Cl9-BZ#206	ND		ug/kg	67.5	50
Cl10-BZ#209	ND		ug/kg	67.5	50



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-01
Client ID: S-09S-C009-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/28/09 04:49
Analyst: JR

Date Collected: 09/30/09 13:33
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	832		ug/kg	67.5	50
Cl5-BZ#118	342		ug/kg	67.5	50
Cl6-BZ#153	344		ug/kg	67.5	50
Cl7-BZ#187	118		ug/kg	67.5	50



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-02
Client ID: S-09S-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/19/09 22:09
Analyst: JR

Date Collected: 09/30/09 13:47
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	7270		ug/kg	1350	1000
Cl3-BZ#28	16100		ug/kg	1350	1000
Cl4-BZ#52	23100		ug/kg	1350	1000
Cl4-BZ#66	6160		ug/kg	1350	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-02
Client ID: S-09S-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/19/09 22:09
Analyst: JR

Date Collected: 09/30/09 13:47
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	15700		ug/kg	1350	1000
Cl4-BZ#44	6550		ug/kg	1350	1000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-02
Client ID: S-09S-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 13:01
Analyst: JR

Date Collected: 09/30/09 13:47
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#128	ND		ug/kg	135	100
Cl6-BZ#138	1430		ug/kg	135	100
Cl7-BZ#170	187		ug/kg	135	100
Cl7-BZ#180	254		ug/kg	135	100
Cl8-BZ#195	ND		ug/kg	135	100
Cl9-BZ#206	ND		ug/kg	135	100
Cl10-BZ#209	ND		ug/kg	135	100



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-02
Client ID: S-09S-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 13:01
Analyst: JR

Date Collected: 09/30/09 13:47
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	2240		ug/kg	135	100
CI5-BZ#105	257		ug/kg	135	100
CI5-BZ#118	1170		ug/kg	135	100
CI6-BZ#153	1800		ug/kg	135	100
CI7-BZ#187	496		ug/kg	135	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-03
Client ID: S-09S-C005-1.0-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 22:04
Analyst: JR

Date Collected: 09/30/09 13:47
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	31.4		ug/kg	13.4	10



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-03
 Client ID: S-09S-C005-1.0-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/28/09 03:28
 Analyst: JR

Date Collected: 09/30/09 13:47
 Date Received: 10/02/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/12/09 10:29
 Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI4-BZ#66	ND		ug/kg	1.34	1
CI5-BZ#105	ND		ug/kg	1.34	1
CI6-BZ#128	ND		ug/kg	1.34	1
CI6-BZ#138	ND		ug/kg	1.34	1
CI7-BZ#170	ND		ug/kg	1.34	1
CI7-BZ#180	ND		ug/kg	1.34	1
CI7-BZ#187	ND		ug/kg	1.34	1
CI8-BZ#195	ND		ug/kg	1.34	1
CI9-BZ#206	ND		ug/kg	1.34	1
CI10-BZ#209	ND		ug/kg	1.34	1

DBOB 90 50-125
 BZ 198 109 50-125



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-03
 Client ID: S-09S-C005-1.0-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/28/09 03:28
 Analyst: JR

Date Collected: 09/30/09 13:47
 Date Received: 10/02/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/12/09 10:29
 Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	9.66		ug/kg	1.34	1
Cl3-BZ#18	23.9		ug/kg	1.34	1
Cl3-BZ#28	22.5		ug/kg	1.34	1
Cl4-BZ#44	11.8		ug/kg	1.34	1
Cl5-BZ#101	5.63		ug/kg	1.34	1
Cl5-BZ#118	2.96		ug/kg	1.34	1
Cl6-BZ#153	ND		ug/kg	1.34	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	90		50-125
BZ 198	109		50-125



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-04
Client ID: S-09S-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/19/09 23:30
Analyst: JR

Date Collected: 09/30/09 13:58
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	7950		ug/kg	1470	1000
Cl4-BZ#52	15200		ug/kg	1470	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-04
Client ID: S-09S-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/19/09 23:30
Analyst: JR

Date Collected: 09/30/09 13:58
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	8100		ug/kg	1470	1000
Cl4-BZ#44	5080		ug/kg	1470	1000



11030912:02

Project Name: T0-0010 NBH**Lab Number:** L0914102**Project Number:** T0-0010-001C**Report Date:** 11/03/09**SAMPLE RESULTS**

Lab ID: L0914102-04
 Client ID: S-09S-C010-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/20/09 14:23
 Analyst: JR

Date Collected: 09/30/09 13:58
 Date Received: 10/02/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/12/09 10:29
 Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1960		ug/kg	147	100
Cl4-BZ#66	2850		ug/kg	147	100
Cl5-BZ#118	1090		ug/kg	147	100
Cl6-BZ#128	ND		ug/kg	147	100
Cl6-BZ#138	1230		ug/kg	147	100
Cl7-BZ#170	184		ug/kg	147	100
Cl7-BZ#180	254		ug/kg	147	100
Cl7-BZ#187	381		ug/kg	147	100
Cl8-BZ#195	ND		ug/kg	147	100
Cl9-BZ#206	ND		ug/kg	147	100
Cl10-BZ#209	ND		ug/kg	147	100

11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-04
Client ID: S-09S-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 14:23
Analyst: JR

Date Collected: 09/30/09 13:58
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	1750		ug/kg	147	100
CI5-BZ#105	256		ug/kg	147	100
CI6-BZ#153	1430		ug/kg	147	100



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-05
 Client ID: S-09S-C010-0.9-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/28/09 04:09
 Analyst: JR

Date Collected: 09/30/09 13:58
 Date Received: 10/02/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/12/09 10:29
 Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI4-BZ#66	ND		ug/kg	1.40	1
CI5-BZ#105	ND		ug/kg	1.40	1
CI5-BZ#118	ND		ug/kg	1.40	1
CI6-BZ#128	ND		ug/kg	1.40	1
CI6-BZ#138	ND		ug/kg	1.40	1
CI7-BZ#170	ND		ug/kg	1.40	1
CI7-BZ#180	ND		ug/kg	1.40	1
CI7-BZ#187	ND		ug/kg	1.40	1
CI8-BZ#195	ND		ug/kg	1.40	1
CI9-BZ#206	ND		ug/kg	1.40	1
CI10-BZ#209	ND		ug/kg	1.40	1
DBOB	95			50-125	
BZ 198	102			50-125	



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-05
Client ID: S-09S-C010-0.9-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/28/09 04:09
Analyst: JR

Date Collected: 09/30/09 13:58
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	3.95		ug/kg	1.40	1
Cl3-BZ#18	5.90		ug/kg	1.40	1
Cl3-BZ#28	6.43		ug/kg	1.40	1
Cl4-BZ#44	3.67		ug/kg	1.40	1
Cl4-BZ#52	9.65		ug/kg	1.40	1
Cl5-BZ#101	1.78		ug/kg	1.40	1
Cl6-BZ#153	ND		ug/kg	1.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	95		50-125
BZ 198	102		50-125

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-06
Client ID: S-09S-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 00:52
Analyst: JR

Date Collected: 09/30/09 14:19
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#66	24200		ug/kg	1370	1000
Cl6-BZ#138	7560		ug/kg	1370	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-06
Client ID: S-09S-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 00:52
Analyst: JR

Date Collected: 09/30/09 14:19
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	11900		ug/kg	1370	1000
CI6-BZ#153	12100		ug/kg	1370	1000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-06
Client ID: S-09S-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 15:44
Analyst: JR

Date Collected: 09/30/09 14:19
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	ND		ug/kg	137	100
CI5-BZ#118	2610		ug/kg	137	100
CI6-BZ#128	516		ug/kg	137	100
CI7-BZ#170	666		ug/kg	137	100
CI7-BZ#180	942		ug/kg	137	100
CI7-BZ#187	2140		ug/kg	137	100
CI8-BZ#195	ND		ug/kg	137	100
CI9-BZ#206	289		ug/kg	137	100
CI10-BZ#209	ND		ug/kg	137	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-06
Client ID: S-09S-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 18:00
Analyst: JR

Date Collected: 09/30/09 14:19
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	32800		ug/kg	6850	5000
Cl4-BZ#52	83500		ug/kg	6850	5000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-06
Client ID: S-09S-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 18:00
Analyst: JR

Date Collected: 09/30/09 14:19
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	72400		ug/kg	6850	5000
Cl3-BZ#28	59900		ug/kg	6850	5000
Cl4-BZ#44	28200		ug/kg	6850	5000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-07
Client ID: S-09S-C001-1.2-1.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 16:24
Analyst: JR

Date Collected: 09/30/09 14:19
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	895		ug/kg	136	100
Cl3-BZ#18	1690		ug/kg	136	100
Cl3-BZ#28	1840		ug/kg	136	100
Cl4-BZ#52	2420		ug/kg	136	100



11030912:02

Project Name: T0-0010 NBH**Lab Number:** L0914102**Project Number:** T0-0010-001C**Report Date:** 11/03/09**SAMPLE RESULTS**

Lab ID: L0914102-07
Client ID: S-09S-C001-1.2-1.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/28/09 00:05
Analyst: JR

Date Collected: 09/30/09 14:19
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI4-BZ#66	176		ug/kg	13.6	10
CI5-BZ#105	ND		ug/kg	13.6	10
CI6-BZ#128	ND		ug/kg	13.6	10
CI6-BZ#138	49.4		ug/kg	13.6	10
CI7-BZ#170	ND		ug/kg	13.6	10
CI7-BZ#180	ND		ug/kg	13.6	10
CI7-BZ#187	23.6		ug/kg	13.6	10
CI8-BZ#195	ND		ug/kg	13.6	10
CI9-BZ#206	ND		ug/kg	13.6	10
CI10-BZ#209	ND		ug/kg	13.6	10



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-07
Client ID: S-09S-C001-1.2-1.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/28/09 00:05
Analyst: JR

Date Collected: 09/30/09 14:19
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	256		ug/kg	13.6	10
Cl5-BZ#101	96.9		ug/kg	13.6	10
Cl5-BZ#118	46.4		ug/kg	13.6	10
Cl6-BZ#153	60.8		ug/kg	13.6	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-08
Client ID: S-09S-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 02:13
Analyst: JR

Date Collected: 09/30/09 14:42
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	10700		ug/kg	1350	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-08
Client ID: S-09S-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 02:13
Analyst: JR

Date Collected: 09/30/09 14:42
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	9170		ug/kg	1350	1000
Cl4-BZ#52	10400		ug/kg	1350	1000



11030912:02

Project Name: T0-0010 NBH**Lab Number:** L0914102**Project Number:** T0-0010-001C**Report Date:** 11/03/09**SAMPLE RESULTS**

Lab ID: L0914102-08
Client ID: S-09S-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 17:05
Analyst: JR

Date Collected: 09/30/09 14:42
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1270		ug/kg	135	100
Cl4-BZ#66	1670		ug/kg	135	100
Cl5-BZ#118	742		ug/kg	135	100
Cl6-BZ#128	ND		ug/kg	135	100
Cl6-BZ#138	781		ug/kg	135	100
Cl7-BZ#170	ND		ug/kg	135	100
Cl7-BZ#180	192		ug/kg	135	100
Cl7-BZ#187	242		ug/kg	135	100
Cl8-BZ#195	ND		ug/kg	135	100
Cl9-BZ#206	ND		ug/kg	135	100
Cl10-BZ#209	ND		ug/kg	135	100



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-08
Client ID: S-09S-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 17:05
Analyst: JR

Date Collected: 09/30/09 14:42
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	1910		ug/kg	135	100
Cl5-BZ#101	1120		ug/kg	135	100
Cl5-BZ#105	161		ug/kg	135	100
Cl6-BZ#153	998		ug/kg	135	100



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-09
Client ID: S-09S-C017-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 04:55
Analyst: JR

Date Collected: 09/30/09 14:55
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	10200		ug/kg	1330	1000
Cl3-BZ#28	26500		ug/kg	1330	1000
Cl4-BZ#66	11600		ug/kg	1330	1000
Cl5-BZ#101	8790		ug/kg	1330	1000
Cl5-BZ#118	4500		ug/kg	1330	1000
Cl6-BZ#138	4430		ug/kg	1330	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-09
Client ID: S-09S-C017-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 04:55
Analyst: JR

Date Collected: 09/30/09 14:55
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	20800		ug/kg	1330	1000
Cl4-BZ#44	13800		ug/kg	1330	1000
Cl6-BZ#153	7600		ug/kg	1330	1000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-09
Client ID: S-09S-C017-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 17:45
Analyst: JR

Date Collected: 09/30/09 14:55
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#128	527		ug/kg	133	100
Cl7-BZ#170	452		ug/kg	133	100
Cl7-BZ#180	630		ug/kg	133	100
Cl7-BZ#187	905		ug/kg	133	100
Cl8-BZ#195	ND		ug/kg	133	100
Cl9-BZ#206	ND		ug/kg	133	100
Cl10-BZ#209	ND		ug/kg	133	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-09
 Client ID: S-09S-C017-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/20/09 17:45
 Analyst: JR

Date Collected: 09/30/09 14:55
 Date Received: 10/02/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/12/09 10:29
 Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	461		ug/kg	133	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-09
Client ID: S-09S-C017-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 18:41
Analyst: JR

Date Collected: 09/30/09 14:55
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	31500		ug/kg	2650	2000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-10
Client ID: S-09S-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 05:35
Analyst: JR

Date Collected: 09/30/09 15:10
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	4390		ug/kg	1360	1000
Cl3-BZ#28	12700		ug/kg	1360	1000
Cl4-BZ#52	23800		ug/kg	1360	1000
Cl5-BZ#101	6770		ug/kg	1360	1000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-10
Client ID: S-09S-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 05:35
Analyst: JR

Date Collected: 09/30/09 15:10
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	11000		ug/kg	1360	1000
Cl4-BZ#44	7860		ug/kg	1360	1000
Cl4-BZ#66	7390		ug/kg	1360	1000
Cl6-BZ#153	4510		ug/kg	1360	1000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-10
Client ID: S-09S-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 18:26
Analyst: JR

Date Collected: 09/30/09 15:10
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	2330		ug/kg	136	100
CI6-BZ#128	414		ug/kg	136	100
CI6-BZ#138	2100		ug/kg	136	100
CI7-BZ#170	318		ug/kg	136	100
CI7-BZ#180	435		ug/kg	136	100
CI7-BZ#187	570		ug/kg	136	100
CI8-BZ#195	ND		ug/kg	136	100
CI9-BZ#206	ND		ug/kg	136	100
CI10-BZ#209	ND		ug/kg	136	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-10
Client ID: S-09S-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 18:26
Analyst: JR

Date Collected: 09/30/09 15:10
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	387		ug/kg	136	100



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-11
Client ID: S-09S-C014-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 21:08
Analyst: JR

Date Collected: 09/30/09 15:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	1590		ug/kg	137	100
CI6-BZ#128	368		ug/kg	137	100
CI6-BZ#138	1820		ug/kg	137	100
CI7-BZ#170	340		ug/kg	137	100
CI7-BZ#180	469		ug/kg	137	100
CI7-BZ#187	611		ug/kg	137	100
CI8-BZ#195	ND		ug/kg	137	100
CI9-BZ#206	ND		ug/kg	137	100
CI10-BZ#209	ND		ug/kg	137	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-11
Client ID: S-09S-C014-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 21:08
Analyst: JR

Date Collected: 09/30/09 15:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	298		ug/kg	137	100



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-11
Client ID: S-09S-C014-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 19:21
Analyst: JR

Date Collected: 09/30/09 15:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	13600		ug/kg	2730	2000
Cl3-BZ#18	25100		ug/kg	2730	2000
Cl3-BZ#28	28200		ug/kg	2730	2000
Cl4-BZ#52	28900		ug/kg	2730	2000
Cl5-BZ#101	4510		ug/kg	2730	2000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-11
Client ID: S-09S-C014-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 19:21
Analyst: JR

Date Collected: 09/30/09 15:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	7640		ug/kg	2730	2000
Cl4-BZ#66	5660		ug/kg	2730	2000
Cl6-BZ#153	3840		ug/kg	2730	2000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-12
Client ID: S-09S-C024-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 06:56
Analyst: JR

Date Collected: 09/30/09 16:10
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	16600		ug/kg	1400	1000
Cl4-BZ#66	22200		ug/kg	1400	1000
Cl5-BZ#101	22100		ug/kg	1400	1000
Cl5-BZ#118	10500		ug/kg	1400	1000
Cl6-BZ#138	6360		ug/kg	1400	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-12
Client ID: S-09S-C024-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 06:56
Analyst: JR

Date Collected: 09/30/09 16:10
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	20700		ug/kg	1400	1000
Cl6-BZ#153	9870		ug/kg	1400	1000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-12
Client ID: S-09S-C024-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 21:49
Analyst: JR

Date Collected: 09/30/09 16:10
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#128	852		ug/kg	140	100
Cl7-BZ#170	695		ug/kg	140	100
Cl7-BZ#180	968		ug/kg	140	100
Cl7-BZ#187	1020		ug/kg	140	100
Cl8-BZ#195	ND		ug/kg	140	100
Cl9-BZ#206	ND		ug/kg	140	100
Cl10-BZ#209	ND		ug/kg	140	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-12
Client ID: S-09S-C024-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 21:49
Analyst: JR

Date Collected: 09/30/09 16:10
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	814		ug/kg	140	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-12
Client ID: S-09S-C024-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 20:02
Analyst: JR

Date Collected: 09/30/09 16:10
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	33900		ug/kg	2800	2000
Cl4-BZ#52	30100		ug/kg	2800	2000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-12
Client ID: S-09S-C024-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 20:02
Analyst: JR

Date Collected: 09/30/09 16:10
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	41100		ug/kg	2800	2000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-13
Client ID: S-09S-C023-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 07:37
Analyst: JR

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	29200		ug/kg	3830	1000
Cl3-BZ#28	56600		ug/kg	3830	1000
Cl4-BZ#66	30100		ug/kg	3830	1000
Cl5-BZ#101	20200		ug/kg	3830	1000
Cl6-BZ#138	11800		ug/kg	3830	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-13
Client ID: S-09S-C023-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 07:37
Analyst: JR

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	32800		ug/kg	3830	1000
Cl6-BZ#153	15800		ug/kg	3830	1000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-13
Client ID: S-09S-C023-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 22:29
Analyst: JR

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	7440		ug/kg	383	100
CI6-BZ#128	1500		ug/kg	383	100
CI7-BZ#170	1430		ug/kg	383	100
CI7-BZ#180	1900		ug/kg	383	100
CI7-BZ#187	2100		ug/kg	383	100
CI8-BZ#195	ND		ug/kg	383	100
CI9-BZ#206	ND		ug/kg	383	100
CI10-BZ#209	ND		ug/kg	383	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-13
Client ID: S-09S-C023-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 22:29
Analyst: JR

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	1470		ug/kg	383	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-13
Client ID: S-09S-C023-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 20:43
Analyst: JR

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	66900		ug/kg	7670	2000
Cl4-BZ#52	68000		ug/kg	7670	2000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-14
Client ID: S-09S-C023-1.8-2.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 08:18
Analyst: JR

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	4480		ug/kg	1420	1000
Cl3-BZ#18	6520		ug/kg	1420	1000
Cl3-BZ#28	7120		ug/kg	1420	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-14
Client ID: S-09S-C023-1.8-2.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 08:18
Analyst: JR

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	3080		ug/kg	1420	1000
Cl4-BZ#52	6830		ug/kg	1420	1000
Cl4-BZ#66	2580		ug/kg	1420	1000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-14
Client ID: S-09S-C023-1.8-2.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 23:25
Analyst: JR

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	1020		ug/kg	70.9	50
CI6-BZ#128	ND		ug/kg	70.9	50
CI6-BZ#138	437		ug/kg	70.9	50
CI7-BZ#170	74.4		ug/kg	70.9	50
CI7-BZ#180	95.3		ug/kg	70.9	50
CI8-BZ#195	ND		ug/kg	70.9	50
CI9-BZ#206	ND		ug/kg	70.9	50
CI10-BZ#209	ND		ug/kg	70.9	50



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-14
Client ID: S-09S-C023-1.8-2.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/27/09 23:25
Analyst: JR

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	137		ug/kg	70.9	50
CI5-BZ#118	472		ug/kg	70.9	50
CI6-BZ#153	538		ug/kg	70.9	50
CI7-BZ#187	117		ug/kg	70.9	50



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-15
Client ID: S-09S-C020-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 23:50
Analyst: JR

Date Collected: 09/30/09 16:40
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	824		ug/kg	136	100
Cl3-BZ#28	2440		ug/kg	136	100
Cl4-BZ#52	2230		ug/kg	136	100
Cl5-BZ#101	992		ug/kg	136	100



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-15
Client ID: S-09S-C020-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 23:50
Analyst: JR

Date Collected: 09/30/09 16:40
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	2520		ug/kg	136	100
Cl4-BZ#44	964		ug/kg	136	100
Cl4-BZ#66	873		ug/kg	136	100
Cl5-BZ#118	426		ug/kg	136	100
Cl6-BZ#153	472		ug/kg	136	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-15
Client ID: S-09S-C020-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/28/09 02:48
Analyst: JR

Date Collected: 09/30/09 16:40
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	ND		ug/kg	13.6	10
CI6-BZ#128	47.1		ug/kg	13.6	10
CI6-BZ#138	234		ug/kg	13.6	10
CI7-BZ#170	41.8		ug/kg	13.6	10
CI7-BZ#180	54.3		ug/kg	13.6	10
CI8-BZ#195	ND		ug/kg	13.6	10
CI9-BZ#206	ND		ug/kg	13.6	10
CI10-BZ#209	ND		ug/kg	13.6	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-15
Client ID: S-09S-C020-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/28/09 02:48
Analyst: JR

Date Collected: 09/30/09 16:40
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI7-BZ#187	59.9		ug/kg	13.6	10



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-16
Client ID: S-09S-C021-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 09:39
Analyst: JR

Date Collected: 10/01/09 14:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	8990		ug/kg	1340	1000
Cl3-BZ#28	25700		ug/kg	1340	1000
Cl4-BZ#52	22700		ug/kg	1340	1000
Cl4-BZ#66	9520		ug/kg	1340	1000
Cl5-BZ#118	5350		ug/kg	1340	1000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-16
Client ID: S-09S-C021-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/20/09 09:39
Analyst: JR

Date Collected: 10/01/09 14:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	18200		ug/kg	1340	1000
Cl4-BZ#44	9790		ug/kg	1340	1000
Cl5-BZ#101	8370		ug/kg	1340	1000
Cl6-BZ#153	5710		ug/kg	1340	1000



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-16
Client ID: S-09S-C021-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/21/09 00:31
Analyst: JR

Date Collected: 10/01/09 14:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#128	479		ug/kg	134	100
Cl6-BZ#138	2340		ug/kg	134	100
Cl7-BZ#170	424		ug/kg	134	100
Cl7-BZ#180	579		ug/kg	134	100
Cl7-BZ#187	606		ug/kg	134	100
Cl8-BZ#195	ND		ug/kg	134	100
Cl9-BZ#206	ND		ug/kg	134	100
Cl10-BZ#209	ND		ug/kg	134	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

11030912:02
Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-16
Client ID: S-09S-C021-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/21/09 00:31
Analyst: JR

Date Collected: 10/01/09 14:20
Date Received: 10/02/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:31
Cleanup Method1: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	428		ug/kg	134	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 10/19/09 16:04
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 10/12/09 10:29
Cleanup Method1: - - - -
Cleanup Date1:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-16 Batch: WG383917-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206	ND		ug/kg	1.33
Cl10-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	73		50-125
BZ 198	81		50-125

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

**Method Blank Analysis
 Batch Quality Control**

Analytical Method: 1,8082
 Analytical Date: 10/19/09 16:04
 Analyst: JR

Extraction Method: EPA 3540C
 Extraction Date: 10/12/09 10:29
 Cleanup Method1: - - - -
 Cleanup Date1:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-16 Batch: WG383917-1				
C16-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	73		50-125
BZ 198	81		50-125



Matrix Spike Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG383917-4 WG383917-5 QC Sample: L0914102-16 Client ID: S-09S-C021-0-0.6												
Cl2-BZ#8	8990	1670	11200	132	Q	10500	90		40-120	38	Q	30
Cl3-BZ#18	18200	1670	18600	24	Q	19800	95		40-120	120	Q	30
Cl3-BZ#28	25700	1670	26500	48		26100	24	Q	40-120	67	Q	30
Cl4-BZ#44	9790	1670	12200	144	Q	12000	131	Q	40-120	9		30
Cl4-BZ#49	ND	1670	ND	0	UQ	ND	0	UQ	40-120	NC		30
Cl4-BZ#52	22700	1670	25700	179	Q	24900	131	Q	40-120	31	Q	30
Cl4-BZ#66	9520	1670	12700	190	Q	12300	165	Q	40-120	14		30
Cl5-BZ#87	ND	1670	ND	0	UQ	ND	0	UQ	40-120	NC		30
Cl5-BZ#101	8370	1670	10600	133	Q	10200	109		40-120	20		30
Cl5-BZ#105	ND	1670	3020	180	Q	3050	181	Q	40-120	1		30
Cl5-BZ#118	5350	1670	7860	150	Q	7860	149	Q	40-120	1		30
Cl6-BZ#128	479	1670	3110	186	Q	3120	186	Q	40-120	0		30
Cl6-BZ#138	2340	1670	5820	348	Q	5730	341	Q	40-120	2		30
Cl6-BZ#153	5710	1670	7820	126	Q	7760	122	Q	40-120	3		30
Cl7-BZ#170	424	1670	3070	183	Q	3060	182	Q	40-120	1		30
Cl7-BZ#180	579	1670	3310	198	Q	3260	194	Q	40-120	2		30
Cl7-BZ#183	ND	1670	ND	0	UQ	ND	0	UQ	40-120	NC		30
Cl7-BZ#184	ND	1670	ND	0	UQ	ND	0	UQ	40-120	NC		30
Cl8-BZ#195	ND	1670	2730	163	Q	2600	155	Q	40-120	5		30
Cl9-BZ#206	ND	1670	3010	180	Q	2910	173	Q	40-120	4		30
Cl10-BZ#209	ND	1670	2690	161	Q	2650	158	Q	40-120	2		30

Matrix Spike Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG383917-4 WG383917-5 QC Sample: L0914102-16 Client ID: S-09S-C021-0-0.6												



Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-16 Batch: WG383917-2 WG383917-3								
Cl7-BZ#170	79		82		40-120	4		30
Cl8-BZ#195	80		80		40-120	0		30
Cl9-BZ#206	91		91		40-120	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	66		81		50-125
BZ 198	82		82		50-125

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-16 Batch: WG383917-2 WG383917-3								
Cl3-BZ#28	76		84		40-120	10		30
Cl4-BZ#44	75		81		40-120	8		30
Cl4-BZ#52	77		88		40-120	13		30
Cl4-BZ#66	73		82		40-120	12		30
Cl5-BZ#101	79		85		40-120	7		30
Cl5-BZ#105	73		82		40-120	12		30
Cl5-BZ#118	80		89		40-120	11		30
Cl6-BZ#153	79		85		40-120	7		30
Cl7-BZ#180	85		87		40-120	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-16 Batch: WG383917-2 WG383917-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	66		81		50-125
BZ 198	82		82		50-125



INORGANICS & MISCELLANEOUS



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-01
Client ID: S-09S-C009-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 13:33
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.4		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-02
Client ID: S-09S-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 13:47
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.1		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-03
Client ID: S-09S-C005-1.0-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 13:47
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.4		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-04
Client ID: S-09S-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 13:58
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	89.4		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-05
Client ID: S-09S-C010-0.9-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 13:58
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	94.2		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-06
Client ID: S-09S-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 14:19
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.2		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-07
Client ID: S-09S-C001-1.2-1.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 14:19
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	95.8		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-08
Client ID: S-09S-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 14:42
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.5		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-09
Client ID: S-09S-C017-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 14:55
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.2		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-10
Client ID: S-09S-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 15:10
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	95.8		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-11
Client ID: S-09S-C014-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 15:20
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.2		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-12
Client ID: S-09S-C024-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 16:10
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	94.5		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-13
Client ID: S-09S-C023-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	84.9		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-14
Client ID: S-09S-C023-1.8-2.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 16:20
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	93.3		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-15
Client ID: S-09S-C020-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/30/09 16:40
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	95.9		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



11030912:02

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

SAMPLE RESULTS

Lab ID: L0914102-16
Client ID: S-09S-C021-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 10/01/09 14:20
Date Received: 10/02/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.5		%	0.100	1	-	10/12/09 08:19	30,2540G	KB



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Duplicate Analysis
 Batch Quality Control

Lab Number: L0914102
Report Date: 11/03/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-16 QC Batch ID: WG383894-1 QC Sample: L0914102-01 Client ID: S-09S-C009-0-0.5						
Solids, Total	98.4	98.0	%	0		20



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0914102-01A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-02A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-03A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-04A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-05A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-06A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-07A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-08A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-09A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-10A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-11A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-12A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-13A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-14A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-15A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0914102-16A	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14),A2-MS/MSD()
L0914102-16B	Glass 250ml unpreserved	A	N/A	3.5	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14),A2-MS/MSD()

Container Comments

L0914102-01A	ORIGINALLY FROZEN 10/2/09 per MKS
L0914102-02A	ORIGINALLY FROZEN 10/2/09 per MKS
L0914102-03A	ORIGINALLY FROZEN 10/2/09 per MKS
L0914102-04A	ORIGINALLY FROZEN 10/2/09 per MKS

*Hold days indicated by values in parentheses

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
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Container Comments

L0914102-05A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-06A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-07A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-08A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-09A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-10A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-11A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-12A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-13A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-14A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-15A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-16A	ORIGINALLY FROZEN 10/2/09 per MKS						
L0914102-16B	ORIGINALLY FROZEN 10/2/09 per MKS						

*Hold days indicated by values in parentheses



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

GLOSSARY

Acronyms

- EPA - Environmental Protection Agency.
- LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCS D - Laboratory Control Sample Duplicate: Refer to LCS.
- MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MSD - Matrix Spike Sample Duplicate: Refer to MS.
- NA - Not Applicable.
- NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- ND - Not detected at the reported detection limit for the sample.
- NI - Not Ignitable.
- RDL - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0914102
Report Date: 11/03/09

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised June 17, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SM2320B, 4500NH3-F, EPA 120.1, SM2510B, 2340B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, 420.1, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. *NELAP Accredited.*

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. *NELAP Accredited via LA-DEQ.*

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. *NELAP Accredited.*

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7471. Organic Parameters: EPA 8015, 8270.)

U.S. Army Corps of Engineers

11030912:02



CHAIN OF CUSTODY

PAGE 1 OF 2

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

ALPHA Job #: 20914102

Project Information	Report Information - Data Deliverables	Billing Information
Project Name: <u>TD-0010 NBH</u>	<input type="checkbox"/> FAX <input checked="" type="checkbox"/> EMAIL	<input type="checkbox"/> Same as Client info PO #:
Project Location: <u>New Bedford, MA</u>	<input checked="" type="checkbox"/> ADEX <input type="checkbox"/> Add'l Deliverables	

Client Information	Regulatory Requirements/Report Limits
Client: <u>WOODS HOLE GROUP</u>	State: <u>Fed Program</u> Criteria:
Address: <u>61 TECHNOLOGY PARK DR. E. PLIMMOUTH, MA 02536</u>	
Phone: <u>508-540-8000</u>	
Fax: <u>508-540-1001</u>	
Email: <u>DWALS#@WHOEP.COM</u>	
<input type="checkbox"/> These samples have been previously analyzed by Alpha	

Turn-Around Time	MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH (only confirmed if pre-approved!)	<input type="checkbox"/> Yes <input type="checkbox"/> No Are MCP Analytical Methods Required?
Date Due: _____ Time: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
Project Specific EDD for New Bedford
* PLEASE HOMOGENIZE SAMPLE BEFORE EXTRACTION/ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS	TOTAL # BOTTLES	SAMPLE HANDLING	TOTAL # BOTTLES
		Date	Time						
1	S-09S-C009-0-0.5	9/30/09	1333	S	DSB	X		JG2	1
2	S-09S-C005-0-0.5		1347	S		X		JP11	1
3	S-09S-C005-1.0-1.2		1347			X		JP11	1
4	S-09S-C010-0-0.5		1358			X		JMφ2	1
5	S-09S-C010-0.9-1.2		1358			X		JMφ2	1
6	S-09S-C001-0-0.5		1419			X		JK24	1
7	S-09S-C001-1.2-1.7		1419			X		JK24	1
8	S-09S-C016-0-0.5		1442			X		GG19	1
9	S-09S-C017-0-0.5		1455			X		GL26	1
10	S-09S-C015-0-0.5		1570			X		GL21	1

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Container Type: G
 Preservative: A

Relinquished By: <u>Mitchell Buck</u> <u>Paul Delbut</u>	Date/Time: <u>10/2/09 10:00</u> <u>10/2/09 16:00</u>	Received By: <u>Paul Delbut</u> <u>W. Jones</u>	Date/Time: <u>10/2/09 10:10</u> <u>10/2/09 16:00</u>
--	--	---	--

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORM NO: 01-01 (rev. 30-JUL-07)

Delivery Order-0010
June 2010

B-103

Sediment Monitoring Summary Report
W912WJ-09-D-0001

11030912.02



CHAIN OF CUSTODY PAGE 2 OF 2

WESTBORO, MA TEL: 508-898-9220
 MANSFIELD, MA TEL: 508-822-9300
 FAX: 508-898-9193 FAX: 508-822-3288

Client Information
 Client: WOOD HOLE GROUP
 Address: 81 TECHNOLOGY PARK DR
E. FALMOUTH, MA 02536
 Phone: 508-540-8080
 Fax: 508-540-1001
 Email: DWALSH@WHGRP.COM

Project Information
 Project Name: TO-0010 NBH
 Project Location: New Bedford, MA
 Project #: TO-0010-001C
 Project Manager: DAVE WALSH
 ALPHA Quote #:

Turn-Around Time
 Standard RUSH (only confirmed if pre-approved!)
 Date Due: _____ Time: _____

Date Rec'd in Lab: _____ ALPHA Job #: _____

Report Information - Data Deliverables
 FAX EMAIL
 ADEX Add'l Deliverables

Billing Information
 Same as Client info PO #: _____

Regulatory Requirements/Report Limits
 State (Fed Program) Criteria

MA MCP PRESUMPTIVE CERTAINTY -- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
 - Project Specific EDD for New Bedford
 - please homogenize sample before extraction/analysis

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS <i>PEB configured (MCP)</i>	SAMPLE HANDLING		TOTAL # BOTTLES
		Date	Time				Filtration	Preservation	
11	S-09S-C014-0-0.5	9/30/09	15:20	S	DSB	X	<input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do	<input type="checkbox"/> Lab to do (Please specify below)	1
12	S-09S-C024-0-0.5		16:10	S	DSB	X			1
13	S-09S-C023-0-0.5		16:20	S	DSB	X			1
14	S-09S-C023-1.8-0.3		16:20	S	DSB	X			1
15	S-09S-C020-0-0.5	9/30/09	16:40	S	DSB	X			1
16	S-09S-C021-0-0.6	10/1/09	14:20	S	DSB	X			1
	S-09S-C021-0-0.6 MSMSP	10/1/09	14:20	S	DSB	X			1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type: G
 Preservative: A

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By: Mitchell Busick Date/Time: 10/2/09 10:10
Paul Gilbert Date/Time: 10/2/09 16:00
 Received By: Paul Gilbert Date/Time: 10/2/09 10:10
[Signature] Date/Time: 10/2/09 16:00

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.



ANALYTICAL REPORT

Lab Number:	L0916702
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Project Name:	T0-0010 NBH
Project Number:	T0-0010-001C
Report Date:	12/22/09

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0916702-01	S-090-C011-1.3-1.8	NEW BEDFORD, MA	11/17/09 11:12
L0916702-02	S-090-C013-1.7-2.2	NEW BEDFORD, MA	11/17/09 10:49
L0916702-03	S-090-C014-1.0-1.5	NEW BEDFORD, MA	11/17/09 11:36
L0916702-04	S-090-C030-1.5-2.0	NEW BEDFORD, MA	11/17/09 10:25
L0916702-05	S-090-C002-0-0.5	NEW BEDFORD, MA	11/17/09 12:50
L0916702-06	S-090-C010-0-0.5	NEW BEDFORD, MA	11/17/09 11:55
L0916702-07	S-090-C010-0.6-11	NEW BEDFORD, MA	11/17/09 12:00
L0916702-08	S-090-C009-0-0.4	NEW BEDFORD, MA	11/17/09 12:20
L0916702-09	S-090-C009-0.5-1.0	NEW BEDFORD, MA	11/17/09 12:23
L0916702-10	S-090-C004-0-0.5	NEW BEDFORD, MA	11/17/09 12:37
L0916702-11	S-090-C004-0.6-1.1	NEW BEDFORD, MA	11/17/09 12:43
L0916702-12	S-090-C016-0-0.5	NEW BEDFORD, MA	11/17/09 13:14
L0916702-13	S-090-C016-0.5-1.0	NEW BEDFORD, MA	11/17/09 13:20
L0916702-14	S-090-C003-0-0-0.5	NEW BEDFORD, MA	11/17/09 12:40
L0916702-15	S-090-C003-0.5-1.0	NEW BEDFORD, MA	11/17/09 12:42

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the report issued on December 18, 2009. This report was amended to include only the applicable analytical result for C16-BZ#153 for sample L0916702-14.

NOAA Congeners 8082

L0916702-01,02,03,04,05,06,07,08,10,12,13,14,15 have elevated detection limits due to the dilution required by the sample matrix and compounds of interest.

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Case Narrative (continued)

The surrogate recoveries for L0916702-01,02d,03d,04,05,06,07,08,10,12,13,14,15 are below the acceptance criteria for DBOB (0%), BZ 198 (0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported. '

The surrogate recovery for L0916702-09 is outside the individual acceptance criteria for DBOB (158%), but within the overall method allowances. The surrogate is within QC acceptance limits for the confirmation column.

The WG391286-4 MS/MSD recoveries were above the acceptance criteria for BZ#8(214%), BZ#18 (355%), BZ#44 (176%), BZ#66 (263%), BZ#101 (246%), BZ#105(174%), BZ#118 (227%), BZ#128 (146%), BZ#138 (196%), BZ#153 (191%), BZ#170(134%), BZ#180 (135%), BZ#187 (125%), BZ#206 (131%), the recovery for BZ#52 (0%) was below the acceptance criteria; however, the associated LCS/LCSD recoveries were within criteria.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Maura K. Supnunt

Title: Technical Director/Representative

Date: 12/22/09

ORGANICS



SEMIVOLATILES



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-06
 Client ID: S-090-C010-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8270C-SIM
 Analytical Date: 12/14/09 17:27
 Analyst: JS
 Percent Solids: 98%

Date Collected: 11/17/09 11:55
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 12/02/09 16:00
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	128		ug/kg	16.8	100
Dichlorobiphenyls	10500		ug/kg	16.8	100
Trichlorobiphenyls	35000		ug/kg	16.8	100
Tetrachlorobiphenyls	31600		ug/kg	16.8	100
Pentachlorobiphenyls	13000		ug/kg	16.8	100
Hexachlorobiphenyls	5870		ug/kg	16.8	100
Heptachlorobiphenyls	652		ug/kg	16.8	100
Octachlorobiphenyls	153		ug/kg	16.8	100
Nonachlorobiphenyls	96.9		ug/kg	16.8	100
Decachlorobiphenyl	ND		ug/kg	16.8	100
Total Homologs	97000		ug/kg	0.500	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	98		50-130
Cl8-BZ#202-C13	114		50-130

12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-12
 Client ID: S-090-C016-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8270C-SIM
 Analytical Date: 12/14/09 18:39
 Analyst: JS
 Percent Solids: 99%

Date Collected: 11/17/09 13:14
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 12/02/09 16:00
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab					
Monochlorobiphenyls	481		ug/kg	8.37	50
Dichlorobiphenyls	8700		ug/kg	8.37	50
Trichlorobiphenyls	21000		ug/kg	8.37	50
Tetrachlorobiphenyls	22200		ug/kg	8.37	50
Pentachlorobiphenyls	5770		ug/kg	8.37	50
Hexachlorobiphenyls	3060		ug/kg	8.37	50
Heptachlorobiphenyls	432		ug/kg	8.37	50
Octachlorobiphenyls	173		ug/kg	8.37	50
Nonachlorobiphenyls	88.8		ug/kg	8.37	50
Decachlorobiphenyl	ND		ug/kg	8.37	50
Total Homologs	61900		ug/kg	0.500	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	89		50-130
Cl8-BZ#202-C13	90		50-130



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270C-SIM
Analytical Date: 12/09/09 15:55
Analyst: JS

Extraction Method: EPA 3570
Extraction Date: 12/02/09 16:00
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Homologs by GC/MS-SIM - Mansfield Lab for sample(s): 06,12 Batch: WG391509-1				
Monochlorobiphenyls	0.233		ug/kg	0.167
Dichlorobiphenyls	0.853		ug/kg	0.167
Trichlorobiphenyls	1.88		ug/kg	0.167
Tetrachlorobiphenyls	1.84		ug/kg	0.167
Pentachlorobiphenyls	1.13		ug/kg	0.167
Hexachlorobiphenyls	0.733		ug/kg	0.167
Heptachlorobiphenyls	0.377		ug/kg	0.167
Octachlorobiphenyls	ND		ug/kg	0.167
Nonachlorobiphenyls	ND		ug/kg	0.167
Decachlorobiphenyl	ND		ug/kg	0.167
Total Homologs	7.13		ug/kg	0.500

Surrogate	%Recovery	Qualifier	Acceptance Criteria
C13-BZ#19-C13	91		50-130
C18-BZ#202-C13	109		50-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 06,12 Batch: WG391509-2 WG391509-3								
Cl1-BZ#1	72		84		40-140	15		30
CL1-BZ#3	84		98		40-140	15		30
Cl2-BZ#4/#10	88		102		40-140	15		30
Cl2-BZ#8	89		109		40-140	20		30
Cl3-BZ#19	79		96		40-140	19		30
Cl3-BZ#18	89		107		40-140	18		30
Cl2-BZ#15	84		101		40-140	18		30
Cl4-BZ#54	82		101		40-140	21		30
Cl3-BZ#29	86		105		40-140	20		30
Cl4-BZ#50	88		109		40-140	21		30
Cl3-BZ#-31	94		117		40-140	22		30
Cl3-BZ#28	101		126		40-140	22		30
Cl4-BZ#45	91		112		40-140	21		30
Cl4-BZ#52	96		117		40-140	20		30
Cl4-BZ#49	92		111		40-140	19		30
Cl5-BZ#104	86		103		40-140	18		30
Cl4-BZ#47	104		125		40-140	18		30
Cl4-BZ#44	105		128		40-140	20		30
Cl3-BZ#37	73		86		40-140	16		30
Cl5-BZ#121/#95/#88	78		92		40-140	16		30
Cl4-BZ#74	101		120		40-140	17		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 06,12 Batch: WG391509-2 WG391509-3								
Cl6-BZ#155	93		109		40-140	16		30
Cl4-BZ#70	98		117		40-140	18		30
Cl4-BZ#66	111		133		40-140	18		30
Cl5-BZ#101/#90	103		120		40-140	15		30
Cl4-BZ#56	105		125		40-140	17		30
Cl5-BZ#99	107		125		40-140	16		30
Cl6-BZ#154	107		124		40-140	15		30
Cl5-BZ#87/#111	90		103		40-140	13		30
Cl5-BZ#110	114		132		40-140	15		30
Cl4-BZ#81	116		135		40-140	15		30
Cl6-BZ#151	99		114		40-140	14		30
Cl6-BZ#147/#149	104		121		40-140	15		30
Cl4-BZ#77	120		140		40-140	15		30
Cl5-BZ#107/#123	113		130		40-140	14		30
Cl7-BZ#188	93		109		40-140	16		30
Cl5-BZ#118	107		123		40-140	14		30
Cl6-BZ#146	110		130		40-140	17		30
Cl5-BZ#114	99		116		40-140	16		30
Cl6-BZ#153	121		143	Q	40-140	17		30
Cl5-BZ#105	88		103		40-140	16		30
Cl6-BZ#138	103		121		40-140	16		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 06,12 Batch: WG391509-2 WG391509-3								
Cl6-BZ#129/#158	128		150	Q	40-140	16		30
Cl7-BZ#187	114		135		40-140	17		30
Cl7-BZ#183	107		127		40-140	17		30
Cl5-BZ#126	88		103		40-140	16		30
Cl7-BZ#174	109		128		40-140	16		30
Cl6-BZ#128	109		128		40-140	16		30
Cl8-BZ#202	109		128		40-140	16		30
Cl6-BZ#167	110		128		40-140	15		30
Cl7-BZ#177	110		130		40-140	17		30
Cl8-BZ#204/#200-CAL	102		120		40-140	16		30
Cl6-BZ#156	108		129		40-140	18		30
Cl6-BZ#157	107		126		40-140	16		30
Cl7-BZ#180	88		103		40-140	16		30
Cl8-BZ#201	111		133		40-140	18		30
Cl7-BZ#170	117		139		40-140	17		30
Cl6-BZ#169	128		152	Q	40-140	17		30
Cl9-BZ#208	110		132		40-140	18		30
Cl7-BZ#189	120		144	Q	40-140	18		30
Cl8-BZ#195	111		134		40-140	19		30
Cl8-BZ#194	124		150	Q	40-140	19		30
Cl8-BZ#205	124		148	Q	40-140	18		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 06,12 Batch: WG391509-2 WG391509-3								
Cl9-BZ#206	123		149	Q	40-140	19		30
Cl10-BZ#209	115		140		40-140	20		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Cl3-BZ#19-C13	88		107		50-130
Cl8-BZ#202-C13	104		120		50-130

PCBS



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-01
 Client ID: S-090-C011-1.3-1.8
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/17/09 05:33
 Analyst: JR
 Percent Solids: 98%

Date Collected: 11/17/09 11:12
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	391		ug/kg	33.6	10
Cl4-BZ#66	397		ug/kg	33.6	10
Cl5-BZ#101	299		ug/kg	33.6	10
Cl5-BZ#105	ND		ug/kg	33.6	10
Cl5-BZ#118	125		ug/kg	33.6	10
Cl6-BZ#128	ND		ug/kg	33.6	10
Cl6-BZ#138	123		ug/kg	33.6	10
Cl7-BZ#170	ND		ug/kg	33.6	10
Cl7-BZ#180	ND		ug/kg	33.6	10
Cl7-BZ#187	42.0		ug/kg	33.6	10
Cl8-BZ#195	ND		ug/kg	33.6	10
Cl9-BZ#206	ND		ug/kg	33.6	10
Cl10-BZ#209	ND		ug/kg	33.6	10

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-01
Client ID: S-090-C011-1.3-1.8
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/17/09 05:33
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 11:12
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	329		ug/kg	33.6	10
Cl6-BZ#153	124		ug/kg	33.6	10



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-01 D
Client ID: S-090-C011-1.3-1.8
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 15:08
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 11:12
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	955		ug/kg	336	100
Cl3-BZ#28	1020		ug/kg	336	100
Cl4-BZ#52	1510		ug/kg	336	100



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-02
 Client ID: S-090-C013-1.7-2.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/17/09 04:11
 Analyst: JR
 Percent Solids: 97%

Date Collected: 11/17/09 10:49
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	62.0		ug/kg	3.34	1
CI4-BZ#66	45.5		ug/kg	3.34	1
CI5-BZ#101	32.0		ug/kg	3.34	1
CI5-BZ#118	19.0		ug/kg	3.34	1
CI6-BZ#128	ND		ug/kg	3.34	1
CI6-BZ#138	17.3		ug/kg	3.34	1
CI7-BZ#170	ND		ug/kg	3.34	1
CI7-BZ#180	4.18		ug/kg	3.34	1
CI8-BZ#195	ND		ug/kg	3.34	1
CI9-BZ#206	ND		ug/kg	3.34	1
CI10-BZ#209	ND		ug/kg	3.34	1

DBOB 0 Q 50-125
 BZ 198 0 Q 50-125



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-02
 Client ID: S-090-C013-1.7-2.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/17/09 04:11
 Analyst: JR
 Percent Solids: 97%

Date Collected: 11/17/09 10:49
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	36.6		ug/kg	3.34	1
Cl4-BZ#44	42.0		ug/kg	3.34	1
Cl5-BZ#105	4.84		ug/kg	3.34	1
Cl6-BZ#153	8.79		ug/kg	3.34	1
Cl7-BZ#187	5.46		ug/kg	3.34	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-02 D
Client ID: S-090-C013-1.7-2.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/16/09 17:57
Analyst: JR
Percent Solids: 97%

Date Collected: 11/17/09 10:49
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	156		ug/kg	33.4	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-02 D
Client ID: S-090-C013-1.7-2.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/16/09 17:57
Analyst: JR
Percent Solids: 97%

Date Collected: 11/17/09 10:49
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	168		ug/kg	33.4	10



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-03
Client ID: S-090-C014-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/16/09 18:38
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 11:36
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	293		ug/kg	33.4	10
Cl4-BZ#52	219		ug/kg	33.4	10
Cl4-BZ#66	181		ug/kg	33.4	10
Cl5-BZ#101	149		ug/kg	33.4	10
Cl5-BZ#118	125		ug/kg	33.4	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-03
Client ID: S-090-C014-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/16/09 18:38
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 11:36
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	153		ug/kg	33.4	10
Cl4-BZ#44	114		ug/kg	33.4	10



12220913:51

Project Name: T0-0010 NBH**Lab Number:** L0916702**Project Number:** T0-0010-001C**Report Date:** 12/22/09**SAMPLE RESULTS**

Lab ID: L0916702-03
Client ID: S-090-C014-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/17/09 04:52
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 11:36
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	55.8		ug/kg	3.34	1
Cl5-BZ#105	20.4		ug/kg	3.34	1
Cl6-BZ#128	14.3		ug/kg	3.34	1
Cl6-BZ#138	53.3		ug/kg	3.34	1
Cl7-BZ#170	8.30		ug/kg	3.34	1
Cl7-BZ#180	10.9		ug/kg	3.34	1
Cl8-BZ#195	ND		ug/kg	3.34	1
Cl9-BZ#206	ND		ug/kg	3.34	1
Cl10-BZ#209	ND		ug/kg	3.34	1



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-03
Client ID: S-090-C014-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/17/09 04:52
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 11:36
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#153	29.3		ug/kg	3.34	1
Cl7-BZ#187	8.44		ug/kg	3.34	1



Project Name: T0-0010 NBH
 Project Number: T0-0010-001C

12220913:51
 Lab Number: L0916702
 Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-04
 Client ID: S-090-C030-1.5-2.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/16/09 19:19
 Analyst: JR
 Percent Solids: 96%

Date Collected: 11/17/09 10:25
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	228		ug/kg	34.4	10
Cl3-BZ#28	483		ug/kg	34.4	10
Cl6-BZ#128	135		ug/kg	34.4	10
Cl7-BZ#180	156		ug/kg	34.4	10
Cl7-BZ#187	249		ug/kg	34.4	10
Cl8-BZ#195	ND		ug/kg	34.4	10
Cl9-BZ#206	92.6		ug/kg	34.4	10



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-04
Client ID: S-090-C030-1.5-2.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/16/09 19:19
Analyst: JR
Percent Solids: 96%

Date Collected: 11/17/09 10:25
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	428		ug/kg	34.4	10
CI5-BZ#105	131		ug/kg	34.4	10
CI7-BZ#170	122		ug/kg	34.4	10
CI10-BZ#209	71.2		ug/kg	34.4	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-04 D2
Client ID: S-090-C030-1.5-2.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/14/09 19:16
Analyst: JR
Percent Solids: 96%

Date Collected: 11/17/09 10:25
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	18000		ug/kg	3440	1000



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-04 D
Client ID: S-090-C030-1.5-2.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 08:54
Analyst: JR
Percent Solids: 96%

Date Collected: 11/17/09 10:25
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#66	4220		ug/kg	344	100
Cl5-BZ#101	2530		ug/kg	344	100
Cl5-BZ#118	1500		ug/kg	344	100
Cl6-BZ#138	1150		ug/kg	344	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-04 D
Client ID: S-090-C030-1.5-2.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 08:54
Analyst: JR
Percent Solids: 96%

Date Collected: 11/17/09 10:25
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	3550		ug/kg	344	100
Cl6-BZ#153	1680		ug/kg	344	100



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-05
 Client ID: S-090-C002-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/16/09 20:00
 Analyst: JR
 Percent Solids: 98%

Date Collected: 11/17/09 12:50
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#128	162		ug/kg	33.9	10
Cl6-BZ#138	765	E	ug/kg	33.9	10
Cl6-BZ#153	1110	E	ug/kg	33.9	10
Cl7-BZ#170	122		ug/kg	33.9	10
Cl7-BZ#180	166		ug/kg	33.9	10
Cl7-BZ#187	227		ug/kg	33.9	10
Cl8-BZ#195	ND		ug/kg	33.9	10
Cl9-BZ#206	ND		ug/kg	33.9	10
Cl10-BZ#209	ND		ug/kg	33.9	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-05
Client ID: S-090-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/16/09 20:00
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 12:50
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	133		ug/kg	33.9	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-05 D2
Client ID: S-090-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/14/09 19:57
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 12:50
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	17500		ug/kg	3390	1000



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-05 D
Client ID: S-090-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 09:35
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 12:50
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2620		ug/kg	339	100
Cl3-BZ#18	6190		ug/kg	339	100
Cl3-BZ#28	5680		ug/kg	339	100
Cl4-BZ#66	2700		ug/kg	339	100
Cl5-BZ#101	1860		ug/kg	339	100
Cl5-BZ#118	1240		ug/kg	339	100
Cl6-BZ#138	1180		ug/kg	339	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-05 D
Client ID: S-090-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 09:35
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 12:50
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	2850		ug/kg	339	100
Cl6-BZ#153	1490		ug/kg	339	100



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-06
 Client ID: S-090-C010-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/16/09 20:41
 Analyst: JR
 Percent Solids: 98%

Date Collected: 11/17/09 11:55
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	502		ug/kg	33.7	10
CI6-BZ#128	100		ug/kg	33.7	10
CI6-BZ#138	534		ug/kg	33.7	10
CI7-BZ#170	88.5		ug/kg	33.7	10
CI7-BZ#180	122		ug/kg	33.7	10
CI7-BZ#187	173		ug/kg	33.7	10
CI8-BZ#195	ND		ug/kg	33.7	10
CI9-BZ#206	ND		ug/kg	33.7	10
CI10-BZ#209	ND		ug/kg	33.7	10



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-06
Client ID: S-090-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/16/09 20:41
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 11:55
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	3880	E	ug/kg	33.7	10
Cl4-BZ#44	1850	E	ug/kg	33.7	10
Cl5-BZ#105	90.2		ug/kg	33.7	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-06 D2
Client ID: S-090-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/14/09 20:38
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 11:55
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	12300		ug/kg	3370	1000
Cl4-BZ#52	13900		ug/kg	3370	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-06 D2
Client ID: S-090-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/14/09 20:38
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 11:55
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	8040		ug/kg	3370	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-06 D
 Client ID: S-090-C010-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/15/09 10:16
 Analyst: JR
 Percent Solids: 98%

Date Collected: 11/17/09 11:55
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	3130		ug/kg	337	100
Cl4-BZ#66	2520		ug/kg	337	100
Cl5-BZ#101	1540		ug/kg	337	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-06 D
Client ID: S-090-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 10:16
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 11:55
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	2850		ug/kg	337	100
Cl6-BZ#153	862		ug/kg	337	100



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-07
 Client ID: S-090-C010-0.6-11
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/16/09 21:22
 Analyst: JR
 Percent Solids: 97%

Date Collected: 11/17/09 12:00
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#66	487		ug/kg	33.4	10
Cl5-BZ#101	230		ug/kg	33.4	10
Cl5-BZ#105	ND		ug/kg	33.4	10
Cl5-BZ#118	137		ug/kg	33.4	10
Cl6-BZ#128	ND		ug/kg	33.4	10
Cl6-BZ#138	143		ug/kg	33.4	10
Cl7-BZ#170	ND		ug/kg	33.4	10
Cl7-BZ#180	ND		ug/kg	33.4	10
Cl7-BZ#187	49.9		ug/kg	33.4	10
Cl8-BZ#195	ND		ug/kg	33.4	10
Cl9-BZ#206	ND		ug/kg	33.4	10
Cl10-BZ#209	ND		ug/kg	33.4	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-07
Client ID: S-090-C010-0.6-11
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/16/09 21:22
Analyst: JR
Percent Solids: 97%

Date Collected: 11/17/09 12:00
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	543		ug/kg	33.4	10
Cl6-BZ#153	111		ug/kg	33.4	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-07 D
Client ID: S-090-C010-0.6-11
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 10:57
Analyst: JR
Percent Solids: 97%

Date Collected: 11/17/09 12:00
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	2890		ug/kg	334	100
Cl4-BZ#52	2720		ug/kg	334	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-07 D
Client ID: S-090-C010-0.6-11
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 10:57
Analyst: JR
Percent Solids: 97%

Date Collected: 11/17/09 12:00
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1150		ug/kg	334	100
Cl3-BZ#18	2460		ug/kg	334	100



12220913:51

Project Name: T0-0010 NBH**Lab Number:** L0916702**Project Number:** T0-0010-001C**Report Date:** 12/22/09**SAMPLE RESULTS**

Lab ID: L0916702-08
Client ID: S-090-C009-0-0.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 11:38
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 12:20
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	5180		ug/kg	334	100
Cl4-BZ#66	3680		ug/kg	334	100
Cl5-BZ#101	2500		ug/kg	334	100
Cl5-BZ#118	1560		ug/kg	334	100
Cl6-BZ#128	ND		ug/kg	334	100
Cl6-BZ#138	1460		ug/kg	334	100
Cl7-BZ#170	ND		ug/kg	334	100
Cl7-BZ#180	ND		ug/kg	334	100
Cl7-BZ#187	352		ug/kg	334	100
Cl8-BZ#195	ND		ug/kg	334	100
Cl9-BZ#206	ND		ug/kg	334	100
Cl10-BZ#209	ND		ug/kg	334	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-08
Client ID: S-090-C009-0-0.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 11:38
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 12:20
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	3400		ug/kg	334	100
Cl5-BZ#105	428		ug/kg	334	100
Cl6-BZ#153	1190		ug/kg	334	100



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-08 D
Client ID: S-090-C009-0-0.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/14/09 21:59
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 12:20
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	17300		ug/kg	3340	1000
Cl3-BZ#28	19400		ug/kg	3340	1000
Cl4-BZ#52	19000		ug/kg	3340	1000



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-09
 Client ID: S-090-C009-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/17/09 14:23
 Analyst: JR
 Percent Solids: 100%

Date Collected: 11/17/09 12:23
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	6.93		ug/kg	3.32	1
CI4-BZ#44	ND		ug/kg	3.32	1
CI4-BZ#66	ND		ug/kg	3.32	1
CI5-BZ#101	ND		ug/kg	3.32	1
CI5-BZ#105	ND		ug/kg	3.32	1
CI5-BZ#118	ND		ug/kg	3.32	1
CI6-BZ#128	ND		ug/kg	3.32	1
CI6-BZ#138	ND		ug/kg	3.32	1
CI7-BZ#170	ND		ug/kg	3.32	1
CI7-BZ#180	ND		ug/kg	3.32	1
CI7-BZ#187	ND		ug/kg	3.32	1
CI8-BZ#195	ND		ug/kg	3.32	1
CI9-BZ#206	ND		ug/kg	3.32	1
CI10-BZ#209	ND		ug/kg	3.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	158	Q	50-125
BZ 198	108		50-125
DBOB	112		50-125
BZ 198	101		50-125



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-09
 Client ID: S-090-C009-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/17/09 14:23
 Analyst: JR
 Percent Solids: 100%

Date Collected: 11/17/09 12:23
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	13.5		ug/kg	3.32	1
Cl3-BZ#18	9.62		ug/kg	3.32	1
Cl4-BZ#52	8.35		ug/kg	3.32	1
Cl6-BZ#153	ND		ug/kg	3.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	158	Q	50-125
BZ 198	108		50-125
DBOB	112		50-125
BZ 198	101		50-125

12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-10
 Client ID: S-090-C004-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/15/09 13:00
 Analyst: JR
 Percent Solids: 97%

Date Collected: 11/17/09 12:37
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 14:50
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	5910		ug/kg	342	100
Cl4-BZ#66	6640		ug/kg	342	100
Cl5-BZ#101	4650		ug/kg	342	100
Cl5-BZ#118	2270		ug/kg	342	100
Cl6-BZ#128	ND		ug/kg	342	100
Cl6-BZ#138	2550		ug/kg	342	100
Cl7-BZ#170	ND		ug/kg	342	100
Cl7-BZ#180	587		ug/kg	342	100
Cl7-BZ#187	809		ug/kg	342	100
Cl8-BZ#195	ND		ug/kg	342	100
Cl9-BZ#206	ND		ug/kg	342	100
Cl10-BZ#209	ND		ug/kg	342	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-10
Client ID: S-090-C004-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 13:00
Analyst: JR
Percent Solids: 97%

Date Collected: 11/17/09 12:37
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	530		ug/kg	342	100
CI6-BZ#153	2620		ug/kg	342	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-10 D
Client ID: S-090-C004-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/14/09 23:21
Analyst: JR
Percent Solids: 97%

Date Collected: 11/17/09 12:37
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	17400		ug/kg	3420	1000
Cl3-BZ#18	30400		ug/kg	3420	1000
Cl3-BZ#28	26700		ug/kg	3420	1000
Cl4-BZ#52	42900		ug/kg	3420	1000



12220913:51

Project Name: T0-0010 NBH**Lab Number:** L0916702**Project Number:** T0-0010-001C**Report Date:** 12/22/09**SAMPLE RESULTS**

Lab ID: L0916702-11
 Client ID: S-090-C004-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/17/09 16:59
 Analyst: JR
 Percent Solids: 98%

Date Collected: 11/17/09 12:43
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 15:38
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	55.9		ug/kg	3.31	1
CI5-BZ#118	29.3		ug/kg	3.31	1
CI6-BZ#128	6.24		ug/kg	3.31	1
CI6-BZ#138	32.7		ug/kg	3.31	1
CI7-BZ#170	5.37		ug/kg	3.31	1
CI7-BZ#180	7.75		ug/kg	3.31	1
CI7-BZ#187	10.8		ug/kg	3.31	1
CI8-BZ#195	ND		ug/kg	3.31	1
CI9-BZ#206	ND		ug/kg	3.31	1
CH10-BZ#209	ND		ug/kg	3.31	1



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-11
Client ID: S-090-C004-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/17/09 16:59
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 12:43
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	7.10		ug/kg	3.31	1
CI6-BZ#153	17.3		ug/kg	3.31	1



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-11 D
Client ID: S-090-C004-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/16/09 22:43
Analyst: JR
Percent Solids: 98%

Date Collected: 11/17/09 12:43
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	212		ug/kg	33.1	10
Cl3-BZ#28	431		ug/kg	33.1	10
Cl4-BZ#66	119		ug/kg	33.1	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-11 D
 Client ID: S-090-C004-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/16/09 22:43
 Analyst: JR
 Percent Solids: 98%

Date Collected: 11/17/09 12:43
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 15:38
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	532		ug/kg	33.1	10
Cl4-BZ#44	138		ug/kg	33.1	10
Cl4-BZ#52	438		ug/kg	33.1	10



12220913:51

Project Name: T0-0010 NBH**Lab Number:** L0916702**Project Number:** T0-0010-001C**Report Date:** 12/22/09**SAMPLE RESULTS**

Lab ID: L0916702-12
 Client ID: S-090-C016-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/16/09 23:24
 Analyst: JR
 Percent Solids: 99%

Date Collected: 11/17/09 13:14
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 15:38
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#66	643		ug/kg	33.0	10
Cl5-BZ#105	100		ug/kg	33.0	10
Cl5-BZ#118	222		ug/kg	33.0	10
Cl6-BZ#128	ND		ug/kg	33.0	10
Cl6-BZ#138	363		ug/kg	33.0	10
Cl7-BZ#170	66.0		ug/kg	33.0	10
Cl7-BZ#180	96.9		ug/kg	33.0	10
Cl7-BZ#187	126		ug/kg	33.0	10
Cl8-BZ#195	ND		ug/kg	33.0	10
Cl9-BZ#206	ND		ug/kg	33.0	10
Cl10-BZ#209	ND		ug/kg	33.0	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-12
Client ID: S-090-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/16/09 23:24
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 13:14
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	506		ug/kg	33.0	10
CI6-BZ#153	295		ug/kg	33.0	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-12 D
Client ID: S-090-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 16:25
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 13:14
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	3010		ug/kg	330	100



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-12 D
Client ID: S-090-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 16:25
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 13:14
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	3440		ug/kg	330	100
Cl3-BZ#28	2350		ug/kg	330	100
Cl4-BZ#44	1420		ug/kg	330	100
Cl4-BZ#52	5630		ug/kg	330	100



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-13
 Client ID: S-090-C016-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/17/09 00:05
 Analyst: JR
 Percent Solids: 99%

Date Collected: 11/17/09 13:20
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 15:38
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI4-BZ#66	178		ug/kg	33.0	10
CI5-BZ#105	ND		ug/kg	33.0	10
CI5-BZ#118	64.9		ug/kg	33.0	10
CI6-BZ#128	ND		ug/kg	33.0	10
CI6-BZ#138	102		ug/kg	33.0	10
CI7-BZ#170	ND		ug/kg	33.0	10
CI7-BZ#180	ND		ug/kg	33.0	10
CI7-BZ#187	34.2		ug/kg	33.0	10
CI8-BZ#195	ND		ug/kg	33.0	10
CI9-BZ#206	ND		ug/kg	33.0	10
CI10-BZ#209	ND		ug/kg	33.0	10



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-13
Client ID: S-090-C016-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/17/09 00:05
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 13:20
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	526		ug/kg	33.0	10
Cl3-BZ#18	576		ug/kg	33.0	10
Cl3-BZ#28	454		ug/kg	33.0	10
Cl4-BZ#44	264		ug/kg	33.0	10
Cl5-BZ#101	141		ug/kg	33.0	10
Cl6-BZ#153	76.6		ug/kg	33.0	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-13 D
Client ID: S-090-C016-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 17:06
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 13:20
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	1620		ug/kg	330	100



12220913:51

Project Name: T0-0010 NBH**Lab Number:** L0916702**Project Number:** T0-0010-001C**Report Date:** 12/22/09**SAMPLE RESULTS**

Lab ID: L0916702-14
 Client ID: S-090-C003-0.0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/17/09 02:49
 Analyst: JR
 Percent Solids: 99%

Date Collected: 11/17/09 12:40
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 15:38
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#128	150		ug/kg	33.0	10
Cl6-BZ#138	594		ug/kg	33.0	10
Cl7-BZ#170	109		ug/kg	33.0	10
Cl7-BZ#180	146		ug/kg	33.0	10
Cl7-BZ#187	170		ug/kg	33.0	10
Cl8-BZ#195	ND		ug/kg	33.0	10
Cl9-BZ#206	ND		ug/kg	33.0	10
Cl10-BZ#209	ND		ug/kg	33.0	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-14
Client ID: S-090-C003-0.0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/17/09 02:49
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 12:40
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	136		ug/kg	33.0	10



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-14 D2
Client ID: S-090-C003-0.0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 04:08
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 12:40
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	17700		ug/kg	3300	1000
Cl4-BZ#52	17600		ug/kg	3300	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-14 D2
Client ID: S-090-C003-0.0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 04:08
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 12:40
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	16800		ug/kg	3300	1000



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-14 D
Client ID: S-090-C003-0.0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 17:47
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 12:40
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	5310		ug/kg	330	100
Cl4-BZ#66	3100		ug/kg	330	100
Cl5-BZ#101	1920		ug/kg	330	100
Cl5-BZ#118	1410		ug/kg	330	100
Cl6-BZ#153	1600		ug/kg	330	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-14 D
Client ID: S-090-C003-0.0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 17:47
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 12:40
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	2630		ug/kg	330	100



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-15
 Client ID: S-090-C003-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/17/09 03:30
 Analyst: JR
 Percent Solids: 99%

Date Collected: 11/17/09 12:42
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/01/09 15:38
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/04/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	526		ug/kg	33.4	10
Cl4-BZ#66	500		ug/kg	33.4	10
Cl5-BZ#101	265		ug/kg	33.4	10
Cl5-BZ#105	42.1		ug/kg	33.4	10
Cl5-BZ#118	212		ug/kg	33.4	10
Cl6-BZ#128	ND		ug/kg	33.4	10
Cl6-BZ#138	121		ug/kg	33.4	10
Cl7-BZ#170	ND		ug/kg	33.4	10
Cl7-BZ#180	ND		ug/kg	33.4	10
Cl7-BZ#187	ND		ug/kg	33.4	10
Cl8-BZ#195	ND		ug/kg	33.4	10
Cl9-BZ#206	ND		ug/kg	33.4	10
Cl10-BZ#209	ND		ug/kg	33.4	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

12220913:51
Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-15
Client ID: S-090-C003-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/17/09 03:30
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 12:42
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	313		ug/kg	33.4	10
Cl6-BZ#153	89.9		ug/kg	33.4	10



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

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Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-15 D
Client ID: S-090-C003-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/15/09 19:50
Analyst: JR
Percent Solids: 99%

Date Collected: 11/17/09 12:42
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/01/09 15:38
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	2040		ug/kg	334	100
Cl3-BZ#28	2420		ug/kg	334	100
Cl4-BZ#52	2030		ug/kg	334	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 12/16/09 12:29
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-15 Batch: WG391286-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206	ND		ug/kg	1.33
Cl10-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	115		50-125
BZ 198	99		50-125
DBOB	89		50-125
BZ 198	94		50-125

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 12/16/09 12:29
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/01/09 14:50
Cleanup Method1: EPA 3630
Cleanup Date1: 12/04/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-15 Batch: WG391286-1				
C16-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	115		50-125
BZ 198	99		50-125
DBOB	89		50-125
BZ 198	94		50-125

Matrix Spike Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG391286-4 WG391286-5 QC Sample: L0916702-14 Client ID: S-090-C003-0.0-0.5												
Cl2-BZ#8	5310	1640	3500	214	Q	3740	224	Q	40-120	5		30
Cl3-BZ#18	16800	1640	5340	0	Q	6040	0	Q	40-120	NC		30
Cl3-BZ#28	17700	1640	5970	0	Q	7550	0	Q	40-120	NC		30
Cl4-BZ#44	2630	1640	2970	21	Q	3330	42		40-120	67	Q	30
Cl4-BZ#52	17600	1640	6790	0	Q	7760	0	Q	40-120	NC	E	30
Cl4-BZ#66	3100	1640	4310	263	Q	4000	239	Q	40-120	10		30
Cl5-BZ#101	1920	1640	4020	246	Q	3300	198	Q	40-120	22		30
Cl5-BZ#118	1410	1640	3720	227	Q	2930	175	Q	40-120	26		30
Cl6-BZ#128	150	1640	2390	146	Q	2310	138	Q	40-120	6		30
Cl6-BZ#138	594	1640	3210	196	Q	2690	161	Q	40-120	20		30
Cl6-BZ#153	ND	1640	2720	166	Q	2480	148	Q	40-120	11		30
Cl7-BZ#170	109	1640	2200	134	Q	2260	135	Q	40-120	1		30
Cl7-BZ#180	146	1640	2210	135	Q	2280	136	Q	40-120	1		30
Cl7-BZ#187	170	1640	2040	125	Q	2170	130	Q	40-120	4		30
Cl8-BZ#195	ND	1640	1940	119		2120	127	Q	40-120	7		30
Cl9-BZ#206	ND	1640	2150	131	Q	2350	141	Q	40-120	7		30
Cl10-BZ#209	ND	1640	1920	117		2120	127	Q	40-120	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-15 Batch: WG391286-2 WG391286-3								
Cl2-BZ#8	85		91		40-120	7		30
Cl3-BZ#28	93		100		40-120	7		30
Cl4-BZ#44	92		97		40-120	5		30
Cl4-BZ#52	97		103		40-120	6		30
Cl4-BZ#66	96		103		40-120	7		30
Cl5-BZ#101	95		101		40-120	6		30
Cl5-BZ#105	98		105		40-120	7		30
Cl5-BZ#118	103		110		40-120	7		30
Cl6-BZ#128	102		107		40-120	5		30
Cl6-BZ#138	106		110		40-120	4		30
Cl7-BZ#170	102		106		40-120	4		30
Cl7-BZ#180	101		106		40-120	5		30
Cl8-BZ#195	99		102		40-120	3		30
Cl9-BZ#206	109		111		40-120	2		30
Cl10-BZ#209	101		104		40-120	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-15 Batch: WG391286-2 WG391286-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	113		120		50-125
BZ 198	102		103		50-125
DBOB	89		93		50-125
BZ 198	95		96		50-125

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-15 Batch: WG391286-2 WG391286-3					
Cl3-BZ#18	88		94		40-120 7 30
Cl6-BZ#153	92		97		40-120 5 30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	113		120		50-125
BZ 198	102		103		50-125
DBOB	89		93		50-125
BZ 198	95		96		50-125

INORGANICS & MISCELLANEOUS



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-01
Client ID: S-090-C011-1.3-1.8
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 11:12
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.5		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-02
Client ID: S-090-C013-1.7-2.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 10:49
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.0		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-03
Client ID: S-090-C014-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 11:36
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.5		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-04
Client ID: S-090-C030-1.5-2.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 10:25
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.2		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-05
Client ID: S-090-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 12:50
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.6		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-06
Client ID: S-090-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 11:55
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.0		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-07
Client ID: S-090-C010-0.6-11
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 12:00
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.4		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-08
Client ID: S-090-C009-0-0.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 12:20
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.0		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-09
Client ID: S-090-C009-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 12:23
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.5		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-10
Client ID: S-090-C004-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 12:37
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.6		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-11
Client ID: S-090-C004-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 12:43
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.8		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-12
Client ID: S-090-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 13:14
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.6		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-13
Client ID: S-090-C016-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 13:20
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.6		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-14
Client ID: S-090-C003-0.0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 12:40
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.0		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



12220913:51

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

SAMPLE RESULTS

Lab ID: L0916702-15
Client ID: S-090-C003-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/17/09 12:42
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.2		%	0.100	1	-	12/04/09 14:20	30,2540G	KB



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Duplicate Analysis
 Batch Quality Control

Lab Number: L0916702
Report Date: 12/22/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG391860-1 QC Sample: L0916702-01 Client ID: S-090-C011-1.3-1.8						
Solids, Total	97.5	98.1	%	1		20

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler **Custody Seal**
A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0916702-01A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-02A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-03A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-04A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-05A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-06A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14),A2-PCBHOMS-8270SIM(14)
L0916702-07A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-08A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-09A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-10A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-11A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-12A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14),A2-PCBHOMS-8270SIM(14)
L0916702-13A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-14A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-14X	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)
L0916702-15A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7),A2-PCBCONG-8082-NOAA(14)

*Hold days indicated by values in parentheses



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

GLOSSARY

Acronyms

- EPA - Environmental Protection Agency.
- LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCSD - Laboratory Control Sample Duplicate: Refer to LCS.
- MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MSD - Matrix Spike Sample Duplicate: Refer to MS.
- NA - Not Applicable.
- NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- ND - Not detected at the reported detection limit for the sample.
- NI - Not Ignitable.
- RDL - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0916702
Report Date: 12/22/09

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



12220913:51

PERCENT SOLIDS - METHOD 2540G

% SOLIDS PRIOR TO AIR DRYING

Analyst: KJB BATCH: L0916702
 Date In: 11/20/2009 Time in: 15:00 Start Temp: 105 °C
 Date Out: 11/23/2009 Time out: 13:40 End Temp: 105 °C 1st WEIGHING Entered by: KJB
 Date Out: 11/23/2009 Time out: 14:45 End Temp: 105 °C 2nd WEIGHING Verified by: _____
 Date Out: _____ Time out: _____ End Temp: _____ °C 3rd WEIGHING Calculation: (C-A) X 100/(B-A)
 Oven Requirement: 103-105°C

ETR #	Sample #	QC (D)	Dish #	A Mass of Dish tare wt (g)	B Mass of Dish & wet sample (g)	C - 1st Weighing Mass of Dish & dry sample (g)	D - 2nd Weighing Mass of Dish & dry sample (g)	E - 3rd Weighing Mass of Dish & dry sample (g)	% Solids	QC (RPD)
	BLANK		BLANK	1.32	1.32	1.32	1.32		<0.1	
L0916702	-01		1	1.32	9.52	5.50	5.50		51.0	
L0916702	-02		2	1.34	7.17	4.17	4.17		48.5	
L0916702	-03		3	1.32	6.00	4.30	4.30		63.7	
L0916702	-04		4	1.31	6.83	3.40	3.40		37.9	
L0916702	-05		5	1.31	7.07	5.27	5.27		68.8	
L0916702	-06		6	1.31	6.15	4.10	4.10		57.6	
L0916702	-07		7	1.32	6.70	4.49	4.49		58.9	
L0916702	-08		8	1.32	7.51	5.08	5.08		60.7	
L0916702	-09		9	1.32	9.17	7.81	7.81		82.7	
L0916702	-10		10	1.33	8.12	4.34	4.34		44.3	
L0916702	-11		11	1.32	7.81	4.78	4.78		53.3	
L0916702	-12		12	1.33	7.18	4.85	4.85		60.2	
L0916702	-13		13	1.34	6.11	4.05	4.05		56.8	
L0916702	-14		14	1.32	6.2	4.78	4.78		70.9	
L0916702	-15		15	1.32	7.82	5.84	5.84		69.5	

TEMPLATE: PERCENTNEW.XLT

Duplicates should agree within +/- 10%.

1st and/or 2nd and/or 3rd weighings should agree within 4% or 50 mg

Alpha Analytical Mansfield, MA

L0916702

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A, 3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D, 9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3051, 6020, 747A, 7474, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.

12220913:51



CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab:

ALPHA Job #: 20916702

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: WOODS HOLE GROUP
Address: 81 Technology Park Dr.
E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DWALSH@WHGRP.COM

These samples have been previously analyzed by Alpha

Project Information

Project Name: NEW BEDFORD HARBOR
Project Location: New Bedford, MA
Project #: TO-0010-010
Project Manager: DAVE WALSH
ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
*** Please Homogenize samples prior to analysis
Level III data report and project specific EDD**

ANALYSIS	POB Compliance (None)	POB Homologs	SAMPLE HANDLING		TOTAL # BOTTLES
			Filtration <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)		
			Sample Specific Comments		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials															
		Date	Time																	
20916702-1	S-090-C011-1.3-1.8	11/17/09	1112	S	DRW	X														1
-2	S-090-C013-1.7-2.2		1049	S	DRW	X														1
-3	S-090-C014-1.6-1.5		1136	S	DRW	X														1
-4	S-090-C030-1.5-2.0		1025	S	DRW	X														1
-5	S-090-C002-0-0.5		1250	S	KGM	X														1
-6	S-090-C010-0-0.5		1155	S	DRW	X	X													1
-7	S-090-C010-0.6-1.1		1200	S	DRW	X														1
-8	S-090-C009-0-0.4		1220	S	KGM	X														1
-9	S-090-C009-0.5-1.0		1223	S	KGM	X														1
-10	S-090-C004-0-0.5	✓	1237	S	KGM	X														1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type GG
Preservative AA

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

IS YOUR PROJECT
MA MCP or CT RCP?

Relinquished By: John McE... Date/Time: 11/18/09 1415
Received By: [Signature] Date/Time: 11/18/09 1415

FORMNO:01-01 (rev. 30-JUL-07)

12220913:51



CHAIN OF CUSTODY

PAGE 2 OF 2

WESTBORO, MA TEL: 508-898-9220
 MANSFIELD, MA TEL: 508-822-9300
 FAX: 508-898-9193 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: LO916702

Client Information

Client: WOODS HOLE GROUP
 Address: 81 Technology Park Dr. E. Falmouth, MA 02536
 Phone: 508-546-8080
 Fax: 508-540-1001
 Email: DWMST@WHOOP.COM
 These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Harbor
 Project Location: New Bedford, MA
 Project #: 10-0010 - OLC
 Project Manager: DAVE WALSH
 ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 CADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: MA Criteria:

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
 Date Due: Time:

Other Project Specific Requirements/Comments/Detection Limits:

*** PLEASE HOMOGENIZE SAMPLES PRIOR TO ANALYSIS
 LEVEL III data report and project specific EDD**

ANALYSIS	PCB congeners (NORMAL)	PCB homologs	SAMPLE HANDLING		TOTAL # BOTTLES
			Filtration	Preservation	
			<input type="checkbox"/> Done	<input type="checkbox"/> Lab to do	
			<input type="checkbox"/> Not needed	<input type="checkbox"/> Lab to do	
			<input type="checkbox"/> Lab to do	<input type="checkbox"/> Lab to do	
			(Please specify below)		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials															Sample Specific Comments	TOTAL # BOTTLES		
		Date	Time																				
-11	S-090-C004-0.6-1.1	11/17/09	1243	S	KGM	X																	1
-12	S-090-C016-0-0.5	11/17/09	1314	S	KGM	X	X																1
-13	S-090-C016-0.5-1.0	11/17/09	1320	S	KGM	X																	1
-14	S-090-C003-0.0-0.5	11/18/09	1240	S	KGM	X																	1
-15	S-090-C003-0.5-1.0	11/18/09	1242	S	KGM	X																	1
-14	S-090-C003-0.0-0.5 MSMSD	11/18/09	1245	S	KGM	X																	Ms/MSD sample 1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type: G G
 Preservative: NA NA

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By: [Signature] Date/Time: 11/18/09 1415
 Received By: [Signature] Date/Time: 11/18/09 1415

FORM NO: 01-01 (rev. 30-JUL-07)



ANALYTICAL REPORT

Lab Number:	L0917987
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Project Name:	T0-0010 NBH
Project Number:	T0-0010-001C
Report Date:	02/02/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0917987-01	S-09S-C004-0-0.2	NEW BEDFORD, MA	12/08/09 13:05
L0917987-02	S-09S-C013-0-0.5	NEW BEDFORD, MA	12/08/09 12:00
L0917987-03	S-09S-C006-0-0.5	NEW BEDFORD, MA	12/08/09 09:32
L0917987-04	S-09S-C012-0-0.6	NEW BEDFORD, MA	12/08/09 10:00
L0917987-05	S-09S-C012-0.7-1.3	NEW BEDFORD, MA	12/08/09 10:00
L0917987-06	S-09S-C007-0-0.5	NEW BEDFORD, MA	12/08/09 09:49
L0917987-07	S-09S-C007-0.5-1.1	NEW BEDFORD, MA	12/08/09 09:49
L0917987-08	S-09S-C008-0.3-0.8	NEW BEDFORD, MA	12/08/09 10:08
L0917987-09	S-09S-C008-0.8-1.4	NEW BEDFORD, MA	12/08/09 10:08
L0917987-10	S-09S-C007-0.4-0.9	NEW BEDFORD, MA	12/08/09 11:25
L0917987-11	S-09S-C007-1.0-1.5	NEW BEDFORD, MA	12/08/09 11:25
L0917987-12	S-09O-C008-0-0.5	NEW BEDFORD, MA	12/08/09 11:40
L0917987-13	S-09O-C008-0.9-1.4	NEW BEDFORD, MA	12/08/09 11:40
L0917987-14	S-09S-C002-0-0.5	NEW BEDFORD, MA	12/08/09 12:30
L0917987-15	S-09S-C002-0.5-1.0	NEW BEDFORD, MA	12/08/09 12:30
L0917987-16	S-09S-C003-0-0.6	NEW BEDFORD, MA	12/08/09 12:12
L0917987-17	S-09S-C003-0.6-1.2	NEW BEDFORD, MA	12/08/09 12:12
L0917987-18	S-09O-C005-0-0.5	NEW BEDFORD, MA	12/08/09 12:50
L0917987-19	S-09O-C005-0.5-1.0	NEW BEDFORD, MA	12/08/09 12:50
L0917987-20	S-09S-C011-0-0.5	NEW BEDFORD, MA	12/08/09 11:09
L0917987-21	S-09S-C011-0.6-1.1	NEW BEDFORD, MA	12/08/09 11:09
L0917987-22	S-09S-C018-0-0.6	NEW BEDFORD, MA	12/08/09 10:25
L0917987-23	S-09S-C018-0.6-1.2	NEW BEDFORD, MA	12/08/09 10:25
L0917987-24	S-09O-C006-0-0.5	NEW BEDFORD, MA	12/08/09 10:42
L0917987-25	S-09O-C006-0.5-1.0	NEW BEDFORD, MA	12/08/09 10:42
L0917987-26	S-09O-C001-0.2-0.7	NEW BEDFORD, MA	12/10/09 09:02
L0917987-27	S-09O-C001-0.8-1.3	NEW BEDFORD, MA	12/10/09 09:02
L0917987-28	S-09O-C015-0-0.5	NEW BEDFORD, MA	12/10/09 09:19
L0917987-29	S-09O-C015-0.5-1.0	NEW BEDFORD, MA	12/10/09 09:19
L0917987-30	S-09O-C017-0-0.5	NEW BEDFORD, MA	12/10/09 09:49
L0917987-31	S-09O-C017-0.6-1.1	NEW BEDFORD, MA	12/10/09 09:40

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0917987-32	S-09O-C012-1.0-1.5	NEW BEDFORD, MA	12/10/09 10:00
L0917987-33	S-09O-C012-1.6-2.1	NEW BEDFORD, MA	12/10/09 10:00
L0917987-34	S-09O-C029-0.4-0.9	NEW BEDFORD, MA	12/10/09 10:25
L0917987-35	S-09O-C029-1.0-1.5	NEW BEDFORD, MA	12/10/09 10:25
L0917987-36	S-09S-C025-0-0.5	NEW BEDFORD, MA	12/10/09 10:45
L0917987-37	S-09S-C025-0.5-1.0	NEW BEDFORD, MA	12/10/09 10:45
L0917987-38	S-09S-C019-0-0.4	NEW BEDFORD, MA	12/10/09 11:05
L0917987-39	S-09S-C019-0.5-1.0	NEW BEDFORD, MA	12/10/09 11:05



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the one issued on February 01, 2010. Sample L0917987-27 was amended to remove a result that was reported in duplicate.

PCB Congeners by 8082

Samples L0917987-01 through -39, with the exception of samples -05, -09, -11, -29 and 35, have the surrogates diluted out.

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Case Narrative (continued)

The WG394192-5 MSD recoveries are outside the acceptance criteria for cl9-bz#206(125%); however, the associated LCS recoveries are within criteria. No further action was required.

The WG394387-2 LCS recoveries associated with L0917987-20 through -24 and L0917987-26 through 39 are outside the individual acceptance criteria for several compounds, but within the overall method allowances. The results of the associated sample(s) are reported; however, all results are considered to have a potentially high bias for cl2-bz#8(124%). In addition, the associated WG394387-3 LCSD RPD(s) are above the acceptance criteria for cl2-bz#8(41%).

The WG394387-4 MS/MSD recoveries were above the acceptance criteria for cl4-bz#52(124%),cl9-bz#206(126%); however, the associated LCS/LCSD recoveries were within criteria. The results of the sample utilized for the MS/MSD are considered to have a potentially high bias for these compounds.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/02/10

ORGANICS



PCBS



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-01
 Client ID: S-09S-C004-0-0.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 01:59
 Analyst: JR
 Percent Solids: 99%

Date Collected: 12/08/09 13:05
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI4-BZ#66	1870		ug/kg	131	100
CI5-BZ#118	1040		ug/kg	131	100
CI7-BZ#170	197		ug/kg	131	100
CI7-BZ#180	254		ug/kg	131	100
CI7-BZ#187	264		ug/kg	131	100
CI8-BZ#195	ND		ug/kg	131	100
CI9-BZ#206	ND		ug/kg	131	100
CI10-BZ#209	ND		ug/kg	131	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-01
 Client ID: S-09S-C004-0-0.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 01:59
 Analyst: JR
 Percent Solids: 99%

Date Collected: 12/08/09 13:05
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	1640		ug/kg	131	100
Cl5-BZ#101	1140		ug/kg	131	100
Cl5-BZ#105	260		ug/kg	131	100
Cl6-BZ#128	161		ug/kg	131	100
Cl6-BZ#138	657		ug/kg	131	100
Cl6-BZ#153	945		ug/kg	131	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-01 D
Client ID: S-09S-C004-0-0.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 06:53
Analyst: JR
Percent Solids: 99%

Date Collected: 12/08/09 13:05
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	4660		ug/kg	1310	1000
Cl3-BZ#18	8780		ug/kg	1310	1000
Cl4-BZ#52	11000		ug/kg	1310	1000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-01 D
Client ID: S-09S-C004-0-0.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 06:53
Analyst: JR
Percent Solids: 99%

Date Collected: 12/08/09 13:05
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	7600		ug/kg	1310	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-02
 Client ID: S-09S-C013-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 02:40
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 12:00
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	2420		ug/kg	135	100
CI7-BZ#180	354		ug/kg	135	100
CI7-BZ#187	654		ug/kg	135	100
CI8-BZ#195	ND		ug/kg	135	100
CI9-BZ#206	ND		ug/kg	135	100
CI10-BZ#209	ND		ug/kg	135	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-02
Client ID: S-09S-C013-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 02:40
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:00
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	2530		ug/kg	135	100
CI5-BZ#105	287		ug/kg	135	100
CI6-BZ#128	ND		ug/kg	135	100
CI6-BZ#138	608		ug/kg	135	100
CI7-BZ#170	265		ug/kg	135	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-02 D
Client ID: S-09S-C013-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 12:03
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:00
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	8170		ug/kg	2690	2000
Cl3-BZ#18	17900		ug/kg	2690	2000
Cl4-BZ#66	6950		ug/kg	2690	2000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-02 D
Client ID: S-09S-C013-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 12:03
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:00
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	16400		ug/kg	2690	2000
Cl4-BZ#44	6250		ug/kg	2690	2000
Cl4-BZ#52	34100		ug/kg	2690	2000
Cl6-BZ#153	5480		ug/kg	2690	2000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-03
 Client ID: S-09S-C006-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 03:21
 Analyst: JR
 Percent Solids: 99%

Date Collected: 12/08/09 09:32
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI7-BZ#170	204		ug/kg	133	100
CI7-BZ#180	276		ug/kg	133	100
CI7-BZ#187	636		ug/kg	133	100
CI8-BZ#195	ND		ug/kg	133	100
CI9-BZ#206	ND		ug/kg	133	100
CI10-BZ#209	ND		ug/kg	133	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-03
Client ID: S-09S-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 03:21
Analyst: JR
Percent Solids: 99%

Date Collected: 12/08/09 09:32
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	217		ug/kg	133	100
CI6-BZ#128	ND		ug/kg	133	100
CI6-BZ#138	387		ug/kg	133	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-03 D
Client ID: S-09S-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 08:15
Analyst: JR
Percent Solids: 99%

Date Collected: 12/08/09 09:32
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	4820		ug/kg	1330	1000
Cl3-BZ#18	9750		ug/kg	1330	1000
Cl4-BZ#66	8820		ug/kg	1330	1000
Cl5-BZ#118	5190		ug/kg	1330	1000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-03 D
Client ID: S-09S-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 08:15
Analyst: JR
Percent Solids: 99%

Date Collected: 12/08/09 09:32
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	8940		ug/kg	1330	1000
Cl4-BZ#44	6470		ug/kg	1330	1000
Cl4-BZ#52	18800		ug/kg	1330	1000
Cl5-BZ#101	7520		ug/kg	1330	1000
Cl6-BZ#153	5070		ug/kg	1330	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-04
 Client ID: S-09S-C012-0-0.6
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 04:02
 Analyst: JR
 Percent Solids: 99%

Date Collected: 12/08/09 10:00
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	688		ug/kg	133	100
CI3-BZ#18	1070		ug/kg	133	100
CI4-BZ#66	690		ug/kg	133	100
CI5-BZ#118	316		ug/kg	133	100
CI6-BZ#128	ND		ug/kg	133	100
CI6-BZ#138	249		ug/kg	133	100
CI7-BZ#170	ND		ug/kg	133	100
CI7-BZ#180	ND		ug/kg	133	100
CI7-BZ#187	ND		ug/kg	133	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-04
 Client ID: S-09S-C012-0-0.6
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 04:02
 Analyst: JR
 Percent Solids: 99%

Date Collected: 12/08/09 10:00
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	1620		ug/kg	133	100
CI4-BZ#44	608		ug/kg	133	100
CI4-BZ#52	2110		ug/kg	133	100
CI5-BZ#101	378		ug/kg	133	100
CI5-BZ#105	ND		ug/kg	133	100
CI6-BZ#153	286		ug/kg	133	100
CI8-BZ#195	ND		ug/kg	133	100
CI9-BZ#206	ND		ug/kg	133	100
CI10-BZ#209	ND		ug/kg	133	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH**Lab Number:** L0917987**Project Number:** T0-0010-001C**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID: L0917987-05
Client ID: S-09S-C012-0.7-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 00:20
Analyst: JR
Percent Solids: 99%

Date Collected: 12/08/09 10:00
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	25.5		ug/kg	1.33	1
CI4-BZ#66	10.6		ug/kg	1.33	1
CI7-BZ#170	ND		ug/kg	1.33	1
CI7-BZ#180	ND		ug/kg	1.33	1
CI8-BZ#195	ND		ug/kg	1.33	1
CI9-BZ#206	ND		ug/kg	1.33	1
CI10-BZ#209	ND		ug/kg	1.33	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	114		50-125
BZ 198	88		50-125



02021010:58

Project Name: T0-0010 NBH**Lab Number:** L0917987**Project Number:** T0-0010-001C**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID: L0917987-05
 Client ID: S-09S-C012-0.7-1.3
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 00:20
 Analyst: JR
 Percent Solids: 99%

Date Collected: 12/08/09 10:00
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	15.6		ug/kg	1.33	1
Cl4-BZ#44	13.5		ug/kg	1.33	1
Cl5-BZ#101	8.54		ug/kg	1.33	1
Cl5-BZ#105	ND		ug/kg	1.33	1
Cl5-BZ#118	5.67		ug/kg	1.33	1
Cl6-BZ#128	ND		ug/kg	1.33	1
Cl6-BZ#138	2.52		ug/kg	1.33	1
Cl6-BZ#153	2.85		ug/kg	1.33	1
Cl7-BZ#187	1.48		ug/kg	1.33	1

DBOB	114	50-125
BZ 198	88	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-05 D
Client ID: S-09S-C012-0.7-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/15/10 23:05
Analyst: JR
Percent Solids: 99%

Date Collected: 12/08/09 10:00
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	32.6		ug/kg	6.65	5
Cl4-BZ#52	47.5		ug/kg	6.65	5



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Project Name: T0-0010 NBH**Lab Number:** L0917987**Project Number:** T0-0010-001C**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID: L0917987-06
 Client ID: S-09S-C007-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 07:27
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/08/09 09:49
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	2340		ug/kg	133	100
CI7-BZ#170	416		ug/kg	133	100
CI7-BZ#180	555		ug/kg	133	100
CI7-BZ#187	1050		ug/kg	133	100
CI9-BZ#206	152		ug/kg	133	100
CI10-BZ#209	ND		ug/kg	133	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-06
Client ID: S-09S-C007-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 07:27
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 09:49
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	448		ug/kg	133	100
CI6-BZ#128	203		ug/kg	133	100
CI6-BZ#138	998		ug/kg	133	100
CI6-BZ#153	3140		ug/kg	133	100
CI8-BZ#195	ND		ug/kg	133	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-06 D
Client ID: S-09S-C007-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/15/10 18:19
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 09:49
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	19400		ug/kg	2670	2000
Cl3-BZ#18	42300		ug/kg	2670	2000
Cl4-BZ#52	50700		ug/kg	2670	2000
Cl4-BZ#66	14000		ug/kg	2670	2000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-06 D
Client ID: S-09S-C007-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/15/10 18:19
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 09:49
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	33900		ug/kg	2670	2000
Cl4-BZ#44	14000		ug/kg	2670	2000
Cl5-BZ#101	6130		ug/kg	2670	2000



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Project Name: T0-0010 NBH**Lab Number:** L0917987**Project Number:** T0-0010-001C**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID: L0917987-07
Client ID: S-09S-C007-0.5-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 08:08
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 09:49
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	1070		ug/kg	135	100
CI7-BZ#180	294		ug/kg	135	100
CI7-BZ#187	701		ug/kg	135	100
CI8-BZ#195	ND		ug/kg	135	100
CI10-BZ#209	ND		ug/kg	135	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-07
Client ID: S-09S-C007-0.5-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 08:08
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 09:49
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	2000		ug/kg	135	100
CI5-BZ#105	218		ug/kg	135	100
CI6-BZ#128	ND		ug/kg	135	100
CI6-BZ#138	479		ug/kg	135	100
CI6-BZ#153	1820		ug/kg	135	100
CI7-BZ#170	234		ug/kg	135	100
CI9-BZ#206	ND		ug/kg	135	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-07 D
Client ID: S-09S-C007-0.5-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/15/10 19:00
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 09:49
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	17800		ug/kg	2710	2000
Cl3-BZ#18	40400		ug/kg	2710	2000
Cl4-BZ#66	10900		ug/kg	2710	2000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-07 D
Client ID: S-09S-C007-0.5-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/15/10 19:00
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 09:49
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	26800		ug/kg	2710	2000
Cl4-BZ#44	9190		ug/kg	2710	2000
Cl4-BZ#52	38600		ug/kg	2710	2000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-08
 Client ID: S-09S-C008-0.3-0.8
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 08:49
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/08/09 10:08
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1950		ug/kg	133	100
Cl4-BZ#66	1900		ug/kg	133	100
Cl5-BZ#118	625		ug/kg	133	100
Cl7-BZ#170	ND		ug/kg	133	100
Cl7-BZ#180	134		ug/kg	133	100
Cl7-BZ#187	255		ug/kg	133	100
Cl8-BZ#195	ND		ug/kg	133	100
Cl10-BZ#209	ND		ug/kg	133	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-08
Client ID: S-09S-C008-0.3-0.8
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 08:49
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 10:08
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	2080		ug/kg	133	100
Cl5-BZ#101	1060		ug/kg	133	100
Cl5-BZ#105	134		ug/kg	133	100
Cl6-BZ#128	ND		ug/kg	133	100
Cl6-BZ#138	282		ug/kg	133	100
Cl6-BZ#153	830		ug/kg	133	100
Cl9-BZ#206	ND		ug/kg	133	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-08 D
Client ID: S-09S-C008-0.3-0.8
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 13:43
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 10:08
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	6010		ug/kg	1330	1000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-08 D
Client ID: S-09S-C008-0.3-0.8
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 13:43
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 10:08
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	5040		ug/kg	1330	1000
Cl4-BZ#52	8810		ug/kg	1330	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-09
 Client ID: S-09S-C008-0.8-1.4
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 01:01
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/08/09 10:08
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	11.7		ug/kg	1.35	1
CI4-BZ#52	23.4		ug/kg	1.35	1
CI5-BZ#105	ND		ug/kg	1.35	1
CI6-BZ#128	ND		ug/kg	1.35	1
CI7-BZ#170	ND		ug/kg	1.35	1
CI7-BZ#180	ND		ug/kg	1.35	1
CI8-BZ#195	ND		ug/kg	1.35	1
CI9-BZ#206	ND		ug/kg	1.35	1
CI10-BZ#209	ND		ug/kg	1.35	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	97		50-125
BZ 198	80		50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-09
 Client ID: S-09S-C008-0.8-1.4
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 01:01
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/08/09 10:08
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	9.71		ug/kg	1.35	1
Cl3-BZ#28	16.2		ug/kg	1.35	1
Cl4-BZ#44	9.24		ug/kg	1.35	1
Cl4-BZ#66	7.30		ug/kg	1.35	1
Cl5-BZ#101	4.85		ug/kg	1.35	1
Cl5-BZ#118	2.44		ug/kg	1.35	1
Cl6-BZ#138	ND		ug/kg	1.35	1
Cl6-BZ#153	1.45		ug/kg	1.35	1
Cl7-BZ#187	ND		ug/kg	1.35	1

DBOB	97	50-125
BZ 198	80	50-125



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-10
 Client ID: S-09S-C007-0.4-0.9
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 10:11
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/08/09 11:25
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI4-BZ#66	20.2		ug/kg	1.35	1
CI5-BZ#118	6.84		ug/kg	1.35	1
CI7-BZ#170	ND		ug/kg	1.35	1
CI7-BZ#180	1.47		ug/kg	1.35	1
CI7-BZ#187	2.85		ug/kg	1.35	1
CI8-BZ#195	ND		ug/kg	1.35	1
CI9-BZ#206	ND		ug/kg	1.35	1
CI10-BZ#209	ND		ug/kg	1.35	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH

Lab Number: L0917987

Project Number: T0-0010-001C

Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-10
 Client ID: S-09S-C007-0.4-0.9
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 10:11
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/08/09 11:25
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:10
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	25.7		ug/kg	1.35	1
Cl4-BZ#44	23.0		ug/kg	1.35	1
Cl5-BZ#101	11.7		ug/kg	1.35	1
Cl5-BZ#105	1.47		ug/kg	1.35	1
Cl6-BZ#128	ND		ug/kg	1.35	1
Cl6-BZ#138	3.18		ug/kg	1.35	1
Cl6-BZ#153	8.88		ug/kg	1.35	1

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-10 D
Client ID: S-09S-C007-0.4-0.9
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 15:04
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 11:25
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	8330		ug/kg	1350	1000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-10 D
Client ID: S-09S-C007-0.4-0.9
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 15:04
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 11:25
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	6590		ug/kg	1350	1000
Cl4-BZ#52	11000		ug/kg	1350	1000



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Project Name: T0-0010 NBH**Lab Number:** L0917987**Project Number:** T0-0010-001C**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID: L0917987-11
Client ID: S-09S-C007-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 01:42
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:25
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI7-BZ#170	ND		ug/kg	1.32	1
CI7-BZ#180	ND		ug/kg	1.32	1
CI8-BZ#195	ND		ug/kg	1.32	1
CI9-BZ#206	ND		ug/kg	1.32	1
CI10-BZ#209	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	106		50-125
BZ 198	85		50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-11
Client ID: S-09S-C007-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 01:42
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:25
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	17.9		ug/kg	1.32	1
Cl4-BZ#66	11.1		ug/kg	1.32	1
Cl5-BZ#101	7.90		ug/kg	1.32	1
Cl5-BZ#105	ND		ug/kg	1.32	1
Cl5-BZ#118	4.23		ug/kg	1.32	1
Cl6-BZ#128	ND		ug/kg	1.32	1
Cl6-BZ#138	1.87		ug/kg	1.32	1
Cl6-BZ#153	2.78		ug/kg	1.32	1
Cl7-BZ#187	1.77		ug/kg	1.32	1

DBOB	106	50-125
BZ 198	85	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-11 D
Client ID: S-09S-C007-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 00:27
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:25
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	46.7		ug/kg	13.2	10



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-11 D
Client ID: S-09S-C007-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 00:27
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:25
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	32.5		ug/kg	13.2	10
Cl3-BZ#28	56.1		ug/kg	13.2	10
Cl4-BZ#52	72.9		ug/kg	13.2	10



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Project Name: T0-0010 NBH**Lab Number:** L0917987**Project Number:** T0-0010-001C**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID: L0917987-12
Client ID: S-09O-C008-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 11:33
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 11:40
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI7-BZ#170	681		ug/kg	136	100
CI7-BZ#180	890		ug/kg	136	100
CI7-BZ#187	2460		ug/kg	136	100
CI9-BZ#206	312		ug/kg	136	100
CI10-BZ#209	ND		ug/kg	136	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-12
Client ID: S-09O-C008-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 11:33
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 11:40
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	764		ug/kg	136	100
CI6-BZ#128	258		ug/kg	136	100
CI6-BZ#138	1490		ug/kg	136	100
CI8-BZ#195	ND		ug/kg	136	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-12 D
Client ID: S-09O-C008-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/15/10 19:41
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 11:40
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	55900		ug/kg	13600	10000
Cl3-BZ#18	91400		ug/kg	13600	10000
Cl4-BZ#52	171000		ug/kg	13600	10000
Cl4-BZ#66	45400		ug/kg	13600	10000
Cl5-BZ#118	ND		ug/kg	13600	10000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-12 D
Client ID: S-09O-C008-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/15/10 19:41
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 11:40
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	85500		ug/kg	13600	10000
Cl4-BZ#44	45300		ug/kg	13600	10000
Cl5-BZ#101	18700		ug/kg	13600	10000
Cl6-BZ#153	18100		ug/kg	13600	10000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-13
 Client ID: S-09O-C008-0.9-1.4
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 12:13
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 11:40
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:51
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	1620		ug/kg	133	100
CI7-BZ#170	307		ug/kg	133	100
CI7-BZ#180	412		ug/kg	133	100
CI7-BZ#187	642		ug/kg	133	100
CI8-BZ#195	ND		ug/kg	133	100
CI9-BZ#206	ND		ug/kg	133	100
CI10-BZ#209	ND		ug/kg	133	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-13
Client ID: S-09O-C008-0.9-1.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 12:13
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:40
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	2420		ug/kg	133	100
CI5-BZ#105	348		ug/kg	133	100
CI6-BZ#128	191		ug/kg	133	100
CI6-BZ#138	842		ug/kg	133	100
CI6-BZ#153	2200		ug/kg	133	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-13 D
Client ID: S-09O-C008-0.9-1.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 12:44
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:40
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	9130		ug/kg	2650	2000
Cl3-BZ#18	21200		ug/kg	2650	2000
Cl4-BZ#66	7040		ug/kg	2650	2000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-13 D
Client ID: S-09O-C008-0.9-1.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 12:44
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:40
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	18800		ug/kg	2650	2000
Cl4-BZ#44	8070		ug/kg	2650	2000
Cl4-BZ#52	28300		ug/kg	2650	2000



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Project Name: T0-0010 NBH**Lab Number:** L0917987**Project Number:** T0-0010-001C**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID: L0917987-14
 Client ID: S-09S-C002-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 12:54
 Analyst: JR
 Percent Solids: 96%

Date Collected: 12/08/09 12:30
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:51
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	2740		ug/kg	138	100
CI7-BZ#170	488		ug/kg	138	100
CI7-BZ#180	634		ug/kg	138	100
CI7-BZ#187	1200		ug/kg	138	100
CI9-BZ#206	168		ug/kg	138	100
CI10-BZ#209	ND		ug/kg	138	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-14
Client ID: S-09S-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 12:54
Analyst: JR
Percent Solids: 96%

Date Collected: 12/08/09 12:30
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl5-BZ#105	531		ug/kg	138	100
Cl6-BZ#128	236		ug/kg	138	100
Cl6-BZ#138	1160		ug/kg	138	100
Cl8-BZ#195	ND		ug/kg	138	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-14 D
Client ID: S-09S-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 13:25
Analyst: JR
Percent Solids: 96%

Date Collected: 12/08/09 12:30
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	17600		ug/kg	2760	2000
Cl3-BZ#18	34400		ug/kg	2760	2000
Cl4-BZ#52	54700		ug/kg	2760	2000
Cl4-BZ#66	15000		ug/kg	2760	2000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-14 D
Client ID: S-09S-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 13:25
Analyst: JR
Percent Solids: 96%

Date Collected: 12/08/09 12:30
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	31100		ug/kg	2760	2000
Cl4-BZ#44	17000		ug/kg	2760	2000
Cl5-BZ#101	7740		ug/kg	2760	2000
Cl6-BZ#153	7090		ug/kg	2760	2000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-15
Client ID: S-09S-C002-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 13:35
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 12:30
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	1120		ug/kg	135	100
CI7-BZ#170	185		ug/kg	135	100
CI7-BZ#180	241		ug/kg	135	100
CI7-BZ#187	426		ug/kg	135	100
CI8-BZ#195	ND		ug/kg	135	100
CI9-BZ#206	ND		ug/kg	135	100
CI10-BZ#209	ND		ug/kg	135	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-15
Client ID: S-09S-C002-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 13:35
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 12:30
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	1820		ug/kg	135	100
CI5-BZ#105	174		ug/kg	135	100
CI6-BZ#128	ND		ug/kg	135	100
CI6-BZ#138	411		ug/kg	135	100
CI6-BZ#153	1600		ug/kg	135	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-15 D
Client ID: S-09S-C002-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 18:29
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 12:30
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	10900		ug/kg	1350	1000
Cl3-BZ#18	21600		ug/kg	1350	1000
Cl4-BZ#66	5100		ug/kg	1350	1000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-15 D
Client ID: S-09S-C002-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 18:29
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 12:30
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	12900		ug/kg	1350	1000
Cl4-BZ#44	6220		ug/kg	1350	1000
Cl4-BZ#52	19500		ug/kg	1350	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-16
 Client ID: S-09S-C003-0-0.6
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 16:19
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 12:12
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:51
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	1900		ug/kg	135	100
CI7-BZ#170	431		ug/kg	135	100
CI7-BZ#180	577		ug/kg	135	100
CI7-BZ#187	1380		ug/kg	135	100
CI9-BZ#206	182		ug/kg	135	100
CI10-BZ#209	ND		ug/kg	135	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-16
Client ID: S-09S-C003-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 16:19
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:12
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	462		ug/kg	135	100
CI6-BZ#128	175		ug/kg	135	100
CI6-BZ#138	906		ug/kg	135	100
CI8-BZ#195	ND		ug/kg	135	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-16 D
Client ID: S-09S-C003-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/15/10 20:22
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:12
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	24400		ug/kg	6730	5000
Cl3-BZ#18	38400		ug/kg	6730	5000
Cl4-BZ#52	69800		ug/kg	6730	5000
Cl4-BZ#66	18200		ug/kg	6730	5000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-16 D
Client ID: S-09S-C003-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/15/10 20:22
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:12
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	37900		ug/kg	6730	5000
Cl4-BZ#44	20200		ug/kg	6730	5000
Cl5-BZ#101	8020		ug/kg	6730	5000
Cl6-BZ#153	7490		ug/kg	6730	5000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-17
 Client ID: S-09S-C003-0.6-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 17:00
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 12:12
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:51
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2580		ug/kg	132	100
Cl4-BZ#66	1820		ug/kg	132	100
Cl5-BZ#118	456		ug/kg	132	100
Cl7-BZ#170	ND		ug/kg	132	100
Cl7-BZ#180	ND		ug/kg	132	100
Cl7-BZ#187	266		ug/kg	132	100
Cl8-BZ#195	ND		ug/kg	132	100
Cl10-BZ#209	ND		ug/kg	132	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-17
Client ID: S-09S-C003-0.6-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 17:00
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:12
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	2220		ug/kg	132	100
Cl5-BZ#101	951		ug/kg	132	100
Cl5-BZ#105	ND		ug/kg	132	100
Cl6-BZ#128	ND		ug/kg	132	100
Cl6-BZ#138	187		ug/kg	132	100
Cl6-BZ#153	763		ug/kg	132	100
Cl9-BZ#206	ND		ug/kg	132	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-17 D
Client ID: S-09S-C003-0.6-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 19:51
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:12
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	8680		ug/kg	1320	1000
Cl4-BZ#52	10700		ug/kg	1320	1000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-17 D
Client ID: S-09S-C003-0.6-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 19:51
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:12
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	6170		ug/kg	1320	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-18
 Client ID: S-09O-C005-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 17:41
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/08/09 12:50
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:51
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	2630		ug/kg	135	100
CI7-BZ#170	426		ug/kg	135	100
CI7-BZ#180	576		ug/kg	135	100
CI7-BZ#187	697		ug/kg	135	100
CI9-BZ#206	ND		ug/kg	135	100
CI10-BZ#209	ND		ug/kg	135	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-18
Client ID: S-09O-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 17:41
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 12:50
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl5-BZ#105	670		ug/kg	135	100
Cl6-BZ#128	258		ug/kg	135	100
Cl6-BZ#138	1250		ug/kg	135	100
Cl6-BZ#153	2070		ug/kg	135	100
Cl8-BZ#195	ND		ug/kg	135	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-18 D
Client ID: S-09O-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 14:06
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 12:50
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	28400		ug/kg	2700	2000
Cl3-BZ#18	46500		ug/kg	2700	2000
Cl4-BZ#66	14800		ug/kg	2700	2000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-18 D
Client ID: S-09O-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 14:06
Analyst: JR
Percent Solids: 97%

Date Collected: 12/08/09 12:50
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	33500		ug/kg	2700	2000
Cl4-BZ#44	15600		ug/kg	2700	2000
Cl4-BZ#52	38400		ug/kg	2700	2000
Cl5-BZ#101	7060		ug/kg	2700	2000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-19
 Client ID: S-09O-C005-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/10/10 18:22
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 12:50
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:51
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	875		ug/kg	135	100
CI7-BZ#170	214		ug/kg	135	100
CI7-BZ#180	295		ug/kg	135	100
CI7-BZ#187	400		ug/kg	135	100
CI8-BZ#195	ND		ug/kg	135	100
CI9-BZ#206	ND		ug/kg	135	100
CI10-BZ#209	ND		ug/kg	135	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-19
Client ID: S-09O-C005-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/10/10 18:22
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:50
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	1710		ug/kg	135	100
CI5-BZ#105	228		ug/kg	135	100
CI6-BZ#128	ND		ug/kg	135	100
CI6-BZ#138	509		ug/kg	135	100
CI6-BZ#153	1280		ug/kg	135	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-19 D
Client ID: S-09O-C005-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 23:16
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:50
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	13400		ug/kg	1350	1000
Cl3-BZ#18	18900		ug/kg	1350	1000
Cl4-BZ#52	19000		ug/kg	1350	1000
Cl4-BZ#66	5380		ug/kg	1350	1000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-19 D
Client ID: S-09O-C005-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/09/10 23:16
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 12:50
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:51
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	15600		ug/kg	1350	1000
Cl4-BZ#44	7080		ug/kg	1350	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-20
 Client ID: S-09S-C011-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/13/10 04:40
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 11:09
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2460		ug/kg	136	100
Cl4-BZ#66	2480		ug/kg	136	100
Cl5-BZ#118	905		ug/kg	136	100
Cl7-BZ#170	169		ug/kg	136	100
Cl7-BZ#180	222		ug/kg	136	100
Cl7-BZ#187	379		ug/kg	136	100
Cl8-BZ#195	ND		ug/kg	136	100
Cl9-BZ#206	ND		ug/kg	136	100
Cl10-BZ#209	ND		ug/kg	136	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-20
Client ID: S-09S-C011-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/13/10 04:40
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:09
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	1430		ug/kg	136	100
CI5-BZ#105	199		ug/kg	136	100
CI6-BZ#128	ND		ug/kg	136	100
CI6-BZ#138	444		ug/kg	136	100
CI6-BZ#153	1160		ug/kg	136	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-20 D
Client ID: S-09S-C011-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/12/10 19:47
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:09
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	10600		ug/kg	1360	1000
Cl4-BZ#52	16700		ug/kg	1360	1000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-20 D
Client ID: S-09S-C011-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/12/10 19:47
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:09
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	8640		ug/kg	1360	1000
Cl4-BZ#44	4990		ug/kg	1360	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-21
 Client ID: S-09S-C011-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 11:22
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 11:09
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	123		ug/kg	13.6	10
Cl3-BZ#18	256		ug/kg	13.6	10
Cl4-BZ#66	104		ug/kg	13.6	10
Cl5-BZ#118	33.8		ug/kg	13.6	10
Cl7-BZ#170	ND		ug/kg	13.6	10
Cl7-BZ#180	ND		ug/kg	13.6	10
Cl7-BZ#187	18.7		ug/kg	13.6	10
Cl8-BZ#195	ND		ug/kg	13.6	10
Cl9-BZ#206	ND		ug/kg	13.6	10
Cl10-BZ#209	ND		ug/kg	13.6	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH

Lab Number: L0917987

Project Number: T0-0010-001C

Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-21
 Client ID: S-09S-C011-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 11:22
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 11:09
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	250		ug/kg	13.6	10
Cl4-BZ#44	128		ug/kg	13.6	10
Cl5-BZ#101	59.9		ug/kg	13.6	10
Cl5-BZ#105	ND		ug/kg	13.6	10
Cl6-BZ#128	ND		ug/kg	13.6	10
Cl6-BZ#138	15.7		ug/kg	13.6	10
Cl6-BZ#153	32.8		ug/kg	13.6	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-21 D
Client ID: S-09S-C011-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/13/10 05:21
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 11:09
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	757		ug/kg	136	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-22
 Client ID: S-09S-C018-0-0.6
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/13/10 06:02
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 10:25
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	1510		ug/kg	135	100
CI7-BZ#170	254		ug/kg	135	100
CI7-BZ#180	339		ug/kg	135	100
CI7-BZ#187	463		ug/kg	135	100
CI9-BZ#206	ND		ug/kg	135	100
CI10-BZ#209	ND		ug/kg	135	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-22
Client ID: S-09S-C018-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/13/10 06:02
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 10:25
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	2110		ug/kg	135	100
CI5-BZ#105	279		ug/kg	135	100
CI6-BZ#128	153		ug/kg	135	100
CI6-BZ#138	715		ug/kg	135	100
CI6-BZ#153	1820		ug/kg	135	100
CI8-BZ#195	ND		ug/kg	135	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-22 D
Client ID: S-09S-C018-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/12/10 21:09
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 10:25
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	6210		ug/kg	1350	1000
Cl3-BZ#18	14900		ug/kg	1350	1000
Cl4-BZ#52	20600		ug/kg	1350	1000
Cl4-BZ#66	6540		ug/kg	1350	1000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-22 D
Client ID: S-09S-C018-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/12/10 21:09
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 10:25
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	12600		ug/kg	1350	1000
Cl4-BZ#44	6830		ug/kg	1350	1000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-23
 Client ID: S-09S-C018-0.6-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 14:47
 Analyst: JR
 Percent Solids: 99%

Date Collected: 12/08/09 10:25
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	90.9		ug/kg	13.4	10
Cl3-BZ#18	145		ug/kg	13.4	10
Cl4-BZ#66	111		ug/kg	13.4	10
Cl5-BZ#118	48.0		ug/kg	13.4	10
Cl7-BZ#170	ND		ug/kg	13.4	10
Cl7-BZ#187	14.8		ug/kg	13.4	10
Cl8-BZ#195	ND		ug/kg	13.4	10
Cl9-BZ#206	ND		ug/kg	13.4	10
Cl10-BZ#209	ND		ug/kg	13.4	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH

Lab Number: L0917987

Project Number: T0-0010-001C

Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-23
 Client ID: S-09S-C018-0.6-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 14:47
 Analyst: JR
 Percent Solids: 99%

Date Collected: 12/08/09 10:25
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	243		ug/kg	13.4	10
CI4-BZ#44	131		ug/kg	13.4	10
CI5-BZ#101	70.6		ug/kg	13.4	10
CI5-BZ#105	ND		ug/kg	13.4	10
CI6-BZ#128	ND		ug/kg	13.4	10
CI6-BZ#138	21.6		ug/kg	13.4	10
CI6-BZ#153	33.8		ug/kg	13.4	10
CI7-BZ#180	ND		ug/kg	13.4	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-23 D
Client ID: S-09S-C018-0.6-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/13/10 06:43
Analyst: JR
Percent Solids: 99%

Date Collected: 12/08/09 10:25
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	571		ug/kg	134	100



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-24
 Client ID: S-09O-C006-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/13/10 07:23
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 10:42
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI4-BZ#66	2650		ug/kg	135	100
CI5-BZ#118	881		ug/kg	135	100
CI7-BZ#170	154		ug/kg	135	100
CI7-BZ#180	213		ug/kg	135	100
CI7-BZ#187	243		ug/kg	135	100
CI8-BZ#195	ND		ug/kg	135	100
CI10-BZ#209	ND		ug/kg	135	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-24
Client ID: S-09O-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/13/10 07:23
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 10:42
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	1310		ug/kg	135	100
CI5-BZ#105	258		ug/kg	135	100
CI6-BZ#128	ND		ug/kg	135	100
CI6-BZ#138	518		ug/kg	135	100
CI6-BZ#153	693		ug/kg	135	100
CI9-BZ#206	ND		ug/kg	135	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-24 D
Client ID: S-09O-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/12/10 22:31
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 10:42
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	9570		ug/kg	1350	1000
Cl3-BZ#18	15600		ug/kg	1350	1000
Cl4-BZ#52	12800		ug/kg	1350	1000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-24 D
Client ID: S-09O-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/12/10 22:31
Analyst: JR
Percent Solids: 98%

Date Collected: 12/08/09 10:42
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	11400		ug/kg	1350	1000
Cl4-BZ#44	4910		ug/kg	1350	1000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-25
 Client ID: S-09O-C006-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 01:08
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 10:42
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:51
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	129		ug/kg	26.8	20
Cl3-BZ#18	220		ug/kg	26.8	20
Cl4-BZ#66	70.1		ug/kg	26.8	20
Cl6-BZ#128	ND		ug/kg	26.8	20
Cl7-BZ#170	ND		ug/kg	26.8	20
Cl7-BZ#180	ND		ug/kg	26.8	20
Cl7-BZ#187	ND		ug/kg	26.8	20
Cl8-BZ#195	ND		ug/kg	26.8	20
Cl9-BZ#206	ND		ug/kg	26.8	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-25
 Client ID: S-09O-C006-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 01:08
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/08/09 10:42
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/21/09 12:51
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	185		ug/kg	26.8	20
Cl4-BZ#44	88.0		ug/kg	26.8	20
Cl4-BZ#52	229		ug/kg	26.8	20
Cl5-BZ#101	33.8		ug/kg	26.8	20
Cl5-BZ#105	ND		ug/kg	26.8	20
Cl5-BZ#118	ND		ug/kg	26.8	20
Cl6-BZ#138	ND		ug/kg	26.8	20
Cl6-BZ#153	ND		ug/kg	26.8	20
Cl10-BZ#209	ND		ug/kg	26.8	20

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-26
 Client ID: S-09O-C001-0.2-0.7
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/13/10 08:04
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 09:02
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	1910		ug/kg	136	100
CI7-BZ#170	336		ug/kg	136	100
CI7-BZ#180	468		ug/kg	136	100
CI7-BZ#187	599		ug/kg	136	100
CI9-BZ#206	ND		ug/kg	136	100
CI10-BZ#209	ND		ug/kg	136	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-26
Client ID: S-09O-C001-0.2-0.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/13/10 08:04
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 09:02
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	2440		ug/kg	136	100
CI5-BZ#105	357		ug/kg	136	100
CI6-BZ#128	187		ug/kg	136	100
CI6-BZ#138	849		ug/kg	136	100
CI6-BZ#153	2050		ug/kg	136	100
CI8-BZ#195	ND		ug/kg	136	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-26 D
Client ID: S-09O-C001-0.2-0.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/12/10 23:12
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 09:02
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	8290		ug/kg	1360	1000
Cl3-BZ#18	10500		ug/kg	1360	1000
Cl4-BZ#52	26900		ug/kg	1360	1000
Cl4-BZ#66	6900		ug/kg	1360	1000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-26 D
Client ID: S-09O-C001-0.2-0.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/12/10 23:12
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 09:02
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	12700		ug/kg	1360	1000
Cl4-BZ#44	7310		ug/kg	1360	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-27
 Client ID: S-09O-C001-0.8-1.3
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 15:28
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 09:02
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	408		ug/kg	67.6	50
Cl3-BZ#18	1240		ug/kg	67.6	50
Cl4-BZ#66	690		ug/kg	67.6	50
Cl5-BZ#118	469		ug/kg	67.6	50
Cl7-BZ#170	75.6		ug/kg	67.6	50
Cl7-BZ#180	100		ug/kg	67.6	50
Cl7-BZ#187	110		ug/kg	67.6	50
Cl8-BZ#195	ND		ug/kg	67.6	50
Cl10-BZ#209	ND		ug/kg	67.6	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH**Lab Number:** L0917987**Project Number:** T0-0010-001C**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID: L0917987-27
 Client ID: S-09O-C001-0.8-1.3
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 15:28
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 09:02
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	769		ug/kg	67.6	50
Cl4-BZ#44	670		ug/kg	67.6	50
Cl5-BZ#101	641		ug/kg	67.6	50
Cl5-BZ#105	74.0		ug/kg	67.6	50
Cl6-BZ#128	ND		ug/kg	67.6	50
Cl6-BZ#138	220		ug/kg	67.6	50
Cl6-BZ#153	424		ug/kg	67.6	50
Cl9-BZ#206	ND		ug/kg	67.6	50

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-27 D
Client ID: S-09O-C001-0.8-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/12/10 23:53
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 09:02
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	6030		ug/kg	1350	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-28
 Client ID: S-09O-C015-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 16:09
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 09:19
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	660		ug/kg	67.3	50
Cl4-BZ#66	669		ug/kg	67.3	50
Cl5-BZ#118	334		ug/kg	67.3	50
Cl7-BZ#170	67.6		ug/kg	67.3	50
Cl7-BZ#180	89.5		ug/kg	67.3	50
Cl7-BZ#187	114		ug/kg	67.3	50
Cl8-BZ#195	ND		ug/kg	67.3	50
Cl9-BZ#206	ND		ug/kg	67.3	50
Cl10-BZ#209	ND		ug/kg	67.3	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-28
 Client ID: S-09O-C015-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 16:09
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 09:19
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	1260		ug/kg	67.3	50
Cl4-BZ#44	743		ug/kg	67.3	50
Cl5-BZ#101	505		ug/kg	67.3	50
Cl5-BZ#105	75.0		ug/kg	67.3	50
Cl6-BZ#128	ND		ug/kg	67.3	50
Cl6-BZ#138	189		ug/kg	67.3	50
Cl6-BZ#153	337		ug/kg	67.3	50

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-28 D
Client ID: S-09O-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/13/10 00:34
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 09:19
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	2750		ug/kg	1350	1000
Cl4-BZ#52	5710		ug/kg	1350	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-29
 Client ID: S-09O-C015-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 18:12
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 09:19
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	3.62		ug/kg	1.35	1
CI4-BZ#66	ND		ug/kg	1.35	1
CI5-BZ#118	ND		ug/kg	1.35	1
CI6-BZ#153	ND		ug/kg	1.35	1
CI7-BZ#170	ND		ug/kg	1.35	1
CI7-BZ#180	ND		ug/kg	1.35	1
CI7-BZ#187	ND		ug/kg	1.35	1
CI8-BZ#195	ND		ug/kg	1.35	1
CI9-BZ#206	ND		ug/kg	1.35	1
CI10-BZ#209	ND		ug/kg	1.35	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	81		50-125
BZ 198	90		50-125

02021010:58

Project Name: T0-0010 NBH**Lab Number:** L0917987**Project Number:** T0-0010-001C**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID: L0917987-29
 Client ID: S-09O-C015-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 18:12
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 09:19
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2.98		ug/kg	1.35	1
Cl3-BZ#28	3.25		ug/kg	1.35	1
Cl4-BZ#44	1.39		ug/kg	1.35	1
Cl4-BZ#52	3.86		ug/kg	1.35	1
Cl5-BZ#101	ND		ug/kg	1.35	1
Cl5-BZ#105	ND		ug/kg	1.35	1
Cl6-BZ#128	ND		ug/kg	1.35	1
Cl6-BZ#138	ND		ug/kg	1.35	1

DBOB	81	50-125
BZ 198	90	50-125



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-30
 Client ID: S-09O-C017-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 09:03
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 09:40
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	172		ug/kg	27.1	20
Cl4-BZ#66	119		ug/kg	27.1	20
Cl7-BZ#170	ND		ug/kg	27.1	20
Cl7-BZ#180	ND		ug/kg	27.1	20
Cl7-BZ#187	ND		ug/kg	27.1	20
Cl8-BZ#195	ND		ug/kg	27.1	20
Cl10-BZ#209	ND		ug/kg	27.1	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-30
 Client ID: S-09O-C017-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 09:03
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 09:40
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:33
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	160		ug/kg	27.1	20
Cl3-BZ#28	290		ug/kg	27.1	20
Cl4-BZ#44	166		ug/kg	27.1	20
Cl4-BZ#52	487		ug/kg	27.1	20
Cl5-BZ#101	84.1		ug/kg	27.1	20
Cl5-BZ#105	ND		ug/kg	27.1	20
Cl5-BZ#118	52.8		ug/kg	27.1	20
Cl6-BZ#128	ND		ug/kg	27.1	20
Cl6-BZ#138	35.9		ug/kg	27.1	20
Cl6-BZ#153	44.0		ug/kg	27.1	20
Cl9-BZ#206	ND		ug/kg	27.1	20
DBOB	0	Q		50-125	
BZ 198	0	Q		50-125	



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-31
 Client ID: S-09O-C017-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 19:33
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/10/09 09:40
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:34
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	45.3		ug/kg	13.7	10
CI3-BZ#18	82.6		ug/kg	13.7	10
CI4-BZ#66	40.0		ug/kg	13.7	10
CI5-BZ#118	18.1		ug/kg	13.7	10
CI7-BZ#170	ND		ug/kg	13.7	10
CI7-BZ#180	ND		ug/kg	13.7	10
CI7-BZ#187	ND		ug/kg	13.7	10
CI8-BZ#195	ND		ug/kg	13.7	10
CI9-BZ#206	ND		ug/kg	13.7	10
CI10-BZ#209	ND		ug/kg	13.7	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-31
 Client ID: S-09O-C017-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 19:33
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/10/09 09:40
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:34
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	71.3		ug/kg	13.7	10
Cl4-BZ#44	50.2		ug/kg	13.7	10
Cl4-BZ#52	146		ug/kg	13.7	10
Cl5-BZ#101	26.3		ug/kg	13.7	10
Cl5-BZ#105	ND		ug/kg	13.7	10
Cl6-BZ#128	ND		ug/kg	13.7	10
Cl6-BZ#138	ND		ug/kg	13.7	10
Cl6-BZ#153	ND		ug/kg	13.7	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



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Project Name: T0-0010 NBH**Lab Number:** L0917987**Project Number:** T0-0010-001C**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID: L0917987-32
Client ID: S-09O-C012-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/14/10 08:01
Analyst: JR
Percent Solids: 97%

Date Collected: 12/10/09 10:00
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:34
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI7-BZ#170	576		ug/kg	136	100
CI7-BZ#180	748		ug/kg	136	100
CI7-BZ#187	847		ug/kg	136	100
CI8-BZ#195	ND		ug/kg	136	100
CI9-BZ#206	ND		ug/kg	136	100
CI10-BZ#209	ND		ug/kg	136	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-32
 Client ID: S-09O-C012-1.0-1.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/14/10 08:01
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/10/09 10:00
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:34
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	585		ug/kg	136	100
CI6-BZ#128	316		ug/kg	136	100
CI6-BZ#138	1340		ug/kg	136	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-32 D
Client ID: S-09O-C012-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 20:14
Analyst: JR
Percent Solids: 97%

Date Collected: 12/10/09 10:00
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:34
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	12100		ug/kg	2730	2000
Cl3-BZ#18	21500		ug/kg	2730	2000
Cl4-BZ#52	34600		ug/kg	2730	2000
Cl4-BZ#66	15000		ug/kg	2730	2000
Cl5-BZ#118	5570		ug/kg	2730	2000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-32 D
Client ID: S-09O-C012-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 20:14
Analyst: JR
Percent Solids: 97%

Date Collected: 12/10/09 10:00
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:34
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	24000		ug/kg	2730	2000
Cl4-BZ#44	14600		ug/kg	2730	2000
Cl5-BZ#101	8150		ug/kg	2730	2000
Cl6-BZ#153	6620		ug/kg	2730	2000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-33
 Client ID: S-09O-C012-1.6-2.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 20:55
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 10:00
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:34
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	76.1		ug/kg	27.1	20
Cl3-BZ#18	148		ug/kg	27.1	20
Cl4-BZ#52	206		ug/kg	27.1	20
Cl4-BZ#66	91.3		ug/kg	27.1	20
Cl5-BZ#118	36.2		ug/kg	27.1	20
Cl7-BZ#170	ND		ug/kg	27.1	20
Cl7-BZ#180	ND		ug/kg	27.1	20
Cl7-BZ#187	ND		ug/kg	27.1	20
Cl8-BZ#195	ND		ug/kg	27.1	20
Cl9-BZ#206	ND		ug/kg	27.1	20
Cl10-BZ#209	ND		ug/kg	27.1	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-33
 Client ID: S-09O-C012-1.6-2.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 20:55
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 10:00
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:34
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	170		ug/kg	27.1	20
Cl4-BZ#44	87.1		ug/kg	27.1	20
Cl5-BZ#101	50.4		ug/kg	27.1	20
Cl5-BZ#105	ND		ug/kg	27.1	20
Cl6-BZ#128	ND		ug/kg	27.1	20
Cl6-BZ#138	ND		ug/kg	27.1	20
Cl6-BZ#153	ND		ug/kg	27.1	20

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-34
 Client ID: S-09O-C029-0.4-0.9
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 21:36
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/10/09 10:25
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:34
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	50.8		ug/kg	13.6	10
Cl3-BZ#18	96.1		ug/kg	13.6	10
Cl4-BZ#52	157		ug/kg	13.6	10
Cl4-BZ#66	100		ug/kg	13.6	10
Cl5-BZ#118	65.8		ug/kg	13.6	10
Cl7-BZ#170	ND		ug/kg	13.6	10
Cl7-BZ#180	ND		ug/kg	13.6	10
Cl7-BZ#187	ND		ug/kg	13.6	10
Cl8-BZ#195	ND		ug/kg	13.6	10
Cl9-BZ#206	ND		ug/kg	13.6	10
Cl10-BZ#209	ND		ug/kg	13.6	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-34
 Client ID: S-09O-C029-0.4-0.9
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 21:36
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/10/09 10:25
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:34
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	117		ug/kg	13.6	10
Cl4-BZ#44	62.4		ug/kg	13.6	10
Cl5-BZ#101	73.4		ug/kg	13.6	10
Cl5-BZ#105	ND		ug/kg	13.6	10
Cl6-BZ#128	ND		ug/kg	13.6	10
Cl6-BZ#138	21.0		ug/kg	13.6	10
Cl6-BZ#153	44.6		ug/kg	13.6	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-35
 Client ID: S-09O-C029-1.0-1.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 22:17
 Analyst: JR
 Percent Solids: 96%

Date Collected: 12/10/09 10:25
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:34
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	4.32		ug/kg	1.38	1
CI4-BZ#52	4.45		ug/kg	1.38	1
CI4-BZ#66	1.78		ug/kg	1.38	1
CI5-BZ#118	ND		ug/kg	1.38	1
CI7-BZ#170	ND		ug/kg	1.38	1
CI7-BZ#180	ND		ug/kg	1.38	1
CI7-BZ#187	ND		ug/kg	1.38	1
CI8-BZ#195	ND		ug/kg	1.38	1
CI9-BZ#206	ND		ug/kg	1.38	1
CI10-BZ#209	ND		ug/kg	1.38	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	121		50-125
BZ 198	95		50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-35
 Client ID: S-09O-C029-1.0-1.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 22:17
 Analyst: JR
 Percent Solids: 96%

Date Collected: 12/10/09 10:25
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:34
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2.07		ug/kg	1.38	1
Cl3-BZ#28	2.54		ug/kg	1.38	1
Cl4-BZ#44	ND		ug/kg	1.38	1
Cl5-BZ#101	ND		ug/kg	1.38	1
Cl5-BZ#105	ND		ug/kg	1.38	1
Cl6-BZ#128	ND		ug/kg	1.38	1
Cl6-BZ#138	ND		ug/kg	1.38	1
Cl6-BZ#153	ND		ug/kg	1.38	1

DBOB	121	50-125
BZ 198	95	50-125



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-36
 Client ID: S-09S-C025-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/14/10 10:44
 Analyst: JR
 Percent Solids: 97%

Date Collected: 12/10/09 10:45
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:34
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	1890		ug/kg	136	100
CI7-BZ#170	247		ug/kg	136	100
CI7-BZ#180	324		ug/kg	136	100
CI7-BZ#187	343		ug/kg	136	100
CI8-BZ#195	ND		ug/kg	136	100
CI9-BZ#206	ND		ug/kg	136	100
CI10-BZ#209	ND		ug/kg	136	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-36
Client ID: S-09S-C025-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/14/10 10:44
Analyst: JR
Percent Solids: 97%

Date Collected: 12/10/09 10:45
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:34
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	2480		ug/kg	136	100
CI5-BZ#105	280		ug/kg	136	100
CI6-BZ#128	148		ug/kg	136	100
CI6-BZ#138	658		ug/kg	136	100
CI6-BZ#153	1450		ug/kg	136	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-36 D
Client ID: S-09S-C025-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/14/10 01:11
Analyst: JR
Percent Solids: 97%

Date Collected: 12/10/09 10:45
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:34
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	6530		ug/kg	1360	1000
Cl3-BZ#18	13900		ug/kg	1360	1000
Cl4-BZ#52	14700		ug/kg	1360	1000
Cl4-BZ#66	6680		ug/kg	1360	1000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-36 D
Client ID: S-09S-C025-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/14/10 01:11
Analyst: JR
Percent Solids: 97%

Date Collected: 12/10/09 10:45
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:34
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	12200		ug/kg	1360	1000
Cl4-BZ#44	5600		ug/kg	1360	1000



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-37
 Client ID: S-09S-C025-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 22:58
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 10:45
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:35
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	76.5		ug/kg	13.5	10
CI7-BZ#170	19.3		ug/kg	13.5	10
CI7-BZ#180	23.9		ug/kg	13.5	10
CI7-BZ#187	29.5		ug/kg	13.5	10
CI8-BZ#195	ND		ug/kg	13.5	10
CI9-BZ#206	ND		ug/kg	13.5	10
CI10-BZ#209	ND		ug/kg	13.5	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-37
Client ID: S-09S-C025-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 22:58
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 10:45
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:35
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	147		ug/kg	13.5	10
CI5-BZ#105	18.4		ug/kg	13.5	10
CI6-BZ#128	14.2		ug/kg	13.5	10
CI6-BZ#138	53.8		ug/kg	13.5	10
CI6-BZ#153	75.9		ug/kg	13.5	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-37 D
Client ID: S-09S-C025-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/14/10 11:25
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 10:45
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:35
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	360		ug/kg	135	100
Cl3-BZ#18	727		ug/kg	135	100
Cl4-BZ#52	1090		ug/kg	135	100
Cl4-BZ#66	362		ug/kg	135	100



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Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-37 D
Client ID: S-09S-C025-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/14/10 11:25
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 10:45
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:35
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	869		ug/kg	135	100
Cl4-BZ#44	493		ug/kg	135	100



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-38
 Client ID: S-09S-C019-0-0.4
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 23:39
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 11:05
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:35
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	215		ug/kg	27.1	20
CI5-BZ#118	46.0		ug/kg	27.1	20
CI7-BZ#170	ND		ug/kg	27.1	20
CI7-BZ#180	ND		ug/kg	27.1	20
CI7-BZ#187	ND		ug/kg	27.1	20
CI8-BZ#195	ND		ug/kg	27.1	20
CI9-BZ#206	ND		ug/kg	27.1	20
CI10-BZ#209	ND		ug/kg	27.1	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-38
 Client ID: S-09S-C019-0-0.4
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 23:39
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 11:05
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:35
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	126		ug/kg	27.1	20
Cl3-BZ#28	258		ug/kg	27.1	20
Cl4-BZ#44	116		ug/kg	27.1	20
Cl4-BZ#52	263		ug/kg	27.1	20
Cl4-BZ#66	94.0		ug/kg	27.1	20
Cl5-BZ#101	81.7		ug/kg	27.1	20
Cl5-BZ#105	ND		ug/kg	27.1	20
Cl6-BZ#128	ND		ug/kg	27.1	20
Cl6-BZ#138	ND		ug/kg	27.1	20
Cl6-BZ#153	27.3		ug/kg	27.1	20

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-39
 Client ID: S-09S-C019-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/14/10 12:47
 Analyst: JR
 Percent Solids: 98%

Date Collected: 12/10/09 11:05
 Date Received: 12/10/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/22/09 14:35
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/29/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	1900		ug/kg	136	100
CI7-BZ#170	267		ug/kg	136	100
CI7-BZ#180	349		ug/kg	136	100
CI7-BZ#187	379		ug/kg	136	100
CI8-BZ#195	ND		ug/kg	136	100
CI9-BZ#206	ND		ug/kg	136	100
CI10-BZ#209	ND		ug/kg	136	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-39
Client ID: S-09S-C019-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/14/10 12:47
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 11:05
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:35
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	320		ug/kg	136	100
CI6-BZ#128	169		ug/kg	136	100
CI6-BZ#138	774		ug/kg	136	100
CI6-BZ#153	1620		ug/kg	136	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-39 D
Client ID: S-09S-C019-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/14/10 03:14
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 11:05
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:35
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	8720		ug/kg	1360	1000
Cl3-BZ#18	14000		ug/kg	1360	1000
Cl4-BZ#52	16500		ug/kg	1360	1000
Cl4-BZ#66	7050		ug/kg	1360	1000



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-39 D
Client ID: S-09S-C019-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/14/10 03:14
Analyst: JR
Percent Solids: 98%

Date Collected: 12/10/09 11:05
Date Received: 12/10/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:35
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	15600		ug/kg	1360	1000
Cl4-BZ#44	7760		ug/kg	1360	1000
Cl5-BZ#101	4880		ug/kg	1360	1000



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 01/09/10 04:50
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-19,25 Batch: WG394192-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206	ND		ug/kg	1.33
Cl10-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	94		50-125
BZ 198	101		50-125



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 01/09/10 04:50
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/21/09 12:10
Cleanup Method1: EPA 3630
Cleanup Date1: 12/23/09

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-19,25 Batch: WG394192-1				
C16-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	94		50-125
BZ 198	101		50-125

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 01/12/10 17:45
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 20-24,26-39 Batch: WG394387-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	89		50-125
BZ 198	92		50-125

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 01/12/10 17:45
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/22/09 14:33
Cleanup Method1: EPA 3630
Cleanup Date1: 12/29/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 20-24,26-39 Batch: WG394387-1				
C16-BZ#153	ND		ug/kg	1.33
C110-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	89		50-125
BZ 198	92		50-125

Matrix Spike Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19,25 QC Batch ID: WG394192-4 WG394192-5 QC Sample: L0917987-25 Client ID: S-09O-C006-0.5-1.0												
Cl2-BZ#8	129	1660	1270	69		1590	87		40-120	24		30
Cl3-BZ#18	220	1660	1550	80		1830	96		40-120	18		30
Cl3-BZ#28	185	1660	1780	96		2100	115		40-120	18		30
Cl4-BZ#44	88.0	1660	1470	83		1780	101		40-120	19		30
Cl4-BZ#52	229	1660	1600	83		1900	100		40-120	19		30
Cl4-BZ#66	70.1	1660	1540	89		1780	102		40-120	14		30
Cl5-BZ#101	33.8	1660	1480	87		1780	104		40-120	18		30
Cl5-BZ#105	ND	1660	1640	99		1890	113		40-120	14		30
Cl5-BZ#118	ND	1660	1630	98		1850	111		40-120	12		30
Cl6-BZ#128	ND	1660	1630	98		1920	115		40-120	16		30
Cl6-BZ#138	ND	1660	1620	98		1930	115		40-120	16		30
Cl6-BZ#153	ND	1660	1160	70		1420	85		40-120	20		30
Cl7-BZ#170	ND	1660	1600	96		1890	113		40-120	16		30
Cl7-BZ#180	ND	1660	1600	96		1910	114		40-120	17		30
Cl7-BZ#187	ND	1660	1500	90		1800	108		40-120	18		30
Cl8-BZ#195	ND	1660	1580	95		1870	112		40-120	16		30
Cl9-BZ#206	ND	1660	1790	108		2090	125	Q	40-120	15		30
Cl10-BZ#209	ND	1660	1570	95		1830	110		40-120	15		30

Matrix Spike Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19,25 QC Batch ID: WG394192-4 WG394192-5 QC Sample: L0917987-25 Client ID: S-09O-C006-0.5-1.0												

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
BZ 198	0	Q	0	Q	50-125
DBOB	0	Q	0	Q	50-125

Matrix Spike Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 20-24,26-39 QC Batch ID: WG394387-4 WG394387-5 QC Sample: L0917987-30 Client ID: S-09O-C017-0-0.5												
Cl2-BZ#8	160	1690	1490	79		1360	71		40-120	10		30
Cl3-BZ#18	172	1690	2140	116		1890	102		40-120	13		30
Cl3-BZ#28	290	1690	2030	103		1970	99		40-120	4		30
Cl4-BZ#44	166	1690	1850	100		1670	89		40-120	11		30
Cl4-BZ#52	487	1690	2580	124	Q	2140	98		40-120	24		30
Cl4-BZ#66	119	1690	2130	119		1880	104		40-120	13		30
Cl5-BZ#101	84.1	1690	1830	103		1660	93		40-120	10		30
Cl5-BZ#105	ND	1690	1970	116		1820	108		40-120	7		30
Cl5-BZ#118	52.8	1690	1970	113		1810	104		40-120	8		30
Cl6-BZ#128	ND	1690	1920	113		1780	105		40-120	7		30
Cl6-BZ#138	35.9	1690	1930	112		1790	104		40-120	7		30
Cl6-BZ#153	44.0	1690	1420	81		1160	66		40-120	21		30
Cl7-BZ#170	ND	1690	1960	116		1800	106		40-120	9		30
Cl7-BZ#180	ND	1690	1930	114		1780	105		40-120	8		30
Cl7-BZ#187	ND	1690	1780	105		1640	97		40-120	8		30
Cl8-BZ#195	ND	1690	1900	112		1750	104		40-120	7		30
Cl9-BZ#206	ND	1690	2140	126	Q	1980	117		40-120	7		30
Cl10-BZ#209	ND	1690	1880	111		1730	102		40-120	8		30

Matrix Spike Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
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PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 20-24,26-39 QC Batch ID: WG394387-4 WG394387-5 QC Sample: L0917987-30
Client ID: S-09O-C017-0-0.5

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
BZ 198	0	Q	0	Q	50-125
DBOB	0	Q	0	Q	50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19,25 Batch: WG394192-2 WG394192-3								
Cl3-BZ#18	100		105		40-120	5		30

DBOB	86	91	50-125
BZ 198	106	103	50-125

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19,25 Batch: WG394192-2 WG394192-3								
Cl2-BZ#8	83		87		40-120	5		30
Cl3-BZ#28	95		98		40-120	3		30
Cl4-BZ#44	95		100		40-120	5		30
Cl4-BZ#52	96		101		40-120	5		30
Cl4-BZ#66	95		97		40-120	2		30
Cl5-BZ#101	98		102		40-120	4		30
Cl5-BZ#105	99		98		40-120	1		30
Cl5-BZ#118	101		102		40-120	1		30
Cl6-BZ#128	104		103		40-120	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19,25 Batch: WG394192-2 WG394192-3								
Cl6-BZ#138	107		106		40-120	1		30
Cl6-BZ#153	96		94		40-120	2		30
Cl7-BZ#170	102		103		40-120	1		30
Cl7-BZ#180	102		100		40-120	2		30
Cl7-BZ#187	102		89		40-120	14		30
Cl8-BZ#195	99		98		40-120	1		30
Cl9-BZ#206	114		111		40-120	3		30
Cl10-BZ#209	103		101		40-120	2		30

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
DBOB	86		91		50-125
BZ 198	106		103		50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 20-24,26-39 Batch: WG394387-2 WG394387-3								
Cl3-BZ#18	97		92		40-120	5		30
Cl3-BZ#28	96		90		40-120	6		30
Cl4-BZ#44	99		93		40-120	6		30
Cl4-BZ#52	101		97		40-120	4		30
Cl4-BZ#66	99		91		40-120	8		30
Cl5-BZ#101	99		93		40-120	6		30
Cl5-BZ#118	103		95		40-120	8		30
Cl7-BZ#187	100		96		40-120	4		30
Cl8-BZ#195	98		91		40-120	7		30

DBOB	91	78	50-125
BZ 198	103	92	50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 20-24,26-39 Batch: WG394387-2 WG394387-3								
Cl2-BZ#8	124	Q	82		40-120	41	Q	30
Cl5-BZ#105	100		91		40-120	9		30
Cl6-BZ#128	104		94		40-120	10		30
Cl6-BZ#138	105		96		40-120	9		30
Cl6-BZ#153	98		86		40-120	13		30
Cl7-BZ#170	98		87		40-120	12		30
Cl7-BZ#180	102		92		40-120	10		30
Cl9-BZ#206	112		101		40-120	10		30
Cl10-BZ#209	102		90		40-120	13		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	91		78		50-125
BZ 198	103		92		50-125

INORGANICS & MISCELLANEOUS



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-01
Client ID: S-09S-C004-0-0.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 13:05
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.2		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-02
Client ID: S-09S-C013-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 12:00
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.7		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-03
Client ID: S-09S-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 09:32
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.1		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-04
Client ID: S-09S-C012-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 10:00
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.7		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-05
Client ID: S-09S-C012-0.7-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 10:00
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.6		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-06
Client ID: S-09S-C007-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 09:49
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.3		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-07
Client ID: S-09S-C007-0.5-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 09:49
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.9		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-08
Client ID: S-09S-C008-0.3-0.8
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 10:08
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.1		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-09
Client ID: S-09S-C008-0.8-1.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 10:08
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.9		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-10
Client ID: S-09S-C007-0.4-0.9
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 11:25
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.2		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-11
Client ID: S-09S-C007-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 11:25
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.0		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-12
Client ID: S-090-C008-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 11:40
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.0		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-13
Client ID: S-090-C008-0.9-1.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 11:40
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.9		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-14
Client ID: S-09S-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 12:30
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	95.8		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-15
Client ID: S-09S-C002-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 12:30
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.8		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-16
Client ID: S-09S-C003-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 12:12
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.9		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-17
Client ID: S-09S-C003-0.6-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 12:12
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.3		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-18
Client ID: S-090-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 12:50
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.6		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-19
Client ID: S-090-C005-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 12:50
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.8		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-20
Client ID: S-09S-C011-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 11:09
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.9		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-21
Client ID: S-09S-C011-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 11:09
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.7		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-22
Client ID: S-09S-C018-0-0.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 10:25
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.0		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-23
Client ID: S-09S-C018-0.6-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 10:25
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.7		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-24
Client ID: S-090-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 10:42
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.0		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-25
Client ID: S-090-C006-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/08/09 10:42
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.2		%	0.100	1	-	12/21/09 10:24	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-26
Client ID: S-090-C001-0.2-0.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 09:02
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.8		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-27
Client ID: S-090-C001-0.8-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 09:02
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.2		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-28
Client ID: S-090-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 09:19
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.4		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-29
Client ID: S-090-C015-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 09:19
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.3		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-30
Client ID: S-090-C017-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 09:40
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.8		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-31
Client ID: S-090-C017-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 09:40
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.6		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-32
Client ID: S-090-C012-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 10:00
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.0		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-33
Client ID: S-090-C012-1.6-2.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 10:00
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.7		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-34
Client ID: S-090-C029-0.4-0.9
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 10:25
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.1		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-35
Client ID: S-090-C029-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 10:25
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.3		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-36
Client ID: S-09S-C025-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 10:45
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.4		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-37
Client ID: S-09S-C025-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 10:45
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.0		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-38
Client ID: S-09S-C019-0-0.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 11:05
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.7		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



02021010:58

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0917987-39
Client ID: S-09S-C019-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/10/09 11:05
Date Received: 12/10/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.7		%	0.100	1	-	12/22/09 15:00	30,2540G	KB



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0917987
Report Date: 02/02/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-19,25 QC Batch ID: WG394167-1 QC Sample: L0917987-25 Client ID: S-09O-C006-0.5-1.0						
Solids, Total	98.2	98.2	%	0		20
General Chemistry - Mansfield Lab Associated sample(s): 20-24,26-39 QC Batch ID: WG394403-1 QC Sample: L0917987-30 Client ID: S-09O-C017-0-0.5						
Solids, Total	97.8	97.6	%	0		20

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0917987-01A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-02A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-03A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-04A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-05A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-06A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-07A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-08A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-09A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-10A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-11A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-12A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-13A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-14A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-15A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-16A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-17A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-18A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-19A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-20A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-21A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-22A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)

*Hold days indicated by values in parentheses

Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0917987-23A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-24A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-25A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-MS/MSD()
L0917987-25B	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-MS/MSD()
L0917987-26A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-27A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-28A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-29A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-30A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-MS/MSD()
L0917987-30B	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-MS/MSD()
L0917987-31A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-32A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-33A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-34A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-35A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-36A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-37A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-38A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0917987-39A	Glass 250ml unpreserved	B	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)

*Hold days indicated by values in parentheses



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

GLOSSARY

Acronyms

EPA	-Environmental Protection Agency.
LCS	-Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	-Laboratory Control Sample Duplicate: Refer to LCS.
MS	-Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	-Matrix Spike Sample Duplicate: Refer to MS.
NA	-Not Applicable.
NC	-Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	-Not detected at the reported detection limit for the sample.
NI	-Not Ignitable.
RDL	-Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	-Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	-Spectra identified as "Aldol Condensation Product".
B	-The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	-Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	-Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	-The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	-The RPD between the results for the two columns exceeds the method-specified criteria.
Q	-The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	-Analytical results are from sample re-analysis.
RE	-Analytical results are from sample re-extraction.
J	-Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: T0-0010 NBH
Project Number: T0-0010-001C

Lab Number: L0917987
Report Date: 02/02/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A, 3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D, 9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3051, 6020, 747A, 7474, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.



CHAIN OF CUSTODY

PAGE 1 OF 5

WESTBORO, MA
 TEL: 508-898-9220
 FAX: 508-898-9193

MANSFIELD, MA
 TEL: 508-822-9300
 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: 20917987

Client Information

Client: WOODS HOLE GROUP, INC
 Address: 81 Technology Park Dr.
 E. FARMOUTH, MA 02536
 Phone: 508-540-0000
 Fax: 508-540-1001
 Email: DWALSH@WHGRP.COM

These samples have been previously analyzed by Alpha

Project Information

Project Name: NEW BEDFORD HARBOR
 Project Location: NEW BEDFORD, MA
 Project #: TO-0010
 Project Manager: DAVE WALSH
 ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State / Fed Program Criteria

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
 Date Due: Time:

Other Project Specific Requirements/Comments/Detection Limits:

* PLEASE HOMOGENIZE ALL SAMPLES BEFORE ANALYSIS

* Level III data report and project specific EDD

ANALYSIS	SAMPLE HANDLING		TOTAL # BOTTLES
	Filtration	Preservation	
POP Congruent (VARIES)	<input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do	<input type="checkbox"/> Lab to do <input type="checkbox"/> Lab to do <small>(Please specify below)</small>	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	X	Sample Specific Comments										TOTAL # BOTTLES						
		Date	Time																				
1	S-095-C004-0-0.2	12/6/09	1305	S	DRW	X																JQ18	1
2	S-095-C013-0-0.5		1200	S	DRW	X																GD22	1
3	S-095-C006-0-0.5		0932			X																JK09	1
4	S-095-C012-0-0.6		1000			X																GD18	1
5	S-095-C012-0.7-1.3		1000			X																GD18	1
6	S-090-C007-0-0.5		0949			X																JO13	1
7	S-090-C007-0.5-1.1		0949			X																JO13	1
8	S-095-C008-0.3-0.8		1008			X																JK06	1
9	S-095-C008-0.8-1.4		1008			X																JK06	1
10	S-095-C007-0.4-0.9		1125			X																JN07	1

Container Type: G
 Preservative: A

Relinquished By: *[Signature]* Date/Time: 12/10/09 1618
 Received By: *[Signature]* Date/Time: 12/10/09 1618

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Page 1988 of 202

02021010:58

02021010:58



CHAIN OF CUSTODY

PAGE 2 OF 5

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: 20917987

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Drive
E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com

These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Harbor
Project Location: New Bedford, MA
Project #: TO-0010
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: Criteria:

Other Project Specific Requirements/Comments/Detection Limits:

* Please homogenize all samples before analysis
* Level III data report and project specific EDD

ANALYSIS FOR Congenics (NHPIIS)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials															TOTAL # BOTTLES	
11	S-φ9S-Cφφ7-1.φ-1.5	12/0/09	1125	S	DRW	X														JN07	1
12	S-φ90-Cφφ8-φ-φ.5		1140	S	DRW	X														JK15	1
13	S-φ90-Cφφ8-φ.9-1.4		1140	S	DRW	X														JK15	1
14	S-φ9S-Cφφ2-φ-φ.5		1230	S	DRW	X														JN21	1
15	S-φ9S-Cφφ2-φ.5-1.φ		1230																	JN21	1
16	S-φ9S-Cφφ3-φ-φ.6		1212																	JK19	1
17	S-φ9S-Cφφ3-φ.6-1.2		1212																	JK19	1
18	S-φ90-Cφφ5-φ-φ.5		1250																	JE06	1
19	S-φ90-Cφφ5-φ.5-1.φ		1250																	JE06	1
20	S-φ9S-Cφφ11-φ-φ.5		1109																	JK03	1

SAMPLE HANDLING

Filtration _____

Done
 Not needed
 Lab to do Preservation
 Lab to do

(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials																			
		Date	Time																					
11	S-φ9S-Cφφ7-1.φ-1.5	12/0/09	1125	S	DRW	X																		
12	S-φ90-Cφφ8-φ-φ.5		1140	S	DRW	X																		
13	S-φ90-Cφφ8-φ.9-1.4		1140	S	DRW	X																		
14	S-φ9S-Cφφ2-φ-φ.5		1230	S	DRW	X																		
15	S-φ9S-Cφφ2-φ.5-1.φ		1230																					
16	S-φ9S-Cφφ3-φ-φ.6		1212																					
17	S-φ9S-Cφφ3-φ.6-1.2		1212																					
18	S-φ90-Cφφ5-φ-φ.5		1250																					
19	S-φ90-Cφφ5-φ.5-1.φ		1250																					
20	S-φ9S-Cφφ11-φ-φ.5		1109																					

Container Type G
Preservative A

Relinquished By: DWalsh Date/Time: 12/10/09 1618
Received By: [Signature] Date/Time: 12/10/09 1618

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

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Delivery Order-0010
June 2010

B-406

Sediment Monitoring Summary Report
W912WJ-09-D-0001



CHAIN OF CUSTODY

PAGE 3 OF 5

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0917987

Project Information

Project Name: New Bedford Harbor
 Project Location: New Bedford, MA
 Project #: TB-0010
 Project Manager: Dave Walsh
 ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: Woods Hole Group
 Address: 81 Technology Park Dr.
E. Falmouth, MA 02536
 Phone: 508-540-8080
 Fax: 508-540-1001
 Email: dwalsh@whgrp.com
 These samples have been previously analyzed by Alpha

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
 Date Due: Time:

Regulatory Requirements/Report Limits

State (Fed Program) Criteria

Other Project Specific Requirements/Comments/Detection Limits:

*Please homogenize all samples before analysis
 *Level III data report and project specific EDD

ANALYSIS

PCB Congeners (Aroclor)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Analysis	Sample Specific Comments	TOTAL # BOTTLES
-21	S-φ95-Cφ11-φ.6-1.1	12/8/09	1109	S	DRW	X	JK03	1
-22	S-φ95-Cφ18-φ-φ.6	↓	1025	↓	↓	X	GH24	1
-23	S-φ95-Cφ18-φ.6-1.2	↓	1025	↓	↓	X	GH24	1
-24	S-φ90-Cφφ6-φ-φ.5	↓	1042	↓	↓	X	JG09	1
-25	S-φ90-Cφφ6-φ.5-1.φ	↓	1042	↓	↓	X	JG09	1
↓	S-φ90-Cφφ6-φ.5-1.φ MSMSD	12/8/09	1042	S	DRW	X	JG09 OC	1
26	S-φ90-Cφφ1-φ.2-φ.7	12/10/09	0902	S	DRW	X	BQ16	1
27	S-φ90-Cφφ1-φ.8-1.3	↓	0902	↓	↓	X	BQ16	1
28	S-φ90-Cφ15-φ-φ.5	↓	0919	↓	↓	X	BQ19	1
29	S-φ90-Cφ15-φ-φ.5	↓	0919	↓	↓	X	BQ19	1

SAMPLE HANDLING

Filtration _____
 Done
 Not needed
 Lab to do Preservation
 Lab to do (Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Analysis	Sample Specific Comments	TOTAL # BOTTLES
		Date	Time					
-21	S-φ95-Cφ11-φ.6-1.1	12/8/09	1109	S	DRW	X	JK03	1
-22	S-φ95-Cφ18-φ-φ.6	↓	1025	↓	↓	X	GH24	1
-23	S-φ95-Cφ18-φ.6-1.2	↓	1025	↓	↓	X	GH24	1
-24	S-φ90-Cφφ6-φ-φ.5	↓	1042	↓	↓	X	JG09	1
-25	S-φ90-Cφφ6-φ.5-1.φ	↓	1042	↓	↓	X	JG09	1
↓	S-φ90-Cφφ6-φ.5-1.φ MSMSD	12/8/09	1042	S	DRW	X	JG09 OC	1
26	S-φ90-Cφφ1-φ.2-φ.7	12/10/09	0902	S	DRW	X	BQ16	1
27	S-φ90-Cφφ1-φ.8-1.3	↓	0902	↓	↓	X	BQ16	1
28	S-φ90-Cφ15-φ-φ.5	↓	0919	↓	↓	X	BQ19	1
29	S-φ90-Cφ15-φ-φ.5	↓	0919	↓	↓	X	BQ19	1

Container Type G

Preservative A

Relinquished By: [Signature] Date/Time: 12/10/09 1618
 Received By: [Signature] Date/Time: 12/10/09 1618

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

02021010:58

Delivery Order-0010
June 2010

B-407

Sediment Monitoring Summary Report
W912WJ-09-D-0001

02021010.58



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193
MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 4 OF 5

Date Rec'd in Lab:

ALPHA Job #: L0917987

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Dr.
E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com
 These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Harbor
Project Location: New Bedford, MA
Project #: TD-0010
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
Date Due: _____ Time: _____

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: _____ Criteria: _____

Other Project Specific Requirements/Comments/Detection Limits:
* please homogenize all samples before analysis
* Level III data report and project specific EDD

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials										
		Date	Time												
-30	S-φ90-Cφ17-φ-φ.5	12/10/09	0940	S	DRW	X									
↓	S-φ90-Cφ17-φ-φ.5 MSMSD	12/10/09	0940	S	DRW	X									
-31	S-φ90-Cφ17-φ.6-1.1		0940			X									
-32	S-φ90-Cφ12-1.φ-1.5		1000			X									
-33	S-φ90-Cφ12-1.6-2.1		1000			X									
-34	S-φ90-Cφ29-φ.4-φ.9		1025			X									
-35	S-φ90-Cφ29-1.φ-1.5		1025			X									
-36	S-φ9S-Cφ25-φ-φ.5		1045			X									
-37	S-φ9S-Cφ25-φ.5-1.φ		1045			X									
-38	S-φ9S-Cφ19-φ-φ.4	↓	1105	↓		X									

ANALYSIS
PCB congeners (NOT A-S)

TOTAL # BOTTLES	SAMPLE HANDLING
	Filtration _____
	<input type="checkbox"/> Done
	<input type="checkbox"/> Not needed
	<input type="checkbox"/> Lab to do
	Preservation _____
	<input type="checkbox"/> Lab to do
	(Please specify below)
	Sample Specific Comments

Container Type: G
Preservative: A

Relinquished By: <u>D Walsh</u>	Date/Time: <u>12/10/09 16:18</u>	Received By: <u>[Signature]</u>	Date/Time: <u>12/10/09 16:18</u>
---------------------------------	----------------------------------	---------------------------------	----------------------------------

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Delivery Order-0010
June 2010

B-408

Sediment Monitoring Summary Report
W912WJ-09-D-0001



CHAIN OF CUSTODY

PAGE 5 OF 5

WESTBORO, MA TEL: 508-898-9220
 MANSFIELD, MA TEL: 508-822-9300
 FAX: 508-898-9193 FAX: 508-822-3288

Project Information Project Name: <u>New Bedford Harbor</u> Project Location: <u>New Bedford, MA</u>		Date Rec'd in Lab: _____ Report Information - Data Deliverables <input type="checkbox"/> FAX <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> ADEX <input type="checkbox"/> Add'l Deliverables	ALPHA Job #: <u>L0917987</u> Billing Information <input type="checkbox"/> Same as Client info PO #: _____
---	--	---	--

Client Information
 Client: Woods Hole Group
 Address: 81 Technology Park Dr.
E. Falmouth, MA 02536
 Phone: 508-540-8080
 Fax: 508-540-1001
 Email: dwalsh@whgrp.com
 These samples have been previously analyzed by Alpha

Turn-Around Time
 Standard
 RUSH (only confirmed if pre-approved!)
 Date Due: _____ Time: _____
 Project #: T0-0010
 Project Manager: Dave Walsh
 ALPHA Quote #: _____

Regulatory Requirements/Report Limits
 State/Fed Program: MA Criteria: _____
MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS
 Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
* please homogenize all samples before analysis
* level III data report and project specific EDD

ANALYSIS	PCB Congeners (Aroclor 1248)	Filtration	TOTAL # BOTTLES
		<input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
		Date	Time				
-39	S-09S-C019-0.5-1.0	12/10/09	1105	S	DRW X	LV 07	1

PLEASE ANSWER QUESTIONS ABOVE! IS YOUR PROJECT MA MCP or CT RCP?		Container Type <u>G</u> Preservative <u>A</u>	Relinquished By: <u>[Signature]</u> Date/Time: <u>12/10/09 1618</u>	Received By: <u>[Signature]</u> Date/Time: <u>12/10/09 1608</u>	Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.
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ANALYTICAL REPORT

Lab Number:	L0918519
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Project Name:	NEW BEDFORD HARBOR
Project Number:	T0-0010-001B
Report Date:	02/02/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0918519-01	S-09D-C001-0-0.5	NEW BEDFORD, MA	12/16/09 12:15
L0918519-02	S-09D-C001-0.6-1.1	NEW BEDFORD, MA	12/16/09 12:20
L0918519-03	S-09D-C002-0.2-0.7	NEW BEDFORD, MA	12/16/09 12:30
L0918519-04	S-09D-C002-0.8-1.3	NEW BEDFORD, MA	12/16/09 12:30
L0918519-05	S-09D-C003-0.9-1.4	NEW BEDFORD, MA	12/16/09 13:00
L0918519-06	S-09D-C003-2.1-2.6	NEW BEDFORD, MA	12/16/09 13:00
L0918519-07	S-09D-C004-0.2-0.7	NEW BEDFORD, MA	12/16/09 13:22
L0918519-08	S-09D-C004-0.8-1.3	NEW BEDFORD, MA	12/16/09 13:22
L0918519-09	S-09D-C005-1.3-1.8	NEW BEDFORD, MA	12/16/09 14:15
L0918519-10	S-09D-C005-2.0-2.5	NEW BEDFORD, MA	12/16/09 14:15
L0918519-11	S-09D-C006-0-0.5	NEW BEDFORD, MA	12/16/09 14:40
L0918519-12	S-09D-C006-0.6-1.1	NEW BEDFORD, MA	12/16/09 14:40
L0918519-13	S-09D-C007-0.7-1.2	NEW BEDFORD, MA	12/16/09 15:00
L0918519-14	S-09D-C007-2.1-2.6	NEW BEDFORD, MA	12/16/09 15:00
L0918519-15	S-09D-C008-0-0.5	NEW BEDFORD, MA	12/16/09 15:30
L0918519-16	S-09D-C008-0.6-1.1	NEW BEDFORD, MA	12/16/09 15:30
L0918519-17	S-09D-C009-0-0.5	NEW BEDFORD, MA	12/16/09 15:45
L0918519-18	S-09D-C010-0-0.5	NEW BEDFORD, MA	12/16/09 16:15
L0918519-19	S-09D-C011-0-0.5	NEW BEDFORD, MA	12/16/09 16:40

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the one issued on February 01, 2010. Sample L0918519-08 was amended to remove a result that was reported in duplicate.

Total Petroleum Hydrocarbons (TPH) by GC/FID

The sample was extracted and then analyzed using a gas chromatograph equipped with a flame ionization detector (GC/FID). The temperature program and associated experimental conditions were optimized to obtain

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

Case Narrative (continued)

maximum resolution in an eighty minute chromatographic run representative of hydrocarbons in the n-Octane (C8) to n-Tetracontane (C40) range. Qualitative evaluation of the sample is conducted by reviewing the sample chromatogram in conjunction with a chromatogram of a normal alkane series generated with the same chromatographic conditions. Chromatograms of hydrocarbon reference materials obtained from our library of 45 reference standards are also utilized to provide the best possible sample match. Quantitative determination of the sample hydrocarbon concentration is performed in accordance with EPA Method 8015M. The sample total hydrocarbon concentration and all associated quality control data are included in the report.

1. All quality control parameters met the specified criteria.

The following qualitative information is based on a tentative interpretation of chromatographic pattern recognition and boiling point ranges:

Total Petroleum Hydrocarbon Identification

Samples S-09D-C005-1.3-1.8 (L0918519-09) and S-09D-C007-0.7-1.2 (L0918519-09) contain hydrocarbons eluting from n-Dodecane (C12) to after n-Tetracontane (C40).

Based on the data generated, samples S-09D-C005-1.3-1.8 (L0918519-09) and S-09D-C007-0.7-1.2 (L0918519-09) contain a mixture of heavy boiling petroleum product which is similar to fuel oil #6 and 3-6 ring polynuclear aromatic hydrocarbons. In an analysis of an undegraded product the n-alkanes are typically the dominant constituents, as seen in the petroleum reference chromatogram. As the product degrades, the n-alkanes are preferentially digested, leaving behind other constituents such as isoprenoids.

The analytical testing of samples B S-09D-C005-1.3-1.8 (L0918519-09) and S-09D-C007-0.7-1.2 (L0918519-09) identified a dominant pattern of isoprenoids. The presence of isoprenoids and apparent absence of normal alkanes indicates that the fuel has undergone degradation.

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

Case Narrative (continued)

PCB Congeners by 8082

L0918519-01, -03 through -19 have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

The surrogate recoveries for L0918519-01,03,05,06,07,09,10,11,13,14,15,16 are outside the individual acceptance criteria for dbob(0%),bz 198(0%) , due to dilution. The results of the original analysis are reported.

The surrogate recovery for L0918519-02 is outside the individual acceptance criteria for dbob(137%), but within the overall method allowances. The results of the original analysis are reported.

The surrogate recovery for L0918519-08 is outside the individual acceptance criteria for bz 198(46%) , but within the overall method allowances.

The surrogate recovery for the method blank, WG395084-1, is above the acceptance criteria for bz 198(138%). Since the sample(s) were non-detect for all target analytes, re-analysis is not required.

The WG395084-2 LCS recoveries associated with L0918519-01 through -19 were above the acceptance criteria for cl9-bz#206(134%),cl10-bz#209(125%) but within overall method allowances.

WG395084-3 LCSD was lost during extraction, the analysis proceeded with only the LCS following the client's approval.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/02/10

ORGANICS



PETROLEUM HYDROCARBONS



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-09
 Client ID: S-09D-C005-1.3-1.8
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8015D(M)
 Analytical Date: 01/05/10 01:28
 Analyst: NL
 Percent Solids: 96%

Date Collected: 12/16/09 14:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: ALPHA OP-013
 Extraction Date: 12/30/09 10:33

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab					
Total Petroleum Hydrocarbons (C9-C44)	32500		mg/kg	112	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	0	Q	50-130
d50-Tetracosane	0	Q	50-130

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-13
 Client ID: S-09D-C007-0.7-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8015D(M)
 Analytical Date: 01/05/10 00:00
 Analyst: NL
 Percent Solids: 97%

Date Collected: 12/16/09 15:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: ALPHA OP-013
 Extraction Date: 12/30/09 10:33

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab					
Total Petroleum Hydrocarbons (C9-C44)	11200		mg/kg	113	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	0	Q	50-130
d50-Tetracosane	0	Q	50-130

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8015D(M)
Analytical Date: 01/04/10 19:34
Analyst: NL

Extraction Method: ALPHA OP-013
Extraction Date: 12/30/09 10:33

Parameter	Result	Qualifier	Units	RDL
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab for sample(s): 09,13 Batch: WG395100-1				
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	1.10

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	105		50-130
d50-Tetracosane	104		50-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0918519

Project Number: T0-0010-001B

Report Date: 02/02/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Identification by GC-FID - Mansfield Lab Associated sample(s): 09,13 Batch: WG395100-2 WG395100-3								
Nonane (C9)	88		84		50-130	5		30
Decane (C10)	92		90		50-130	2		30
Dodecane (C12)	93		96		50-130	3		30
Tetradecane (C14)	96		99		50-130	3		30
Hexadecane (C16)	100		103		50-130	3		30
Octadecane (C18)	101		103		50-130	2		30
Nonadecane (C19)	101		103		50-130	2		30
Eicosane (C20)	104		106		50-130	2		30
Docosane (C22)	108		110		50-130	2		30
Tetracosane (C24)	104		106		50-130	2		30
Hexacosane (C26)	102		104		50-130	2		30
Octacosane (C28)	104		106		50-130	2		30
Triacontane (C30)	100		102		50-130	2		30
Hexatriacontane (C36)	89		89		50-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	109		110		50-130
d50-Tetracosane	111		111		50-130

PCBS



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-01
 Client ID: S-09D-C001-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 11:15
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 12:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	469		ug/kg	134	100
CI7-BZ#170	170		ug/kg	134	100
CI7-BZ#180	215		ug/kg	134	100
CI7-BZ#187	396		ug/kg	134	100
CI8-BZ#195	ND		ug/kg	134	100
CI9-BZ#206	ND		ug/kg	134	100
CI10-BZ#209	ND		ug/kg	134	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-01
 Client ID: S-09D-C001-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 11:15
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 12:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2420		ug/kg	134	100
Cl5-BZ#101	1330		ug/kg	134	100
Cl5-BZ#105	ND		ug/kg	134	100
Cl6-BZ#128	ND		ug/kg	134	100
Cl6-BZ#138	342		ug/kg	134	100
Cl6-BZ#153	1270		ug/kg	134	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

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Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-01 D
Client ID: S-09D-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 01:49
Analyst: JS
Percent Solids: 97%

Date Collected: 12/16/09 12:15
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	5920		ug/kg	1340	1000
Cl4-BZ#66	4950		ug/kg	1340	1000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-01 D
 Client ID: S-09D-C001-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/16/10 01:49
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 12:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	6710		ug/kg	1340	1000
Cl4-BZ#44	6110		ug/kg	1340	1000
Cl4-BZ#52	14000		ug/kg	1340	1000

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-02
 Client ID: S-09D-C001-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 13:49
 Analyst: JS
 Percent Solids: 91%

Date Collected: 12/16/09 12:20
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	9.92		ug/kg	1.45	1
CI3-BZ#18	12.5		ug/kg	1.45	1
CI3-BZ#28	15.7		ug/kg	1.45	1
CI4-BZ#44	3.83		ug/kg	1.45	1
CI4-BZ#52	10.5		ug/kg	1.45	1
CI4-BZ#66	3.49		ug/kg	1.45	1
CI5-BZ#101	ND		ug/kg	1.45	1
CI5-BZ#105	ND		ug/kg	1.45	1
CI5-BZ#118	ND		ug/kg	1.45	1
CI6-BZ#128	ND		ug/kg	1.45	1
CI6-BZ#138	ND		ug/kg	1.45	1
CI7-BZ#170	ND		ug/kg	1.45	1
CI7-BZ#180	ND		ug/kg	1.45	1
CI7-BZ#187	ND		ug/kg	1.45	1
CI8-BZ#195	ND		ug/kg	1.45	1
CI9-BZ#206	ND		ug/kg	1.45	1
CI10-BZ#209	ND		ug/kg	1.45	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	137	Q	50-125
BZ 198	84		50-125

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Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-02
Client ID: S-09D-C001-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 13:49
Analyst: JS
Percent Solids: 91%

Date Collected: 12/16/09 12:20
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#153	ND		ug/kg	1.45	1
DBOB	137	Q	50-125		
BZ 198	84		50-125		



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-03
 Client ID: S-09D-C002-0.2-0.7
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 15:23
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 12:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI7-BZ#170	833		ug/kg	133	100
CI7-BZ#180	1130		ug/kg	133	100
CI7-BZ#187	1710		ug/kg	133	100
CI8-BZ#195	ND		ug/kg	133	100
CI9-BZ#206	385		ug/kg	133	100
CI10-BZ#209	ND		ug/kg	133	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-03
 Client ID: S-09D-C002-0.2-0.7
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 15:23
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 12:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	584		ug/kg	133	100
CI6-BZ#128	233		ug/kg	133	100
CI6-BZ#138	1550		ug/kg	133	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-03 D
Client ID: S-09D-C002-0.2-0.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/18/10 22:49
Analyst: JS
Percent Solids: 97%

Date Collected: 12/16/09 12:30
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	155000		ug/kg	13300	10000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-03 D
 Client ID: S-09D-C002-0.2-0.7
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/18/10 22:49
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 12:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	103000		ug/kg	13300	10000
Cl3-BZ#28	157000		ug/kg	13300	10000
Cl4-BZ#44	76600		ug/kg	13300	10000
Cl4-BZ#52	166000		ug/kg	13300	10000
Cl4-BZ#66	59800		ug/kg	13300	10000
Cl5-BZ#101	46300		ug/kg	13300	10000
Cl5-BZ#118	22700		ug/kg	13300	10000
Cl6-BZ#153	33400		ug/kg	13300	10000

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-04
 Client ID: S-09D-C002-0.8-1.3
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 14:30
 Analyst: JS
 Percent Solids: 92%

Date Collected: 12/16/09 12:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	27.0		ug/kg	1.41	1
CI5-BZ#105	ND		ug/kg	1.41	1
CI5-BZ#118	13.1		ug/kg	1.41	1
CI6-BZ#128	ND		ug/kg	1.41	1
CI6-BZ#138	18.1		ug/kg	1.41	1
CI6-BZ#153	25.7		ug/kg	1.41	1
CI7-BZ#170	3.09		ug/kg	1.41	1
CI7-BZ#180	3.64		ug/kg	1.41	1
CI7-BZ#187	7.27		ug/kg	1.41	1
CI8-BZ#195	ND		ug/kg	1.41	1
CI9-BZ#206	1.54		ug/kg	1.41	1
CI10-BZ#209	ND		ug/kg	1.41	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	77		50-125
BZ 198	85		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-04 D
 Client ID: S-09D-C002-0.8-1.3
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 04:57
 Analyst: JS
 Percent Solids: 92%

Date Collected: 12/16/09 12:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	110		ug/kg	14.1	10
Cl3-BZ#18	154		ug/kg	14.1	10
Cl4-BZ#66	66.7		ug/kg	14.1	10

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-04 D
 Client ID: S-09D-C002-0.8-1.3
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 04:57
 Analyst: JS
 Percent Solids: 92%

Date Collected: 12/16/09 12:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	177		ug/kg	14.1	10
Cl4-BZ#44	90.2		ug/kg	14.1	10
Cl4-BZ#52	215		ug/kg	14.1	10

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-05
 Client ID: S-09D-C003-0.9-1.4
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 16:45
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/16/09 13:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#128	613		ug/kg	137	100
Cl6-BZ#138	3300		ug/kg	137	100
Cl7-BZ#170	576		ug/kg	137	100
Cl7-BZ#180	748		ug/kg	137	100
Cl7-BZ#187	943		ug/kg	137	100
Cl8-BZ#195	ND		ug/kg	137	100
Cl9-BZ#206	ND		ug/kg	137	100
Cl10-BZ#209	ND		ug/kg	137	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

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Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-05
Client ID: S-09D-C003-0.9-1.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 16:45
Analyst: JS
Percent Solids: 96%

Date Collected: 12/16/09 13:00
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	574		ug/kg	137	100
DBOB	0	Q	50-125		
BZ 198	0	Q	50-125		



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-05 D
Client ID: S-09D-C003-0.9-1.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/18/10 23:30
Analyst: JS
Percent Solids: 96%

Date Collected: 12/16/09 13:00
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	31600		ug/kg	2740	2000
Cl4-BZ#66	14200		ug/kg	2740	2000



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-05 D
Client ID: S-09D-C003-0.9-1.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/18/10 23:30
Analyst: JS
Percent Solids: 96%

Date Collected: 12/16/09 13:00
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	18500		ug/kg	2740	2000
Cl3-BZ#28	29400		ug/kg	2740	2000
Cl4-BZ#44	16900		ug/kg	2740	2000
Cl4-BZ#52	39200		ug/kg	2740	2000
Cl5-BZ#101	7700		ug/kg	2740	2000
Cl5-BZ#118	4350		ug/kg	2740	2000
Cl6-BZ#153	6150		ug/kg	2740	2000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-06
 Client ID: S-09D-C003-2.1-2.6
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 17:26
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 13:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	ND		ug/kg	136	100
CI5-BZ#118	773		ug/kg	136	100
CI7-BZ#170	193		ug/kg	136	100
CI7-BZ#180	245		ug/kg	136	100
CI7-BZ#187	337		ug/kg	136	100
CI8-BZ#195	ND		ug/kg	136	100
CI9-BZ#206	ND		ug/kg	136	100
CI10-BZ#209	ND		ug/kg	136	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-06
 Client ID: S-09D-C003-2.1-2.6
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 17:26
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 13:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	1520		ug/kg	136	100
CI6-BZ#128	ND		ug/kg	136	100
CI6-BZ#138	513		ug/kg	136	100
CI6-BZ#153	1260		ug/kg	136	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-06 D
Client ID: S-09D-C003-2.1-2.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 08:38
Analyst: JS
Percent Solids: 97%

Date Collected: 12/16/09 13:00
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	4930		ug/kg	1360	1000
Cl3-BZ#18	7250		ug/kg	1360	1000
Cl4-BZ#52	11100		ug/kg	1360	1000
Cl4-BZ#66	4020		ug/kg	1360	1000



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-06 D
Client ID: S-09D-C003-2.1-2.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/16/10 08:38
Analyst: JS
Percent Solids: 97%

Date Collected: 12/16/09 13:00
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	8190		ug/kg	1360	1000
Cl4-BZ#44	4370		ug/kg	1360	1000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-07
 Client ID: S-09D-C004-0.2-0.7
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 18:06
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/16/09 13:22
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI7-BZ#170	356		ug/kg	133	100
CI7-BZ#180	470		ug/kg	133	100
CI7-BZ#187	493		ug/kg	133	100
CI8-BZ#195	ND		ug/kg	133	100
CI9-BZ#206	ND		ug/kg	133	100
CI10-BZ#209	ND		ug/kg	133	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-07
 Client ID: S-09D-C004-0.2-0.7
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 18:06
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/16/09 13:22
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	548		ug/kg	133	100
CI6-BZ#128	228		ug/kg	133	100
CI6-BZ#138	1070		ug/kg	133	100
CI6-BZ#153	2520		ug/kg	133	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-07 D
Client ID: S-09D-C004-0.2-0.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 00:11
Analyst: JS
Percent Solids: 98%

Date Collected: 12/16/09 13:22
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	7850		ug/kg	2660	2000
Cl3-BZ#18	10400		ug/kg	2660	2000
Cl4-BZ#66	10000		ug/kg	2660	2000
Cl5-BZ#118	4370		ug/kg	2660	2000



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-07 D
Client ID: S-09D-C004-0.2-0.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 00:11
Analyst: JS
Percent Solids: 98%

Date Collected: 12/16/09 13:22
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	18500		ug/kg	2660	2000
Cl4-BZ#44	10500		ug/kg	2660	2000
Cl4-BZ#52	16900		ug/kg	2660	2000
Cl5-BZ#101	7130		ug/kg	2660	2000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-08
 Client ID: S-09D-C004-0.8-1.3
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 15:11
 Analyst: JS
 Percent Solids: 94%

Date Collected: 12/16/09 13:22
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	8.57		ug/kg	1.40	1
CI4-BZ#44	12.0		ug/kg	1.40	1
CI4-BZ#66	16.3		ug/kg	1.40	1
CI5-BZ#101	11.5		ug/kg	1.40	1
CI5-BZ#105	ND		ug/kg	1.40	1
CI5-BZ#118	7.37		ug/kg	1.40	1
CI6-BZ#128	ND		ug/kg	1.40	1
CI6-BZ#138	6.11		ug/kg	1.40	1
CI7-BZ#170	ND		ug/kg	1.40	1
CI7-BZ#180	ND		ug/kg	1.40	1
CI7-BZ#187	1.88		ug/kg	1.40	1
CI8-BZ#195	ND		ug/kg	1.40	1
CI9-BZ#206	ND		ug/kg	1.40	1
CI10-BZ#209	ND		ug/kg	1.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	71		50-125
BZ 198	51		50-125

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Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-08
Client ID: S-09D-C004-0.8-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 15:11
Analyst: JS
Percent Solids: 94%

Date Collected: 12/16/09 13:22
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#153	4.97		ug/kg	1.40	1
DBOB	71		50-125		
BZ 198	51		50-125		



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-08 D
Client ID: S-09D-C004-0.8-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 05:38
Analyst: JS
Percent Solids: 94%

Date Collected: 12/16/09 13:22
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	21.7		ug/kg	14.0	10
Cl3-BZ#28	59.6		ug/kg	14.0	10



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-08 D
Client ID: S-09D-C004-0.8-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 05:38
Analyst: JS
Percent Solids: 94%

Date Collected: 12/16/09 13:22
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	50.3		ug/kg	14.0	10



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-09
 Client ID: S-09D-C005-1.3-1.8
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 06:19
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/16/09 14:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	232		ug/kg	13.7	10
Cl4-BZ#44	266		ug/kg	13.7	10
Cl7-BZ#170	56.0		ug/kg	13.7	10
Cl7-BZ#180	83.0		ug/kg	13.7	10
Cl7-BZ#187	65.1		ug/kg	13.7	10
Cl8-BZ#195	ND		ug/kg	13.7	10
Cl9-BZ#206	24.6		ug/kg	13.7	10
Cl10-BZ#209	29.8		ug/kg	13.7	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-09
 Client ID: S-09D-C005-1.3-1.8
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 06:19
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/16/09 14:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	130		ug/kg	13.7	10
CI6-BZ#128	50.5		ug/kg	13.7	10
CI6-BZ#138	226		ug/kg	13.7	10
CI6-BZ#153	196		ug/kg	13.7	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-09 D
 Client ID: S-09D-C005-1.3-1.8
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 19:28
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/16/09 14:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	707		ug/kg	137	100
Cl4-BZ#66	679		ug/kg	137	100
Cl5-BZ#118	586		ug/kg	137	100

02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-09 D
Client ID: S-09D-C005-1.3-1.8
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 19:28
Analyst: JS
Percent Solids: 96%

Date Collected: 12/16/09 14:15
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	534		ug/kg	137	100
Cl4-BZ#52	1150		ug/kg	137	100
Cl5-BZ#101	624		ug/kg	137	100



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-10
 Client ID: S-09D-C005-2.0-2.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 07:00
 Analyst: JS
 Percent Solids: 88%

Date Collected: 12/16/09 14:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	139		ug/kg	15.1	10
CI4-BZ#52	198		ug/kg	15.1	10
CI4-BZ#66	76.6		ug/kg	15.1	10
CI5-BZ#105	ND		ug/kg	15.1	10
CI5-BZ#118	26.6		ug/kg	15.1	10
CI6-BZ#128	ND		ug/kg	15.1	10
CI6-BZ#138	ND		ug/kg	15.1	10
CI7-BZ#170	ND		ug/kg	15.1	10
CI7-BZ#180	ND		ug/kg	15.1	10
CI7-BZ#187	ND		ug/kg	15.1	10
CI8-BZ#195	ND		ug/kg	15.1	10
CI9-BZ#206	ND		ug/kg	15.1	10
CI10-BZ#209	ND		ug/kg	15.1	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-10
 Client ID: S-09D-C005-2.0-2.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 07:00
 Analyst: JS
 Percent Solids: 88%

Date Collected: 12/16/09 14:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	86.2		ug/kg	15.1	10
Cl3-BZ#28	134		ug/kg	15.1	10
Cl4-BZ#44	68.3		ug/kg	15.1	10
Cl5-BZ#101	35.8		ug/kg	15.1	10
Cl6-BZ#153	24.1		ug/kg	15.1	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-11
 Client ID: S-09D-C006-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 20:50
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/16/09 14:40
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI7-BZ#170	634		ug/kg	135	100
CI7-BZ#180	810		ug/kg	135	100
CI7-BZ#187	1000		ug/kg	135	100
CI8-BZ#195	ND		ug/kg	135	100
CI9-BZ#206	ND		ug/kg	135	100
CI10-BZ#209	ND		ug/kg	135	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-11
 Client ID: S-09D-C006-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 20:50
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/16/09 14:40
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	675		ug/kg	135	100
CI6-BZ#128	344		ug/kg	135	100
CI6-BZ#138	1660		ug/kg	135	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-11 D2
Client ID: S-09D-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 00:52
Analyst: JS
Percent Solids: 96%

Date Collected: 12/16/09 14:40
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	26800		ug/kg	2700	2000



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-11 D2
Client ID: S-09D-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 00:52
Analyst: JS
Percent Solids: 96%

Date Collected: 12/16/09 14:40
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	37400		ug/kg	2700	2000
Cl4-BZ#52	45300		ug/kg	2700	2000



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-11 D
Client ID: S-09D-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 05:06
Analyst: JS
Percent Solids: 96%

Date Collected: 12/16/09 14:40
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	13800		ug/kg	1350	1000
Cl4-BZ#44	18300		ug/kg	1350	1000
Cl4-BZ#66	13800		ug/kg	1350	1000
Cl5-BZ#101	8950		ug/kg	1350	1000
Cl5-BZ#118	4650		ug/kg	1350	1000
Cl6-BZ#153	6430		ug/kg	1350	1000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-12
 Client ID: S-09D-C006-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 16:33
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/16/09 14:40
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	16.8		ug/kg	1.38	1
CI4-BZ#44	18.5		ug/kg	1.38	1
CI4-BZ#66	20.7		ug/kg	1.38	1
CI5-BZ#101	16.0		ug/kg	1.38	1
CI5-BZ#105	ND		ug/kg	1.38	1
CI5-BZ#118	8.72		ug/kg	1.38	1
CI6-BZ#128	ND		ug/kg	1.38	1
CI6-BZ#138	7.77		ug/kg	1.38	1
CI6-BZ#153	10.8		ug/kg	1.38	1
CI7-BZ#170	ND		ug/kg	1.38	1
CI7-BZ#180	1.68		ug/kg	1.38	1
CI7-BZ#187	2.21		ug/kg	1.38	1
CI8-BZ#195	ND		ug/kg	1.38	1
CI9-BZ#206	ND		ug/kg	1.38	1
CI10-BZ#209	ND		ug/kg	1.38	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	91		50-125
BZ 198	73		50-125



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-12 D
Client ID: S-09D-C006-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 07:41
Analyst: JS
Percent Solids: 96%

Date Collected: 12/16/09 14:40
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	41.7		ug/kg	13.8	10



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-12 D
Client ID: S-09D-C006-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 07:41
Analyst: JS
Percent Solids: 96%

Date Collected: 12/16/09 14:40
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	59.2		ug/kg	13.8	10
Cl4-BZ#52	71.2		ug/kg	13.8	10



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-13
 Client ID: S-09D-C007-0.7-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 22:12
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 15:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	2130		ug/kg	134	100
CI7-BZ#170	420		ug/kg	134	100
CI7-BZ#180	532		ug/kg	134	100
CI7-BZ#187	696		ug/kg	134	100
CI8-BZ#195	ND		ug/kg	134	100
CI9-BZ#206	ND		ug/kg	134	100
CI10-BZ#209	ND		ug/kg	134	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-13
 Client ID: S-09D-C007-0.7-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 22:12
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 15:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	449		ug/kg	134	100
CI6-BZ#128	231		ug/kg	134	100
CI6-BZ#138	1070		ug/kg	134	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-13 D
Client ID: S-09D-C007-0.7-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 06:28
Analyst: JS
Percent Solids: 97%

Date Collected: 12/16/09 15:00
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	14800		ug/kg	1340	1000



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-13 D
Client ID: S-09D-C007-0.7-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 06:28
Analyst: JS
Percent Solids: 97%

Date Collected: 12/16/09 15:00
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	9320		ug/kg	1340	1000
Cl3-BZ#28	18700		ug/kg	1340	1000
Cl4-BZ#44	12200		ug/kg	1340	1000
Cl4-BZ#52	24100		ug/kg	1340	1000
Cl4-BZ#66	8800		ug/kg	1340	1000
Cl5-BZ#101	5680		ug/kg	1340	1000
Cl6-BZ#153	4240		ug/kg	1340	1000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-14
 Client ID: S-09D-C007-2.1-2.6
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 22:53
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/16/09 15:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#118	2590		ug/kg	133	100
CI7-BZ#170	465		ug/kg	133	100
CI7-BZ#180	597		ug/kg	133	100
CI7-BZ#187	731		ug/kg	133	100
CI8-BZ#195	ND		ug/kg	133	100
CI9-BZ#206	ND		ug/kg	133	100
CI10-BZ#209	ND		ug/kg	133	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-14
 Client ID: S-09D-C007-2.1-2.6
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 22:53
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/16/09 15:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	565		ug/kg	133	100
CI6-BZ#128	275		ug/kg	133	100
CI6-BZ#138	1280		ug/kg	133	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-14 D
Client ID: S-09D-C007-2.1-2.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 07:09
Analyst: JS
Percent Solids: 98%

Date Collected: 12/16/09 15:00
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	15300		ug/kg	1330	1000



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-14 D
Client ID: S-09D-C007-2.1-2.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 07:09
Analyst: JS
Percent Solids: 98%

Date Collected: 12/16/09 15:00
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	7990		ug/kg	1330	1000
Cl3-BZ#28	21500		ug/kg	1330	1000
Cl4-BZ#44	14100		ug/kg	1330	1000
Cl4-BZ#52	25000		ug/kg	1330	1000
Cl4-BZ#66	9670		ug/kg	1330	1000
Cl5-BZ#101	8030		ug/kg	1330	1000
Cl6-BZ#153	5250		ug/kg	1330	1000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-15
 Client ID: S-09D-C008-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 23:34
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 15:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	ND		ug/kg	137	100
CI6-BZ#128	ND		ug/kg	137	100
CI7-BZ#170	ND		ug/kg	137	100
CI7-BZ#180	ND		ug/kg	137	100
CI7-BZ#187	166		ug/kg	137	100
CI8-BZ#195	ND		ug/kg	137	100
CI9-BZ#206	ND		ug/kg	137	100
CI10-BZ#209	ND		ug/kg	137	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-15
 Client ID: S-09D-C008-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/17/10 23:34
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/16/09 15:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1480		ug/kg	137	100
Cl4-BZ#44	1380		ug/kg	137	100
Cl4-BZ#66	1120		ug/kg	137	100
Cl5-BZ#101	755		ug/kg	137	100
Cl5-BZ#118	494		ug/kg	137	100
Cl6-BZ#138	257		ug/kg	137	100
Cl6-BZ#153	702		ug/kg	137	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-15 D
Client ID: S-09D-C008-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 07:50
Analyst: JS
Percent Solids: 97%

Date Collected: 12/16/09 15:30
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	4380		ug/kg	1370	1000



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-15 D
Client ID: S-09D-C008-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/17/10 07:50
Analyst: JS
Percent Solids: 97%

Date Collected: 12/16/09 15:30
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	4440		ug/kg	1370	1000
Cl4-BZ#52	6170		ug/kg	1370	1000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-16
 Client ID: S-09D-C008-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 08:22
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/16/09 15:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	180		ug/kg	13.4	10
CI4-BZ#66	71.2		ug/kg	13.4	10
CI5-BZ#118	35.3		ug/kg	13.4	10
CI7-BZ#170	ND		ug/kg	13.4	10
CI7-BZ#180	ND		ug/kg	13.4	10
CI7-BZ#187	ND		ug/kg	13.4	10
CI8-BZ#195	ND		ug/kg	13.4	10
CI9-BZ#206	ND		ug/kg	13.4	10
CI10-BZ#209	ND		ug/kg	13.4	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-16
 Client ID: S-09D-C008-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 08:22
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/16/09 15:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	82.6		ug/kg	13.4	10
Cl3-BZ#28	184		ug/kg	13.4	10
Cl4-BZ#44	76.0		ug/kg	13.4	10
Cl4-BZ#52	250		ug/kg	13.4	10
Cl5-BZ#101	48.1		ug/kg	13.4	10
Cl5-BZ#105	ND		ug/kg	13.4	10
Cl6-BZ#128	ND		ug/kg	13.4	10
Cl6-BZ#138	16.5		ug/kg	13.4	10
Cl6-BZ#153	25.2		ug/kg	13.4	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-17
 Client ID: S-09D-C009-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 17:54
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/16/09 15:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	14.5		ug/kg	1.39	1
CI5-BZ#101	22.6		ug/kg	1.39	1
CI5-BZ#105	2.35		ug/kg	1.39	1
CI5-BZ#118	17.1		ug/kg	1.39	1
CI6-BZ#128	2.74		ug/kg	1.39	1
CI6-BZ#138	14.0		ug/kg	1.39	1
CI6-BZ#153	20.9		ug/kg	1.39	1
CI7-BZ#170	2.41		ug/kg	1.39	1
CI7-BZ#180	3.16		ug/kg	1.39	1
CI7-BZ#187	4.00		ug/kg	1.39	1
CI8-BZ#195	ND		ug/kg	1.39	1
CI9-BZ#206	ND		ug/kg	1.39	1
CI10-BZ#209	ND		ug/kg	1.39	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	70		50-125
BZ 198	62		50-125

02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-17 D
Client ID: S-09D-C009-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 09:43
Analyst: JS
Percent Solids: 93%

Date Collected: 12/16/09 15:45
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	55.3		ug/kg	13.9	10
Cl4-BZ#66	37.1		ug/kg	13.9	10



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-17 D
 Client ID: S-09D-C009-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 09:43
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/16/09 15:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	88.5		ug/kg	13.9	10
Cl4-BZ#44	34.4		ug/kg	13.9	10
Cl4-BZ#52	112		ug/kg	13.9	10

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-18
 Client ID: S-09D-C010-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 10:24
 Analyst: JS
 Percent Solids: 95%

Date Collected: 12/16/09 16:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	250		ug/kg	13.7	10
CI4-BZ#66	142		ug/kg	13.7	10
CI7-BZ#170	ND		ug/kg	13.7	10
CI7-BZ#180	14.4		ug/kg	13.7	10
CI8-BZ#195	ND		ug/kg	13.7	10
CI9-BZ#206	ND		ug/kg	13.7	10
CI10-BZ#209	ND		ug/kg	13.7	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-18
 Client ID: S-09D-C010-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 10:24
 Analyst: JS
 Percent Solids: 95%

Date Collected: 12/16/09 16:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	89.1		ug/kg	13.7	10
Cl4-BZ#44	171		ug/kg	13.7	10
Cl5-BZ#101	95.7		ug/kg	13.7	10
Cl5-BZ#105	14.1		ug/kg	13.7	10
Cl5-BZ#118	62.3		ug/kg	13.7	10
Cl6-BZ#128	ND		ug/kg	13.7	10
Cl6-BZ#138	32.4		ug/kg	13.7	10
Cl6-BZ#153	70.0		ug/kg	13.7	10
Cl7-BZ#187	20.4		ug/kg	13.7	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-18 D
Client ID: S-09D-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 01:33
Analyst: JS
Percent Solids: 95%

Date Collected: 12/16/09 16:15
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	465		ug/kg	137	100
Cl4-BZ#52	635		ug/kg	137	100



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-19
 Client ID: S-09D-C011-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/19/10 11:05
 Analyst: JS
 Percent Solids: 99%

Date Collected: 12/16/09 16:40
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/30/09 09:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	150		ug/kg	13.2	10
CI4-BZ#66	134		ug/kg	13.2	10
CI5-BZ#118	66.9		ug/kg	13.2	10
CI7-BZ#170	ND		ug/kg	13.2	10
CI7-BZ#180	14.2		ug/kg	13.2	10
CI8-BZ#195	ND		ug/kg	13.2	10
CI9-BZ#206	ND		ug/kg	13.2	10
CI10-BZ#209	ND		ug/kg	13.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02021011:06

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0918519**Project Number:** T0-0010-001B**Report Date:** 02/02/10**SAMPLE RESULTS**

Lab ID:	L0918519-19	Date Collected:	12/16/09 16:40
Client ID:	S-09D-C011-0-0.5	Date Received:	12/17/09
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3540C
Analytical Method:	1,8082	Extraction Date:	12/30/09 09:48
Analytical Date:	01/19/10 11:05	Cleanup Method1:	EPA 3630
Analyst:	JS	Cleanup Date1:	01/08/10
Percent Solids:	99%	Cleanup Method2:	----

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	88.6		ug/kg	13.2	10
Cl4-BZ#44	141		ug/kg	13.2	10
Cl5-BZ#101	94.3		ug/kg	13.2	10
Cl5-BZ#105	15.7		ug/kg	13.2	10
Cl6-BZ#128	ND		ug/kg	13.2	10
Cl6-BZ#138	34.9		ug/kg	13.2	10
Cl6-BZ#153	55.5		ug/kg	13.2	10
Cl7-BZ#187	18.9		ug/kg	13.2	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-19 D
Client ID: S-09D-C011-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/19/10 02:13
Analyst: JS
Percent Solids: 99%

Date Collected: 12/16/09 16:40
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:48
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	292		ug/kg	132	100
Cl4-BZ#52	496		ug/kg	132	100



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 01/15/10 14:14
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-19 Batch: WG395084-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206	ND		ug/kg	1.33
Cl10-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	98		50-125
BZ 198	110		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 01/15/10 14:14
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 12/30/09 09:04
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-19 Batch: WG395084-1				
C16-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	98		50-125
BZ 198	110		50-125

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19 QC Batch ID: WG395084-4 WG395084-5 QC Sample: L0918519-02 Client ID: S-09D-C001-0.6-1.1												
Cl2-BZ#8	9.92	1790	1280	71		1340	74		40-120	4		30
Cl3-BZ#18	12.5	1790	1310	72		1370	75		40-120	4		30
Cl3-BZ#28	15.7	1790	1470	81		1520	83		40-120	3		30
Cl4-BZ#44	3.83	1790	1360	76		1430	79		40-120	4		30
Cl4-BZ#52	10.5	1790	1320	73		1410	77		40-120	6		30
Cl4-BZ#66	3.49	1790	1530	85		1560	86		40-120	1		30
Cl5-BZ#101	ND	1790	1360	76		1440	80		40-120	5		30
Cl5-BZ#105	ND	1790	1680	94		1660	92		40-120	2		30
Cl5-BZ#118	ND	1790	1600	89		1610	89		40-120	0		30
Cl6-BZ#128	ND	1790	1560	87		1580	87		40-120	1		30
Cl6-BZ#138	ND	1790	1530	85		1560	86		40-120	1		30
Cl6-BZ#153	ND	1790	1380	77		1500	83		40-120	8		30
Cl7-BZ#170	ND	1790	1580	88		1570	87		40-120	1		30
Cl7-BZ#180	ND	1790	1590	89		1620	90		40-120	1		30
Cl7-BZ#187	ND	1790	1380	77		1420	79		40-120	2		30
Cl8-BZ#195	ND	1790	1540	86		1540	85		40-120	1		30
Cl9-BZ#206	ND	1790	1710	95		1720	95		40-120	0		30
Cl10-BZ#209	ND	1790	1510	84		1480	82		40-120	3		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
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PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19 QC Batch ID: WG395084-4 WG395084-5 QC Sample: L0918519-02 Client ID: S-09D-C001-0.6-1.1

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
BZ 198	0	Q	0	Q	50-125
DBOB	0	Q	0	Q	50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0918519

Project Number: T0-0010-001B

Report Date: 02/02/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19 Batch: WG395084-2								
Cl7-BZ#187	99		-		40-120	-		30

DBOB 98 50-125
BZ 198 120 50-125

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19 Batch: WG395084-2								
Cl2-BZ#8	94		-		40-120	-		30
Cl3-BZ#18	107		-		40-120	-		30
Cl3-BZ#28	110		-		40-120	-		30
Cl4-BZ#44	110		-		40-120	-		30
Cl4-BZ#52	107		-		40-120	-		30
Cl4-BZ#66	112		-		40-120	-		30
Cl5-BZ#101	108		-		40-120	-		30
Cl5-BZ#105	114		-		40-120	-		30
Cl5-BZ#118	116		-		40-120	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0918519

Project Number: T0-0010-001B

Report Date: 02/02/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19 Batch: WG395084-2								
Cl6-BZ#128	117		-		40-120	-		30
Cl6-BZ#138	120		-		40-120	-		30
Cl6-BZ#153	100		-		40-120	-		30
Cl7-BZ#170	117		-		40-120	-		30
Cl7-BZ#180	114		-		40-120	-		30
Cl8-BZ#195	117		-		40-120	-		30
Cl9-BZ#206	134	Q	-		40-120	-		30
Cl10-BZ#209	125	Q	-		40-120	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	98				50-125
BZ 198	120				50-125

INORGANICS & MISCELLANEOUS



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-01
Client ID: S-09D-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 12:15
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.4		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-02
Client ID: S-09D-C001-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 12:20
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	90.9		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-03
Client ID: S-09D-C002-0.2-0.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 12:30
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.3		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-04
Client ID: S-09D-C002-0.8-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 12:30
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	92.2		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-05
Client ID: S-09D-C003-0.9-1.4
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 13:00
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.4		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-06
Client ID: S-09D-C003-2.1-2.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 13:00
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.9		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-07
Client ID: S-09D-C004-0.2-0.7
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 13:22
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.7		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-08
Client ID: S-09D-C004-0.8-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 13:22
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	93.7		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-09
Client ID: S-09D-C005-1.3-1.8
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 14:15
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.2		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-10
Client ID: S-09D-C005-2.0-2.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 14:15
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	87.8		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-11
 Client ID: S-09D-C006-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/16/09 14:40
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.3		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-12
Client ID: S-09D-C006-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 14:40
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	95.9		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-13
Client ID: S-09D-C007-0.7-1.2
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 15:00
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.1		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-14
Client ID: S-09D-C007-2.1-2.6
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 15:00
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.6		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-15
Client ID: S-09D-C008-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 15:30
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.5		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-16
Client ID: S-09D-C008-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 15:30
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.6		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-17
Client ID: S-09D-C009-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 15:45
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	93.4		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



02021011:06

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-18
Client ID: S-09D-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 16:15
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	95.2		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

SAMPLE RESULTS

Lab ID: L0918519-19
 Client ID: S-09D-C011-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/16/09 16:40
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.7		%	0.100	1	-	12/30/09 11:30	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0918519
Report Date: 02/02/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-19 QC Batch ID: WG395116-1 QC Sample: L0918519-01 Client ID: S-09D-C001-0-0.5						
Solids, Total	97.4	97.4	%	0		20

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0918519-01A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-02A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-02B	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-03A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-04A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-05A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-06A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-07A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-08A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-09A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-PHI(14)
L0918519-10A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-11A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-12A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-13A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-PHI(14)
L0918519-14A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-15A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-16A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-17A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-18A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-19A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918519-20A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	-

*Hold days indicated by values in parentheses

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

GLOSSARY

Acronyms

- EPA - Environmental Protection Agency.
- LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCSD - Laboratory Control Sample Duplicate: Refer to LCS.
- MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MSD - Matrix Spike Sample Duplicate: Refer to MS.
- NA - Not Applicable.
- NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- ND - Not detected at the reported detection limit for the sample.
- NI - Not Ignitable.
- RDL - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918519
Report Date: 02/02/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



02021011:06

PERCENT SOLIDS - METHOD 2540G

Analyst: KJB BATCH: L0918519
 Date In: 12/22/2009 Time in: 9:33 Start Temp: 105 °C
 Date Out: 12/23/2009 Time out: 8:52 End Temp: 105 °C 1st WEIGHING Entered by: KJB
 Date Out: 12/23/2009 Time out: 14:20 End Temp: 105 °C 2nd WEIGHING Verified by: _____
 Date Out: _____ Time out: _____ End Temp: _____ °C 3rd WEIGHING Calculation: (C-A) X 100/(B-A)
 Oven Requirement: 103-105°C

ETR #	Sample #	QC (D)	Dish #	A Mass of Dish tare wt (g)	B Mass of Dish & wet sample (g)	C - 1st Weighing Mass of Dish & dry sample (g)	D - 2nd Weighing Mass of Dish & dry sample (g)	E - 3rd Weighing Mass of Dish & dry sample (g)	% Solids	QC (RPD)
	BLANK		B	1.31	1.31	1.31	1.31		<0.1	
L0918519	-01			1.32	6.84	3.68	3.68		42.8	
L0918519	-02			1.32	5.60	3.06	3.06		40.7	
L0918519	-03			1.31	5.96	2.98	2.98		35.9	
L0918519	-04			1.31	7.06	3.98	3.98		46.4	
L0918519	-05			1.31	6.32	3.02	3.02		34.1	
L0918519	-06			1.31	6.39	3.24	3.24		38.0	
L0918519	-07			1.31	6.22	3.19	3.19		38.3	
L0918519	-08			1.31	7.65	4.44	4.44		49.4	
L0918519	-09			1.32	5.60	2.75	2.75		33.4	
L0918519	-10			1.31	5.28	3.15	3.15		46.3	
L0918519	-11			1.31	6.33	2.9	2.9		31.7	
L0918519	-12			1.31	5.83	3.08	3.08		39.2	
L0918519	-13			1.31	6.31	3.06	3.06		35.0	
L0918519	-14			1.31	7.04	3.59	3.59		39.8	
L0918519	-15			1.32	4.93	2.74	2.74		39.3	
L0918519	-16			1.31	6.08	3.73	3.73		50.7	
L0918519	-17			1.31	6.56	4.22	4.22		55.4	
L0918519	-18			1.32	7.02	4.19	4.19		50.4	
L0918519	-19			1.31	7.54	5.18	5.18		62.1	

TEMPLATE: PERCENTNEW.XLT

Duplicates should agree within +/- 10%.

1st and/or 2nd and/or 3rd weighings should agree within 4% or 50 mg

Alpha Analytical Mansfield, MA

L0918519

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Delivery Order-0010
June 2010

B-518

Sediment Monitoring Summary Report
W912WJ-09-D-0001

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A, 3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D, 9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3051, 6020, 747A, 7474, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.

Client Information
Client: Woods Hole Group
Address: 81 Technology Park Dr. E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com
 These samples have been previously analyzed by Alpha

Project Information
Project Name: New Bedford Harbor
Project Location: New Bedford, MA
Project #: TD-0010
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time
 Standard RUSH (only confirmed if pre-approved!)
Date Due: _____ Time: _____

Other Project Specific Requirements/Comments/Detection Limits:
* Please homogenize all samples before analysis
* Level III data report and project specific EDD

Date Rec'd in Lab:

ALPHA Job #: L0918519

Report Information - Data Deliverables
 FAX EMAIL
 ADEx Add'l Deliverables

Billing Information
 Same as Client info PO #:

Regulatory Requirements/Report Limits
State/Fed Program: _____ Criteria: _____

MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS
 Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS	TOTAL # BOTTLES	SAMPLE HANDLING	
		Filtration	Preservation
		<input type="checkbox"/> Done	<input type="checkbox"/> Lab to do
		<input type="checkbox"/> Not needed	<input type="checkbox"/> Lab to do
		(*Please specify, below)	
		Sample Specific Comments	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials						Sample Specific Comments	TOTAL # BOTTLES
		Date	Time									
18519-1	S-09D-C001-0-0.5	12/16/09	12:15	SE DRW		X					LN19	1
2	S-09D-C001-0.6-1.1		12:20			X					LN19	1
3	S-09D-C001-0.6-1.1MSMSD		12:20			X					LN19 MS/MSD	1
4	S-09D-C002-0.2-0.7		12:30			X					LN14	1
5	S-09D-C002-0.8-1.3		12:30			X					LN14	1
6	S-09D-C003-0.9-1.4		13:00			X					LK12	1
7	S-09D-C003-2.1-2.6		13:00			X					LK12	1
8	S-09D-C004-0.2-0.7		13:22			X					LM09	1
9	S-09D-C004-0.8-1.3		13:22			X					LM09	1
	S-09D-C005-1.3-1.8		14:15			X	X				LH06	1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type: 06
Preservative: AA

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By: [Signature] Date/Time: 12/16/09 1757
Received By: [Signature] Date/Time: 12/17/09 1757

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



CHAIN OF CUSTODY

PAGE 2 OF 6

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

ALPHA Job #: L0918519

Client Information

Client: Woods Hole Group

Address: 81 Technology Park Dr.
E. Falmouth MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: dwalsh@whgrp.com

These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Harbor

Project Location: New Bedford, MA

Project #: TO-0010

Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: _____ Time: _____

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: _____ Criteria: _____

Other Project Specific Requirements/Comments/Detection Limits:

* Please homogenize all samples before analysis

* Level III data report and project specific EDD

MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?

Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials											SAMPLE HANDLING	TOTAL # BOTTLES	
		Date	Time															
18519-10	S-09D-C005-2.0-2.5	12/16/09	14:15	SE	DRW	X												
-11	S-09D-C006-0-0.5	12/16/09	14:40			X												
-12	S-09D-C006-0.6-1.1	12/16/09	14:40			X												
-13	S-09D-C007-0.7-1.2		15:00			X	X											
-14	S-09D-C007-2.1-2.6		15:00			X												
-15	S-09D-C008-0-0.5		15:30			X												
-16	S-09D-C008-0.6-1.1		15:30			X												
-17	S-09D-C009-0-0.5		15:45			X												
-18	S-09D-C010-0-0.5		16:15			X												
-19	S-09D-C011-0-0.5		16:40			X												

ANALYSIS

PCB congeners (NOTAS)

TPH (note that it is not in the spec)

SAMPLE HANDLING

Filtration _____

Done

Not needed

Preservation

Lab to do

(Please specify below)

PLEASE ANSWER QUESTIONS ABOVE!

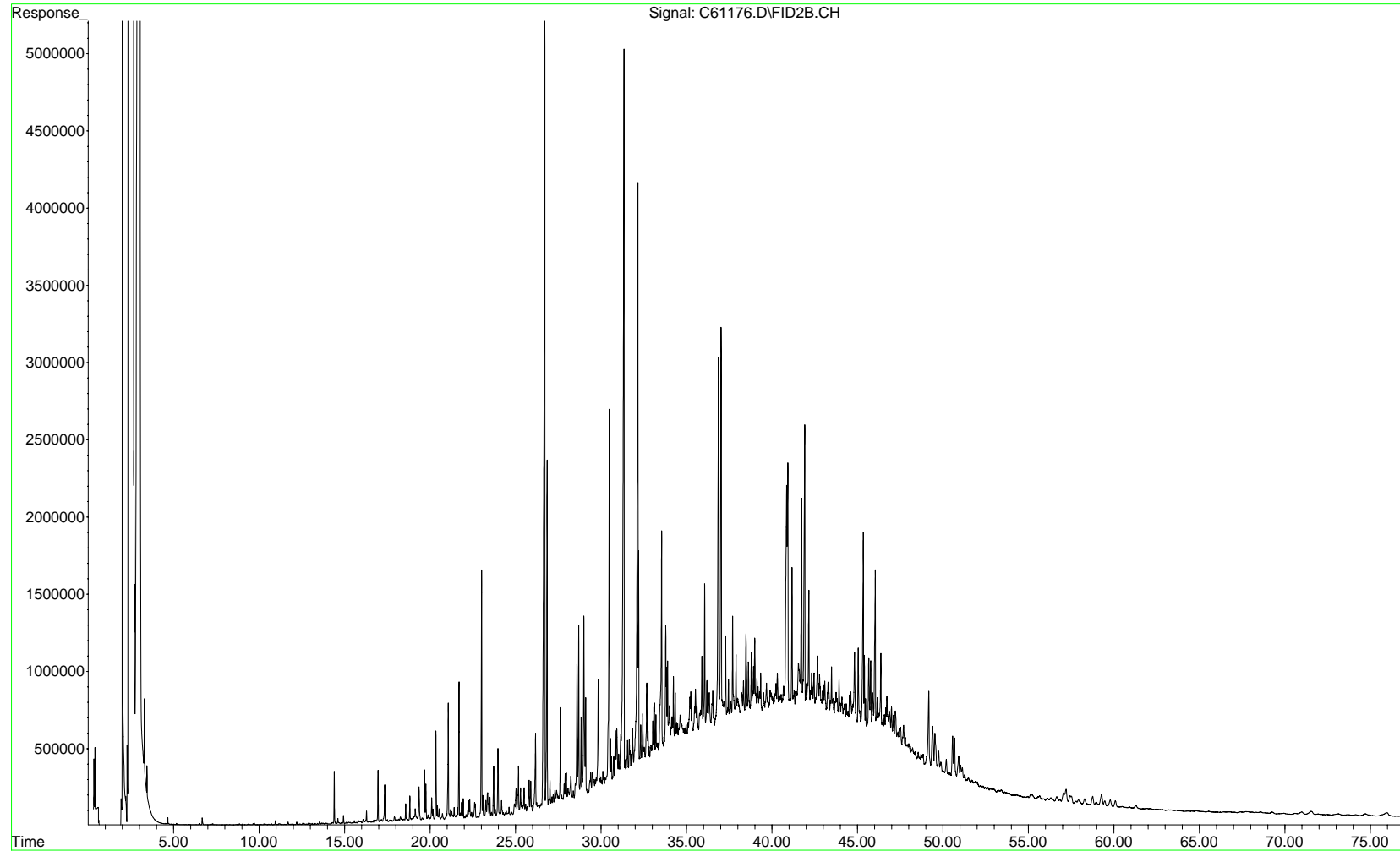
IS YOUR PROJECT MA MCP or CT RCP? MA MCP

Container Type: GG
Preservative: AA

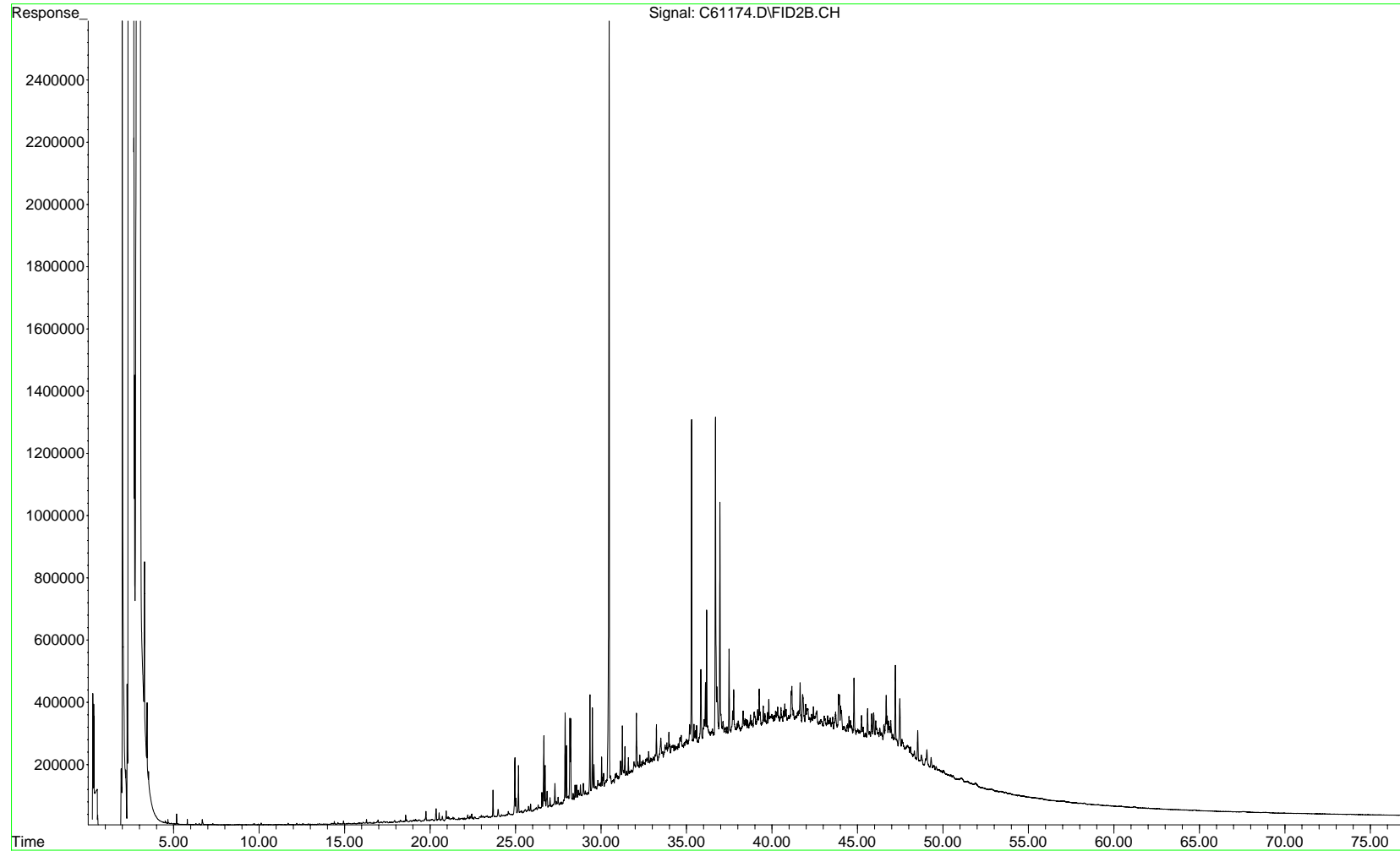
Relinquished By: [Signature] Date/Time: 12/17/09 1:57
Received By: [Signature] Date/Time: 12/17/09 1:57

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

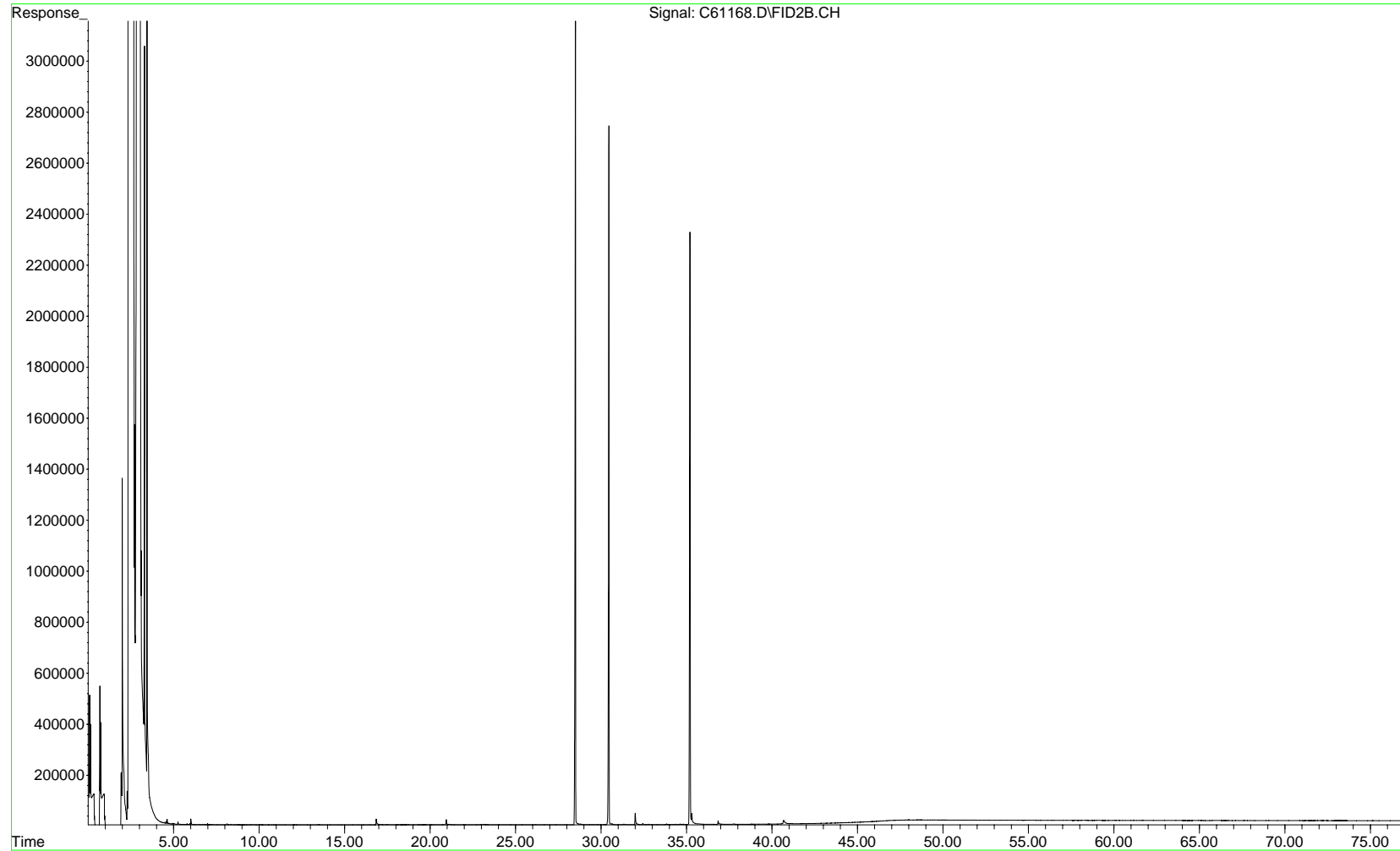
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Operator : FID6:NL
Acquired : 05 Jan 2010 1:28 am using AcqMethod FID6A.M
Instrument : FID6
Sample Name: L0918519-09,42
Misc Info : WG395349,WG395100
Vial Number: 59



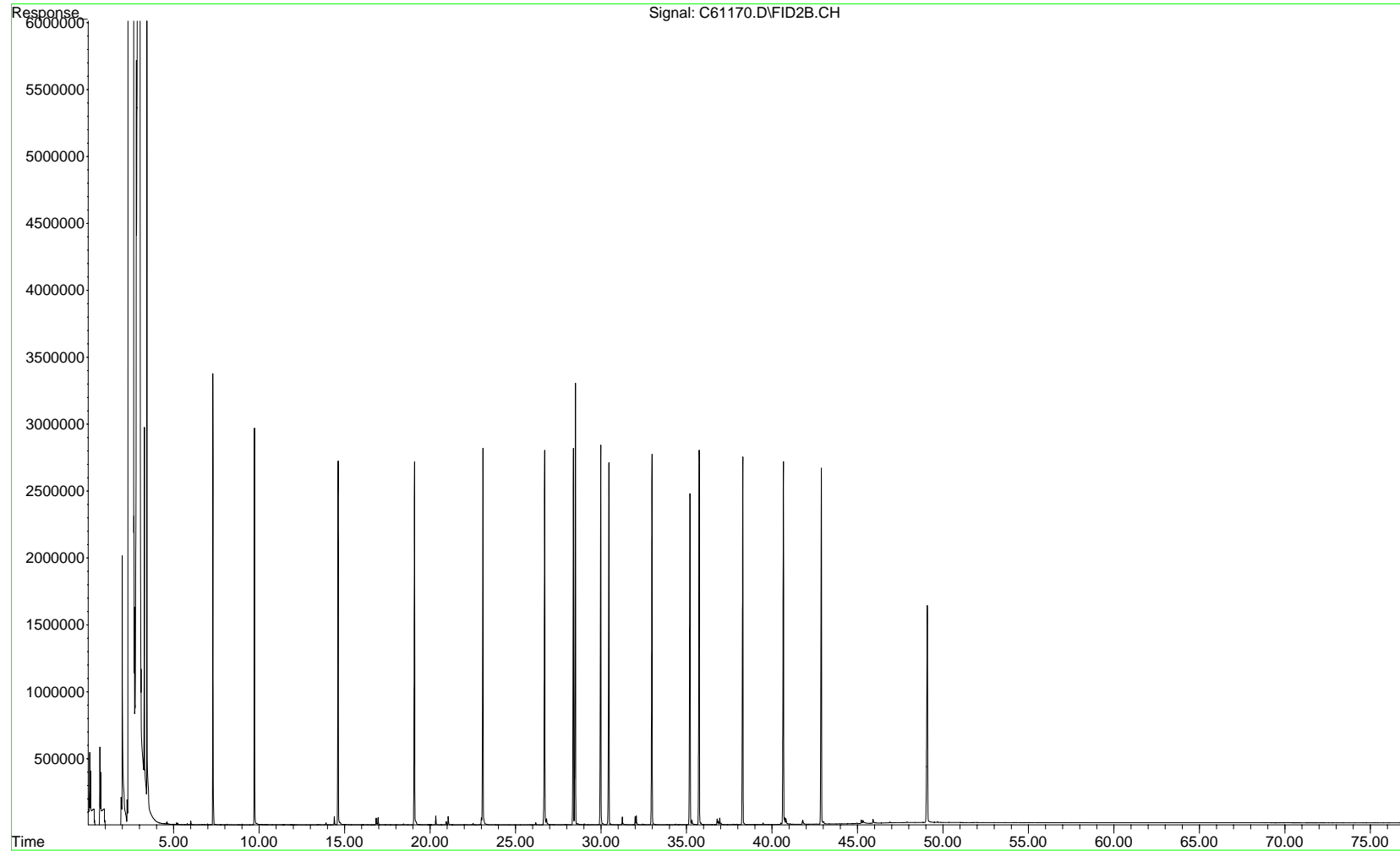
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Operator : FID6:NL
Acquired : 05 Jan 2010 12:00 am using AcqMethod FID6A.M
Instrument : FID6
Sample Name: L0918519-13,42
Misc Info : WG395349,WG395100
Vial Number: 58



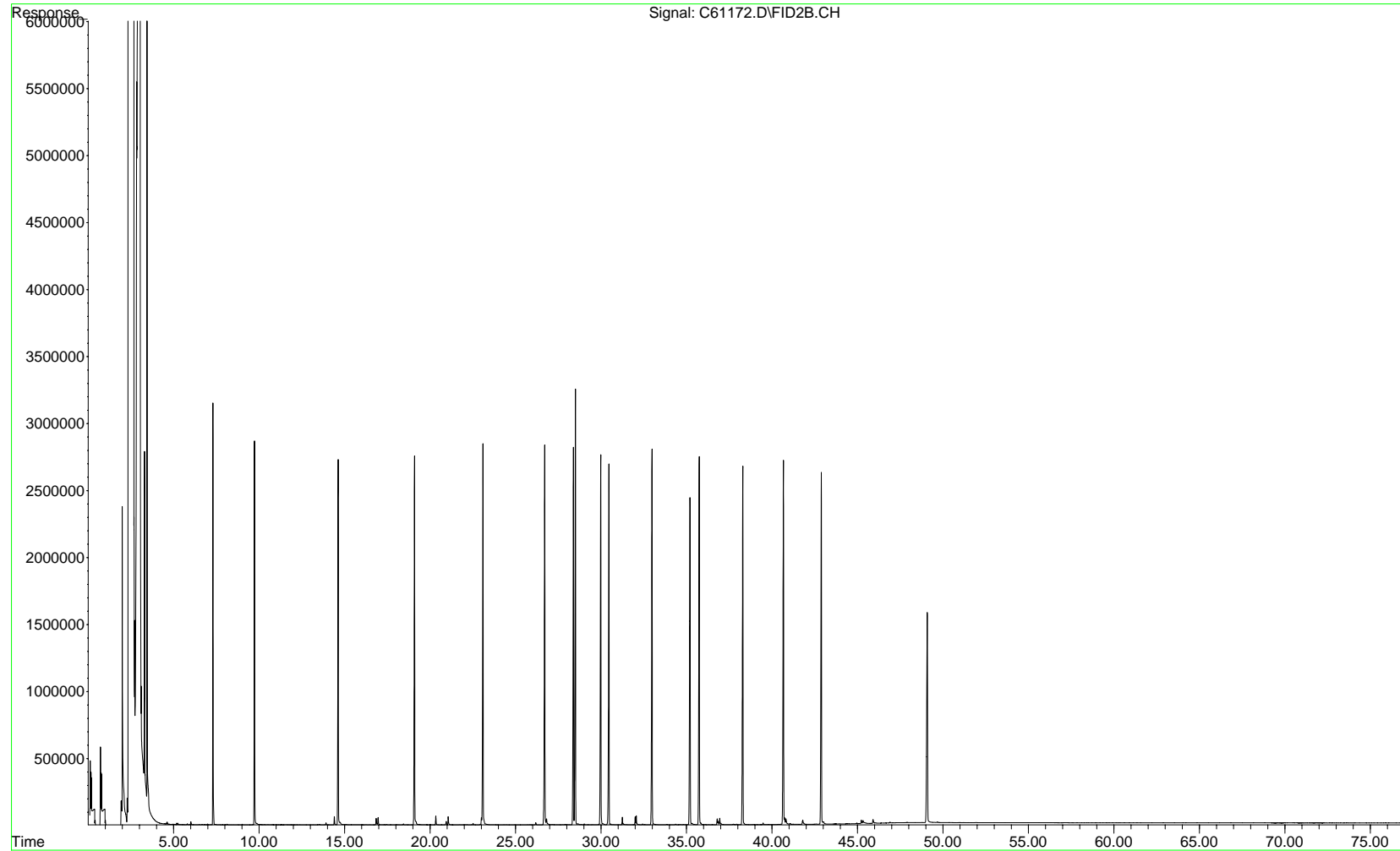
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Operator : FID6:NL
Acquired : 04 Jan 2010 7:34 pm using AcqMethod FID6A.M
Instrument : FID6
Sample Name: WG395100-1,42
Misc Info : WG395349,WG395100
Vial Number: 55



File :O:\FORENSICS\DATA\FID6\2009\JAN10\JAN04.SEC\C61170.D
Operator : FID6:NL
Acquired : 04 Jan 2010 9:03 pm using AcqMethod FID6A.M
Instrument : FID6
Sample Name: WG395100-2,42
Misc Info : WG395349,WG395100
Vial Number: 56

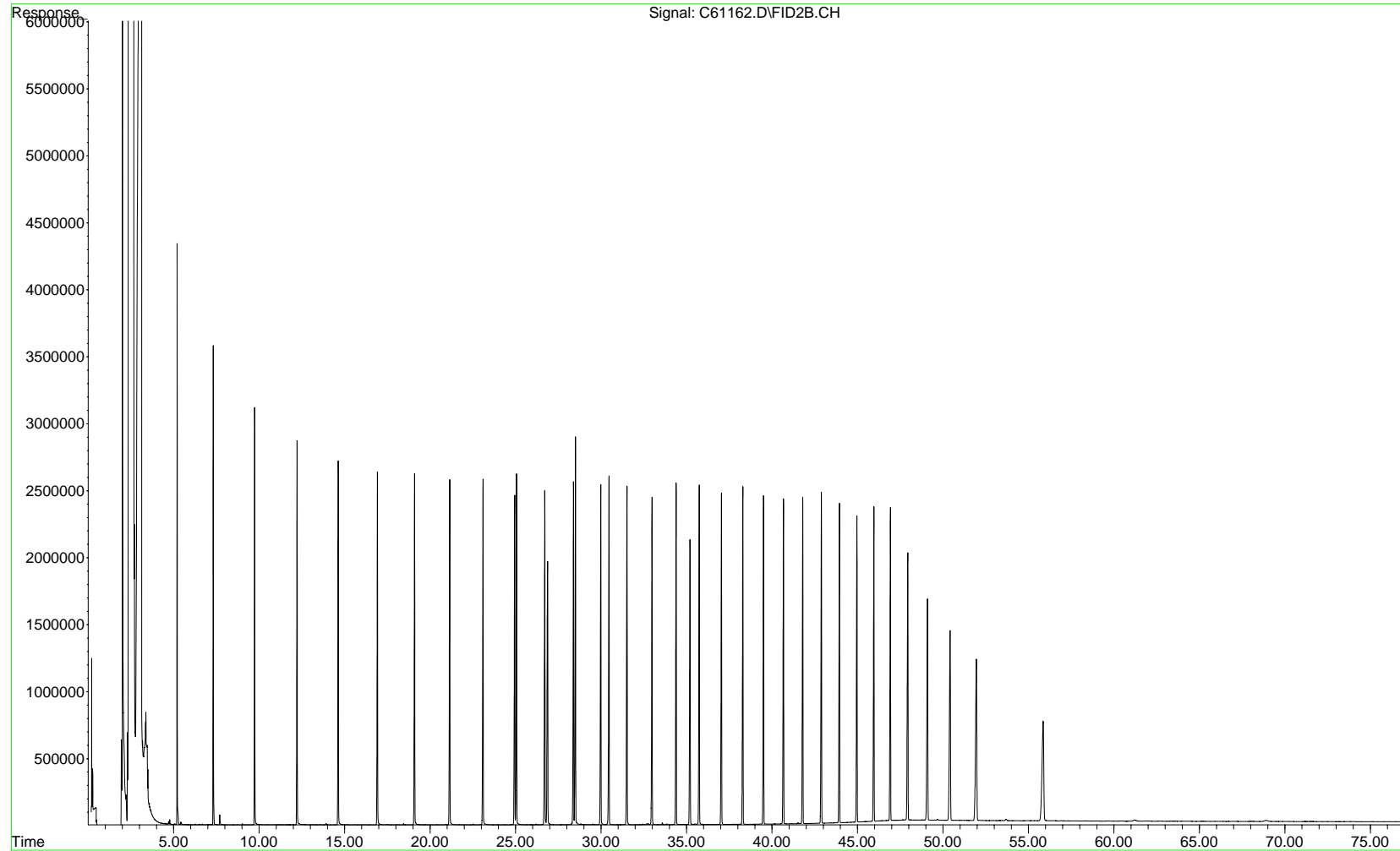


File :O:\FORENSICS\DATA\FID6\2009\JAN10\JAN04.SEC\C61172.D
Operator : FID6:NL
Acquired : 04 Jan 2010 10:32 pm using AcqMethod FID6A.M
Instrument : FID6
Sample Name: WG395100-3,42
Misc Info : WG395349,WG395100
Vial Number: 57



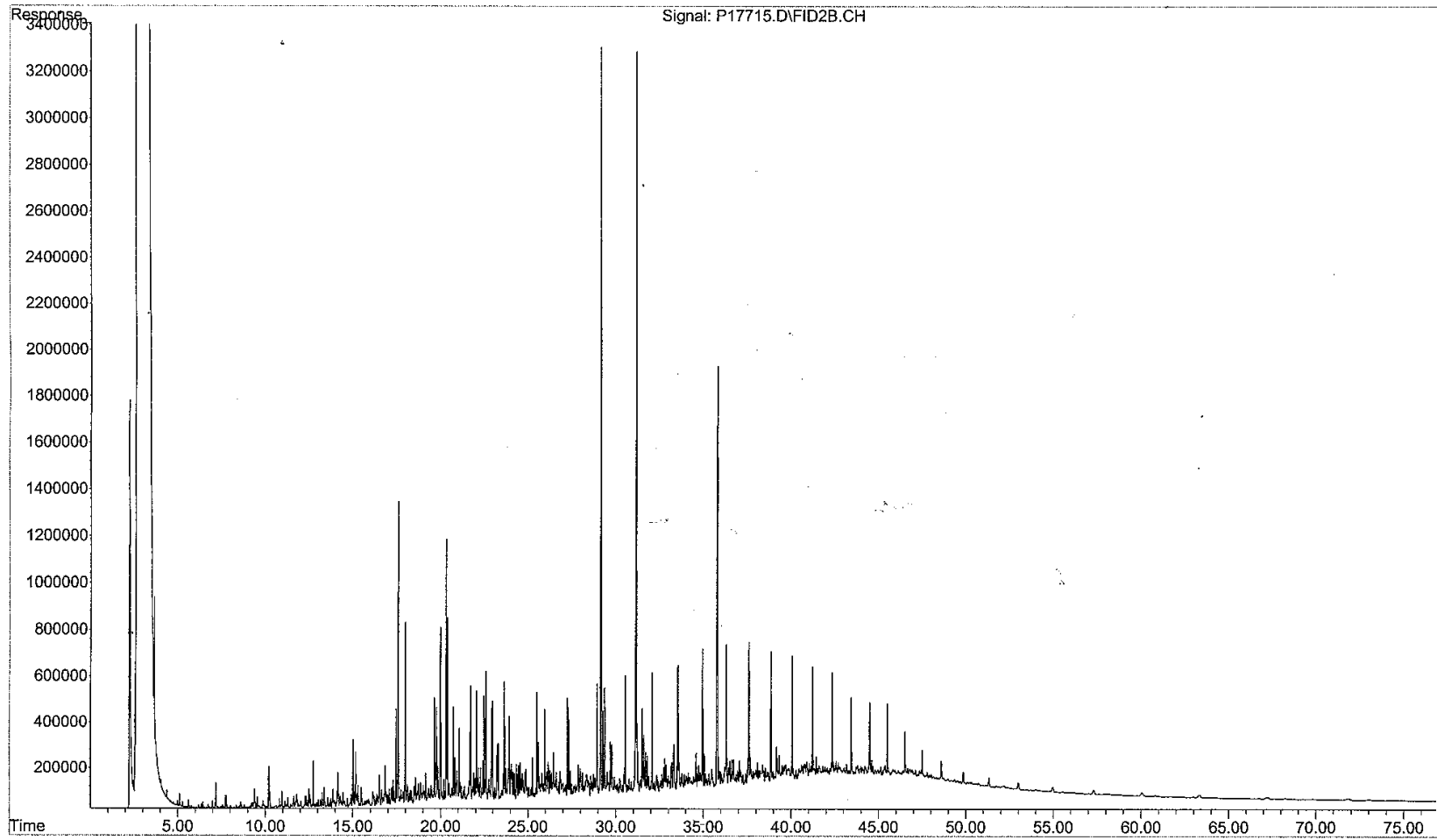
Petroleum Reference Standards

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Operator : FID6:NL
Acquired : 04 Jan 2010 3:06 pm using AcqMethod FID6A.M
Instrument : FID6
Sample Name: WG395349-1,42
Misc Info : WG395349,,CCV WHAJ14
Vial Number: 52



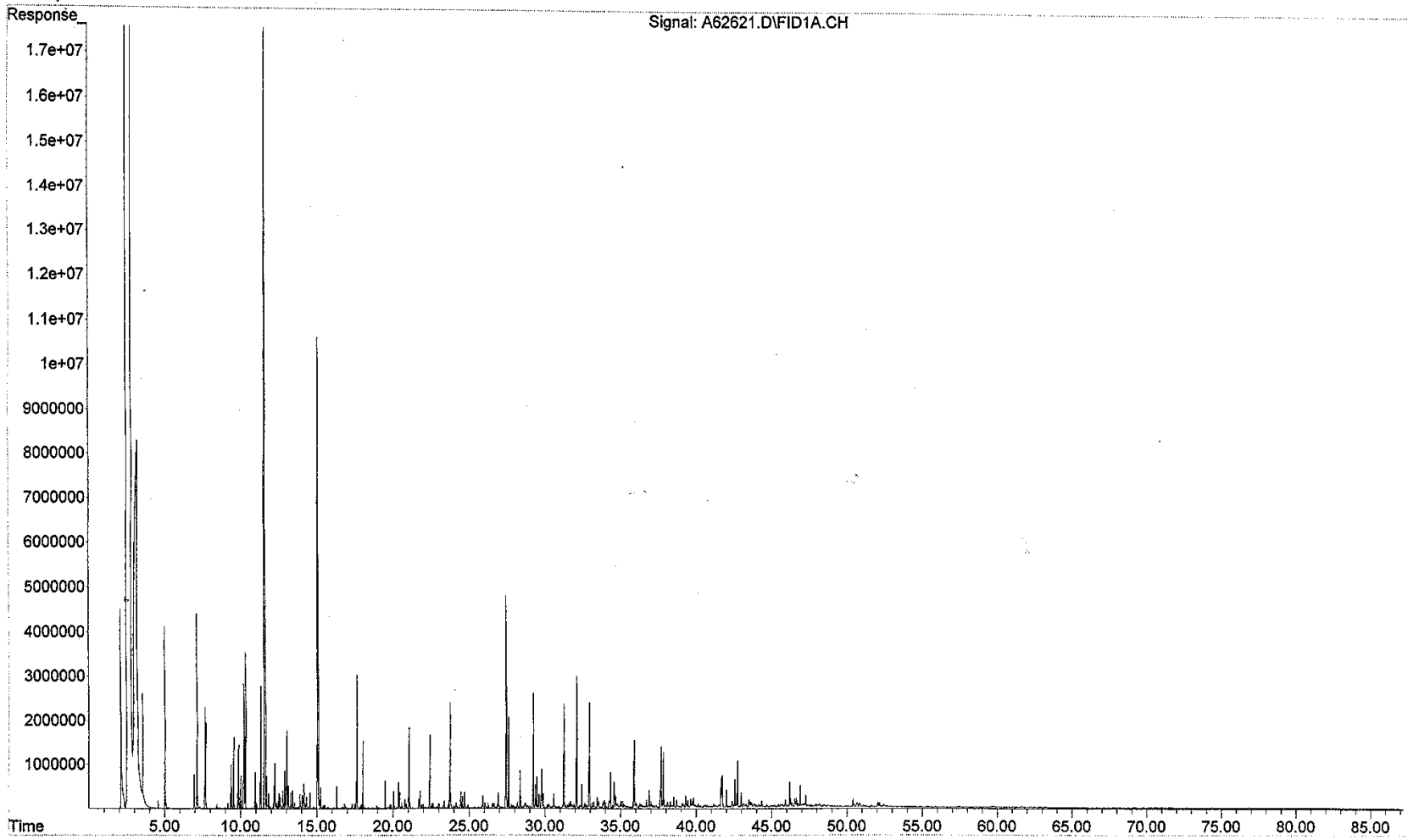
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Operator : AC
Acquired : 24 Jan 2006 7:28 am using AcqMethod FRNC1D.M
Instrument : PAH-1
Sample Name: R1012309-AFID
Misc Info : #6 Fuel Oil ID: WHAC31
Vial Number: 63



02021011:06

File :O:\Forensics\Data\FID6\MAR08\MAR18\A62621.D
Operator : NLJr
Acquired : 20 Mar 2008 4:26 pm using AcqMethod FID6A.M
Instrument : FID6
Sample Name: R603190803
Misc Info : **PAH** Reference Standard
Vial Number: 34





ANALYTICAL REPORT

Lab Number:	L0918520
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Project Name:	NEW BEDFORD HARBOR
Project Number:	T0-0010-001B
Report Date:	02/01/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0918520-01	S-09D-C012-0-0.5	NEW BEDFORD, MA	12/16/09 16:45
L0918520-02	S-09D-C012-0.5-1.0	NEW BEDFORD, MA	12/16/09 16:45
L0918520-03	S-09D-C013-0-0.5	NEW BEDFORD, MA	12/17/09 09:35
L0918520-04	S-09D-C013-0.6-1.1	NEW BEDFORD, MA	12/17/09 09:35
L0918520-05	S-09D-C015-0-0.5	NEW BEDFORD, MA	12/17/09 10:30
L0918520-06	S-09D-C014-0-0.5	NEW BEDFORD, MA	12/17/09 09:55
L0918520-07	S-09D-C014-0.6-1.1	NEW BEDFORD, MA	12/17/09 09:55
L0918520-08	S-09D-C016-0-0.5	NEW BEDFORD, MA	12/17/09 10:45
L0918520-09	S-09D-C016-0.8-1.3	NEW BEDFORD, MA	12/17/09 10:50
L0918520-10	S-09D-C021-0.5-1.0	NEW BEDFORD, MA	12/17/09 13:05
L0918520-11	S-09D-C022-0-0.5	NEW BEDFORD, MA	12/17/09 13:25
L0918520-12	S-09D-C022-1.0-1.5	NEW BEDFORD, MA	12/17/09 13:25
L0918520-13	S-09D-C023-0-0.5	NEW BEDFORD, MA	12/17/09 13:30
L0918520-14	S-09D-C023-0.5-1.0	NEW BEDFORD, MA	12/17/09 13:30
L0918520-15	S-09D-C024-0-0.5	NEW BEDFORD, MA	12/17/09 14:55
L0918520-16	S-09D-C024-0.5-1.0	NEW BEDFORD, MA	12/17/09 14:55
L0918520-17	S-09D-C025-0-0.5	NEW BEDFORD, MA	12/17/09 15:15
L0918520-18	S-09D-C025-1.0-1.5	NEW BEDFORD, MA	12/17/09 15:15
L0918520-19	S-09D-C026-0-0.5	NEW BEDFORD, MA	12/17/09 15:27

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the one issued on January 22, 2010. At the client's request, the PCB Congener data was amended to report a single recovery for each surrogate.

PCB Congeners by 8082

The surrogate recovery for L0918520-07 is outside the individual acceptance criteria for dbob(49%) , but within the overall method allowances. The results of the original analysis are reported; however, all associated

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

Case Narrative (continued)

compounds are considered to have a potential bias.

Samples L09185207-01 through -19, with the exception of samples -02, -07,-09, -12 and -16, have the surrogates diluted out. Dilutions were performed according to screening data.

The WG395397-2 LCS recovery associated with L0918520-01 through -19 is outside the individual acceptance criteria for Cl9-BZ#206(122%), but within the overall method allowances.

The WG395397-4 MS recoveries were above the acceptance criteria for cl3-bz#28(183%),cl4-bz#44(125%),cl4-bz#52(175%); however, the associated LCS/LCSD recoveries were within criteria. The results of the sample utilized for the MS/MSD are considered to have a potentially high bias for these compounds.

The WG395397-5 MSD recoveries were above the acceptance criteria for cl3-bz#28(122%); however, the associated LCS/LCSD recoveries were within criteria. The results of the sample utilized for the MS/MSD are considered to have a potentially high bias for these compounds.

The WG395397-5 MS/MSD RPDs associated with L0918520-01 through -19 are above the acceptance criteria for cl2-bz#8(39%),cl3-bz#18(56%),cl3-bz#28(40%),cl4-bz#44(36%),cl4-bz#52(59%). The results of the associated samples are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/01/10

ORGANICS



PCBS



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-01
 Client ID: S-09D-C012-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 03:20
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/16/09 16:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	979		ug/kg	136	100
CI4-BZ#66	459		ug/kg	136	100
CI5-BZ#105	ND		ug/kg	136	100
CI5-BZ#118	216		ug/kg	136	100
CI6-BZ#128	ND		ug/kg	136	100
CI6-BZ#138	ND		ug/kg	136	100
CI7-BZ#170	ND		ug/kg	136	100
CI7-BZ#180	ND		ug/kg	136	100
CI7-BZ#187	ND		ug/kg	136	100
CI8-BZ#195	ND		ug/kg	136	100
CI9-BZ#206	ND		ug/kg	136	100
CI10-BZ#209	ND		ug/kg	136	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-01
 Client ID: S-09D-C012-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 03:20
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/16/09 16:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	518		ug/kg	136	100
Cl3-BZ#28	1570		ug/kg	136	100
Cl4-BZ#44	462		ug/kg	136	100
Cl4-BZ#52	1680		ug/kg	136	100
Cl5-BZ#101	288		ug/kg	136	100
Cl6-BZ#153	200		ug/kg	136	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-02
 Client ID: S-09D-C012-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 13:02
 Analyst: JS
 Percent Solids: 95%

Date Collected: 12/16/09 16:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2.82		ug/kg	1.39	1
Cl3-BZ#18	5.51		ug/kg	1.39	1
Cl4-BZ#66	1.84		ug/kg	1.39	1
Cl5-BZ#105	ND		ug/kg	1.39	1
Cl5-BZ#118	ND		ug/kg	1.39	1
Cl6-BZ#128	ND		ug/kg	1.39	1
Cl6-BZ#138	ND		ug/kg	1.39	1
Cl7-BZ#170	ND		ug/kg	1.39	1
Cl7-BZ#180	ND		ug/kg	1.39	1
Cl7-BZ#187	ND		ug/kg	1.39	1
Cl8-BZ#195	ND		ug/kg	1.39	1
Cl9-BZ#206	ND		ug/kg	1.39	1
Cl10-BZ#209	ND		ug/kg	1.39	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	69		50-125
BZ 198	73		50-125

02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-02
Client ID: S-09D-C012-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/21/10 13:02
Analyst: JS
Percent Solids: 95%

Date Collected: 12/16/09 16:45
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	5.71		ug/kg	1.39	1
Cl4-BZ#44	2.58		ug/kg	1.39	1
Cl4-BZ#52	7.82		ug/kg	1.39	1
Cl5-BZ#101	ND		ug/kg	1.39	1
Cl6-BZ#153	ND		ug/kg	1.39	1

DBOB	69	50-125
BZ 198	73	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-03
 Client ID: S-09D-C013-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 22:41
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/17/09 09:35
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1750		ug/kg	136	100
Cl4-BZ#66	2260		ug/kg	136	100
Cl5-BZ#118	1160		ug/kg	136	100
Cl6-BZ#128	ND		ug/kg	136	100
Cl7-BZ#170	189		ug/kg	136	100
Cl7-BZ#180	252		ug/kg	136	100
Cl7-BZ#187	316		ug/kg	136	100
Cl8-BZ#195	ND		ug/kg	136	100
Cl9-BZ#206	ND		ug/kg	136	100
Cl10-BZ#209	ND		ug/kg	136	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-03
Client ID: S-09D-C013-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/20/10 22:41
Analyst: JS
Percent Solids: 97%

Date Collected: 12/17/09 09:35
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	2490		ug/kg	136	100
Cl5-BZ#101	1670		ug/kg	136	100
Cl5-BZ#105	244		ug/kg	136	100
Cl6-BZ#138	569		ug/kg	136	100
Cl6-BZ#153	1350		ug/kg	136	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-03 D
Client ID: S-09D-C013-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/20/10 10:05
Analyst: JS
Percent Solids: 97%

Date Collected: 12/17/09 09:35
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	4950		ug/kg	1360	1000



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-03 D
Client ID: S-09D-C013-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/20/10 10:05
Analyst: JS
Percent Solids: 97%

Date Collected: 12/17/09 09:35
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	7370		ug/kg	1360	1000
Cl4-BZ#52	12000		ug/kg	1360	1000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-04
 Client ID: S-09D-C013-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 01:58
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 09:35
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	372		ug/kg	67.8	50
CI5-BZ#105	ND		ug/kg	67.8	50
CI5-BZ#118	102		ug/kg	67.8	50
CI6-BZ#128	ND		ug/kg	67.8	50
CI6-BZ#138	ND		ug/kg	67.8	50
CI7-BZ#170	ND		ug/kg	67.8	50
CI7-BZ#180	ND		ug/kg	67.8	50
CI7-BZ#187	ND		ug/kg	67.8	50
CI8-BZ#195	ND		ug/kg	67.8	50
CI9-BZ#206	ND		ug/kg	67.8	50
CI10-BZ#209	ND		ug/kg	67.8	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-04
 Client ID: S-09D-C013-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 01:58
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 09:35
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	182		ug/kg	67.8	50
Cl3-BZ#28	424		ug/kg	67.8	50
Cl4-BZ#44	246		ug/kg	67.8	50
Cl4-BZ#52	779		ug/kg	67.8	50
Cl4-BZ#66	211		ug/kg	67.8	50
Cl5-BZ#101	158		ug/kg	67.8	50
Cl6-BZ#153	86.3		ug/kg	67.8	50

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-05
 Client ID: S-09D-C015-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 11:41
 Analyst: JS
 Percent Solids: 99%

Date Collected: 12/17/09 10:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	85.9		ug/kg	26.8	20
CI3-BZ#18	214		ug/kg	26.8	20
CI5-BZ#105	ND		ug/kg	26.8	20
CI6-BZ#128	ND		ug/kg	26.8	20
CI7-BZ#170	ND		ug/kg	26.8	20
CI7-BZ#180	ND		ug/kg	26.8	20
CI7-BZ#187	ND		ug/kg	26.8	20
CI8-BZ#195	ND		ug/kg	26.8	20
CI9-BZ#206	ND		ug/kg	26.8	20
CI10-BZ#209	ND		ug/kg	26.8	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-05
 Client ID: S-09D-C015-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 11:41
 Analyst: JS
 Percent Solids: 99%

Date Collected: 12/17/09 10:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	258		ug/kg	26.8	20
Cl4-BZ#44	138		ug/kg	26.8	20
Cl4-BZ#52	420		ug/kg	26.8	20
Cl4-BZ#66	130		ug/kg	26.8	20
Cl5-BZ#101	95.0		ug/kg	26.8	20
Cl5-BZ#118	59.6		ug/kg	26.8	20
Cl6-BZ#138	28.8		ug/kg	26.8	20
Cl6-BZ#153	37.0		ug/kg	26.8	20

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-06
 Client ID: S-09D-C014-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 23:22
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 09:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	2240		ug/kg	135	100
CI5-BZ#105	ND		ug/kg	135	100
CI5-BZ#118	640		ug/kg	135	100
CI6-BZ#128	ND		ug/kg	135	100
CI7-BZ#170	ND		ug/kg	135	100
CI7-BZ#180	ND		ug/kg	135	100
CI8-BZ#195	ND		ug/kg	135	100
CI9-BZ#206	ND		ug/kg	135	100
CI10-BZ#209	ND		ug/kg	135	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-06
 Client ID: S-09D-C014-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 23:22
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 09:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1260		ug/kg	135	100
Cl4-BZ#44	1660		ug/kg	135	100
Cl4-BZ#66	1390		ug/kg	135	100
Cl5-BZ#101	1050		ug/kg	135	100
Cl6-BZ#138	323		ug/kg	135	100
Cl6-BZ#153	776		ug/kg	135	100
Cl7-BZ#187	188		ug/kg	135	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-06 D
Client ID: S-09D-C014-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/20/10 10:46
Analyst: JS
Percent Solids: 98%

Date Collected: 12/17/09 09:55
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	3290		ug/kg	1350	1000
Cl4-BZ#52	6510		ug/kg	1350	1000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-07
 Client ID: S-09D-C014-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 13:43
 Analyst: JS
 Percent Solids: 92%

Date Collected: 12/17/09 09:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#128	ND		ug/kg	1.44	1
Cl7-BZ#170	ND		ug/kg	1.44	1
Cl7-BZ#180	ND		ug/kg	1.44	1
Cl7-BZ#187	2.34		ug/kg	1.44	1
Cl8-BZ#195	ND		ug/kg	1.44	1
Cl9-BZ#206	ND		ug/kg	1.44	1
Cl10-BZ#209	ND		ug/kg	1.44	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	68		50-125
BZ 198	64		50-125

02011010:16

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0918520**Project Number:** T0-0010-001B**Report Date:** 02/01/10**SAMPLE RESULTS**

Lab ID: L0918520-07
 Client ID: S-09D-C014-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 13:43
 Analyst: JS
 Percent Solids: 92%

Date Collected: 12/17/09 09:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	15.0		ug/kg	1.44	1
Cl4-BZ#44	19.2		ug/kg	1.44	1
Cl4-BZ#66	16.6		ug/kg	1.44	1
Cl5-BZ#101	12.1		ug/kg	1.44	1
Cl5-BZ#105	1.47		ug/kg	1.44	1
Cl5-BZ#118	7.02		ug/kg	1.44	1
Cl6-BZ#138	3.40		ug/kg	1.44	1
Cl6-BZ#153	4.38		ug/kg	1.44	1

DBOB	68	50-125
BZ 198	64	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

02011010:16
Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-07 D
Client ID: S-09D-C014-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/20/10 11:27
Analyst: JS
Percent Solids: 92%

Date Collected: 12/17/09 09:55
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	51.3		ug/kg	14.4	10



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

02011010:16
Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-07 D
Client ID: S-09D-C014-0.6-1.1
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/20/10 11:27
Analyst: JS
Percent Solids: 92%

Date Collected: 12/17/09 09:55
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	48.6		ug/kg	14.4	10
Cl4-BZ#52	92.8		ug/kg	14.4	10



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-08
 Client ID: S-09D-C016-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 15:30
 Analyst: JS
 Percent Solids: 95%

Date Collected: 12/17/09 10:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	1890		ug/kg	276	200
CI4-BZ#66	1030		ug/kg	276	200
CI5-BZ#105	ND		ug/kg	276	200
CI6-BZ#128	ND		ug/kg	276	200
CI6-BZ#138	ND		ug/kg	276	200
CI7-BZ#170	ND		ug/kg	276	200
CI7-BZ#180	ND		ug/kg	276	200
CI7-BZ#187	ND		ug/kg	276	200
CI8-BZ#195	ND		ug/kg	276	200
CI9-BZ#206	ND		ug/kg	276	200
CI10-BZ#209	ND		ug/kg	276	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-08
 Client ID: S-09D-C016-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 15:30
 Analyst: JS
 Percent Solids: 95%

Date Collected: 12/17/09 10:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	862		ug/kg	276	200
Cl3-BZ#28	2470		ug/kg	276	200
Cl4-BZ#44	1310		ug/kg	276	200
Cl4-BZ#52	3380		ug/kg	276	200
Cl5-BZ#101	683		ug/kg	276	200
Cl5-BZ#118	483		ug/kg	276	200
Cl6-BZ#153	555		ug/kg	276	200

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-09
 Client ID: S-09D-C016-0.8-1.3
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 14:24
 Analyst: JS
 Percent Solids: 99%

Date Collected: 12/17/09 10:50
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	6.06		ug/kg	1.32	1
CI4-BZ#66	4.04		ug/kg	1.32	1
CI5-BZ#105	ND		ug/kg	1.32	1
CI5-BZ#118	1.70		ug/kg	1.32	1
CI6-BZ#128	ND		ug/kg	1.32	1
CI6-BZ#138	ND		ug/kg	1.32	1
CI7-BZ#170	ND		ug/kg	1.32	1
CI7-BZ#180	ND		ug/kg	1.32	1
CI7-BZ#187	ND		ug/kg	1.32	1
CI8-BZ#195	ND		ug/kg	1.32	1
CI9-BZ#206	ND		ug/kg	1.32	1
CI10-BZ#209	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	109		50-125
BZ 198	104		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-09
 Client ID: S-09D-C016-0.8-1.3
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 14:24
 Analyst: JS
 Percent Solids: 99%

Date Collected: 12/17/09 10:50
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	3.70		ug/kg	1.32	1
Cl3-BZ#28	8.44		ug/kg	1.32	1
Cl4-BZ#44	4.86		ug/kg	1.32	1
Cl4-BZ#52	12.7		ug/kg	1.32	1
Cl5-BZ#101	2.52		ug/kg	1.32	1
Cl6-BZ#153	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	109		50-125
BZ 198	104		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-10
 Client ID: S-09D-C021-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 16:11
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/17/09 13:05
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	1680		ug/kg	274	200
CI5-BZ#105	ND		ug/kg	274	200
CI5-BZ#118	ND		ug/kg	274	200
CI6-BZ#128	ND		ug/kg	274	200
CI6-BZ#138	ND		ug/kg	274	200
CI7-BZ#170	ND		ug/kg	274	200
CI7-BZ#180	ND		ug/kg	274	200
CI7-BZ#187	ND		ug/kg	274	200
CI8-BZ#195	ND		ug/kg	274	200
CI9-BZ#206	ND		ug/kg	274	200
CI10-BZ#209	ND		ug/kg	274	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-10
 Client ID: S-09D-C021-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 16:11
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/17/09 13:05
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	818		ug/kg	274	200
Cl3-BZ#28	1800		ug/kg	274	200
Cl4-BZ#44	898		ug/kg	274	200
Cl4-BZ#52	3070		ug/kg	274	200
Cl4-BZ#66	718		ug/kg	274	200
Cl6-BZ#153	337		ug/kg	274	200

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-11
 Client ID: S-09D-C022-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 00:36
 Analyst: JS
 Percent Solids: 95%

Date Collected: 12/17/09 13:25
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#105	ND		ug/kg	138	100
CI6-BZ#128	ND		ug/kg	138	100
CI7-BZ#170	ND		ug/kg	138	100
CI7-BZ#180	185		ug/kg	138	100
CI7-BZ#187	269		ug/kg	138	100
CI8-BZ#195	ND		ug/kg	138	100
CI9-BZ#206	ND		ug/kg	138	100
CI10-BZ#209	ND		ug/kg	138	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-11
 Client ID: S-09D-C022-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 00:36
 Analyst: JS
 Percent Solids: 95%

Date Collected: 12/17/09 13:25
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#66	2410		ug/kg	138	100
Cl5-BZ#101	1570		ug/kg	138	100
Cl5-BZ#118	821		ug/kg	138	100
Cl6-BZ#138	354		ug/kg	138	100
Cl6-BZ#153	1010		ug/kg	138	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

02011010:16
Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-11 D
Client ID: S-09D-C022-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/20/10 12:42
Analyst: JS
Percent Solids: 95%

Date Collected: 12/17/09 13:25
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	8080		ug/kg	1380	1000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

02011010:16
Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-11 D
 Client ID: S-09D-C022-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 12:42
 Analyst: JS
 Percent Solids: 95%

Date Collected: 12/17/09 13:25
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	4470		ug/kg	1380	1000
Cl3-BZ#28	8140		ug/kg	1380	1000
Cl4-BZ#44	3830		ug/kg	1380	1000
Cl4-BZ#52	12000		ug/kg	1380	1000



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-12
 Client ID: S-09D-C022-1.0-1.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 15:46
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 13:25
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	11.4		ug/kg	1.34	1
CI5-BZ#105	ND		ug/kg	1.34	1
CI5-BZ#118	ND		ug/kg	1.34	1
CI6-BZ#128	ND		ug/kg	1.34	1
CI6-BZ#138	ND		ug/kg	1.34	1
CI7-BZ#170	ND		ug/kg	1.34	1
CI7-BZ#180	ND		ug/kg	1.34	1
CI8-BZ#195	ND		ug/kg	1.34	1
CI9-BZ#206	ND		ug/kg	1.34	1
CI10-BZ#209	ND		ug/kg	1.34	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	102		50-125
BZ 198	93		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-12
 Client ID: S-09D-C022-1.0-1.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 15:46
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 13:25
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	6.00		ug/kg	1.34	1
Cl3-BZ#28	8.56		ug/kg	1.34	1
Cl4-BZ#44	4.72		ug/kg	1.34	1
Cl4-BZ#52	15.0		ug/kg	1.34	1
Cl4-BZ#66	3.67		ug/kg	1.34	1
Cl5-BZ#101	2.17		ug/kg	1.34	1
Cl6-BZ#153	ND		ug/kg	1.34	1
Cl7-BZ#187	ND		ug/kg	1.34	1

DBOB	102	50-125
BZ 198	93	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-13
 Client ID: S-09D-C023-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 13:27
 Analyst: JS
 Percent Solids: 96%

Date Collected: 12/17/09 13:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	22200		ug/kg	2720	2000
CI5-BZ#105	ND		ug/kg	2720	2000
CI5-BZ#118	ND		ug/kg	2720	2000
CI6-BZ#128	ND		ug/kg	2720	2000
CI6-BZ#138	ND		ug/kg	2720	2000
CI7-BZ#170	ND		ug/kg	2720	2000
CI7-BZ#180	ND		ug/kg	2720	2000
CI7-BZ#187	ND		ug/kg	2720	2000
CI8-BZ#195	ND		ug/kg	2720	2000
CI9-BZ#206	ND		ug/kg	2720	2000
CI10-BZ#209	ND		ug/kg	2720	2000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02011010:16

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0918520**Project Number:** T0-0010-001B**Report Date:** 02/01/10**SAMPLE RESULTS**

Lab ID:	L0918520-13	Date Collected:	12/17/09 13:30
Client ID:	S-09D-C023-0-0.5	Date Received:	12/17/09
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3540C
Analytical Method:	1,8082	Extraction Date:	01/04/10 17:39
Analytical Date:	01/20/10 13:27	Cleanup Method1:	EPA 3630
Analyst:	JS	Cleanup Date1:	01/08/10
Percent Solids:	96%	Cleanup Method2:	----

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	12200		ug/kg	2720	2000
Cl3-BZ#28	21100		ug/kg	2720	2000
Cl4-BZ#44	9760		ug/kg	2720	2000
Cl4-BZ#52	30800		ug/kg	2720	2000
Cl4-BZ#66	7160		ug/kg	2720	2000
Cl5-BZ#101	3790		ug/kg	2720	2000
Cl6-BZ#153	ND		ug/kg	2720	2000

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-14
 Client ID: S-09D-C023-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 11:00
 Analyst: JS
 Percent Solids: 94%

Date Collected: 12/17/09 13:30
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	461		ug/kg	70.5	50
Cl3-BZ#18	827		ug/kg	70.5	50
Cl4-BZ#66	277		ug/kg	70.5	50
Cl5-BZ#105	ND		ug/kg	70.5	50
Cl6-BZ#138	ND		ug/kg	70.5	50
Cl7-BZ#170	ND		ug/kg	70.5	50
Cl7-BZ#180	ND		ug/kg	70.5	50
Cl7-BZ#187	ND		ug/kg	70.5	50
Cl8-BZ#195	ND		ug/kg	70.5	50
Cl9-BZ#206	ND		ug/kg	70.5	50
Cl10-BZ#209	ND		ug/kg	70.5	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-14
Client ID: S-09D-C023-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/21/10 11:00
Analyst: JS
Percent Solids: 94%

Date Collected: 12/17/09 13:30
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	790		ug/kg	70.5	50
CI4-BZ#44	392		ug/kg	70.5	50
CI4-BZ#52	1180		ug/kg	70.5	50
CI5-BZ#101	132		ug/kg	70.5	50
CI5-BZ#118	ND		ug/kg	70.5	50
CI6-BZ#128	ND		ug/kg	70.5	50
CI6-BZ#153	ND		ug/kg	70.5	50

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-15
 Client ID: S-09D-C024-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 02:39
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/17/09 14:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	606		ug/kg	70.3	50
CI5-BZ#105	ND		ug/kg	70.3	50
CI5-BZ#118	ND		ug/kg	70.3	50
CI6-BZ#128	ND		ug/kg	70.3	50
CI6-BZ#138	ND		ug/kg	70.3	50
CI7-BZ#170	ND		ug/kg	70.3	50
CI7-BZ#180	ND		ug/kg	70.3	50
CI7-BZ#187	ND		ug/kg	70.3	50
CI8-BZ#195	ND		ug/kg	70.3	50
CI9-BZ#206	ND		ug/kg	70.3	50
CI10-BZ#209	ND		ug/kg	70.3	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-15
Client ID: S-09D-C024-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/21/10 02:39
Analyst: JS
Percent Solids: 93%

Date Collected: 12/17/09 14:55
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	536		ug/kg	70.3	50
Cl3-BZ#28	862		ug/kg	70.3	50
Cl4-BZ#44	388		ug/kg	70.3	50
Cl4-BZ#52	1060		ug/kg	70.3	50
Cl4-BZ#66	250		ug/kg	70.3	50
Cl5-BZ#101	122		ug/kg	70.3	50
Cl6-BZ#153	ND		ug/kg	70.3	50

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-16
 Client ID: S-09D-C024-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 15:05
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 14:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	3.92		ug/kg	1.34	1
CI3-BZ#18	6.26		ug/kg	1.34	1
CI4-BZ#66	1.69		ug/kg	1.34	1
CI5-BZ#101	ND		ug/kg	1.34	1
CI5-BZ#105	ND		ug/kg	1.34	1
CI5-BZ#118	ND		ug/kg	1.34	1
CI6-BZ#128	ND		ug/kg	1.34	1
CI6-BZ#138	ND		ug/kg	1.34	1
CI7-BZ#170	ND		ug/kg	1.34	1
CI7-BZ#180	ND		ug/kg	1.34	1
CI7-BZ#187	ND		ug/kg	1.34	1
CI8-BZ#195	ND		ug/kg	1.34	1
CI9-BZ#206	ND		ug/kg	1.34	1
CI10-BZ#209	ND		ug/kg	1.34	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	99		50-125
BZ 198	103		50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

02011010:16
Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-16
 Client ID: S-09D-C024-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 15:05
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 14:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	4.40		ug/kg	1.34	1
Cl4-BZ#44	2.51		ug/kg	1.34	1
Cl4-BZ#52	6.92		ug/kg	1.34	1
Cl6-BZ#153	ND		ug/kg	1.34	1

DBOB 99 50-125
 BZ 198 103 50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-17
 Client ID: S-09D-C025-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 14:08
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 15:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	23000		ug/kg	2680	2000
CI5-BZ#105	ND		ug/kg	2680	2000
CI5-BZ#118	ND		ug/kg	2680	2000
CI6-BZ#128	ND		ug/kg	2680	2000
CI6-BZ#138	ND		ug/kg	2680	2000
CI7-BZ#170	ND		ug/kg	2680	2000
CI7-BZ#180	ND		ug/kg	2680	2000
CI7-BZ#187	ND		ug/kg	2680	2000
CI8-BZ#195	ND		ug/kg	2680	2000
CI9-BZ#206	ND		ug/kg	2680	2000
CI10-BZ#209	ND		ug/kg	2680	2000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02011010:16

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0918520**Project Number:** T0-0010-001B**Report Date:** 02/01/10**SAMPLE RESULTS**

Lab ID: L0918520-17
 Client ID: S-09D-C025-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 14:08
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 15:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	18500		ug/kg	2680	2000
Cl3-BZ#28	29000		ug/kg	2680	2000
Cl4-BZ#44	10800		ug/kg	2680	2000
Cl4-BZ#52	30700		ug/kg	2680	2000
Cl4-BZ#66	8030		ug/kg	2680	2000
Cl5-BZ#101	4380		ug/kg	2680	2000
Cl6-BZ#153	3240		ug/kg	2680	2000

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-18
 Client ID: S-09D-C025-1.0-1.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 12:22
 Analyst: JS
 Percent Solids: 94%

Date Collected: 12/17/09 15:15
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	264		ug/kg	27.7	20
CI4-BZ#66	66.3		ug/kg	27.7	20
CI5-BZ#105	ND		ug/kg	27.7	20
CI5-BZ#118	ND		ug/kg	27.7	20
CI6-BZ#128	ND		ug/kg	27.7	20
CI6-BZ#138	ND		ug/kg	27.7	20
CI7-BZ#170	ND		ug/kg	27.7	20
CI7-BZ#180	ND		ug/kg	27.7	20
CI7-BZ#187	ND		ug/kg	27.7	20
CI8-BZ#195	ND		ug/kg	27.7	20
CI9-BZ#206	ND		ug/kg	27.7	20
CI10-BZ#209	ND		ug/kg	27.7	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-18
Client ID: S-09D-C025-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/21/10 12:22
Analyst: JS
Percent Solids: 94%

Date Collected: 12/17/09 15:15
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	168		ug/kg	27.7	20
Cl3-BZ#28	221		ug/kg	27.7	20
Cl4-BZ#44	87.3		ug/kg	27.7	20
Cl4-BZ#52	266		ug/kg	27.7	20
Cl5-BZ#101	32.7		ug/kg	27.7	20
Cl6-BZ#153	ND		ug/kg	27.7	20

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-19
 Client ID: S-09D-C026-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/20/10 14:49
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/17/09 15:27
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/04/10 17:39
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/08/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	19600		ug/kg	2720	2000
CI5-BZ#105	ND		ug/kg	2720	2000
CI5-BZ#118	ND		ug/kg	2720	2000
CI6-BZ#128	ND		ug/kg	2720	2000
CI6-BZ#138	ND		ug/kg	2720	2000
CI7-BZ#170	ND		ug/kg	2720	2000
CI7-BZ#180	ND		ug/kg	2720	2000
CI7-BZ#187	ND		ug/kg	2720	2000
CI8-BZ#195	ND		ug/kg	2720	2000
CI9-BZ#206	ND		ug/kg	2720	2000
CI10-BZ#209	ND		ug/kg	2720	2000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02011010:16

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0918520**Project Number:** T0-0010-001B**Report Date:** 02/01/10**SAMPLE RESULTS**

Lab ID: L0918520-19
Client ID: S-09D-C026-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/20/10 14:49
Analyst: JS
Percent Solids: 97%

Date Collected: 12/17/09 15:27
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	11600		ug/kg	2720	2000
Cl3-BZ#28	20700		ug/kg	2720	2000
Cl4-BZ#44	9590		ug/kg	2720	2000
Cl4-BZ#52	28500		ug/kg	2720	2000
Cl4-BZ#66	7380		ug/kg	2720	2000
Cl5-BZ#101	4080		ug/kg	2720	2000
Cl6-BZ#153	3400		ug/kg	2720	2000

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 01/15/10 14:55
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-19 Batch: WG395397-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206	ND		ug/kg	1.33
Cl10-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	96		50-125
BZ 198	108		50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 01/15/10 14:55
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 01/04/10 17:39
Cleanup Method1: EPA 3630
Cleanup Date1: 01/08/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-19 Batch: WG395397-1				
C16-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	96		50-125
BZ 198	108		50-125

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19 QC Batch ID: WG395397-4 WG395397-5 QC Sample: L0918520-08 Client ID: S-09D-C016-0-0.5												
Cl2-BZ#8	862	1740	2720	107		2100	72		40-120	39	Q	30
Cl3-BZ#18	1890	1740	3200	75		3230	78		40-120	4		30
Cl3-BZ#28	2470	1740	5660	183	Q	4570	122	Q	40-120	40	Q	30
Cl4-BZ#44	1310	1740	3490	125	Q	2810	87		40-120	36	Q	30
Cl4-BZ#52	3380	1740	6430	175	Q	5010	95		40-120	59	Q	30
Cl4-BZ#66	1030	1740	3030	115		2580	90		40-120	24		30
Cl5-BZ#101	683	1740	2530	106		2070	81		40-120	27		30
Cl5-BZ#105	ND	1740	1730	100		1580	92		40-120	8		30
Cl5-BZ#118	483	1740	2210	99		1940	85		40-120	16		30
Cl6-BZ#128	ND	1740	1530	88		1410	82		40-120	7		30
Cl6-BZ#138	ND	1740	1860	107		1720	100		40-120	7		30
Cl6-BZ#153	555	1740	2120	90		1880	77		40-120	15		30
Cl7-BZ#170	ND	1740	1370	79		1360	79		40-120	1		30
Cl7-BZ#180	ND	1740	1500	86		1390	81		40-120	6		30
Cl7-BZ#187	ND	1740	1540	89		1370	80		40-120	10		30
Cl8-BZ#195	ND	1740	1300	75		1290	75		40-120	1		30
Cl9-BZ#206	ND	1740	1470	85		1430	83		40-120	2		30
Cl10-BZ#209	ND	1740	1300	75		1260	73		40-120	2		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
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PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19 QC Batch ID: WG395397-4 WG395397-5 QC Sample: L0918520-08 Client ID: S-09D-C016-0-0.5

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
BZ 198	0	Q	0	Q	50-125
DBOB	0	Q	0	Q	50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0918520

Project Number: T0-0010-001B

Report Date: 02/01/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19 Batch: WG395397-2 WG395397-3								
Cl2-BZ#8	90		78		40-120	14		30
Cl3-BZ#18	100		88		40-120	13		30
Cl3-BZ#28	105		100		40-120	5		30
Cl4-BZ#44	105		92		40-120	13		30
Cl4-BZ#52	105		94		40-120	11		30
Cl4-BZ#66	105		96		40-120	9		30
Cl5-BZ#101	105		94		40-120	11		30
Cl5-BZ#105	109		101		40-120	8		30
Cl5-BZ#118	111		102		40-120	8		30
Cl6-BZ#128	113		104		40-120	8		30
Cl6-BZ#138	113		104		40-120	8		30
Cl6-BZ#153	71		65		40-120	9		30
Cl7-BZ#170	106		99		40-120	7		30
Cl7-BZ#180	108		98		40-120	10		30
Cl7-BZ#187	104		96		40-120	8		30
Cl8-BZ#195	105		96		40-120	9		30
Cl9-BZ#206	122	Q	111		40-120	9		30
Cl10-BZ#209	110		101		40-120	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0918520

Project Number: T0-0010-001B

Report Date: 02/01/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-19 Batch: WG395397-2 WG395397-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	99		86		50-125
BZ 198	111		103		50-125

INORGANICS & MISCELLANEOUS



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-01
 Client ID: S-09D-C012-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/16/09 16:45
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.1		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-02
Client ID: S-09D-C012-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/16/09 16:45
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	95.0		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-03
Client ID: S-09D-C013-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 09:35
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.2		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-04
 Client ID: S-09D-C013-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 09:35
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.9		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-05
Client ID: S-09D-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 10:30
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.6		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-06
 Client ID: S-09D-C014-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 09:55
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.8		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-07
 Client ID: S-09D-C014-0.6-1.1
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 09:55
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	91.6		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-08
Client ID: S-09D-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 10:45
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	94.5		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-09
Client ID: S-09D-C016-0.8-1.3
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 10:50
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.8		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-10
Client ID: S-09D-C021-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 13:05
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	95.6		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-11
 Client ID: S-09D-C022-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 13:25
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	95.4		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-12
 Client ID: S-09D-C022-1.0-1.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 13:25
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.3		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-13
 Client ID: S-09D-C023-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 13:30
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	95.9		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-14
 Client ID: S-09D-C023-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 13:30
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	93.5		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-15
Client ID: S-09D-C024-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 14:55
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	92.8		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-16
Client ID: S-09D-C024-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 14:55
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.2		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-17
Client ID: S-09D-C025-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 15:15
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.9		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-18
Client ID: S-09D-C025-1.0-1.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 15:15
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	94.0		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



02011010:16

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918520-19
Client ID: S-09D-C026-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 15:27
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	96.8		%	0.100	1	-	01/04/09 12:00	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0918520
Report Date: 02/01/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-19 QC Batch ID: WG395339-1 QC Sample: L0918520-01 Client ID: S-09D-C012-0-0.5						
Solids, Total	96.1	95.8	%	0		20

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0918520-01A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-02A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-03A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-04A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-05A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-06A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-07A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-08A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-08B	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-09A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-10A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-11A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-12A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-13A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-14A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-15A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-16A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-17A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-18A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918520-19A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)

*Hold days indicated by values in parentheses

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

GLOSSARY

Acronyms

- EPA - Environmental Protection Agency.
- LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCSD - Laboratory Control Sample Duplicate: Refer to LCS.
- MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MSD - Matrix Spike Sample Duplicate: Refer to MS.
- NA - Not Applicable.
- NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- ND - Not detected at the reported detection limit for the sample.
- NI - Not Ignitable.
- RDL - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918520
Report Date: 02/01/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



02011010:16

PERCENT SOLIDS - METHOD 2540G

Analyst: KJB BATCH: L0918520
 Date In: 12/22/2009 Time in: 12:00 Start Temp: 105 °C
 Date Out: 12/23/2009 Time out: 9:00 End Temp: 105 °C 1st WEIGHING Entered by: KJB
 Date Out: 12/23/2009 Time out: 14:00 End Temp: 105 °C 2nd WEIGHING Verified by: _____
 Date Out: _____ Time out: _____ End Temp: _____ °C 3rd WEIGHING Calculation: (C-A) X 100/(B-A)
 Oven Requirement: 103-105°C

ETR #	Sample #	QC (D)	Dish #	A Mass of Dish tare wt (g)	B Mass of Dish & wet sample (g)	C - 1st Weighing Mass of Dish & dry sample (g)	D - 2nd Weighing Mass of Dish & dry sample (g)	E - 3rd Weighing Mass of Dish & dry sample (g)	% Solids	QC (RPD)
	BLANK		B	1.31	1.31	1.31	1.31		<0.1	
L0918520	-1			1.33	6.39	4.77	4.77		68.0	
L0918520	-2			1.33	5.56	3.84	3.84		59.3	
L0918520	-3			1.31	6.92	4.09	4.09		49.6	
L0918520	-4			1.31	6.24	4.47	4.47		64.1	
L0918520	-5			1.31	6.11	3.94	3.94		54.8	
L0918520	-6			1.33	5.98	3.52	3.52		47.1	
L0918520	-7			1.31	6.29	3.73	3.73		48.6	
L0918520	-8			1.31	6.02	3.34	3.34		43.1	
L0918520	-9			1.32	6.08	3.65	3.65		49.0	
L0918520	-10			1.32	7.29	4.14	4.14		47.2	
L0918520	-11			1.31	6.86	3.68	3.68		42.7	
L0918520	-12			1.32	6.52	4.18	4.18		55.0	
L0918520	-13			1.32	6.33	3.19	3.19		37.3	
L0918520	-14			1.31	6.87	3.95	3.95		47.5	
L0918520	-15			1.31	6.7	4.05	4.05		50.8	
L0918520	-16			1.32	7.23	4.58	4.58		55.2	
L0918520	-17			1.33	5.9	3.09	3.09		38.5	
L0918520	-18			1.32	6.39	4.15	4.15		55.8	
L0918520	-19			1.32	5.71	2.88	2.88		35.5	

TEMPLATE: PERCENTNEW.XLT

Duplicates should agree within +/- 10%.

1st and/or 2nd and/or 3rd weighings should agree within 4% or 50 mg

Alpha Analytical Mansfield, MA

L0918520

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Delivery Order-0010
June 2010

B-613

Sediment Monitoring Summary Report
W912WJ-09-D-0001

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A, 3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D, 9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3051, 6020, 747A, 7474, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.



MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 1 OF 6

Date Rec'd in Lab:

ALPHA Job #: L0918519

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Dr.
E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com

Project Information

Project Name: New Bedford Harbor
Project Location: New Bedford, MA
Project #: TD-0010
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

* Please homogenize all samples before analysis
* Level III data report and project specific EDD

ANALYSIS PCB Congeners (MCP-15) TPH (from Petroleum Hydrocarbons)	TOTAL # BOTTLES
	<p>SAMPLE HANDLING</p> <p>Filtration _____</p> <p><input type="checkbox"/> Done</p> <p><input type="checkbox"/> Not needed</p> <p><input type="checkbox"/> Lab to do Preservation</p> <p><input type="checkbox"/> Lab to do _____</p> <p>(Please specify below)</p> <p>Sample Specific Comments</p>

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials												Sample Specific Comments	TOTAL # BOTTLES	
		Date	Time																
18519-1	S-09D-C001-0-0.5	12/16/09	12:15	SE	DRW	X												LN19	1
2	S-09D-C001-0.6-1.1		12:20			X												LN19	1
3	S-09D-C001-0.6-1.1 MSMSD		12:20			X												LN19 MS/MSD	1
4	S-09D-C002-0.2-0.7		12:30			X												LN14	1
5	S-09D-C002-0.8-1.3		12:30			X												LN14	1
6	S-09D-C003-0.9-1.4		13:00			X												LK12	1
7	S-09D-C003-2.1-2.6		13:00			X												LK12	1
8	S-09D-C004-0.2-0.7		13:22			X												LM09	1
9	S-09D-C004-0.8-1.3		13:22			X												LM09	1
	S-09D-C005-1.3-1.8		14:15			X	X											LH06	1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type GC

Preservative AA

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By: [Signature]

Date/Time 12/17/09 11:57

Received By: [Signature]

Date/Time 12/17/09 11:57

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Sediment Monitoring Summary Report
 W912WJ-09-D-0001

B-617

Delivery Order-0010
 June 2010

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CHAIN OF CUSTODY

PAGE 2 OF 6

Client Information
 Client: Woods Hole Group
 Address: 81 Technology Park Dr.
 E. Falmouth MA 02536
 Phone: 508-540-8080
 Fax: 508-540-1001
 Email: dwalsh@whgrp.com
 These samples have been previously analyzed by Alpha

Project Information
 Project Name: New Bedford Harbor
 Project Location: New Bedford, MA
 Project #: TO-0010
 Project Manager: Dave Walsh
 ALPHA Quote #:
Turn-Around Time
 Standard RUSH (only confirmed if pre-approved!)
 Date Due: Time:

Date Rec'd in Lab:
ALPHA Job #: L0918519
Report Information - Data Deliverables
 FAX EMAIL
 ADEx Add'l Deliverables
Billing Information
 Same as Client info PO #:

Regulatory Requirements/Report Limits
 State / Fed Program Criteria
MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS
 Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

 Other Project Specific Requirements/Comments/Detection Limits:
 * Please homogenize all samples before analysis
 * Level III data report and project specific EDD

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS						SAMPLE HANDLING	TOTAL # BOTTLES	
		Date	Time			PCB Congeners (NORM)	TPH (Total Hydrocarbons)							
18519-10	S-09D-C005-2.0-2.5	12/16/09	14:15	SE	DRW	X							LH06	1
-11	S-09D-C006-0-0.5	12/16/09	14:40			X							LJ05	1
-12	S-09D-C006-0.6-1.1	12/16/09	14:40			X							LJ05	1
-13	S-09D-C007-0.7-1.2		15:00			X	X						LI02	1
-14	S-09D-C007-2.1-2.6		15:00			X							LI02	1
-15	S-09D-C008-0-0.5		15:30			X							ME07	1
-16	S-09D-C008-0.6-1.1		15:30			X							ME07	1
-17	S-09D-C009-0-0.5		15:45			X							MD10	1
-18	S-09D-C010-0-0.5		16:15			X							MF12	1
-19	S-09D-C011-0-0.5		16:40			X							MI13	1

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS						SAMPLE HANDLING	TOTAL # BOTTLES	
		Date	Time			PCB Congeners (NORM)	TPH (Total Hydrocarbons)					<input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)		
18519-10	S-09D-C005-2.0-2.5	12/16/09	14:15	SE	DRW	X							LH06	1
-11	S-09D-C006-0-0.5	12/16/09	14:40			X							LJ05	1
-12	S-09D-C006-0.6-1.1	12/16/09	14:40			X							LJ05	1
-13	S-09D-C007-0.7-1.2		15:00			X	X						LI02	1
-14	S-09D-C007-2.1-2.6		15:00			X							LI02	1
-15	S-09D-C008-0-0.5		15:30			X							ME07	1
-16	S-09D-C008-0.6-1.1		15:30			X							ME07	1
-17	S-09D-C009-0-0.5		15:45			X							MD10	1
-18	S-09D-C010-0-0.5		16:15			X							MF12	1
-19	S-09D-C011-0-0.5		16:40			X							MI13	1

PLEASE ANSWER QUESTIONS ABOVE!		Container Type	GG	
		Preservative	A ✓	
IS YOUR PROJECT MA MCP or CT RCP?		Relinquished By:	Date/Time	Received By:
		[Signature]	12/17/09 1:57	[Signature]
				Date/Time
				12/17/09 1:57

FORM NO: 01-01 (rev. 14-OCT-07)

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

02014010:16



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 3 OF 6

Date Rec'd in Lab:

ALPHA Job #: **LO 918520**

Client Information

Client: *Woods Hole Group*
Address: *81 Technology Park Dr. E. Falmouth, MA 02536*
Phone: *508-540-8080*
Fax: *508-540-1001*
Email: *dwalsh@whgrp.com*

Project Information

Project Name: *New Bedford Harbor*
Project Location: *New Bedford, MA*
Project #: *TO-0010*
Project Manager: *Dave Walsh*
ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
Date Due: **Time:**

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:
** please homogenize all samples before analysis*
** Level III data report and project specific EDD*

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info **PO #:**

Regulatory Requirements/Report Limits

State / Fed Program: **Criteria:**

MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS

Yes No **Are MCP Analytical Methods Required?**
 Yes No **Are CT RCP (Reasonable Confidence Protocols) Required?**

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials												SAMPLE HANDLING		TOTAL # BOTTLES	
		Date	Time														Filtration	Preservation		
18520-1	S-09D-C012-0-0.5	12/16/09	16:45	SE	DRW	X														1
2	S-09D-C012-0.5-1.0	12/16/09	16:45			X														1
3	S-09D-C013-0-0.5	12/17/09	09:35			X														1
4	S-09D-C013-0.6-1.1	12/17/09	09:35			X														1
5	S-09D-C015-0-0.5		10:30			X														1
6	S-09D-C014-0-0.5		09:55			X														1
7	S-09D-C014-0.6-1.1		09:55			X														1
8	S-09D-C016-0-0.5		10:45			X														1
8	S-09D-C016-0-0.5 MS/MSD		10:45			X														1
9	S-09D-C016-0.8-1.3	✓	10:50	✓	↓	X														1

ANALYSIS
PCB congeners (Aroclors)

SAMPLE HANDLING
 Filtration _____
 Done
 Not needed
 Lab to do
 Lab to do
 (Please specify below)
Sample Specific Comments

PLEASE ANSWER QUESTIONS ABOVE!

Container Type: **G**
 Preservative: **A**

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By: *[Signature]* Date/Time: *12/17/09 17:57*
 Received By: *[Signature]* Date/Time: *12/17/09 17:57*

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

0201401015

ALPHA ANALYTICAL		CHAIN OF CUSTODY				PAGE 5 OF 6		Date Rec'd in Lab:		ALPHA Job #: W918520		
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193		MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288		Project Information				Report Information - Data Deliverables		Billing Information		
Client Information				Project Name: <u>New Bedford Harbor</u>				<input type="checkbox"/> FAX <input checked="" type="checkbox"/> EMAIL		<input type="checkbox"/> Same as Client info PO #:		
Client: <u>Woods Hole Group</u>				Project Location: <u>New Bedford, MA</u>				<input checked="" type="checkbox"/> ADEx <input type="checkbox"/> Add'l Deliverables				
Address: <u>81 Technology Park Dr. E. Falmouth, MA 02536</u>				Project #: <u>TO-0010</u>				Regulatory Requirements/Report Limits				
Phone: <u>508-540-8080</u>				Project Manager: <u>Dave Walsh</u>				State/Fed Program		Criteria		
Fax: <u>508-540-1001</u>				ALPHA Quote #:				MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS				
Email: <u>dwalsh@whgrp.com</u>				Turn-Around Time				<input type="checkbox"/> Yes <input type="checkbox"/> No Are MCP Analytical Methods Required?		<input type="checkbox"/> Yes <input type="checkbox"/> No Are CT RCP (Reasonable Confidence Protocols) Required?		
<input type="checkbox"/> These samples have been previously analyzed by Alpha				<input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH (only confirmed if pre-approved)				ANALYSIS PEB containers (W9185)		SAMPLE HANDLING <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)		TOTAL # BOTTLES
Other Project Specific Requirements/Comments/Detection Limits: <u>* Please homogenize all samples before analysis</u> <u>* Level III data report and project specific EDD</u>				Date Due: _____ Time: _____								
ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials							
		Date	Time									
18520-10	S-09D-C021-0.5-1.0	12/17/09	13:05	SE	DRW	X				JP22	1	
	11 S-09D-C022-0-0.5		13:25			X				JD22	1	
	12 S-09D-C022-1.0-1.5		13:25			X				JD22	1	
	13 S-09D-C023-0-0.5		13:30			X				JB19	1	
	14 S-09D-C023-0.5-1.0		13:30			X				JB19	1	
	15 S-09D-C024-0-0.5		14:55			X				JB16	1	
	16 S-09D-C024-0.5-1.0		14:55			X				JB16	1	
	17 S-09D-C025-0-0.5		15:15			X				JF13	1	
	18 S-09D-C025-1.0-1.5		15:15			X				JF13	1	
	19 S-09D-C026-0-0.5		15:27			X				JK12	1	

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP? MA MCP


Container Type: G Preservative: A

Relinquished By: D Walsh Date/Time: 12/17/09 17:57

Received By: John Roe Date/Time: 12/17/09 17:57

FORM NO: 01-01 (rev. 30-JUL-07)

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 4 OF 6

ALPHA Job #: L0918521

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Dr.
E. Palmath, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com

These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Harbor
Project Location: New Bedford, MA
Project #: TO-0010
Project Manager: Dave Walsh
ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: _____ Time: _____

Regulatory Requirements/Report Limits

State Fed Program _____ Criteria _____

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
* Please homogenize all samples before analysis
* Level III data report and project specific EDD

ANALYSIS

PCB CONCENTRATIONS (ND/ATE)

TOTAL

BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials								Sample Specific Comments		
		Date	Time												
18521-1	S-09D-C017-0-0.5	12/17/09	11:20	SE	DRW	X								JQ09	1
2	S-09D-C017-0.5-1.0		11:20			X								JQ09	1
3	S-09D-C018-0-0.5		12:00			X								JR14	1
4	S-09D-C018-0.5-1.0		12:00			X								JR14	1
5	S-09D-C019-0-0.5		12:20			X								JO14	1
6	S-09D-C019-0.8-1.2		12:20			X								JO14	1
7	S-09D-C020-0-0.5		12:45			X								JN16	1
8	S-09D-C020-0.5-1.0		12:45			X								JN16	1
9	S-09D-C021-0-0.5		13:00			X								JP22	1
9	S-09D-C021-0-0.5 MS/MSD		13:00			X								JP22 MS/MSD	1

PLEASE ANSWER QUESTIONS ABOVE!


IS YOUR PROJECT MA MCP or CT RCP?

Container Type: G
Preservative: A

Relinquished By: DWalsh Date/Time: 12/17/09 17:57
Received By: [Signature] Date/Time: 12/17/09 17:57

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORMNO:01-01 (rev. 30-JUL-07)

 <h2 style="margin: 0;">CHAIN OF CUSTODY</h2>		PAGE <u>6</u> OF <u>6</u>	Date Rec'd in Lab:	ALPHA Job #: <u>LO918521</u>				
WESTBORO, MA MANSFIELD, MA TEL: 508-898-9220 TEL: 508-822-9300 FAX: 508-898-9193 FAX: 508-822-3288		Project Information Project Name: <u>New Bedford Harbor</u> Project Location: <u>New Bedford, MA</u>	Report Information - Data Deliverables <input type="checkbox"/> FAX <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> ADEX <input type="checkbox"/> Add'l Deliverables	Billing Information <input type="checkbox"/> Same as Client info PO #:				
Client Information Client: <u>Woods Hole Group</u> Address: <u>81 Technology Park Dr.</u> <u>E. Falmouth, MA 02536</u> Phone: <u>508-540-8080</u> Fax: <u>508-540-1001</u> Email: <u>dwalsh@whgrp.com</u>		Project #: <u>TO-0010</u> Project Manager: <u>Dave Walsh</u> ALPHA Quote #:	Regulatory Requirements/Report Limits State <u>(Fed Program)</u> Criteria					
<input type="checkbox"/> These samples have been previously analyzed by Alpha		Turn-Around Time <input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH (only confirmed if pre-approved!) Date Due: Time:	MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS <input type="checkbox"/> Yes <input type="checkbox"/> No Are MCP Analytical Methods Required? <input type="checkbox"/> Yes <input type="checkbox"/> No Are CT RCP (Reasonable Confidence Protocols) Required?					
Other Project Specific Requirements/Comments/Detection Limits: <u>*Please homogenize all samples before analysis</u> <u>*Level III data report and project specific EDD</u>		<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); border: 1px solid black; padding: 5px;"> ANALYSIS PCB congeners (NCPAIS) </div> <div style="border: 1px solid black; padding: 5px;"> SAMPLE HANDLING Filtration <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below) </div> <div style="writing-mode: vertical-rl; border: 1px solid black; padding: 5px;"> TOTAL # BOTTLES </div> </div>						
ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments		
<u>LO918521-10</u>	<u>S-φ9D-Cφ26-1.φ-1.5</u>	<u>12/17/09</u>	<u>15:27</u>	<u>SE</u>	<u>DRN</u>	<u>JK12</u>	<u>1</u>	
	<u>-11 S-φ9D-Cφ27-φ-φ.5</u>		<u>15:55</u>	↓	↓	<u>JK18</u>	<u>1</u>	
	<u>-12 S-φ9D-Cφ27-φ.5-1.φ</u>	↓	<u>15:55</u>	↓	↓	<u>JK18</u>	<u>1</u>	
PLEASE ANSWER QUESTIONS ABOVE! IS YOUR PROJECT MA MCP or CT RCP?		Relinquished By: <u>Dwalsh</u>	Date/Time: <u>12/17/09 17:57</u>	Container Type: <u>E</u>	Preservative: <u>A</u>	Received By: <u>Chabe Pat</u>	Date/Time: <u>12/17/09 17:57</u>	Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.
FORMNO: 01-01 (rev. 30-JUL-07)								



All Samples frozen
12/18/09
C 1645

Sample Delivery Group Form

Laboratory Job No: _____
Receipt Date/Time: 12/17/09 1757

Client: Woods Hole Group
SDG Reviewer: nk

Samples Delivered By:
 Alpha Courier Client UPS FedEx Other _____
 Bill of Laden: Yes Unavailable Tracking #: _____
Chain of Custody: Present Absent: _____
Custody Seals: Absent Present/Intact Present/Broken

Cooler/Sample Temperature:
 Is Ice/Blue Ice present? Yes No N/A _____
 Temp taken from: Temp Blank: (a) 50c (b) 40c (c) _____ (d) _____ (e) _____
 IR Gun: (a) 30c (b) 40c (c) _____ (d) _____ (e) _____
 Was Temp: 2-6 Celsius
 <2 Celsius ... were samples frozen upon receipt? Yes No
 >6 Celsius ... were samples delivered direct from site? Yes No

Containers Received: Intact
 Broken/Leaking Sample IDs: _____
 Sample IDs: _____

All Containers Accounted For? Yes
 No: _____
Extra Samples Received? No
 Yes: _____
Do Sample Labels and COC agree? Yes
 No: _____
Are Samples in Appropriate Containers? Yes
 No: _____
Are samples rec'd within holding time? Yes
 No: _____
 * Please note: the analysis of pH will always be performed beyond the regulatory-required holding time of 15 min. from the time of collection.

pH of samples upon receipt: N/A <2 >12 and/or _____
 Are samples properly preserved? Yes No If No then.....
 Initial pH= _____ preserved In-House with HCL H₂SO₄ HNO₃ <<Final pH = _____>>
 Other Issues: _____
 Chlorine Check: N/A Present Absent

VOA/VPH vials: Yes No
 Aqueous: vials contain head space? No Yes: _____
 Soils: MeOH covering soil? Yes No: _____
 Reagent H₂O Preserved vials Frozen @ date/time: _____
 Frozen by Client? No Yes @ date/time: _____

Was Client notified of any discrepancies listed above? Yes No N/A
 If Yes: Call Tracker # _____

Form No.: 01-02

10/05/2007

S09D-C002-0.2-0.7
 " C012-0-0.5
 " C001-0-0.5
 " " - 0.6-1.1 mS mSD
 " " 0.6-1.1
 " C003-2.1-2.6
 " C008-0.6-1.1
 " C006-0-0.5
 " C013-0-0.5
 " C005-1.3-1.8
 " C002-0.8-1.3
 B C004-0.2-0.7
 " C016-0-0.5 mS mSD
 " C007-0.7-1.2
 " C012-0.5-1.0
 " C011-0-0.5
 " C013-0.6-1.1
 " C014-0-0.5
 " C015-0-0.5
 " C007-2.1-2.6
 " C008-0-0.5
 " C009-0-0.5
 " C016-0.8-1.3
 " C006-0.6-1.1
 " C004-0.8-1.3
 " C005-2.0-2.5
 " C016-0-0.5
 C003-0.9-1.4
 C014-0.6-1.1
 C010-0.0-0.5

All other samples: COOLER B



ANALYTICAL REPORT

Lab Number:	L0918521
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Project Name:	NEW BEDFORD HARBOR
Project Number:	T0-0010-001B
Report Date:	02/01/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0918521-01	S-09D-C017-0-0.5	NEW BEDFORD, MA	12/17/09 11:20
L0918521-02	S-09D-C017-0.5-1.0	NEW BEDFORD, MA	12/17/09 11:20
L0918521-03	S-09D-C018-0-0.5	NEW BEDFORD, MA	12/17/09 12:00
L0918521-04	S-09D-C018-0.5-1.0	NEW BEDFORD, MA	12/17/09 12:00
L0918521-05	S-09D-C019-0-0.5	NEW BEDFORD, MA	12/17/09 12:20
L0918521-06	S-09D-C019-00.8-1.2	NEW BEDFORD, MA	12/17/09 12:20
L0918521-07	S-09D-C020-0-0.5	NEW BEDFORD, MA	12/17/09 12:45
L0918521-08	S-09D-C020-0.5-1.0	NEW BEDFORD, MA	12/17/09 12:45
L0918521-09	S-09D-C021-0-0.5	NEW BEDFORD, MA	12/17/09 13:00
L0918521-10	S-09D-C026-1.0-1.5	NEW BEDFORD, MA	12/17/09 15:27
L0918521-11	S-09D-C027-0-0.5	NEW BEDFORD, MA	12/17/09 15:55
L0918521-12	S-09D-C027-0.5-1.0	NEW BEDFORD, MA	12/17/09 15:55

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the one issued on January 25, 2010. At the client's request, the PCB Congener data was amended to report a single recovery for each surrogate.

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

Case Narrative (continued)

PCB Congeners by 8082

Samples L0918521-01 through -12, with the exception of sample -04 have the surrogates diluted out.

L0918521-01 through -12, with the exception of sample -04 have elevated detection limits due to the dilution required by the sample matrix and by the high concentrations of target compounds in the sample. The dilution amounts were determined by screening data.

The WG395811-2 LCS recoveries associated with L0918521-01 through -12 are above the individual acceptance criteria for cl3-bz#18(137%),cl3-bz#28(135%),cl4-bz#44(126%),cl4-bz#52(136%),cl4-bz#66(132%),cl5-bz#101(129%),cl5-bz#105(124%),cl5-bz#118(134%),cl6-bz#128(121%),cl6-bz#138(124%),cl6-bz#153(122%),cl9-bz#206(130%),cl10-bz#209(123%), but within the overall method allowances. The results of the associated sample(s) are reported; however, all positive detects are considered to have a potentially high bias for these compounds.'

The WG395811-3 LCSD recoveries associated with L0918521-01,L0918521-02,L0918521-03,L0918521-04,L0918521-05,L0918521-06,L0918521-07,L0918521-08,L0918521-09,L0918521-10,L0918521-11,L0918521-12 are above the individual acceptance criteria for cl3-bz#18(133%),cl3-bz#28(138%),cl4-bz#44(133%),cl4-bz#52(138%),cl4-bz#66(139%),cl5-bz#101(133%),cl5-bz#105(130%),cl5-bz#118(139%),cl6-bz#128(128%),cl6-bz#138(131%),cl6-bz#153(128%),cl9-bz#206(139%),cl10-bz#209(126%), but within the overall method allowances. The results of the associated sample(s) are reported; however, all positive detects are considered to have a potentially high bias for these compounds.

The WG395811-5 MSD recoveries are outside the acceptance criteria for cl3-bz#28(200%),cl4-bz#44(121%),cl4-bz#52(207%),cl2-bz#8(131%),cl3-bz#18(159%),cl4-bz#66(135%) . The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in the sample utilized for the MS/MSD.

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

Case Narrative (continued)

The WG395811-5 MS/MSD RPDs associated with L0918521-01 through -12 are above the acceptance criteria for cl3-bz#28(68%),cl4-bz#44(53%),cl4-bz#52(88%),cl4-bz#66(45%),cl5-bz#101(36%),cl6-bz#153(39%),cl2-bz#8(61%),cl3-bz#18(113%). The results of the associated samples are reported.'

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/01/10

ORGANICS



PCBS



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-01
 Client ID: S-09D-C017-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 05:46
 Analyst: JS
 Percent Solids: 94%

Date Collected: 12/17/09 11:20
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	339		ug/kg	70.6	50
CI3-BZ#18	602		ug/kg	70.6	50
CI4-BZ#66	355		ug/kg	70.6	50
CI5-BZ#105	ND		ug/kg	70.6	50
CI5-BZ#118	126		ug/kg	70.6	50
CI6-BZ#128	ND		ug/kg	70.6	50
CI6-BZ#138	ND		ug/kg	70.6	50
CI7-BZ#170	ND		ug/kg	70.6	50
CI7-BZ#180	ND		ug/kg	70.6	50
CI7-BZ#187	ND		ug/kg	70.6	50
CI8-BZ#195	ND		ug/kg	70.6	50
CI9-BZ#206	ND		ug/kg	70.6	50
CI10-BZ#209	ND		ug/kg	70.6	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02011010:14

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-01
Client ID: S-09D-C017-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/22/10 05:46
Analyst: JS
Percent Solids: 94%

Date Collected: 12/17/09 11:20
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/07/10 13:46
Cleanup Method1: EPA 3630
Cleanup Date1: 01/11/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	814		ug/kg	70.6	50
Cl4-BZ#44	368		ug/kg	70.6	50
Cl4-BZ#52	1200		ug/kg	70.6	50
Cl5-BZ#101	207		ug/kg	70.6	50
Cl6-BZ#153	143		ug/kg	70.6	50

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-02
 Client ID: S-09D-C017-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 06:27
 Analyst: JS
 Percent Solids: 91%

Date Collected: 12/17/09 11:20
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	299		ug/kg	71.8	50
CI3-BZ#18	481		ug/kg	71.8	50
CI4-BZ#66	253		ug/kg	71.8	50
CI5-BZ#105	ND		ug/kg	71.8	50
CI6-BZ#128	ND		ug/kg	71.8	50
CI6-BZ#138	ND		ug/kg	71.8	50
CI7-BZ#170	ND		ug/kg	71.8	50
CI7-BZ#180	ND		ug/kg	71.8	50
CI7-BZ#187	ND		ug/kg	71.8	50
CI8-BZ#195	ND		ug/kg	71.8	50
CI9-BZ#206	ND		ug/kg	71.8	50
CI10-BZ#209	ND		ug/kg	71.8	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-02
 Client ID: S-09D-C017-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 06:27
 Analyst: JS
 Percent Solids: 91%

Date Collected: 12/17/09 11:20
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#28	648		ug/kg	71.8	50
CI4-BZ#44	268		ug/kg	71.8	50
CI4-BZ#52	906		ug/kg	71.8	50
CI5-BZ#101	132		ug/kg	71.8	50
CI5-BZ#118	81.4		ug/kg	71.8	50
CI6-BZ#153	75.2		ug/kg	71.8	50

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-03
 Client ID: S-09D-C018-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 01:41
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/17/09 12:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1530		ug/kg	279	200
Cl3-BZ#18	2950		ug/kg	279	200
Cl4-BZ#66	940		ug/kg	279	200
Cl5-BZ#105	ND		ug/kg	279	200
Cl5-BZ#118	ND		ug/kg	279	200
Cl6-BZ#128	ND		ug/kg	279	200
Cl6-BZ#138	ND		ug/kg	279	200
Cl7-BZ#170	ND		ug/kg	279	200
Cl7-BZ#180	ND		ug/kg	279	200
Cl7-BZ#187	ND		ug/kg	279	200
Cl8-BZ#195	ND		ug/kg	279	200
Cl9-BZ#206	ND		ug/kg	279	200
Cl10-BZ#209	ND		ug/kg	279	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-03
 Client ID: S-09D-C018-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 01:41
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/17/09 12:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	2730		ug/kg	279	200
Cl4-BZ#44	1190		ug/kg	279	200
Cl4-BZ#52	3850		ug/kg	279	200
Cl5-BZ#101	419		ug/kg	279	200
Cl6-BZ#153	371		ug/kg	279	200

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-04
 Client ID: S-09D-C018-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 09:11
 Analyst: JS
 Percent Solids: 99%

Date Collected: 12/17/09 12:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI3-BZ#18	2.86		ug/kg	1.34	1
CI4-BZ#44	ND		ug/kg	1.34	1
CI4-BZ#66	ND		ug/kg	1.34	1
CI5-BZ#101	ND		ug/kg	1.34	1
CI5-BZ#105	ND		ug/kg	1.34	1
CI5-BZ#118	ND		ug/kg	1.34	1
CI6-BZ#128	ND		ug/kg	1.34	1
CI6-BZ#138	ND		ug/kg	1.34	1
CI7-BZ#170	ND		ug/kg	1.34	1
CI7-BZ#180	ND		ug/kg	1.34	1
CI7-BZ#187	ND		ug/kg	1.34	1
CI8-BZ#195	ND		ug/kg	1.34	1
CI9-BZ#206	ND		ug/kg	1.34	1
CI10-BZ#209	ND		ug/kg	1.34	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	81		50-125
BZ 198	78		50-125

02011010:14

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-04
Client ID: S-09D-C018-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/22/10 09:11
Analyst: JS
Percent Solids: 99%

Date Collected: 12/17/09 12:00
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/07/10 13:46
Cleanup Method1: EPA 3630
Cleanup Date1: 01/11/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1.49		ug/kg	1.34	1
Cl3-BZ#28	2.92		ug/kg	1.34	1
Cl4-BZ#52	4.36		ug/kg	1.34	1
Cl6-BZ#153	ND		ug/kg	1.34	1

DBOB	81	50-125
BZ 198	78	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-05
 Client ID: S-09D-C019-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 22:16
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 12:20
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	9100		ug/kg	1350	1000
Cl3-BZ#18	14000		ug/kg	1350	1000
Cl4-BZ#66	5430		ug/kg	1350	1000
Cl5-BZ#105	ND		ug/kg	1350	1000
Cl5-BZ#118	ND		ug/kg	1350	1000
Cl6-BZ#128	ND		ug/kg	1350	1000
Cl6-BZ#138	ND		ug/kg	1350	1000
Cl7-BZ#170	ND		ug/kg	1350	1000
Cl7-BZ#180	ND		ug/kg	1350	1000
Cl7-BZ#187	ND		ug/kg	1350	1000
Cl8-BZ#195	ND		ug/kg	1350	1000
Cl9-BZ#206	ND		ug/kg	1350	1000
Cl10-BZ#209	ND		ug/kg	1350	1000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

02011010:14

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-05
Client ID: S-09D-C019-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/21/10 22:16
Analyst: JS
Percent Solids: 98%

Date Collected: 12/17/09 12:20
Date Received: 12/17/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/07/10 13:46
Cleanup Method1: EPA 3630
Cleanup Date1: 01/11/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	14000		ug/kg	1350	1000
Cl4-BZ#44	6190		ug/kg	1350	1000
Cl4-BZ#52	21300		ug/kg	1350	1000
Cl5-BZ#101	2280		ug/kg	1350	1000
Cl6-BZ#153	2040		ug/kg	1350	1000

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-06
 Client ID: S-09D-C019-00.8-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 07:08
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 12:20
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	461		ug/kg	67.1	50
Cl3-BZ#18	738		ug/kg	67.1	50
Cl4-BZ#66	304		ug/kg	67.1	50
Cl5-BZ#105	ND		ug/kg	67.1	50
Cl5-BZ#118	ND		ug/kg	67.1	50
Cl6-BZ#128	ND		ug/kg	67.1	50
Cl6-BZ#138	ND		ug/kg	67.1	50
Cl7-BZ#170	ND		ug/kg	67.1	50
Cl7-BZ#180	ND		ug/kg	67.1	50
Cl7-BZ#187	ND		ug/kg	67.1	50
Cl8-BZ#195	ND		ug/kg	67.1	50
Cl9-BZ#206	ND		ug/kg	67.1	50
Cl10-BZ#209	ND		ug/kg	67.1	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-06
 Client ID: S-09D-C019-00.8-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 07:08
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 12:20
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	807		ug/kg	67.1	50
Cl4-BZ#44	329		ug/kg	67.1	50
Cl4-BZ#52	1150		ug/kg	67.1	50
Cl5-BZ#101	132		ug/kg	67.1	50
Cl6-BZ#153	75.0		ug/kg	67.1	50

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-07
 Client ID: S-09D-C020-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 22:57
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/17/09 12:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2310		ug/kg	539	400
Cl3-BZ#18	4770		ug/kg	539	400
Cl4-BZ#66	1680		ug/kg	539	400
Cl5-BZ#105	ND		ug/kg	539	400
Cl5-BZ#118	ND		ug/kg	539	400
Cl6-BZ#128	ND		ug/kg	539	400
Cl6-BZ#138	ND		ug/kg	539	400
Cl7-BZ#170	ND		ug/kg	539	400
Cl7-BZ#180	ND		ug/kg	539	400
Cl7-BZ#187	ND		ug/kg	539	400
Cl8-BZ#195	ND		ug/kg	539	400
Cl9-BZ#206	ND		ug/kg	539	400
Cl10-BZ#209	ND		ug/kg	539	400

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-07
 Client ID: S-09D-C020-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 22:57
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/17/09 12:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	3890		ug/kg	539	400
Cl4-BZ#44	1880		ug/kg	539	400
Cl4-BZ#52	6190		ug/kg	539	400
Cl5-BZ#101	847		ug/kg	539	400
Cl6-BZ#153	727		ug/kg	539	400

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-08
 Client ID: S-09D-C020-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 07:49
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/17/09 12:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	312		ug/kg	70.5	50
Cl3-BZ#18	678		ug/kg	70.5	50
Cl4-BZ#66	273		ug/kg	70.5	50
Cl5-BZ#105	ND		ug/kg	70.5	50
Cl5-BZ#118	81.4		ug/kg	70.5	50
Cl6-BZ#128	ND		ug/kg	70.5	50
Cl6-BZ#138	ND		ug/kg	70.5	50
Cl7-BZ#170	ND		ug/kg	70.5	50
Cl7-BZ#180	ND		ug/kg	70.5	50
Cl7-BZ#187	ND		ug/kg	70.5	50
Cl8-BZ#195	ND		ug/kg	70.5	50
Cl9-BZ#206	ND		ug/kg	70.5	50
Cl10-BZ#209	ND		ug/kg	70.5	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-08
 Client ID: S-09D-C020-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 07:49
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/17/09 12:45
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	520		ug/kg	70.5	50
Cl4-BZ#44	294		ug/kg	70.5	50
Cl4-BZ#52	899		ug/kg	70.5	50
Cl5-BZ#101	134		ug/kg	70.5	50
Cl6-BZ#153	81.3		ug/kg	70.5	50

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-09
 Client ID: S-09D-C021-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 23:38
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 13:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1910		ug/kg	540	400
Cl3-BZ#18	4980		ug/kg	540	400
Cl4-BZ#66	1990		ug/kg	540	400
Cl5-BZ#105	ND		ug/kg	540	400
Cl5-BZ#118	646		ug/kg	540	400
Cl6-BZ#128	ND		ug/kg	540	400
Cl6-BZ#138	ND		ug/kg	540	400
Cl7-BZ#170	ND		ug/kg	540	400
Cl7-BZ#180	ND		ug/kg	540	400
Cl7-BZ#187	ND		ug/kg	540	400
Cl8-BZ#195	ND		ug/kg	540	400
Cl9-BZ#206	ND		ug/kg	540	400
Cl10-BZ#209	ND		ug/kg	540	400

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-09
 Client ID: S-09D-C021-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/21/10 23:38
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 13:00
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	4090		ug/kg	540	400
Cl4-BZ#44	2290		ug/kg	540	400
Cl4-BZ#52	6940		ug/kg	540	400
Cl5-BZ#101	1100		ug/kg	540	400
Cl6-BZ#153	955		ug/kg	540	400

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-10
 Client ID: S-09D-C026-1.0-1.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 02:22
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/17/09 15:27
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1550		ug/kg	282	200
Cl3-BZ#18	3120		ug/kg	282	200
Cl4-BZ#66	1040		ug/kg	282	200
Cl5-BZ#105	ND		ug/kg	282	200
Cl5-BZ#118	ND		ug/kg	282	200
Cl6-BZ#128	ND		ug/kg	282	200
Cl6-BZ#138	ND		ug/kg	282	200
Cl7-BZ#170	ND		ug/kg	282	200
Cl7-BZ#180	ND		ug/kg	282	200
Cl7-BZ#187	ND		ug/kg	282	200
Cl8-BZ#195	ND		ug/kg	282	200
Cl9-BZ#206	ND		ug/kg	282	200
Cl10-BZ#209	ND		ug/kg	282	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-10
 Client ID: S-09D-C026-1.0-1.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 02:22
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/17/09 15:27
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:46
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	2660		ug/kg	282	200
Cl4-BZ#44	1230		ug/kg	282	200
Cl4-BZ#52	3810		ug/kg	282	200
Cl5-BZ#101	524		ug/kg	282	200
Cl6-BZ#153	432		ug/kg	282	200

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-11
 Client ID: S-09D-C027-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 05:05
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 15:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	592		ug/kg	134	100
Cl3-BZ#18	1210		ug/kg	134	100
Cl4-BZ#66	443		ug/kg	134	100
Cl5-BZ#105	ND		ug/kg	134	100
Cl5-BZ#118	142		ug/kg	134	100
Cl6-BZ#128	ND		ug/kg	134	100
Cl6-BZ#138	ND		ug/kg	134	100
Cl7-BZ#170	ND		ug/kg	134	100
Cl7-BZ#180	ND		ug/kg	134	100
Cl7-BZ#187	ND		ug/kg	134	100
Cl8-BZ#195	ND		ug/kg	134	100
Cl9-BZ#206	ND		ug/kg	134	100
Cl10-BZ#209	ND		ug/kg	134	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-11
 Client ID: S-09D-C027-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/22/10 05:05
 Analyst: JS
 Percent Solids: 98%

Date Collected: 12/17/09 15:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	1130		ug/kg	134	100
Cl4-BZ#44	557		ug/kg	134	100
Cl4-BZ#52	1700		ug/kg	134	100
Cl5-BZ#101	260		ug/kg	134	100
Cl6-BZ#153	173		ug/kg	134	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-12
 Client ID: S-09D-C027-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/23/10 00:06
 Analyst: JS
 Percent Solids: 87%

Date Collected: 12/17/09 15:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	57.8		ug/kg	15.1	10
Cl3-BZ#18	127		ug/kg	15.1	10
Cl4-BZ#66	35.2		ug/kg	15.1	10
Cl5-BZ#105	ND		ug/kg	15.1	10
Cl5-BZ#118	ND		ug/kg	15.1	10
Cl6-BZ#128	ND		ug/kg	15.1	10
Cl6-BZ#138	ND		ug/kg	15.1	10
Cl7-BZ#170	ND		ug/kg	15.1	10
Cl7-BZ#180	ND		ug/kg	15.1	10
Cl7-BZ#187	ND		ug/kg	15.1	10
Cl8-BZ#195	ND		ug/kg	15.1	10
Cl9-BZ#206	ND		ug/kg	15.1	10
Cl10-BZ#209	ND		ug/kg	15.1	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-12
 Client ID: S-09D-C027-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/23/10 00:06
 Analyst: JS
 Percent Solids: 87%

Date Collected: 12/17/09 15:55
 Date Received: 12/17/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/07/10 13:48
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/11/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	96.4		ug/kg	15.1	10
Cl4-BZ#44	43.7		ug/kg	15.1	10
Cl4-BZ#52	138		ug/kg	15.1	10
Cl5-BZ#101	19.8		ug/kg	15.1	10
Cl6-BZ#153	ND		ug/kg	15.1	10

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 01/21/10 20:13
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 01/07/10 13:46
Cleanup Method1: EPA 3630
Cleanup Date1: 01/11/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-12 Batch: WG395811-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206	ND		ug/kg	1.33
Cl10-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	113		50-125
BZ 198	103		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 01/21/10 20:13
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 01/07/10 13:46
Cleanup Method1: EPA 3630
Cleanup Date1: 01/11/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-12 Batch: WG395811-1				
C16-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	113		50-125
BZ 198	103		50-125

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG395811-4 WG395811-5 QC Sample: L0918521-09 Client ID: S-09D-C021-0-0.5												
Cl2-BZ#8	1910	1670	3080	70		4090	131	Q	40-120	61	Q	30
Cl3-BZ#18	4980	1670	5720	44		7630	159	Q	40-120	113	Q	30
Cl3-BZ#28	4090	1670	5740	99		7430	200	Q	40-120	68	Q	30
Cl4-BZ#44	2290	1670	3460	70		4310	121	Q	40-120	53	Q	30
Cl4-BZ#52	6940	1670	8280	80		10400	207	Q	40-120	88	Q	30
Cl4-BZ#66	1990	1670	3410	85		4240	135	Q	40-120	45	Q	30
Cl5-BZ#101	1100	1670	2300	72		2820	103		40-120	36	Q	30
Cl5-BZ#105	ND	1670	1400	84		1680	101		40-120	19		30
Cl5-BZ#118	646	1670	1890	75		2310	100		40-120	29		30
Cl6-BZ#128	ND	1670	1340	80		1550	93		40-120	15		30
Cl6-BZ#138	ND	1670	1510	90		1800	108		40-120	18		30
Cl6-BZ#153	955	1670	2020	64		2530	94		40-120	39	Q	30
Cl7-BZ#170	ND	1670	1310	78		1500	90		40-120	14		30
Cl7-BZ#180	ND	1670	1350	81		1570	94		40-120	15		30
Cl7-BZ#187	ND	1670	1390	83		1670	100		40-120	18		30
Cl8-BZ#195	ND	1670	1240	74		1420	85		40-120	14		30
Cl9-BZ#206	ND	1670	1390	83		1620	97		40-120	15		30
Cl10-BZ#209	ND	1670	1290	77		1500	90		40-120	15		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
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PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG395811-4 WG395811-5 QC Sample: L0918521-09 Client ID: S-09D-C021-0-0.5

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
BZ 198	0	Q	0	Q	50-125
DBOB	0	Q	0	Q	50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0918521

Project Number: T0-0010-001B

Report Date: 02/01/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-12 Batch: WG395811-2 WG395811-3								
Cl2-BZ#8	113		116		40-120	3		30
Cl3-BZ#18	137	Q	133	Q	40-120	3		30
Cl3-BZ#28	135	Q	138	Q	40-120	2		30
Cl4-BZ#44	126	Q	133	Q	40-120	5		30
Cl4-BZ#52	136	Q	138	Q	40-120	1		30
Cl4-BZ#66	132	Q	139	Q	40-120	5		30
Cl5-BZ#101	129	Q	133	Q	40-120	3		30
Cl5-BZ#105	124	Q	130	Q	40-120	5		30
Cl5-BZ#118	134	Q	139	Q	40-120	4		30
Cl6-BZ#128	121	Q	128	Q	40-120	6		30
Cl6-BZ#138	124	Q	131	Q	40-120	5		30
Cl6-BZ#153	122	Q	128	Q	40-120	5		30
Cl7-BZ#170	102		110		40-120	8		30
Cl7-BZ#180	111		117		40-120	5		30
Cl7-BZ#187	117		120		40-120	3		30
Cl8-BZ#195	109		111		40-120	2		30
Cl9-BZ#206	130	Q	139	Q	40-120	7		30
Cl10-BZ#209	123	Q	126	Q	40-120	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0918521

Project Number: T0-0010-001B

Report Date: 02/01/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-12 Batch: WG395811-2 WG395811-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	114		121		50-125
BZ 198	113		118		50-125

INORGANICS & MISCELLANEOUS



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-01
 Client ID: S-09D-C017-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 11:20
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	93.8		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



02011010:14

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-02
Client ID: S-09D-C017-0.5-1.0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/17/09 11:20
Date Received: 12/17/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	90.9		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-03
 Client ID: S-09D-C018-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 12:00
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	93.4		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-04
 Client ID: S-09D-C018-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 12:00
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.9		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-05
 Client ID: S-09D-C019-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 12:20
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.6		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-06
 Client ID: S-09D-C019-00.8-1.2
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 12:20
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.0		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-07
 Client ID: S-09D-C020-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 12:45
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.3		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-08
 Client ID: S-09D-C020-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 12:45
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	93.2		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-09
 Client ID: S-09D-C021-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 13:00
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.0		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-10
 Client ID: S-09D-C026-1.0-1.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 15:27
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	93.2		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-11
 Client ID: S-09D-C027-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 15:55
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.9		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

SAMPLE RESULTS

Lab ID: L0918521-12
 Client ID: S-09D-C027-0.5-1.0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 12/17/09 15:55
 Date Received: 12/17/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	87.1		%	0.100	1	-	01/07/10 15:15	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0918521
Report Date: 02/01/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG395840-1 QC Sample: L0918521-01 Client ID: S-09D-C017-0-0.5						
Solids, Total	93.8	93.6	%	0		20

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0918521-01A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-02A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-03A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-04A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-05A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-06A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-07A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-08A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-09A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-09B	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-10A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-11A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)
L0918521-12A	Glass 250ml unpreserved	B	N/A	3	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7)

*Hold days indicated by values in parentheses

Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

GLOSSARY

Acronyms

EPA	-Environmental Protection Agency.
LCS	-Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	-Laboratory Control Sample Duplicate: Refer to LCS.
MS	-Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	-Matrix Spike Sample Duplicate: Refer to MS.
NA	-Not Applicable.
NC	-Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	-Not detected at the reported detection limit for the sample.
NI	-Not Ignitable.
RDL	-Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	-Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	-Spectra identified as "Aldol Condensation Product".
B	-The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	-Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	-Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	-The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	-The RPD between the results for the two columns exceeds the method-specified criteria.
Q	-The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	-Analytical results are from sample re-analysis.
RE	-Analytical results are from sample re-extraction.
J	-Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: T0-0010-001B

Lab Number: L0918521
Report Date: 02/01/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



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PERCENT SOLIDS - METHOD 2540G

Analyst: KJB BATCH: L0918521
 Date In: 12/22/2009 Time in: 12:26 Start Temp: 105 °C
 Date Out: 12/23/2009 Time out: 9:00 End Temp: 105 °C 1st WEIGHING Entered by: KJB
 Date Out: 12/23/2009 Time out: 14:00 End Temp: 105 °C 2nd WEIGHING Verified by: _____
 Date Out: _____ Time out: _____ End Temp: _____ °C 3rd WEIGHING Calculation: (C-A) X 100/(B-A)
 Oven Requirement: 103-105°C

ETR #	Sample #	QC (D)	Dish #	A Mass of Dish tare wt (g)	B Mass of Dish & wet sample (g)	C - 1st Weighing Mass of Dish & dry sample (g)	D - 2nd Weighing Mass of Dish & dry sample (g)	E - 3rd Weighing Mass of Dish & dry sample (g)	% Solids	QC (RPD)
	BLANK		B	1.32	1.32	1.32	1.32		<0.1	
L0918521	-1			1.31	7.23	3.53	3.53		37.5	
L0918521	-2			1.31	7.39	3.92	3.92		42.9	
L0918521	-3			1.31	6.50	4.40	4.40		59.5	
L0918521	-4			1.32	7.10	5.32	5.32		69.2	
L0918521	-5			1.33	6.48	3.42	3.42		40.6	
L0918521	-6			1.32	6.67	3.48	3.48		40.4	
L0918521	-7			1.31	6.03	3.08	3.08		37.5	
L0918521	-8			1.32	6.35	3.56	3.56		44.5	
L0918521	-9			1.32	6.01	3.36	3.36		43.5	
L0918521	-10			1.31	7.69	4.24	4.24		45.9	
L0918521	-11			1.31	6.84	3.7	3.7		43.2	
L0918521	-12			1.31	7.33	4.38	4.38		51.0	

TEMPLATE: PERCENTNEW.XLT
 Duplicates should agree within +/- 10%. 1st and/or 2nd and/or 3rd weighings should agree within 4% or 50 mg

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A, 3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D, 9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3051, 6020, 747A, 7474, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.

02011010:14



CHAIN OF CUSTODY PAGE 4 OF 6

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information
 Client: Woods Hole Group
 Address: 81 Technology Park Dr.
 E. Falmouth, MA 02536
 Phone: 508-540-8080
 Fax: 508-540-1001
 Email: dwalsh@whgrp.com

These samples have been previously analyzed by Alpha

Project Information
 Project Name: New Bedford Harbor
 Project Location: New Bedford, MA
 Project #: TO-0010
 Project Manager: Dave Walsh
 ALPHA Quote #:

Turn-Around Time
 Standard RUSH (only confirmed if pre-approved!)
 Date Due: Time:

Other Project Specific Requirements/Comments/Detection Limits:
 * Please homogenize all samples before analysis
 * Level III data report and project specific EDD

Date Rec'd in Lab:

ALPHA Job #: L0918521

Report Information - Data Deliverables
 FAX EMAIL
 ADEX Add'l Deliverables

Billing Information
 Same as Client info PO #:

Regulatory Requirements/Report Limits
 State (Fed Program) Criteria

MA MCP PRESUMPTIVE CERTAINTY -- CT REASONABLE CONFIDENCE PROTOCOLS
 Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS
 PCB congeners (NDMA)
SAMPLE HANDLING
 Filtration
 Done
 Not needed
 Lab to do
 Preservation
 Lab to do
 (Please specify below)
TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials							Sample Specific Comments	
		Date	Time										
18521-1	S-09D-C017-0-0.5	12/17/09	11:20	SE	DRW	X						JQ09	1
2	S-09D-C017-0.5-1.0		11:20			X						JQ09	1
3	S-09D-C018-0-0.5		12:00			X						JR14	1
4	S-09D-C018-0.5-1.0		12:00			X						JR14	1
5	S-09D-C019-0-0.5		12:20			X						JO14	1
6	S-09D-C019-0.8-1.2		12:20			X						JO14	1
7	S-09D-C020-0-0.5		12:45			X						JN16	1
8	S-09D-C020-0.5-1.0		12:45			X						JN16	1
9	S-09D-C021-0-0.5		13:00			X						JP22	1
9	S-09D-C021-0-0.5 MSMSD		13:00			X						JP22 MS/MSD	1

PLEASE ANSWER QUESTIONS ABOVE!
 IS YOUR PROJECT MA MCP or CT RCP?

Container Type: G
 Preservative: A

Relinquished By: *DWalsh* Date/Time: 12/17/09 17:57
 Received By: *Chelle P...* Date/Time: 12/17/09 17:57

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORMNO: 01-01 (rev. 30-JUL-07)

02011010:14



CHAIN OF CUSTODY PAGE 6 OF 6

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3268

Client Information
 Client: Woods Hde Group
 Address: 81 Technology Park Dr.
 E. Falmouth, MA 02536
 Phone: 508-540-8080
 Fax: 508-540-1001
 Email: dwalsh@whgrp.com

Project Information
 Project Name: New Bedford Harbor
 Project Location: New Bedford, MA

Project #: TO-0010
 Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: Time:

Other Project Specific Requirements/Comments/Detection Limits:
 *Please homogenize all samples before analysis
 *Level III data report and project specific EDD

Date Rec'd in Lab: ALPHA Job #: 40918521

Report Information - Data Deliverables
 FAX EMAIL
 ADEX Add'l Deliverables

Billing Information
 Same as Client info PO #:

Regulatory Requirements/Report Limits
 State (Fed Program) Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS	STANDARD	PCB congeners (NOVAIS)	SAMPLE HANDLING		TOTAL # BOTTLES
			Filtration	Preservation	
			<input type="checkbox"/> Done	<input type="checkbox"/> Lab to dc	
			<input type="checkbox"/> Not needed	<input type="checkbox"/> Lab to dc	
			(Please specify below)		
			Sample Specific Comments		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
		Date	Time				
10918521-10	S-09D-C026-1.0-1.5	12/17/09	15:27	SE	DRW	JK12	1
-11	S-09D-C027-0.5	↓	15:55	↓	↓	JG18	1
-12	S-09D-C027-0.5-1.0	↓	15:55	↓	↓	JG18	1

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP? MA MCP CT RCP

Container Type: E
Preservative: A

Relinquished By: [Signature] Date/Time: 12/17/09 17:57
 Received By: [Signature] Date/Time: 01/17/09 17:57

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORMNO: 01-01 (rev. 30-JUL-07)

Delivery Order-0010
June 2010

B-682

Sediment Monitoring Summary Report
W912WJ-09-D-0001

**APPENDIX C: USEPA OFFICE OF ENVIRONMENTAL MEASUREMENT &
EVALUATION LABORATORY REPORT AND ANALYTICAL DATA**



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

Laboratory Report

December 11, 2009

Elaine Stanley - OSRR07-4
US EPA New England Region 1
John W. MacCormack Federal Building
5 Post Office Square
Boston, MA 02109 - 3912

Project Number: 09120001

Project: New Bedford Harbor- New Bedford, MA

Analysis: PCB's in Soil Field Method (Fixed Lab)

Analyst: Paul Carroll

*Handwritten signature: Paul Carroll
12.11.09*

Analytical Procedure:

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

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

Date Samples Received by the Laboratory: 12/1/09

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

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

Sincerely,

Handwritten signature: Daniel N. Boudreau 12/14/09
Daniel N. Boudreau
Chemistry Team Leader

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

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K8 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00120
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	0.5	0.84	L
12672-29-6	Aroclor-1248	ND	0.84	
11097-69-1	Aroclor-1254	ND	0.84	
11096-82-5	Aroclor-1260	ND	0.84	
11100-14-4	Aroclor-1262	ND	0.84	
37324-23-5	Aroclor-1268	ND	0.84	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K8 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00121
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	6.2	0.94	
12672-29-6	Aroclor-1248	ND	0.94	
11097-69-1	Aroclor-1254	3.7	0.94	
11096-82-5	Aroclor-1260	ND	0.94	
11100-14-4	Aroclor-1262	ND	0.94	
37324-23-5	Aroclor-1268	ND	0.94	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K7 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/3/09

Lab Sample ID: AB00122
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	ND	0.94	
12672-29-6	Aroclor-1248	ND	0.94	
11097-69-1	Aroclor-1254	0.90	0.94	L
11096-82-5	Aroclor-1260	ND	0.94	
11100-14-4	Aroclor-1262	ND	0.94	
37324-23-5	Aroclor-1268	ND	0.94	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K7 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00123
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	24	0.94	
12672-29-6	Aroclor-1248	ND	0.94	
11097-69-1	Aroclor-1254	16	0.94	
11096-82-5	Aroclor-1260	ND	0.94	
11100-14-4	Aroclor-1262	ND	0.94	
37324-23-5	Aroclor-1268	ND	0.94	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K6 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00124
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	66	7.2	
12672-29-6	Aroclor-1248	ND	7.2	
11097-69-1	Aroclor-1254	88	7.2	
11096-82-5	Aroclor-1260	ND	7.2	
11100-14-4	Aroclor-1262	ND	7.2	
37324-23-5	Aroclor-1268	ND	7.2	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K6 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00125
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	120	11	
12672-29-6	Aroclor-1248	ND	11	
11097-69-1	Aroclor-1254	69	11	
11096-82-5	Aroclor-1260	ND	11	
11100-14-4	Aroclor-1262	ND	11	
37324-23-5	Aroclor-1268	ND	11	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K5 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00126
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	0.60	0.7	L
12672-29-6	Aroclor-1248	ND	0.7	
11097-69-1	Aroclor-1254	ND	0.7	
11096-82-5	Aroclor-1260	ND	0.7	
11100-14-4	Aroclor-1262	ND	0.7	
37324-23-5	Aroclor-1268	ND	0.7	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K5 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00127
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	18	1.2	
12672-29-6	Aroclor-1248	ND	1.2	
11097-69-1	Aroclor-1254	16	1.2	
11096-82-5	Aroclor-1260	ND	1.2	
11100-14-4	Aroclor-1262	ND	1.2	
37324-23-5	Aroclor-1268	ND	1.2	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K4 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00128
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	3.4	1.1	
12672-29-6	Aroclor-1248	ND	1.1	
11097-69-1	Aroclor-1254	2.0	1.1	
11096-82-5	Aroclor-1260	ND	1.1	
11100-14-4	Aroclor-1262	ND	1.1	
37324-23-5	Aroclor-1268	ND	1.1	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K4 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00129
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	21	0.96	
12672-29-6	Aroclor-1248	ND	0.96	
11097-69-1	Aroclor-1254	11	0.96	
11096-82-5	Aroclor-1260	ND	0.96	
11100-14-4	Aroclor-1262	ND	0.96	
37324-23-5	Aroclor-1268	ND	0.96	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K3 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00130
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	5.2	1.0	
12672-29-6	Aroclor-1248	ND	1.0	
11097-69-1	Aroclor-1254	3.5	1.0	
11096-82-5	Aroclor-1260	ND	1.0	
11100-14-4	Aroclor-1262	ND	1.0	
37324-23-5	Aroclor-1268	ND	1.0	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K3 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00131
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	14	0.76	
12672-29-6	Aroclor-1248	ND	0.76	
11097-69-1	Aroclor-1254	7.6	0.76	
11096-82-5	Aroclor-1260	ND	0.76	
11100-14-4	Aroclor-1262	ND	0.76	
37324-23-5	Aroclor-1268	ND	0.76	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K2 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00132
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	0.45	0.08	
12672-29-6	Aroclor-1248	ND	0.08	
11097-69-1	Aroclor-1254	0.54	0.08	
11096-82-5	Aroclor-1260	ND	0.08	
11100-14-4	Aroclor-1262	ND	0.08	
37324-23-5	Aroclor-1268	ND	0.08	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K2 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00133
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	13	0.84	
12672-29-6	Aroclor-1248	ND	0.84	
11097-69-1	Aroclor-1254	8.4	0.84	
11096-82-5	Aroclor-1260	ND	0.84	
11100-14-4	Aroclor-1262	ND	0.84	
37324-23-5	Aroclor-1268	ND	0.84	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K1 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00134
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	63	5.9	
12672-29-6	Aroclor-1248	ND	5.9	
11097-69-1	Aroclor-1254	30	5.9	
11096-82-5	Aroclor-1260	ND	5.9	
11100-14-4	Aroclor-1262	ND	5.9	
37324-23-5	Aroclor-1268	ND	5.9	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: K1 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00135
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	240	28	
12672-29-6	Aroclor-1248	ND	28	
11097-69-1	Aroclor-1254	79	28	
11096-82-5	Aroclor-1260	ND	28	
11100-14-4	Aroclor-1262	ND	28	
37324-23-5	Aroclor-1268	ND	28	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC6 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00136
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	1300	100	
12672-29-6	Aroclor-1248	ND	100	
11097-69-1	Aroclor-1254	350	100	
11096-82-5	Aroclor-1260	ND	100	
11100-14-4	Aroclor-1262	ND	100	
37324-23-5	Aroclor-1268	ND	100	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC6 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/3/09

Lab Sample ID: AB00137
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	30	1.4	
12672-29-6	Aroclor-1248	ND	1.4	
11097-69-1	Aroclor-1254	8.7	1.4	
11096-82-5	Aroclor-1260	ND	1.4	
11100-14-4	Aroclor-1262	ND	1.4	
37324-23-5	Aroclor-1268	ND	1.4	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC5 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00138
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	470	47	
12672-29-6	Aroclor-1248	ND	47	
11097-69-1	Aroclor-1254	150	47	
11096-82-5	Aroclor-1260	ND	47	
11100-14-4	Aroclor-1262	ND	47	
37324-23-5	Aroclor-1268	ND	47	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC5 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/4/09

Lab Sample ID: AB00139
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	550	54	
12672-29-6	Aroclor-1248	ND	54	
11097-69-1	Aroclor-1254	160	54	
11096-82-5	Aroclor-1260	ND	54	
11100-14-4	Aroclor-1262	ND	54	
37324-23-5	Aroclor-1268	ND	54	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC4 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00140
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	220	46	
12672-29-6	Aroclor-1248	ND	46	
11097-69-1	Aroclor-1254	210	46	
11096-82-5	Aroclor-1260	ND	46	
11100-14-4	Aroclor-1262	ND	46	
37324-23-5	Aroclor-1268	ND	46	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC4 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00141
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	1800	86	
12672-29-6	Aroclor-1248	ND	86	
11097-69-1	Aroclor-1254	760	86	
11096-82-5	Aroclor-1260	ND	86	
11100-14-4	Aroclor-1262	ND	86	
37324-23-5	Aroclor-1268	ND	86	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC3 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00142
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	2000	74	
12672-29-6	Aroclor-1248	ND	74	
11097-69-1	Aroclor-1254	560	74	
11096-82-5	Aroclor-1260	ND	74	
11100-14-4	Aroclor-1262	ND	74	
37324-23-5	Aroclor-1268	ND	74	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC3 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00143
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	920	29	
12672-29-6	Aroclor-1248	ND	29	
11097-69-1	Aroclor-1254	280	29	
11096-82-5	Aroclor-1260	ND	29	
11100-14-4	Aroclor-1262	ND	29	
37324-23-5	Aroclor-1268	ND	29	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC2 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00144
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	870	36	
12672-29-6	Aroclor-1248	ND	36	
11097-69-1	Aroclor-1254	280	36	
11096-82-5	Aroclor-1260	ND	36	
11100-14-4	Aroclor-1262	ND	36	
37324-23-5	Aroclor-1268	ND	36	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC2 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00145
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	29	1.8	
12672-29-6	Aroclor-1248	ND	1.8	
11097-69-1	Aroclor-1254	14	1.8	
11096-82-5	Aroclor-1260	ND	1.8	
11100-14-4	Aroclor-1262	ND	1.8	
37324-23-5	Aroclor-1268	ND	1.8	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC1 0-0.5
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00146
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	810	54	
12672-29-6	Aroclor-1248	ND	54	
11097-69-1	Aroclor-1254	420	54	
11096-82-5	Aroclor-1260	ND	54	
11100-14-4	Aroclor-1262	ND	54	
37324-23-5	Aroclor-1268	ND	54	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: SC1 0.5-1.0
Date of Collection: 11/24/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00147
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	15	2.2	
12672-29-6	Aroclor-1248	ND	2.2	
11097-69-1	Aroclor-1254	5.6	2.2	
11096-82-5	Aroclor-1260	ND	2.2	
11100-14-4	Aroclor-1262	ND	2.2	
37324-23-5	Aroclor-1268	ND	2.2	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC1 0-0.5
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00148
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	71	9.4	
12672-29-6	Aroclor-1248	ND	9.4	
11097-69-1	Aroclor-1254	44	9.4	
11096-82-5	Aroclor-1260	ND	9.4	
11100-14-4	Aroclor-1262	ND	9.4	
37324-23-5	Aroclor-1268	ND	9.4	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC1 0.5-1.0
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00149
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	ND	1.8	
12672-29-6	Aroclor-1248	ND	1.8	
11097-69-1	Aroclor-1254	2.5	1.8	
11096-82-5	Aroclor-1260	ND	1.8	
11100-14-4	Aroclor-1262	ND	1.8	
37324-23-5	Aroclor-1268	ND	1.8	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC2 0-0.5
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00150
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	160	42	
12672-29-6	Aroclor-1248	ND	42	
11097-69-1	Aroclor-1254	120	42	
11096-82-5	Aroclor-1260	ND	42	
11100-14-4	Aroclor-1262	ND	42	
37324-23-5	Aroclor-1268	ND	42	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC2 0.5-1.0
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00151
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	50	1.4	
12672-29-6	Aroclor-1248	ND	1.4	
11097-69-1	Aroclor-1254	17	1.4	
11096-82-5	Aroclor-1260	ND	1.4	
11100-14-4	Aroclor-1262	ND	1.4	
37324-23-5	Aroclor-1268	ND	1.4	

Comments:

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PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC3 0-0.5
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00152
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	37	1.8	
12672-29-6	Aroclor-1248	ND	1.8	
11097-69-1	Aroclor-1254	38	1.8	
11096-82-5	Aroclor-1260	ND	1.8	
11100-14-4	Aroclor-1262	ND	1.8	
37324-23-5	Aroclor-1268	ND	1.8	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC3 0.5-1.0
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00153
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	4.3	1.7	
12672-29-6	Aroclor-1248	ND	1.7	
11097-69-1	Aroclor-1254	2.3	1.7	
11096-82-5	Aroclor-1260	ND	1.7	
11100-14-4	Aroclor-1262	ND	1.7	
37324-23-5	Aroclor-1268	ND	1.7	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC4 0-0.6
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00154
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	800	36	
12672-29-6	Aroclor-1248	ND	36	
11097-69-1	Aroclor-1254	230	36	
11096-82-5	Aroclor-1260	ND	36	
11100-14-4	Aroclor-1262	ND	36	
37324-23-5	Aroclor-1268	ND	36	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC4 0.6-1.1
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00155
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	7.6	2.0	
12672-29-6	Aroclor-1248	ND	2.0	
11097-69-1	Aroclor-1254	1.9	2.0	L
11096-82-5	Aroclor-1260	ND	2.0	
11100-14-4	Aroclor-1262	ND	2.0	
37324-23-5	Aroclor-1268	ND	2.0	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC5 1.0-1.5
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00156
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	ND	1.8	
12672-29-6	Aroclor-1248	ND	1.8	
11097-69-1	Aroclor-1254	ND	1.8	
11096-82-5	Aroclor-1260	ND	1.8	
11100-14-4	Aroclor-1262	ND	1.8	
37324-23-5	Aroclor-1268	ND	1.8	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC5 0.5-1.0
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00157
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	300	45	
12672-29-6	Aroclor-1248	ND	45	
11097-69-1	Aroclor-1254	170	45	
11096-82-5	Aroclor-1260	ND	45	
11100-14-4	Aroclor-1262	ND	45	
37324-23-5	Aroclor-1268	ND	45	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC6 0.3-0.8
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00158
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	440	36	
12672-29-6	Aroclor-1248	ND	36	
11097-69-1	Aroclor-1254	150	36	
11096-82-5	Aroclor-1260	ND	36	
11100-14-4	Aroclor-1262	ND	36	
37324-23-5	Aroclor-1268	ND	36	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC6 0.8-1.3
Date of Collection: 11/25/2009
Date of Extraction: 12/2/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00159
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	2.5	1.8	
12672-29-6	Aroclor-1248	ND	1.8	
11097-69-1	Aroclor-1254	ND	1.8	
11096-82-5	Aroclor-1260	ND	1.8	
11100-14-4	Aroclor-1262	ND	1.8	
37324-23-5	Aroclor-1268	ND	1.8	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC7 0.5-1.0
Date of Collection: 11/25/2009
Date of Extraction: 12/3/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00160
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	11	1.2	
12672-29-6	Aroclor-1248	ND	1.2	
11097-69-1	Aroclor-1254	2.4	1.2	
11096-82-5	Aroclor-1260	ND	1.2	
11100-14-4	Aroclor-1262	ND	1.2	
37324-23-5	Aroclor-1268	ND	1.2	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC7 0-0.5
Date of Collection: 11/25/2009
Date of Extraction: 12/3/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00161
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	630	23	
12672-29-6	Aroclor-1248	ND	23	
11097-69-1	Aroclor-1254	130	23	
11096-82-5	Aroclor-1260	ND	23	
11100-14-4	Aroclor-1262	ND	23	
37324-23-5	Aroclor-1268	ND	23	

Comments:

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

New Bedford Harbor- New Bedford, MA

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC8 0.3-0.8
Date of Collection: 11/25/2009
Date of Extraction: 12/3/09
Date of Analysis: 12/8/09

Lab Sample ID: AB00162
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	79	10	
12672-29-6	Aroclor-1248	ND	10	
11097-69-1	Aroclor-1254	58	10	
11096-82-5	Aroclor-1260	ND	10	
11100-14-4	Aroclor-1262	ND	10	
37324-23-5	Aroclor-1268	ND	10	

Comments:

PCB's in Soil Field Method (Fixed Lab)

Client Sample ID: NC8 0.8-1.3
Date of Collection: 11/25/2009
Date of Extraction: 12/3/09
Date of Analysis: 12/7/09

Lab Sample ID: AB00163
Matrix: Sediment
Extract Volume: 1 mL

CAS Number	Compound	Concentration mg/Kg	RL mg/Kg	Qualifier
53469-21-9	Aroclor-1242	11	2.0	
12672-29-6	Aroclor-1248	ND	2.0	
11097-69-1	Aroclor-1254	4.3	2.0	
11096-82-5	Aroclor-1260	ND	2.0	
11100-14-4	Aroclor-1262	ND	2.0	
37324-23-5	Aroclor-1268	ND	2.0	

Comments:

PN 09120001

CHAIN OF CUSTODY

PAGE 1 OF 5



WESTBORO, MA
 TEL: 508-898-9220
 FAX: 508-898-9193

MANSFIELD, MA
 TEL: 508-822-9300
 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #:

Project Information

Project Name: **NEW BEDFORD HARBOR 2010 PRE-DREDGE CORES**
 Project Location: **New Bedford, MA**

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: **WOODS HOLE GROUP, INC**
 Address: **81 TECHNOLOGY PARK DR.**
E. FALMOUTH, MA 02536
 Phone: **508 540-8080**
 Fax: **508 540-1001**
 Email: **DWALSH@WHGRP.COM**

Project #: **TO-0010**
 Project Manager: **DAVE WALSH**
 ALPHA Quote #:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
 Date Due: Time:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

*** PLEASE HOMOGENIZE SEDIMENTS BEFORE ANALYSIS**

ANALYSIS
PCB Analyzers

SAMPLE HANDLING

Filtration _____
 Done
 Not needed
 Preservation
 Lab to do
 Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS										Sample Specific Comments	TOTAL # BOTTLES					
		Date	Time																			
	S-090-C039-0.5-1.0	11/24/09	1345	SE	DRW	X															K8 0.5-1.0	1
	S-090-C039-0-0.5		1345			X															K8 0-0.5	1
	S-090-C038-0.5-1.0		1325			X															K7 0.5-1.0	1
	S-090-C038-0-0.5		1325			X															K7 0-0.5	1
	S-090-C040-0.5-1.0		1310			X															K6 0.5-1.0	1
	S-090-C040-0-0.5		1310			X															K6 0-0.5	1
	S-090-C037-0.5-MSMSD		1255			X															K5 MSMSD QC	1
	S-090-C037-0.5-1.0		1255			X															K5 0.5-1.0	1
	S-090-C037-0-0.5		1255			X															K5 0-0.5	1
	S-090-C036-0.5-1.0		1242			X															K4 0.5-1.0	1

Container Type **G**

Preservative **A**

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha Terms and Conditions. See reverse side. **June 2010**

Relinquished By:

Date/Time

Received By:

Date/Time

[Signature] **C-26** *[Signature]* **ESAT 12/1/09 10:10**

Sediment Monitoring Summary Report

CHAIN OF CUSTODY



WESTBORO, MA
 TEL: 508-898-9220
 FAX: 508-898-9193

MANSFIELD, MA
 TEL: 508-822-9300
 FAX: 508-822-3288

Client Information

Client: Woods Hole Group
 Address: 81 Technology Park Dr.
E. Falmouth, MA 02536
 Phone: 508 540 8080
 Fax: 508 540 1001
 Email: dwalsh@whgrp.com

These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Harbor
2010 Pre-Dredge Cores
 Project Location: New Bedford, MA
 Project #: TD-0010
 Project Manager: Dave Walsh
 ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: _____ Time: _____

Date Rec'd in Lab:

ALPHA Job #:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State / Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

**please homogenize sediments before analysis*

ANALYSIS
 PCB Aroclust

SAMPLE HANDLING

Filtration _____
 Done
 Not needed
 Lab to do Preservation
 Lab to do

(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials											Sample Specific Comments	TOTAL # BOTTLES	
		Date	Time															
	S-φ90-Cφ36-φ-φ.5	11/24/09	1242	SE	DRW	X												
	S-φ90-Cφ35-φ.5-1.φ		1223			X												
	S-φ90-Cφ35-φ-φ.5		1223			X												
	S-φ90-Cφ34-φ.5-1.φ		1211			X												
	S-φ90-Cφ34-φ-φ.5		1211			X												
	S-φ90-Cφ41-φ.5-1.φ		1156			X												
	S-φ90-Cφ41-φ-φ.5		1156			X												
	S-φ90-Cφ33-φ.5-1.φ		1057			X												
	S-φ90-Cφ33-φ-φ.5		1057			X												
	S-φ90-Cφ32-φ.5-1.φ	↓	1042	↓	↓	X												

Container Type		GF						
Preservative		DA						
Relinquished By:			Date/Time		Received By:		Date/Time	
<i>[Signature]</i>					<i>[Signature] ESAT</i>		12/1/09 10:10	
C-27								

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side. Delivery Order-0010 June 2010

CHAIN OF CUSTODY



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: New Bedford Harbor 2010 Pre-dredge Cores
Project Location: New Bedford, MA

Project #: TO-0010

Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)
Date Due: _____ Time: _____

Date Rec'd in Lab:

ALPHA Job #:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: Woods Hole Group

Address: 81 Technology Park Dr.
E. Falmouth, MA 02536

Phone: 508 540 8080

Fax: 508 540 1001

Email: dwalsh@whgrp.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

*please homogenize sediments before analysis

Regulatory Requirements/Report Limits

State / Fed Program Criteria

ANALYSIS

Ref Analyzers

SAMPLE HANDLING

- Filtration _____
- Done
- Not needed
- Lab to do
- Lab to do
- (Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	X	Sample Specific Comments											TOTAL # BOTTLES				
		Date	Time																			
	S-φ90-Cφ32-φ-φ.5	11/24/09	1042	SE	DRW	X															SC5 0-0.5	1
	S-φ90-Cφ31-φ.5-1.φ		1020			X															SC4 0.5-1.0	1
	S-φ90-Cφ31-φ-φ.5		1020			X															SC4 0-0.5	1
	S-φ90-Cφ28-φ-φ.5		1010			X															SC3 0-0.5'	1
	S-φ90-Cφ28-φ.5-1.φ		1010			X															SC3 0.5-1.0	1
	S-φ90-Cφ27-φ-φ.5		0950			X															SC2 0-0.5	1
	S-φ90-Cφ27-φ.5-1.φ		0950			X															SC2 0.5-1.0	1
	S-φ90-Cφ26-φ-φ.5		0935			X															SC1 0-0.5	1
	S-φ90-Cφ26-φ.5-1.φ		0935			X															SC1 0.5-1.0	1

Container Type G
Preservative A

Relinquished By: <u>D Walsh</u>	Date/Time	Received By: <u>[Signature]</u>	Date/Time
		ESAT	12/1/09 10:10

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Delivery Order-0010
June 2010

CHAIN OF CUSTODY



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #:

Project Information

Project Name: **NEW BEDFORD HARBOR 2010 PRE-DREDGE CORES**

Project Location: **New Bedford, MA**

Project #: **TO-0010**

Project Manager: **DAVE WALSH**

ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL

ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: **WOODS HOLE GROUP, INC.**

Address: **81 TECHNOLOGY PARK DR. FARMINGTON, MA 02536**

Phone: **508-540-8000**

Fax: **508-540-1001**

Email: **DWALSH@WHGRP.COM**

These samples have been previously analyzed by Alpha

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: _____ Time: _____

Regulatory Requirements/Report Limits

State / Fed Program	Criteria

Other Project Specific Requirements/Comments/Detection Limits:

*** PLEASE HOMOGENIZE SEDIMENTS BEFORE ANALYSIS**

ANALYSIS

SAMPLE HANDLING

Filtration _____

Done

Not needed

Lab to do Preservation

Lab to do

(Please specify below)

TOTAL # BOTTLES

PCB Analyzers

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials						Sample Specific Comments	
		Date	Time									
	S-φ90-Cφ23-φ-φ.5	11/25/09	0845	SE	DRW	X					NC1 0-0.5	1
	S-φ90-Cφ23-φ.5-1.φ	↓	0845	↓	↓	X					NC1 0.5-1.0	1
	S-φ90-Cφ22-φ-φ.5	↓	0906	↓	↓	X					NC2 0-0.5	1
	S-φ90-Cφ22-φ.5-1.φ											
	S-φ90-Cφ22-φ.5-1.φ	11/25/09	0906	SE	DRW	X					NC2 0.5-1.0	1
	S-φ90-Cφ24-φ-φ.5	↓	0930	↓	↓	X					NC3 0-0.5	1
	S-φ90-Cφ24-φ.5-1.φ	↓	0930	↓	↓	X					NC3 0.5-1.0	1
	S-φ90-Cφ21-φ-φ.6	↓	0955	↓	↓	X					NC4 0-0.6	1
	S-φ90-Cφ21-φ.6-1.1	↓	0955	↓	↓	X					NC4 0.6-1.1	1
	S-φ90-Cφ21-φ.6-1.1-MSMSD	↓	0955	↓	↓	X					MSMSD QC sample	1

Container Type **G**

Preservative **A**

Relinquished By: <i>D Walsh</i>	Date/Time	Received By: <i>ESAT</i>	Date/Time: 12/1/09 10:10
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Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.
Delivery Order-0010
June 2010

2009 Biannual Groundwater Monitoring Sawyer Street Confined Disposal Facility

New Bedford, Massachusetts

Contract No. W912WJ-09-D-0001-0010



Prepared For:
United States Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Prepared By:
Woods Hole Group, Inc.
81 Technology Park Drive
East Falmouth, MA 02536

May 2010

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May 18, 2010

Mark Anderson
US Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Dear Mr. Anderson,

Enclosed with this letter is the final technical memorandum detailing the 2009 biannual groundwater monitoring at the Sawyer Street Confined Disposal Facility in New Bedford, Massachusetts. The technical memorandum and associated field work was performed by the Woods Hole Group, Inc. (WHG) subcontractor MACTEC Engineering and Consulting, Inc., as part of Task Order # 0010 under USACE contract no. W912WJ-09-D-0001.

Sincerely,

The Woods Hole Group, Inc.



David R. Walsh
Project Manager/Coastal Scientist

Encl.

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engineering and constructing a better tomorrow

May 17, 2010

Mark Anderson
USACE North Atlantic Division
New England District
696 Virginia Road
Concord, MA 01742-2751

**Subject: July and October 2009 Groundwater Sampling Event
New Bedford Harbor Superfund Site
Sawyer Street Confined Pilot Study Disposal Facility (CDF)
MACTEC Project Number 3650090138**

Dear Mr. Anderson:

On July 8, and October 13, 2009, MACTEC Engineering and Consulting, Inc. (MACTEC) performed groundwater sampling at the New Bedford Harbor Superfund Site, Sawyer Street Pilot Study Confined Disposal Facility (CDF) (Site). This letter summarizes the groundwater sampling and laboratory results from these 2009 Site sampling rounds. Please refer to Figure 1 for a Site Locus.

Groundwater Sampling:

MACTEC collected groundwater samples in accordance with the June 2009 MACTEC Field Sampling and Analysis Plan (SAP) and Health and Safety Plan. Groundwater samples were collected following United States Environmental Protection Agency (USEPA) Low Flow Groundwater procedures with documentation of water quality parameters. The water quality parameters included dissolved oxygen (D.O.), acidity or basicity (pH), turbidity, oxidation reduction potential (ORP), temperature, and specific conductivity. Please refer to Table 1 for a summary of the groundwater quality parameter readings collected from the July and October 2009 sampling rounds. Please refer to Appendix A for field data records from the groundwater sampling rounds.

Groundwater samples were collected from the following six monitoring wells at the Sawyer Street Pilot Study CDF:

- MW-1
- MW-3
- MW-4A
- MW-5
- MW-6
- MW-7A

Please refer to Figure 2 for a graphical depiction of the monitoring well locations.

MACTEC decontaminated sampling equipment between each monitoring well location and also used dedicated tubing and new bladders for each monitoring well location. Limited deviations from the SAP were encountered and included the following:

- Woods Hole Group (WHG) requested that MACTEC sample for Total Suspended Solids (TSS) in both July and October 2009;
- WHG submitted a field duplicate sample to ESS Laboratory in July 2009; and
- In July 2009 a grab groundwater sample was collected from MW-7A.

The purpose of collecting and submitting a duplicate sample to ESS Lab was for quality assurance (QA) of results produced by Alpha Analytical; this was accomplished through an independent inter-laboratory comparison of results. The grab groundwater sample collection from MW-7A in July 2009 was due to safety concerns surrounding lightning strikes which halted work for an hour and threatened to halt work again.

Laboratory Analysis:

Groundwater samples were submitted to Alpha Analytical, a state-certified laboratory, for Volatile Organic Compound (VOC) – USEPA Method 8260B, Polychlorinated biphenyl (PCB) Aroclor analysis – USEPA Method 8082, selected metals analysis (Cadmium, Chromium, Copper, and Lead) – USEPA Method 6020A, and TSS analysis – USEPA Method 2540D. MACTEC collected the groundwater samples using a bladder pump to support the VOCs analysis. Please note that twelve VOC analytes were not reported in the July 2009 analytical data report as they were not on the 2008 Battelle analyte list. Based on discussions with the USEPA Region I and the United State Army Corps of Engineers (USACE), these VOC analytes were included in the October 2009 analytical data report. Alpha Analytical determined that the July 2009 omission of these twelve compounds should not adversely affect the usability of these data for project decisions. For

further details of the VOC analyte list please refer to the first paragraph in the "Sensitivity & Reporting" section of the Data Validation Report for the July GW samples (L0909201), report dated October 12, 2009 and provided as Appendix B.

A field duplicate sample collected from MW-1 (identified as MW-01-070809) was submitted to ESS Laboratory for quality assurance (QA) during the July 2009 sampling round. To provide additional quality control (QC) information, separate field duplicates (DUP or REP), matrix spike (MS) and matrix spike duplicate (MSD) samples were collected and submitted for analysis at Alpha Analytical. In the July 2009 sampling round, these samples were collected from MW-1 and were identified as MW-01-070809-DUP, MW-01-070809-MS, MW-01-070809-MD and MW-01-070809-MSD. In the October 2009 sampling event, these QC samples were collected from MW-7A and were identified as MW-007A-101309REP, MW-007A-101309MS, and MW-007A-101309MSD.

MACTEC collected equipment blanks and submitted trip blanks from both the July and October 2009 sampling rounds. The equipment blanks were collected using de-ionized water run over the decontaminated sample pumps. The purpose of an equipment blank is to assess the effectiveness of decontamination procedures. A trip blank is used to verify the samples were not contaminated during transport to the laboratory.

Results:

Please refer to Table 2 for a summary of detected analytes (in micrograms per liter [$\mu\text{g/L}$]), which were limited to Aroclor 1248 and Copper. No analytes were detected above the Massachusetts Contingency Plan (MCP) GW-3 limits in either the July or October 2009 groundwater sampling rounds. No MCP GW-3 standard has been promulgated for copper. All other compounds analyzed for by Alpha Analytical were non-detects. The complete lab results for the July and October 2009 rounds are attached in Appendix B.

The reporting limits achieved by Alpha Analytical lab were below MCP GW-3 standards, where MCP GW-3 standards exist. No significant changes were noted between the July and October 2009 groundwater sampling rounds. TSS results (provided in milligrams per liter [mg/L]) are also reported in Table 2. Reproduction of results from field duplicate sampling in July and October 2009 groundwater sampling rounds were satisfactory. The equipment and trip blank data was also satisfactory with the exception of one result from July 2009. In the July 2009 results, the equipment blank exhibited acetone above the detection limit (detected at a concentration of $26.1 \mu\text{g/L}$). Acetone is a common lab contaminant and unrelated to the Site. In 2010,


Alpha Analytical determined that the de-ionized water provided to WHG for this field work was contaminated with volatiles including acetone. Since the acetone was only detected in the equipment blank and not in any of the samples, the likely source of the acetone contamination was from the Alpha Analytical Laboratory's de-ionized water supplied to the WHG/MACTEC field sampling team. Since acetone was not found in any of the Sawyer Street samples and only in the equipment blank, there will be no impact or qualification to the Sawyer Street data quality for acetone.


The case narrative from Alpha Analytical noted that no significant deviations were encountered during the preparation or analysis of the groundwater samples. Sample Receipt, Container Information, and the Chain of Custody documents are located at the back of each of the lab reports provided in Appendix B. During the 2009 sampling season, one field replicate sample was collected and submitted by WHG to ESS Laboratories for QA of the samples analyzed by Alpha Analytical. MACTEC has not received, reviewed, nor incorporated the ESS Lab data package to this memo as the data were reported to the USACE project chemist for independent review.

Conclusions:

In July and October 2009, MACTEC collected groundwater samples at the Sawyer Street Pilot Study CDF. Groundwater samples were analyzed for VOCs, PCBs, selected metals (Cadmium, Chromium, Copper, and Lead) and TSS. Analytical results indicated that no analytes exceeded promulgated MCP GW-3 standards in the July or October 2009 sampling rounds.

Sincerely,
MACTEC Engineering and Consulting, Inc.


for Daron G. Kurkjian
Project Engineer *with permission*


David E. Heislein
Project Manager

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|--------------|------------|---|
| Attachments: | Table 1 | Summary of Groundwater Quality Parameters |
| | Table 2 | Summary of Analytes |
| | Figure 1 | Site Locus |
| | Figure 2 | Site Plan |
| | Appendix A | Field Data Records |
| | Appendix B | Laboratory Analytical Reports |

cc: US EPA Region 1
Woods Hole Group
MACTEC Project File [P:\3650090138 - WHG - NBH Monitoring Project\4.0 Project Deliverables\4.1 Reports\July and October 2009 GW Report 051710.docx]

TABLES

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**Table 1: Summary of Groundwater Quality Parameters
Sawyer Street Confined Disposal Facility
New Bedford Harbord Superfund Site**

Well ID	Time	Depth to Water (ft)	Flowrate (mL/min)	Temp (°C)	Spec Cond. (mS/cm)	pH	DO (mg/L)	Turbidity (NTU)	ORP (mV)	Purge Volume (gal.)	Comments
July 8, 2009 Sampling Event											
MW-1	13:36	18.43	100	19.31	0.875	6.97	10.5	3.25	194.2	6.34	Clear
MW-3	15:47	15.85	100	16.34	2.467	6.93	0.46	4.8	-132.0	1.7	None
MW-4A	11:49	9.95	100	21.65	2.852	6.94	0.14	1.7	-252.8	2.3	None
MW-5	13:37	9.39	100	23.97	1.481	7.57	0.41	6.9	-131	1.7	None
MW-6	17:50	14.45	200	14.11	0.405	7.27	1.5	19.5	-31.3	N/A	Clear
MW-7A	16:02	10.68	250	14.39	0.671	6.67	0.62	1.81	82.3	2.64	Clear
October 13, 2009 Sampling Event											
MW-1	12:13	19.9	100	15.51	0.643	6.82	4.13	5.85	-11	4.4	None
MW-3	15:15	17.3	150	13.88	2.419	7.01	0.92	4.27	-146.8	4.56	None
MW-4A	10:45	11.71	100	14.46	1.896	7.05	2.01	4.26	-193.1	7.36	Transparent with slight yellow color
MW-5	12:30	10.73	150	14.35	0.652	7.70	0.45	4.91	-203.7	5.09	No color
MW-6	14:38	13.70	250	14.91	0.443	7.39	0.76	1.67	-143	2.91	None
MW-7A	10:46	10.60	100	15.20	0.814	6.64	3.38	0.43	79	1.86	None

Notes:

ft. = feet

°C = degrees centigrade

mL/min = milliliters per minute

mg/L = milligrams per liter

NTU = Nephelometric Turbidity Units

mV = millivolts

gal. = gallons

Created by: DGK 01/22/2010

Checked by: CTM 01/22/2010

**TABLE 2: SUMMARY OF ANALYTES
JULY AND OCTOBER 2009 GROUNDWATER SAMPLING
SAWYER STREET CDF
NEW BEDFORD HARBOR SUPERFUND SITE, MASSACHUSETTS**

Parameter Name	Frequency of Detection	Range of Reporting Limits for Non-Detects	Average of All Samples	GW-3 MCP (ug/L)	MW-01-070809 7/8/2009	MW-01-070809-DUP 7/8/2009	MW-001-101309 10/13/2009	MW-03-070809 7/8/2009	MW-003-101309 10/13/2009
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
1,1,1-Trichloroethane	0 / 14	2 : 2	1	20000	2 U	2 U	2 U	2 U	2 U
1,1,2,2-Tetrachloroethane	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
1,1,2-Trichloroethane	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethane	0 / 14	2 : 2	1	20000	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethene	0 / 14	2 : 2	1	30000	2 U	2 U	2 U	2 U	2 U
1,1-Dichloropropene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
1,2,3-Trichlorobenzene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
1,2,4-Trichlorobenzene	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
1,2-Dibromo-3-chloropropane	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	0 / 14	2 : 2	1	2000	2 U	2 U	2 U	2 U	2 U
1,2-Dichloroethane	0 / 14	2 : 2	1	20000	2 U	2 U	2 U	2 U	2 U
1,2-Dichloropropane	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
1,3,5-Trimethylbenzene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
1,3-Dichlorobenzene	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
1,3-Dichloropropane	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
1,4-Dichlorobenzene	0 / 14	2 : 2	1	8000	2 U	2 U	2 U	2 U	2 U
1,4-Dioxane	0 / 7	100 : 100	50	50000			100 U		100 U
2,2-Dichloropropane	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
2-Butanone	0 / 14	5 : 5	2.5	50000	5 U	5 U	5 U	5 U	5 U
2-Chlorotoluene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
2-Hexanone	0 / 7	5 : 5	2.5				5 U		5 U
4-Chlorotoluene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
4-iso-Propyltoluene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
4-Methyl-2-pentanone	0 / 7	5 : 5	2.5	50000			5 U		5 U
Acetone	0 / 14	5 : 5	2.5	50000	5 U	5 U	5 U	5 U	5 U
Benzene	0 / 14	2 : 2	1	10000	2 U	2 U	2 U	2 U	2 U
Bromobenzene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
Bromochloromethane	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
Bromodichloromethane	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
Bromoform	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
Bromomethane	0 / 14	2 : 2	1	800	2 U	2 U	2 U	2 U	2 U
Butane, 2-methoxy-2-methyl-	0 / 7	2 : 2	1				2 U		2 U
Carbon disulfide	0 / 7	2 : 2	1				2 U		2 U
Carbon tetrachloride	0 / 14	2 : 2	1	5000	2 U	2 U	2 U	2 U	2 U
Chlorobenzene	0 / 14	2 : 2	1	1000	2 U	2 U	2 U	2 U	2 U
Chlorodibromomethane	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
Chloroethane	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
Chloroform	0 / 14	2 : 2	1	20000	2 U	2 U	2 U	2 U	2 U
Chloromethane	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
Cis-1,2-Dichloroethene	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
cis-1,3-Dichloropropene	0 / 7	2 : 2	1				2 U		2 U
Dibromomethane	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U

**TABLE 2: SUMMARY OF ANALYTES
JULY AND OCTOBER 2009 GROUNDWATER SAMPLING
SAWYER STREET CDF
NEW BEDFORD HARBOR SUPERFUND SITE, MASSACHUSETTS**

Parameter Name	Frequency of Detection	Range of Reporting Limits for Non-Detects	Average of All Samples	GW-3 MCP (ug/L)	MW-01-070809 7/8/2009	MW-01-070809-DUP 7/8/2009	MW-001-101309 10/13/2009	MW-03-070809 7/8/2009	MW-003-101309 10/13/2009
Dichlorodifluoromethane	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
Diethyl ether	0 / 7	2 : 2	1				2 U		2 U
Diisopropylether	0 / 7	2 : 2	1				2 U		2 U
Ethyl benzene	0 / 14	2 : 2	1	5000	2 U	2 U	2 U	2 U	2 U
Ethyl-t-Butyl Ether	0 / 7	2 : 2	1				2 U		2 U
Hexachlorobutadiene	0 / 14	2 : 2	1	3000	2 U	2 U	2 U	2 U	2 U
Isopropylbenzene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
Methyl Tertbutyl Ether	0 / 7	2 : 2	1	50000			2 U		2 U
Methylene chloride	0 / 14	5 : 5	2.5	50000	5 U	5 U	5 U	5 U	5 U
Naphthalene	0 / 14	2 : 2	1	20000	2 U	2 U	2 U	2 U	2 U
n-Butylbenzene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
Propylbenzene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
sec-Butylbenzene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
Styrene	0 / 14	2 : 2	1	6000	2 U	2 U	2 U	2 U	2 U
tert-Butylbenzene	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	0 / 14	2 : 2	1	30000	2 U	2 U	2 U	2 U	2 U
Tetrahydrofuran	0 / 7	5 : 5	2.5				5 U		5 U
Toluene	0 / 14	2 : 2	1	40000	2 U	2 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
trans-1,3-Dichloropropene	0 / 7	2 : 2	1				2 U		2 U
Trichloroethene	0 / 14	2 : 2	1	5000	2 U	2 U	2 U	2 U	2 U
Trichlorofluoromethane	0 / 14	2 : 2	1		2 U	2 U	2 U	2 U	2 U
Vinyl chloride	0 / 14	2 : 2	1	50000	2 U	2 U	2 U	2 U	2 U
Xylene, m/p	0 / 14	4 : 4	2	5000	4 U	4 U	4 U	4 U	4 U
Xylene, o	0 / 14	2 : 2	1	5000	2 U	2 U	2 U	2 U	2 U
PCBs (µg/L)		0 : 0							
Aroclor-1016	0 / 14	0.02 : 0.0232	0.0104214		0.02 U	0.0232 U	0.022 U	0.021 U	0.02 U
Aroclor-1221	0 / 14	0.02 : 0.0232	0.0104214		0.02 U	0.0232 U	0.022 U	0.021 U	0.02 U
Aroclor-1232	0 / 14	0.02 : 0.0232	0.0104214		0.02 U	0.0232 U	0.022 U	0.021 U	0.02 U
Aroclor-1242	0 / 14	0.02 : 0.0232	0.0104214		0.02 U	0.0232 U	0.022 U	0.021 U	0.02 U
Aroclor-1248	2 / 14	0.02 : 0.0232	0.0162679		0.02 U	0.0232 U	0.022 U	0.052	0.02 U
Aroclor-1254	0 / 14	0.02 : 0.0232	0.0104214		0.02 U	0.0232 U	0.022 U	0.021 U	0.02 U
Aroclor-1260	0 / 14	0.02 : 0.0232	0.0104214		0.02 U	0.0232 U	0.022 U	0.021 U	0.02 U
Metals, Total (µg/L)		0 : 0							
Cadmium	0 / 14	2 : 2	1	4	2 U	2 U	2 U	2 U	2 U
Chromium	0 / 14	10 : 20	7.5	300	10 U	10 U	20 U	10 U	20 U
Copper	9 / 14	2 : 2	3.3642857		3.6	3.3	3.2	2 U	2 U
Lead	0 / 14	2 : 2	1	10	2 U	2 U	2 U	2 U	2 U
Inorganics (mg/L)									
Total Suspended Solids	11 / 14	1 : 1	7.3857143		4	3.4	2.8	27	33.5

µg/L - microgram per liter
mg/L - milligram per liter
U - not detected, value is the detection limit

**TABLE 2: SUMMARY OF ANALYTES
JULY AND OCTOBER 2009 GROUNDWATER SAMPLING
SAWYER STREET CDF
NEW BEDFORD HARBOR SUPERFUND SITE, MASSACHUSETTS**

Parameter Name	MW-04A-070809 7/8/2009	MW-004A-101309 10/13/2009	MW-05-070809 7/8/2009	MW-005-101309 10/13/2009	MW-06-070809 7/8/2009	MW-006-101309 10/13/2009	MW-07A-070809 7/8/2009	MW-007A-101309 10/13/2009	MW-007A-101309 REP 10/13/2009
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1,1-Trichloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1,2,2-Tetrachloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1,2-Trichloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1-Dichloroethene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,1-Dichloropropene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromo-3-chloropropane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichloropropane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,3,5-Trimethylbenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,3-Dichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,3-Dichloropropane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,4-Dichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,4-Dioxane		100 U		100 U		100 U		100 U	100 U
2,2-Dichloropropane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Butanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chlorotoluene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Hexanone		5 U		5 U		5 U		5 U	5 U
4-Chlorotoluene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
4-iso-Propyltoluene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
4-Methyl-2-pentanone		5 U		5 U		5 U		5 U	5 U
Acetone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bromobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bromochloromethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bromodichloromethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bromoform	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bromomethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Butane, 2-methoxy-2-methyl-		2 U		2 U		2 U		2 U	2 U
Carbon disulfide		2 U		2 U		2 U		2 U	2 U
Carbon tetrachloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chlorodibromomethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloromethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Cis-1,2-Dichloroethene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
cis-1,3-Dichloropropene		2 U		2 U		2 U		2 U	2 U
Dibromomethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U

**TABLE 2: SUMMARY OF ANALYTES
JULY AND OCTOBER 2009 GROUNDWATER SAMPLING
SAWYER STREET CDF
NEW BEDFORD HARBOR SUPERFUND SITE, MASSACHUSETTS**

Parameter Name	MW-04A-070809 7/8/2009	MW-004A-101309 10/13/2009	MW-05-070809 7/8/2009	MW-005-101309 10/13/2009	MW-06-070809 7/8/2009	MW-006-101309 10/13/2009	MW-07A-070809 7/8/2009	MW-007A-101309 10/13/2009	MW-007A-101309 REP 10/13/2009
Dichlorodifluoromethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Diethyl ether		2 U		2 U		2 U		2 U	2 U
Diisopropylether		2 U		2 U		2 U		2 U	2 U
Ethyl benzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Ethyl-t-Butyl Ether		2 U		2 U		2 U		2 U	2 U
Hexachlorobutadiene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Isopropylbenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyl Tertbutyl Ether		2 U		2 U		2 U		2 U	2 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
n-Butylbenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Propylbenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
sec-Butylbenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Styrene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
tert-Butylbenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Tetrahydrofuran		5 U		5 U		5 U		5 U	5 U
Toluene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
trans-1,3-Dichloropropene		2 U		2 U		2 U		2 U	2 U
Trichloroethene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Trichlorofluoromethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Xylene, m/p	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
Xylene, o	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
PCBs (µg/L)									
Aroclor-1016	0.0213 U	0.02 U	0.0213 U	0.021 U	0.021 U	0.02 U	0.02 U	0.02 U	0.021 U
Aroclor-1221	0.0213 U	0.02 U	0.0213 U	0.021 U	0.021 U	0.02 U	0.02 U	0.02 U	0.021 U
Aroclor-1232	0.0213 U	0.02 U	0.0213 U	0.021 U	0.021 U	0.02 U	0.02 U	0.02 U	0.021 U
Aroclor-1242	0.0213 U	0.02 U	0.0213 U	0.021 U	0.021 U	0.02 U	0.02 U	0.02 U	0.021 U
Aroclor-1248	0.0213 U	0.02 U	0.051	0.021 U	0.021 U	0.02 U	0.02 U	0.02 U	0.021 U
Aroclor-1254	0.0213 U	0.02 U	0.0213 U	0.021 U	0.021 U	0.02 U	0.02 U	0.02 U	0.021 U
Aroclor-1260	0.0213 U	0.02 U	0.0213 U	0.021 U	0.021 U	0.02 U	0.02 U	0.02 U	0.021 U
Metals, Total (µg/L)									
Cadmium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chromium	10 U	20 U	10 U	20 U	10 U	20 U	10 U	20 U	20 U
Copper	2 U	2.4	9	2 U	2.7	2 U	4.7	6.4	6.8
Lead	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Inorganics (mg/L)									
Total Suspended Solids	1	1.8	11.8	4	9.2	3.4	1 U	1 U	1 U

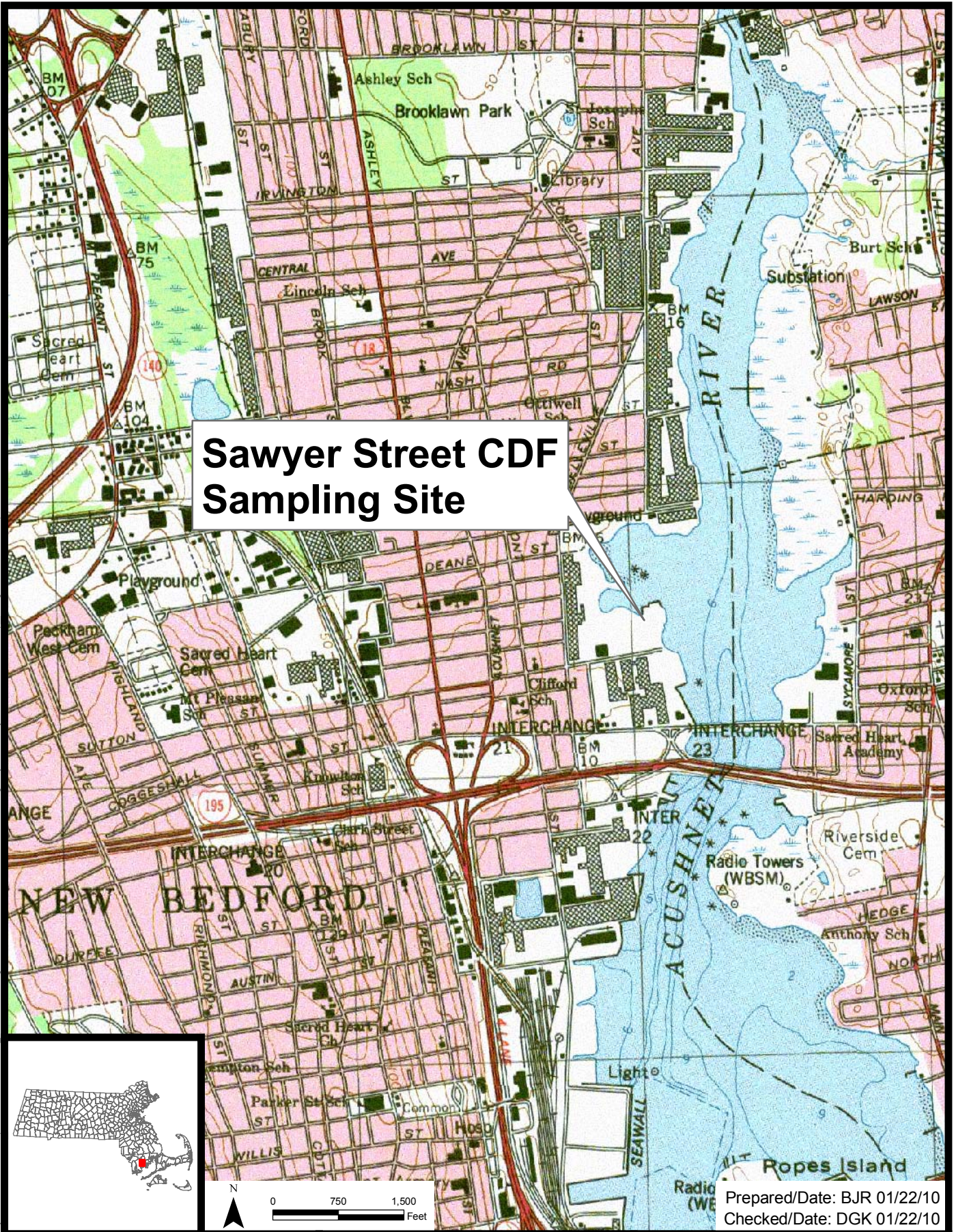
µg/L - microgram per liter
mg/L - milligram per liter
U - not detected, value is the
detection limit

Prepared by / Date: KJC 03/01/10
Checked by / Date: DGK 03/01/10

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FIGURES

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**Sawyer Street CDF
Sampling Site**

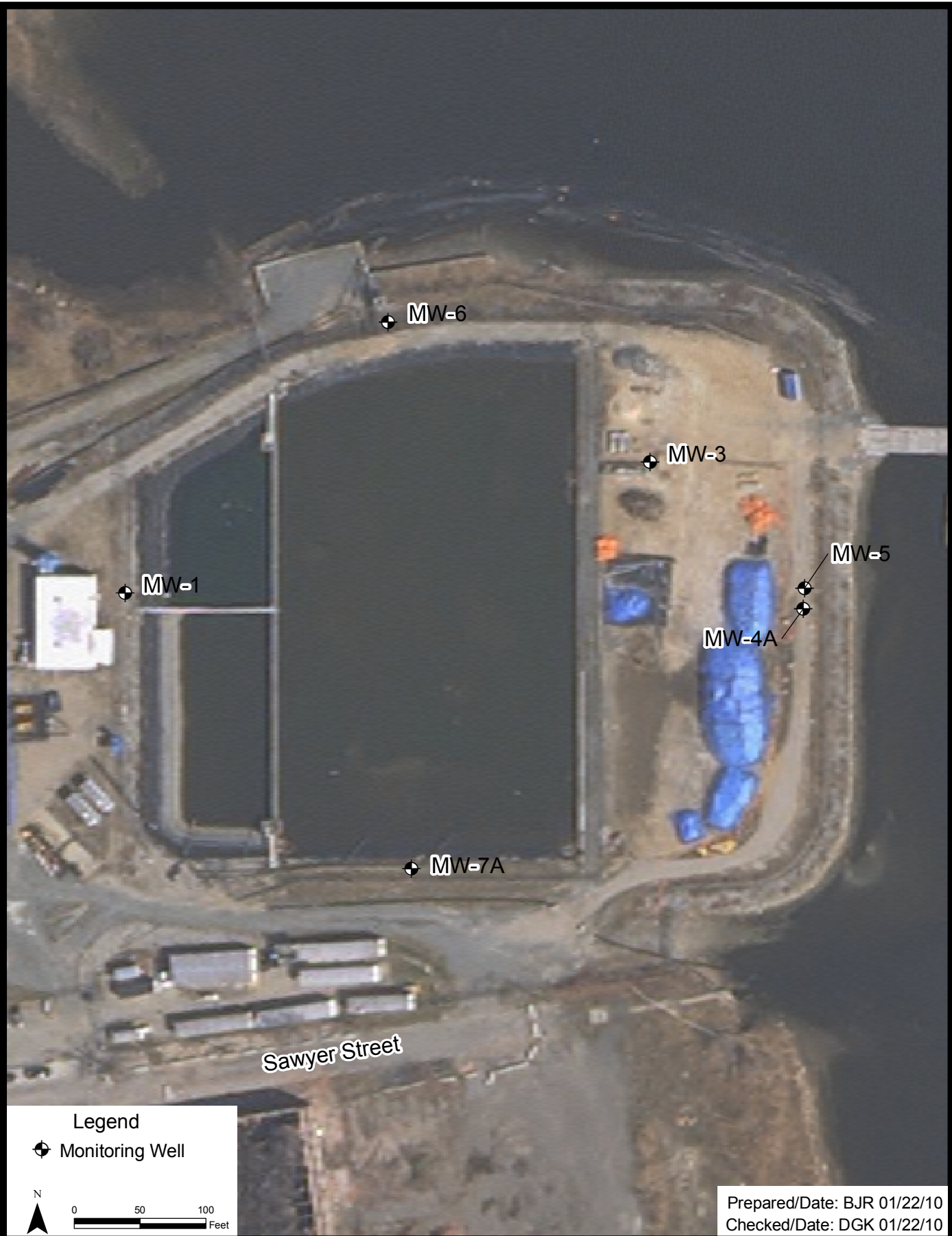
Prepared/Date: BJR 01/22/10
Checked/Date: DGK 01/22/10

Sawyer Street
Confined Disposal Facility
New Bedford Harbor Superfund Site
New Bedford, Massachusetts



Figure 1
Site Locus
3650-09-0138

Document: P:\GIS\Projects\New Bedford\Map\documents\NewBedford_8x11P.mxd Figure: P:\3650090138 - WHG - NBH Monitoring Project\4.0 Project Deliverables\4.1 Reports\Figure 2 - Site Plan.pdf



Prepared/Date: BJR 01/22/10
Checked/Date: DGK 01/22/10

Sawyer Street
Confined Disposal Facility
New Bedford Harbor Superfund Site
New Bedford, Massachusetts



Figure 2
Site Plan
3650-09-0138

APPENDIX A
Field Data Records

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FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT ID DATE

WELL ID START END BOTTLE TIME

SAMPLE ISIS ID

QC SAMPLES COLLECTED

DUPLICATE ID MS ID MSD ID

WATER LEVEL / WELL DATA

MEASURED WELL DEPTH FT (TOR) HISTORICAL WELL DEPTH FT (TOR) PROTECTIVE CASING STICKUP (FROM GROUND) FT PROTECTIVE CASING / WELL DIFFERENCE FT

DEPTH TO WATER FT (TOR) SCREEN LENGTH FT WELL DIAMETER IN WELL MATERIAL

HEIGHT OF WATER COLUMN FT x 0.16 GAL/FT (2 IN) 0.65 GAL/FT (4 IN) = GAL/VOL TOTAL VOLUME PURGED GAL

1.5 GAL/FT (6 IN)

Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml AMBIENT AIR PPM WELL MOUTH PPM

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. (uS/cm)	D.O. (mg/L)	ORP (mV)	Comments
13:05	14.59	200							clear
13:15	16.67	200	17.55	6.99	6.07	0.856	7.56	213.9	
13:20	18.21	100	17.37	6.92	5.18	0.831	10.00	211.5	
13:25	18.20	100	17.40	6.93	5.65	0.833	9.8	209.8	
13:30	18.40	100	19.04	6.96	3.76	0.859	10.5	203.5	
13:33	18.42	100	19.28	6.97	3.64	0.866	10.5	195.8	
13:36	18.43	100	19.31	6.97	3.25	0.875	10.5	194.2	
13:40	Sample								

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

DECON FLUIDS USED
 METHANOL
 LIQUINOX
 POTABLE WATER
 DEIONIZED WATER
 HEXANE
 NITRIC ACID
 NONE - Dedicated Tubing

WATER LEVEL EQUIPMENT USED
 ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 KECK INTERFACE PROBE

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/>	VOC	8260B	N	HCL	3 x 40mL glass	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Total metals (Ca,Cu,Cr,Pb)	6010B	N	HNO3	1 x 250mL poly	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	TSS	160.2	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	PCB	8082	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/>
<input type="checkbox"/>						<input type="checkbox"/>
<input type="checkbox"/>						<input type="checkbox"/>
<input type="checkbox"/>						<input type="checkbox"/>
<input type="checkbox"/>						<input type="checkbox"/>
<input type="checkbox"/>						<input type="checkbox"/>
<input type="checkbox"/>						<input type="checkbox"/>

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:
 Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SAMPLED BY: Daron Kurkjian
 CREATED BY: DLC 09/25/09
 CHECKED BY: DGK 09/28/09

FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT New Bedford Harbor 3650090138 DATE 7/8/2009
 WELL ID MW-03 START 15:03 END 16:10 BOTTLE TIME 15:50
 SAMPLE ISIS ID MW-03-070809
 QC SAMPLES COLLECTED
 DUPLICATE ID _____
 MS ID _____
 MSD ID _____

WATER LEVEL / WELL DATA

MEASURED WELL DEPTH 23.9 FT (TOR) HISTORICAL WELL DEPTH N/A FT (TOR) PROTECTIVE CASING STICKUP (FROM GROUND) N/A FT PROTECTIVE CASING / WELL DIFFERENCE N/A FT
 DEPTH TO WATER 13.93 FT (TOR) SCREEN LENGTH N/A FT WELL DIAMETER 2 IN WELL MATERIAL PVC
 HEIGHT OF WATER COLUMN 9.97 FT x 0.16 GAL/FT (2 IN) 0.65 GAL/FT (4 IN) = 1.6 GAL/VOL TOTAL VOLUME PURGED 1.7 GAL
 1.5 GAL/FT (6 IN)
 Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml AMBIENT AIR 0 PPM WELL MOUTH 0 PPM

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. (uS/cm)	D.O. (mg/L)	ORP (mV)	Comments
15:14	14.65	100	18.03	6.70	11.7	2263	2.49	-83.2	
15:17	14.67	100	17.25	6.70	11.4	2285	1.81	-89.1	
15:20	15.25	100	16.59	6.70	9.5	2284	2.09	-94.6	
15:23	15.45	100	16.29	6.70	7.2	2281	1.63	-91.0	
15:26	15.65	100	15.98	6.71	5.6	2287	1.15	-93.1	
15:29	15.78	100	15.88	6.73	4.8	2301	0.82	-97.9	
15:32	15.80	100	16.34	6.81	5.3	2323	0.66	-102.0	
15:35	15.85	100	16.47	6.85	2.9	2359	0.62	-107.0	
15:38	15.85	100	16.04	6.85	5.1	2341	0.55	-103.0	
15:41	15.85	100	15.99	6.86	5.3	2458	0.48	-122.0	
15:44	15.85	100	16.23	6.91	4.9	2460	0.49	-126.0	
15:47	15.85	100	16.34	6.93	4.8	2467	0.46	-132.0	

EQUIPMENT DOCUMENTATION

PURGING SAMPLING PERISTALTIC PUMP DECON FLUIDS USED METHANOL
 SUBMERSIBLE PUMP LIQUINOX
 BLADDER PUMP POTABLE WATER
 PVC/SILICON TUBING DEIONIZED WATER
 TEFLON/SILICON TUBING HEXANE
 WATERA NITRIC ACID
 IN LINE FILTER NONE- Dedicated Tubing
 PRESS/VAC FILTER
 WATER LEVEL EQUIPMENT USED ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 KECK INTERFACE PROBE
 NUMBER OF FILTERS USED 0

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/> VOC	8260B	N	HCL	3 x 40mL glass	<input checked="" type="checkbox"/>	/ / / /
<input checked="" type="checkbox"/> Total metals (Ca,Cu,Cr,Pb)	6010B	N	HNO3	1 x 250mL poly	<input checked="" type="checkbox"/>	/ / / /
<input checked="" type="checkbox"/> TSS	160.2	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/>	/ / / /
<input checked="" type="checkbox"/> PCB	8082	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/>	/ / / /
<input type="checkbox"/>					<input type="checkbox"/>	/ / / /
<input type="checkbox"/>					<input type="checkbox"/>	/ / / /
<input type="checkbox"/>					<input type="checkbox"/>	/ / / /
<input type="checkbox"/>					<input type="checkbox"/>	/ / / /

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:
 Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: Mark Maggiore
 CREATED BY: DLC 09/25/09
 CHECKED BY: DGK 09/28/09

FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT New Bedford Harbor 3650090138 DATE 7/8/2009
 WELL ID MW-4A START 11:10 END 12:40 BOTTLE TIME 11:50
 SAMPLE ISIS ID MW-4A-070809
 QC SAMPLES COLLECTED DUPLICATE ID _____ MS ID _____ MSD ID _____

WATER LEVEL / WELL DATA

MEASURED WELL DEPTH 25.7 FT (TOR) HISTORICAL WELL DEPTH N/A FT (TOR) PROTECTIVE CASING STICKUP (FROM GROUND) N/A FT PROTECTIVE CASING / WELL DIFFERENCE N/A FT
 DEPTH TO WATER 8.71 FT (TOR) SCREEN LENGTH N/A FT WELL DIAMETER 2 IN WELL MATERIAL PVC
 HEIGHT OF WATER COLUMN 16.99 FT x 0.16 GAL/FT (2 IN) 0.65 GAL/FT (4 IN) = 2.7 GAL/VOL TOTAL VOLUME PURGED 2.3 GAL
 1.5 GAL/FT (6 IN)
 Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml AMBIENT AIR 0 PPM WELL MOUTH 0 PPM

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. (uS/cm)	D.O. (mg/L)	ORP (mV)	Comments
11:10	Pump on								
11:15	9.61	100	14.98	6.93	6.3	3.262	1.37	-179.9	
11:20	9.70	100	16.21	6.99	4.4	3.055	0.70	-211.6	
11:25	9.80	100	16.99	7.01	4.1	2.624	0.50	-216.7	
11:28	9.95	100	17.40	7.02	3.4	3.007	0.46	-218.1	
11:31	9.95	100	18.41	7.08	2.9	2.954	0.39	-225.6	
11:34	9.95	100	19.29	7.06	2.6	2.92	0.28	-223.0	
11:37	9.95	100	20.38	7.01	2.0	2.892	0.21	-231.0	
11:40	9.95	100	21.05	6.99	2.9	2.877	0.18	-248.0	
11:43	9.95	100	21.48	6.98	1.8	2.876	0.16	-247.0	
11:46	9.95	100	21.22	6.97	2.1	2.856	0.14	-245.6	
11:49	9.95	100	21.65	6.94	1.7	2.852	0.14	-252.8	

EQUIPMENT DOCUMENTATION

PURGING SAMPLING PERISTALTIC PUMP DECON FLUIDS USED METHANOL LIQUINOX POTABLE WATER DEIONIZED WATER HEXANE NITRIC ACID NONE- Dedicated Tubing
 SUBMERSIBLE PUMP WATER LEVEL EQUIPMENT USED ELECTRIC COND. PROBE FLOAT ACTIVATED KECK INTERFACE PROBE
 BLADDER PUMP NUMBER OF FILTERS USED 0
 PVC/SILICON TUBING
 TEFLON/SILICON TUBING
 WATTERA
 IN LINE FILTER
 PRESS/VAC FILTER

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/> VOC	8260B	N	HCL	3 x 40mL glass	<input checked="" type="checkbox"/>	____/____/____
<input checked="" type="checkbox"/> Total metals (Ca,Cu,Cr,Pb)	6010B	N	HNO3	1 x 250mL poly	<input checked="" type="checkbox"/>	____/____/____
<input checked="" type="checkbox"/> TSS	160.2	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/>	____/____/____
<input checked="" type="checkbox"/> PCB	8082	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/>	____/____/____
<input type="checkbox"/>					<input type="checkbox"/>	____/____/____
<input type="checkbox"/>					<input type="checkbox"/>	____/____/____
<input type="checkbox"/>					<input type="checkbox"/>	____/____/____
<input type="checkbox"/>					<input type="checkbox"/>	____/____/____

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:
 Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: Mark Maggiore
 CREATED BY: DLC 09/25/09
 CHECKED BY: DGK 09/28/09

FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT New Bedford Harbor 3650090138 DATE 7/8/2009
 WELL ID MW-05 START 13:00 END 14:05 BOTTLE TIME 13:40
 SAMPLE ISIS ID MW-05-070809
 QC SAMPLES COLLECTED DUPLICATE ID _____
 _____ MS ID _____
 _____ MSD ID _____

WATER LEVEL / WELL DATA

MEASURED WELL DEPTH 18.35 FT (TOR) HISTORICAL WELL DEPTH N/A FT (TOR) PROTECTIVE CASING STICKUP (FROM GROUND) N/A FT PROTECTIVE CASING / WELL DIFFERENCE N/A FT

DEPTH TO WATER 7.39 FT (TOR) SCREEN LENGTH N/A FT WELL DIAMETER 2 IN WELL MATERIAL PVC

HEIGHT OF WATER COLUMN 10.96 FT x 0.16 GAL/FT (2 IN) + 0.65 GAL/FT (4 IN) + 1.5 GAL/FT (6 IN) = 1.75 GAL/VOL TOTAL VOLUME PURGED 1.7 GAL

Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml AMBIENT AIR 0 PPM WELL MOUTH 0 PPM

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. (uS/cm)	D.O. (mg/L)	ORP (mV)	Comments
13:07	8.69	100	18.06	7.75	6.3	1.515	1.88	-131	
13:10	9.00	100	18.63	7.78	6.6	1.514	1.22	-137	
13:13	9.13	100	18.97	7.75	6.0	1.509	0.85	-140	
13:16	9.39	100	19.15	7.73	6.1	1.482	0.47	-144	Changed batteries for air compressor
13:25	9.39	100	21.68	7.55	6.3	1.465	0.42	-134	
13:28	9.39	100	22.60	7.56	6.6	1.465	0.41	-134	
13:31	9.39	100	23.56	7.58	6.5	1.465	0.42	-137	
13:34	9.39	100	23.92	7.57	6.6	1.485	0.42	-140	
13:37	9.39	100	23.97	7.57	6.9	1.481	0.41	-131	
13:40	Sample Well								

EQUIPMENT DOCUMENTATION

<input checked="" type="checkbox"/> PERISTALTIC PUMP	<input checked="" type="checkbox"/> METHANOL	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE
<input type="checkbox"/> SUBMERSIBLE PUMP	<input checked="" type="checkbox"/> LIQUINOX	<input type="checkbox"/> FLOAT ACTIVATED
<input checked="" type="checkbox"/> BLADDER PUMP	<input type="checkbox"/> POTABLE WATER	<input type="checkbox"/> KECK INTERFACE PROBE
<input type="checkbox"/> PVC/SILICON TUBING	<input checked="" type="checkbox"/> DEIONIZED WATER	
<input checked="" type="checkbox"/> TEFLON/SILICON TUBING	<input type="checkbox"/> HEXANE	
<input type="checkbox"/> WATTERA	<input type="checkbox"/> NITRIC ACID	
<input type="checkbox"/> IN LINE FILTER	<input type="checkbox"/> NONE- Dedicated Tubing	
<input type="checkbox"/> PRESS/VAC FILTER		NUMBER OF FILTERS USED <u>0</u>

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/> VOC	8260B	N	HCL	3 x 40mL glass	<input checked="" type="checkbox"/>	/ / / / /
<input checked="" type="checkbox"/> Total metals (Ca,Cu,Cr,Pb)	6010B	N	HNO3	1 x 250mL poly	<input checked="" type="checkbox"/>	/ / / / /
<input checked="" type="checkbox"/> TSS	160.2	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/>	/ / / / /
<input checked="" type="checkbox"/> PCB	8082	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/>	/ / / / /
<input type="checkbox"/>					<input type="checkbox"/>	/ / / / /
<input type="checkbox"/>					<input type="checkbox"/>	/ / / / /
<input type="checkbox"/>					<input type="checkbox"/>	/ / / / /
<input type="checkbox"/>					<input type="checkbox"/>	/ / / / /
<input type="checkbox"/>					<input type="checkbox"/>	/ / / / /
<input type="checkbox"/>					<input type="checkbox"/>	/ / / / /

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:
 Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: Mark Maggiore
 CREATED BY: DLC 09/25/09
 CHECKED BY: DGK 09/28/09

FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT DATE

WELL ID START END BOTTLE TIME

SAMPLE ISIS ID

QC SAMPLES COLLECTED DUPLICATE ID MS ID MSD ID

WATER LEVEL / WELL DATA

MEASURED WELL DEPTH FT (TOR) HISTORICAL WELL DEPTH FT (TOR) PROTECTIVE CASING STICKUP (FROM GROUND) FT PROTECTIVE CASING / WELL DIFFERENCE FT

DEPTH TO WATER FT (TOR) SCREEN LENGTH FT WELL DIAMETER IN WELL MATERIAL

HEIGHT OF WATER COLUMN FT x 0.16 GAL/FT (2 IN) 0.65 GAL/FT (4 IN) = GAL/VOL TOTAL VOLUME PURGED GAL

1.5 GAL/FT (6 IN)

Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml AMBIENT AIR PPM WELL MOUTH PPM

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. (uS/cm)	D.O. (mg/L)	ORP (mV)	Comments
17:45	13.45	200	14.38	7.34	27.9	0.410	2.43	14.2	Clear
17:50	14.45	200	14.11	7.27	19.5	0.405	1.50	-31.3	
17:53	14.50	200							Thunderstorm approaching
18:00	Sample								Collected grab sample

EQUIPMENT DOCUMENTATION

PURGING SAMPLING PERISTALTIC PUMP SUBMERSIBLE PUMP BLADDER PUMP PVC/SILICON TUBING TEFLON/SILICON TUBING WATTERA IN LINE FILTER PRESS/VAC FILTER

DECON FLUIDS USED METHANOL LIQUINOX POTABLE WATER DEIONIZED WATER HEXANE NITRIC ACID NONE - Dedicated Tubing

WATER LEVEL EQUIPMENT USED ELECTRIC COND. PROBE FLOAT ACTIVATED KECK INTERFACE PROBE

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/>	VOC	8260B	N	HCL	3 x 40mL glass	<input checked="" type="checkbox"/> / / / /
<input checked="" type="checkbox"/>	Total metals (Ca,Cu,Cr,Pb)	6010B	N	HNO3	1 x 250mL poly	<input checked="" type="checkbox"/> / / / /
<input checked="" type="checkbox"/>	TSS	160.2	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/> / / / /
<input checked="" type="checkbox"/>	PCB	8082	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/> / / / /

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:
 Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: Daron Kurkjian
 CREATED BY: DLC 09/25/09
 CHECKED BY: DGK 09/28/09

FIELD DATA RECORD - GROUNDWATER SAMPLING

PROJECT New Bedford Harbor 3650090138 DATE 7/8/2009
 WELL ID MW-7A START 15:40 END 16:20 BOTTLE TIME 16:05
 SAMPLE ISIS ID MW-7A-070809
 QC SAMPLES COLLECTED DPLICATE ID _____ MS ID _____ MSD ID _____

WATER LEVEL / WELL DATA

MEASURED WELL DEPTH 15.03 FT (TOR) HISTORICAL WELL DEPTH --- FT (TOR) PROTECTIVE CASING STICKUP (FROM GROUND) N/A FT PROTECTIVE CASING / WELL DIFFERENCE N/A FT
 DEPTH TO WATER 10.09 FT (TOR) SCREEN LENGTH N/A FT WELL DIAMETER --- IN WELL MATERIAL PVC
 HEIGHT OF WATER COLUMN 4.94 FT x 0.16 GAL/FT (2 IN) 0.65 GAL/FT (4 IN) = 0.79 GAL/VOL TOTAL VOLUME PURGED 2.64 GAL
 1.5 GAL/FT (6 IN)
 Total purge volume = (ml per min.) x time (min.) x 0.00026 gal/ml AMBIENT AIR 0 PPM WELL MOUTH 0 PPM

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (degrees C)	pH (units)	TURBIDITY (NTU)	SPEC. COND. (uS/cm)	D.O. (mg/L)	ORP (mV)	Comments
15:40	10.25	250	16.57	6.84	29.3	0.656	4.16	146.5	clear
15:45	10.41	250	14.64	6.72	7.73	0.612	2.05	147.8	
15:50	10.61	250	14.65	6.70	4.47	0.633	1.21	120.8	
15:53	10.62	250	14.62	6.69	3.80	0.644	1.01	95.3	
15:56	10.64	250	14.57	6.68	2.28	0.652	0.70	92.3	
15:59	10.65	250	14.41	6.66	1.54	0.670	0.68	85.8	
16:02	10.68	250	14.39	6.67	1.81	0.671	0.62	82.3	
16:05	Sample								

EQUIPMENT DOCUMENTATION

PURGING SAMPLING PERISTALTIC PUMP DECON FLUIDS USED METHANOL WATER LEVEL EQUIPMENT USED ELECTRIC COND. PROBE
 SUBMERSIBLE PUMP LIQUINOX FLOAT ACTIVATED
 BLADDER PUMP POTABLE WATER KECK INTERFACE PROBE
 PVC/SILICON TUBING DEIONIZED WATER
 TEFLON/SILICON TUBING HEXANE
 WATTERA NITRIC ACID
 IN LINE FILTER NONE- Dedicated Tubing
 PRESS/VAC FILTER
 NUMBER OF FILTERS USED 0

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/> VOC	8260B	N	HCL	3 x 40mL glass	<input checked="" type="checkbox"/>	____/____/____
<input checked="" type="checkbox"/> Total metals (Ca,Cu,Cr,Pb)	6010B	N	HNO3	1 x 250mL poly	<input checked="" type="checkbox"/>	____/____/____
<input checked="" type="checkbox"/> TSS	160.2	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/>	____/____/____
<input checked="" type="checkbox"/> PCB	8082	N	N/A	1 x 1L amber glass	<input checked="" type="checkbox"/>	____/____/____
<input type="checkbox"/>					<input type="checkbox"/>	____/____/____
<input type="checkbox"/>					<input type="checkbox"/>	____/____/____
<input type="checkbox"/>					<input type="checkbox"/>	____/____/____
<input type="checkbox"/>					<input type="checkbox"/>	____/____/____

NOTES AND SAMPLE OBSERVATIONS

Stabilization is considered achieved when three consecutive readings are taken at 3 to 5 min. intervals within the following limits:
 Temp. - 3 %; Turbidity 10% > than 1 NTU; DO - 10%; Sp. Cond. - 3%; pH - 0.1 unit; ORP - 10 mV.

SIGNATURE: Daron Kurkjian
 CREATED BY: DLC 09/25/09
 CHECKED BY: DGK 09/28/09

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT New Bedford Harbor Superfund Site	EVENT NAME Sawyer Street CDF 10/09	JOB NUMBER 3650090138
LOCATION ID MW-1	FIELD SAMPLE ID MW-001-101309	CLIENT Woods Hole Group
ACTIVITY START 11:51 END 12:30	SAMPLE TIME 12:15	DATE 10/13/2009

WATER LEVEL / WELL INFORMATION	MEASUREMENT POINT <input checked="" type="checkbox"/> TOP OF WELL RISER <input type="checkbox"/> TOP OF CASING	PUMP SETTINGS	PID READINGS
INITIAL DEPTH TO WATER 14.95 feet	PROTECTIVE CASING STICKUP (FROM GROUND) See survey feet	PRESSURE TO PUMP 15 psi	PID MODEL -
FINAL DEPTH TO WATER 19.9 feet	CASING / WELL DIFFERENCE See survey feet	REFILL SETTING 10 sec	PID WELL MOUTH - ppmv
HISTORICAL WELL DEPTH 23.95 feet	WELL DIAMETER 2 inches	DISCHARGE SETTING 5 sec	PID AMBIENT AIR - ppmv
SCREEN LENGTH - feet			

WELL DIAMETER FACTORS / VOLUME INFORMATION

DIAMETER (inches)	1.0	1.5	2.0	4.0	6.0	TOTAL VOL. PURGED	0.44 gal
GALLONS/FOOT	0.041	0.092	0.163	0.651	1.470	(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)	

FEET OF WATER IN WELL	9 feet	ONE WELL VOLUME	1.47 gal	TWO WELL VOLUMES	2.93 gal	THREE WELL VOLUMES	4.40 gal
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PURGE DATA			SPECIFIC					PUMP			COMMENTS
TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	CONDUCTANCE (ms/cm)	pH (units)	DISS. O2 (mg/L)	TURBIDITY (NTU)	REDOX (+/- mV)	PUMP INTAKE DEPTH (ft)		
11:58	16.80	100	14.92	0.802	6.87	2.75	18.90	-57	22		
12:01	17.41	100	15.21	0.786	6.81	1.99	2.77	-43	22		
12:04	18.01	100	15.41	0.753	6.79	2.09	8.06	-30	22		
12:07	18.7	100	15.61	0.693	6.78	2.52	10.20	-16	22		
12:10	19.5	100	15.66	0.650	6.75	2.98	9.01	-8	22		
12:13	19.9	100	15.51	0.643	6.82	4.13	5.85	-11	22		
12:15	Sample										

EQUIPMENT DOCUMENTATION

TYPE OF PUMP <input checked="" type="checkbox"/> QED SAMPLE PRO (1-3/4") <input type="checkbox"/> PERISTALTIC <input type="checkbox"/> OTHER _____	TYPE OF TUBING <input checked="" type="checkbox"/> LOW DENSITY POLYETHYLENE (Teflon-lined) <input type="checkbox"/> OTHER Teflon Lined HDPE
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ANALYTICAL PARAMETERS

CONTROL NUMBER	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
<input checked="" type="checkbox"/> VOCs	SW 846 Method 8260B MCP	HCL / 4 DEG. C	3 X 40 ML	<input checked="" type="checkbox"/>	_____/_____/_____
<input checked="" type="checkbox"/> Total metals (Ca,Cu,Cr,Pb)	SW846 6010B MCP	4 DEG. C	1 X 500 ml Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> TSS	160.2	4 DEG. C	1 X 1L Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> PCB	8082	4 DEG. C	2 X 1L AMBER GLASS	<input checked="" type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____

PURGE OBSERVATIONS PURGE WATER CONTAINERIZED <input checked="" type="radio"/> YES <input type="radio"/> NO	MISC. OBSERVATIONS Well does not recharge, collected sample prior to well going dry.
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QC INFORMATION SAMPLED BY: Mark Maggioro FIELD FORM PREP. BY: DGK 10/16/09 FIELD FORM CHECK BY: CTM 10/16/09	NOTES: 1. Purging should not exceed 5 well volumes 2. Stabilization is considered to be achieved when three consecutive readings are taken at 3 to 5 minute intervals are within the following limits: turbidity (10% for values greater than 1 NTU), specific conductivity (3%), temperature (1°C), pH (± 0.1 units), dissolved oxygen (10%), ORP (10 mV)
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FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT New Bedford Harbor Superfund Site	EVENT NAME Sawyer Street CDF 10/09	JOB NUMBER 3650090138
LOCATION ID MW-3	FIELD SAMPLE ID MW-003-101309	CLIENT Woods Hole Group
ACTIVITY START 14:30 END 15:30	SAMPLE TIME 15:20	DATE 10/13/2009

WATER LEVEL / WELL INFORMATION INITIAL DEPTH TO WATER: <input type="text" value="14.68"/> feet FINAL DEPTH TO WATER: <input type="text" value="17.51"/> feet HISTORICAL WELL DEPTH: <input type="text" value="24"/> feet SCREEN LENGTH: <input type="text" value="-"/> feet	MEASUREMENT POINT <input checked="" type="checkbox"/> TOP OF WELL RISER <input type="checkbox"/> TOP OF CASING PROTECTIVE CASING STICKUP (FROM GROUND): <input type="text" value="See survey"/> feet CASING / WELL DIFFERENCE: <input type="text" value="See survey"/> feet WELL DIAMETER: <input type="text" value="2"/> inches	PUMP SETTINGS PRESSURE TO PUMP: <input type="text" value="30"/> psi REFILL SETTING: <input type="text" value="10"/> sec DISCHARGE SETTING: <input type="text" value="5"/> sec	PID READINGS PID MODEL: <input type="text" value="-"/> PID WELL MOUTH: <input type="text" value="-"/> ppmv PID AMBIENT AIR: <input type="text" value="-"/> ppmv
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WELL DIAMETER FACTORS / VOLUME INFORMATION						
DIAMETER (inches)	1.0	1.5	2.0	4.0	6.0	TOTAL VOL. PURGED: <input type="text" value="2.73"/> gal
GALLONS/FOOT	0.041	0.092	0.163	0.651	1.470	(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)
FEET OF WATER IN WELL: <input type="text" value="9.32"/> feet	ONE WELL VOLUME: <input type="text" value="1.52"/> gal	TWO WELL VOLUMES: <input type="text" value="3.04"/> gal	THREE WELL VOLUMES: <input type="text" value="4.56"/> gal			

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DISS. O2 (mg/L)	TURBIDITY (NTU)	REDOX (+/- mV)	PUMP INTAKE DEPTH (ft)	COMMENTS
14:20	17.75	300	13.96	1.561	7.33	3.46	20.70	-83.4	21	battery change
14:25	17.11	150	13.88	1.664	6.97	2.29	11.40	-95.5	21	
14:30	17.13	150	13.72	2.209	6.94	1.44	6.00	-131.3	21	
14:35	17.13	150	13.74	2.196	6.96	1.31	7.90	134.2	21	
14:40	17.13	150	13.78	2.166	6.97	1.37	5.69	-134.3	21	
14:45	17.14	150	13.80	2.155	6.98	1.35	6.28	-134.1	21	
14:50	17.20	150	13.87	2.191	6.99	1.21	5.19	-134.2	21	
14:55	17.25	150	13.86	2.239	6.98	1.03	3.89	-134.4	21	
15:00	17.27	150	13.81	2.363	7.00	0.99	4.14	-146.3	21	
15:05	17.29	150	13.89	2.400	6.99	0.97	4.12	-149.1	21	
15:10	17.30	150	13.86	2.412	7.02	0.93	4.31	-147.1	21	
15:15	17.30	150	13.88	2.419	7.01	0.92	4.27	-146.8	21	
15:20	Sample									

EQUIPMENT DOCUMENTATION	
TYPE OF PUMP <input checked="" type="checkbox"/> QED SAMPLE PRO (1-3/4") <input type="checkbox"/> PERISTALTIC <input type="checkbox"/> OTHER _____	TYPE OF TUBING <input checked="" type="checkbox"/> LOW DENSITY POLYETHYLENE (Teflon-lined) <input type="checkbox"/> OTHER Teflon Lined HDPE

CONTROL NUMBER	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
<input checked="" type="checkbox"/> VOCs	SW 846 Method 8260B MCP	HCL / 4 DEG. C	3 X 40 ML	<input checked="" type="checkbox"/>	_____/_____/_____
<input checked="" type="checkbox"/> Total metals (Ca,Cu,Cr,Pb)	SW846 6010B MCP	4 DEG. C	1 X 500 ml Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> TSS	160.2	4 DEG. C	1 X 1L Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> PCB	8082	4 DEG. C	2 X 1L AMBER GLASS	<input checked="" type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____

PURGE OBSERVATIONS PURGE WATER CONTAINERIZED: YES NO _____	MISC. OBSERVATIONS _____ _____
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QC INFORMATION SAMPLED BY: <u>Daron Kurkjian</u> FIELD FORM PREP. BY: <u>DGk 10/16/09</u> FIELD FORM CHECK BY: <u>CTM 10/16/09</u>	NOTES: 1. Purging should not exceed 5 well volumes 2. Stabilization is considered to be achieved when three consecutive readings are taken at 3 to 5 minute intervals are within the following limits: turbidity (10% for values greater than 1 NTU), specific conductivity (3%), temperature (1°C), pH (± 0.1 units), dissolved oxygen (10%), ORP (10 mV)
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FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	New Bedford Harbor Superfund Site	EVENT NAME	Sawyer Street CDF 10/09	JOB NUMBER	3650090138
LOCATION ID	MW-4A	FIELD SAMPLE ID	MW-004A-101309	CLIENT	Woods Hole Group
ACTIVITY	START 9:50 END 11:15	SAMPLE TIME	10:50	DATE	10/13/2009

WATER LEVEL / WELL INFORMATION INITIAL DEPTH TO WATER: <input type="text" value="8.59"/> feet FINAL DEPTH TO WATER: <input type="text" value="11.71"/> feet HISTORICAL WELL DEPTH: <input type="text" value="23.65"/> feet SCREEN LENGTH: <input type="text" value="-"/> feet	MEASUREMENT POINT <input checked="" type="checkbox"/> TOP OF WELL RISER <input type="checkbox"/> TOP OF CASING PROTECTIVE CASING STICKUP (FROM GROUND): <input type="text" value="See survey"/> feet CASING / WELL DIFFERENCE: <input type="text" value="See survey"/> feet WELL DIAMETER: <input type="text" value="2"/> inches	PUMP SETTINGS PRESSURE TO PUMP: <input type="text" value="30"/> psi REFILL SETTING: <input type="text" value="10"/> sec DISCHARGE SETTING: <input type="text" value="5"/> sec	PID READINGS PID MODEL: <input type="text" value="-"/> PID WELL MOUTH: <input type="text" value="-"/> ppmv PID AMBIENT AIR: <input type="text" value="-"/> ppmv
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WELL DIAMETER FACTORS / VOLUME INFORMATION							
DIAMETER (inches)	1.0	1.5	2.0	4.0	6.0	TOTAL VOL. PURGED	<input type="text" value="1.82"/> gal
GALLONS/FOOT	0.041	0.092	0.163	0.651	1.470	(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)	
FEET OF WATER IN WELL	<input type="text" value="15.06"/> feet	ONE WELL VOLUME	<input type="text" value="2.45"/> gal	TWO WELL VOLUMES	<input type="text" value="4.91"/> gal	THREE WELL VOLUMES	<input type="text" value="7.36"/> gal

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DISS. O2 (mg/L)	TURBIDITY (NTU)	REDOX (+/- mV)	PUMP INTAKE DEPTH (ft)	COMMENTS
10:05	10.91	300	14.47	2.436	6.77	4.61	4.03	-123.1	18	transparent, with slight yellow
10:10	11.56	200	14.49	2.216	6.80	3.87	3.68	-142.5	18	color
10:15	11.58	100	14.43	2.149	6.84	3.42	3.89	-159.1	18	
10:20	11.58	100	14.46	2.127	6.86	3.28	3.77	-163.5	18	
10:25	11.72	100	14.44	1.966	6.96	2.60	3.51	-180.3	18	
10:30	11.72	100	14.47	1.937	6.88	2.44	4.18	-181.6	18	
10:35	11.71	100	14.47	1.927	7.01	2.27	4.10	-183.4	18	
10:40	11.71	100	14.46	1.918	7.03	2.07	4.32	-186.9	18	
10:45	11.71	100	14.46	1.896	7.05	2.01	4.26	-193.1	18	
10:50	Sample									

EQUIPMENT DOCUMENTATION	
TYPE OF PUMP <input checked="" type="checkbox"/> QED SAMPLE PRO (1-3/4") <input type="checkbox"/> PERISTALTIC <input type="checkbox"/> OTHER _____	TYPE OF TUBING <input checked="" type="checkbox"/> LOW DENSITY POLYETHYLENE (Teflon-lined) <input type="checkbox"/> OTHER Teflon Lined HDPE

CONTROL NUMBER	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
<input checked="" type="checkbox"/> VOCs	SW 846 Method 8260B MCP	HCL / 4 DEG. C	3 X 40 ML	<input checked="" type="checkbox"/>	_____/_____/_____
<input checked="" type="checkbox"/> Total metals (Ca,Cu,Cr,Pb)	SW846 6010B MCP	4 DEG. C	1 X 500 ml Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> TSS	160.2	4 DEG. C	1 X 1L Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> PCB	8082	4 DEG. C	2 X 1L AMBER GLASS	<input checked="" type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____

PURGE OBSERVATIONS PURGE WATER CONTAINERIZED YES NO _____	MISC. OBSERVATIONS _____ _____
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QC INFORMATION SAMPLED BY: <u>Daron Kurkjian</u> FIELD FORM PREP. BY: <u>DGK 10/16/09</u> FIELD FORM CHECK BY: <u>CTM 10/16/09</u>	NOTES: 1. Purging should not exceed 5 well volumes 2. Stabilization is considered to be achieved when three consecutive readings are taken at 3 to 5 minute intervals are within the following limits: turbidity (10% for values greater than 1 NTU), specific conductivity (3%), temperature (1°C), pH (± 0.1 units), dissolved oxygen (10%), ORP (10 mV)
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FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	New Bedford Harbor Superfund Site	EVENT NAME	Sawyer Street CDF 10/09	JOB NUMBER	3650090138
LOCATION ID	MW-5	FIELD SAMPLE ID	MW-005-101309	CLIENT	Woods Hole Group
ACTIVITY	START 11:30 END 13:45	SAMPLE TIME	12:35	DATE	10/13/2009

WATER LEVEL / WELL INFORMATION	MEASUREMENT POINT <input checked="" type="checkbox"/> TOP OF WELL RISER <input type="checkbox"/> TOP OF CASING	PUMP SETTINGS	PID READINGS
INITIAL DEPTH TO WATER	<input type="text" value="7.99"/> feet	PRESSURE TO PUMP	PID MODEL
FINAL DEPTH TO WATER	<input type="text" value="10.73"/> feet	REFILL SETTING	PID WELL MOUTH
HISTORICAL WELL DEPTH	<input type="text" value="18.4"/> feet	DISCHARGE SETTING	PID AMBIENT AIR
SCREEN LENGTH	<input type="text" value="-"/> feet	PROTECTIVE CASING STICKUP (FROM GROUND)	<input type="text" value="20"/> psi
	WELL DIAMETER	<input type="text" value="10 sec"/>	<input type="text" value="10 sec"/>
	<input type="text" value="2"/> inches	<input type="text" value="5 sec"/>	<input type="text" value="5 sec"/>

WELL DIAMETER FACTORS / VOLUME INFORMATION

DIAMETER (inches)	1.0	1.5	2.0	4.0	6.0	TOTAL VOL. PURGED	<input type="text" value="2.02"/> gal
GALLONS/FOOT	0.041	0.092	0.163	0.651	1.470	<small>(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)</small>	

FEET OF WATER IN WELL: feet

ONE WELL VOLUME: gal

TWO WELL VOLUMES: gal

THREE WELL VOLUMES: gal

PURGE DATA			SPECIFIC				PUMP				COMMENTS
TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	CONDUCTANCE (ms/cm)	pH (units)	DISS. O2 (mg/L)	TURBIDITY (NTU)	REDOX (+/- mV)	INTAKE DEPTH (ft)		
11:45	10.40	200	14.89	0.580	7.72	0.79	12.1	-225.9	15	no color	
11:50	10.6	150	14.91	0.583	7.71	0.77	12.0	-229.9	15		
11:55	10.7	150	14.94	0.591	7.70	0.73	10.3	-216.1	15		
12:00	10.72	150	14.95	0.592	7.69	0.71	9.38	-215.8	15		
12:05	10.73	150	15.77	0.631	7.73	0.65	9.20	-215.3	15	temp increase due to sun	
12:10	10.73	150	15.32	0.650	7.72	0.58	7.19	-210.5	15	coming out	
12:15	10.73	150	15.24	0.651	7.71	0.56	6.69	-210.0	15		
12:20	10.73	150	14.68	0.651	7.65	0.51	4.96	-203.8	15	temp drop due to passing	
12:25	10.73	150	14.46	0.652	7.69	0.46	4.87	-203.5	15	rain shower	
12:30	10.73	150	14.35	0.652	7.70	0.45	4.91	-203.7	15		
12:35	Sample										

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: QED SAMPLE PRO (1-3/4") OTHER _____

TYPE OF TUBING: LOW DENSITY POLYETHYLENE (Teflon-lined) OTHER Teflon Lined HDPE

ANALYTICAL PARAMETERS

CONTROL NUMBER	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
<input checked="" type="checkbox"/> VOCs	SW 846 Method 8260B MCP	HCL / 4 DEG. C	3 X 40 ML	<input checked="" type="checkbox"/>	_____/_____/_____
<input checked="" type="checkbox"/> Total metals (Ca,Cu,Cr,Pb)	SW846 6010B MCP	4 DEG. C	1 X 500 ml Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> TSS	160.2	4 DEG. C	1 X 1L Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> PCB	8082	4 DEG. C	2 X 1L AMBER GLASS	<input checked="" type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____

PURGE OBSERVATIONS	MISC. OBSERVATIONS
PURGE WATER CONTAINERIZED: <input checked="" type="radio"/> YES <input type="radio"/> NO	

QC INFORMATION	NOTES:
SAMPLED BY: <u>Daron Kurkjian</u>	1. Purging should not exceed 5 well volumes
FIELD FORM PREP. BY: <u>DGK 10/16/09</u>	2. Stabilization is considered to be achieved when three consecutive readings are taken at 3 to 5 minute intervals are within the following limits:
FIELD FORM CHECK BY: <u>CTM 10/16/09</u>	turbidity (10% for values greater than 1 NTU), specific conductivity (3%), temperature (1°C), pH (± 0.1 units), dissolved oxygen (10%), ORP (10 mV)

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	New Bedford Harbor Superfund Site	EVENT NAME	Sawyer Street CDF 10/09	JOB NUMBER	3650090138
LOCATION ID	MW-6	FIELD SAMPLE ID	MW-006-101309	CLIENT	Woods Hole Group
ACTIVITY	START 13:50 END 14:50	SAMPLE TIME	14:40	DATE	10/13/2009

WATER LEVEL / WELL INFORMATION		MEASUREMENT POINT		PUMP SETTINGS		PID READINGS	
INITIAL DEPTH TO WATER	12.89 feet	<input checked="" type="checkbox"/> TOP OF WELL RISER		PRESSURE TO PUMP	15 psi	PID MODEL	-
FINAL DEPTH TO WATER	13.7 feet	<input type="checkbox"/> TOP OF CASING		REFILL SETTING	10 sec	PID WELL MOUTH	- ppmv
HISTORICAL WELL DEPTH	18.85 feet	PROTECTIVE CASING STICKUP (FROM GROUND)	See survey feet	DISCHARGE SETTING	5 sec	PID AMBIENT AIR	- ppmv
SCREEN LENGTH	- feet	CASING / WELL DIFFERENCE	See survey feet				
		WELL DIAMETER	2 inches				

WELL DIAMETER FACTORS / VOLUME INFORMATION

DIAMETER (inches)	1.0	1.5	2.0	4.0	6.0	TOTAL VOL. PURGED	2.60 gal
GALLONS/FOOT	0.041	0.092	0.163	0.651	1.470	(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)	

FEET OF WATER IN WELL	5.96 feet	ONE WELL VOLUME	0.97 gal	TWO WELL VOLUMES	1.94 gal	THREE WELL VOLUMES	2.91 gal
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TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	SPECIFIC			PUMP			COMMENTS
				CONDUCTANCE (ms/cm)	pH (units)	DISS. O2 (mg/L)	TURBIDITY (NTU)	REDOX (+/- mV)	INTAKE DEPTH (ft)	
14:00	13.70	250	11.42	0.452	7.31	2.64	29.5	-96	17	
14:05	13.70	250	14.47	0.450	7.32	1.87	17.9	-122	17	
14:10	13.70	250	14.51	0.446	7.35	1.40	11.1	-135	17	
14:15	13.70	250	14.72	0.445	7.37	1.07	5.43	-143	17	
14:20	13.70	250	14.86	0.446	7.39	0.92	4.15	-145	17	
14:23	13.70	250	14.95	0.447	7.38	0.87	2.69	-145	17	
14:26	13.70	250	14.93	0.448	7.38	0.85	2.33	-146	17	
14:29	13.70	250	15.19	0.445	7.38	0.77	1.98	-145	17	
14:32	13.70	250	15.03	0.445	7.38	0.82	1.85	-142	17	
14:35	13.70	250	14.95	0.442	7.36	0.82	1.69	-142	17	
14:38	13.70	250	14.91	0.443	7.39	0.76	1.67	-143	17	
14:40	sample									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP <input checked="" type="checkbox"/> QED SAMPLE PRO (1-3/4") <input type="checkbox"/> PERISTALTIC <input type="checkbox"/> OTHER _____	TYPE OF TUBING <input checked="" type="checkbox"/> LOW DENSITY POLYETHYLENE (Teflon-lined) <input type="checkbox"/> OTHER Teflon Lined HDPE
--	--

ANALYTICAL PARAMETERS

CONTROL NUMBER	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
<input checked="" type="checkbox"/> VOCs	SW 846 Method 8260B MCP	HCL / 4 DEG. C	3 X 40 ML	<input checked="" type="checkbox"/>	_____/_____/_____
<input checked="" type="checkbox"/> Total metals (Ca,Cu,Cr,Pb)	SW846 6010B MCP	4 DEG. C	1 X 500 ml Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> TSS	160.2	4 DEG. C	1 X 1L Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> PCB	8082	4 DEG. C	2 X 1L AMBER GLASS	<input checked="" type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____

PURGE OBSERVATIONS PURGE WATER CONTAINERIZED <input checked="" type="radio"/> YES <input type="radio"/> NO	MISC. OBSERVATIONS
--	-----------------------------------

QC INFORMATION SAMPLED BY: Mark Maggioro FIELD FORM PREP. BY: DGK 10/16/09 FIELD FORM CHECK BY: CTM 10/16/09	NOTES: 1. Purging should not exceed 5 well volumes 2. Stabilization is considered to be achieved when three consecutive readings are taken at 3 to 5 minute intervals are within the following limits: turbidity (10% for values greater than 1 NTU), specific conductivity (3%), temperature (1°C), pH (± 0.1 units), dissolved oxygen (10%), ORP (10 mV)
--	--

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	New Bedford Harbor Superfund Site	EVENT NAME	Sawyer Street CDF 10/09	JOB NUMBER	3650090138
LOCATION ID	MW-7A	FIELD SAMPLE ID	MW-007A-101309	CLIENT	Woods Hole Group
ACTIVITY	START 10:00 END 11:40	SAMPLE TIME	10:50	DATE	10/13/2009

WATER LEVEL / WELL INFORMATION	MEASUREMENT POINT <input checked="" type="checkbox"/> TOP OF WELL RISER <input type="checkbox"/> TOP OF CASING	PUMP SETTINGS	PID READINGS
INITIAL DEPTH TO WATER	<input type="text" value="10.39"/> feet	PRESSURE TO PUMP	<input type="text" value="15"/> psi
FINAL DEPTH TO WATER	<input type="text" value="10.6"/> feet	REFILL SETTING	<input type="text" value="10"/> sec
HISTORICAL WELL DEPTH	<input type="text" value="14.2"/> feet	DISCHARGE SETTING	<input type="text" value="5"/> sec
SCREEN LENGTH	<input type="text" value="-"/> feet	PROTECTIVE CASING STICKUP (FROM GROUND)	<input type="text" value="See survey"/> feet
	CASING / WELL DIFFERENCE		<input type="text" value="See survey"/> feet
	WELL DIAMETER		<input type="text" value="2"/> inches
			PID MODEL
			<input type="text" value="-"/>
			PID WELL MOUTH
			<input type="text" value="-"/> ppmv
			PID AMBIENT AIR
			<input type="text" value="-"/> ppmv

WELL DIAMETER FACTORS / VOLUME INFORMATION

DIAMETER (inches)	1.0	1.5	2.0	4.0	6.0	TOTAL VOL. PURGED	<input type="text" value="1.04"/> gal
GALLONS/FOOT	0.041	0.092	0.163	0.651	1.470	<small>(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)</small>	
FEET OF WATER IN WELL	<input type="text" value="3.81"/> feet	ONE WELL VOLUME	<input type="text" value="0.62"/> gal	TWO WELL VOLUMES	<input type="text" value="1.24"/> gal	THREE WELL VOLUMES	<input type="text" value="1.86"/> gal

PURGE DATA			SPECIFIC				PUMP				COMMENTS
TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	CONDUCTANCE (ms/cm)	pH (units)	DISS. O2 (mg/L)	TURBIDITY (NTU)	REDOX (+/- mV)	INTAKE DEPTH (ft)		
10:10	10.60	100	15.03	0.816	6.56	9.45	3.51	255	13		
10:15	10.60	100	15.21	0.791	6.59	6.50	1.67	244	13		
10:20	10.60	100	15.22	0.783	6.60	6.60	1.59	204	13		
10:25	10.60	100	15.24	0.784	6.61	5.59	1.06	166	13		
10:28	10.60	100	15.22	0.789	6.52	4.98	0.62	147	13		
10:31	10.60	100	15.21	0.797	6.63	4.43	0.60	125	13		
10:34	10.60	100	15.22	0.803	6.63	4.13	0.58	105	13		
10:37	10.60	100	15.21	0.808	6.64	3.92	0.37	96	13		
10:40	10.60	100	15.21	0.813	6.64	3.57	0.38	86	13		
10:43	10.60	100	15.20	0.819	6.64	3.41	0.45	80	13		
10:46	10.60	100	15.20	0.814	6.64	3.38	0.43	79	13		
10:50											

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING
<input checked="" type="checkbox"/> QED SAMPLE PRO (1-3/4")	<input checked="" type="checkbox"/> LOW DENSITY POLYETHYLENE (Teflon-lined)
<input type="checkbox"/> PERISTALTIC	<input type="checkbox"/> OTHER Teflon Lined HDPE
<input type="checkbox"/> OTHER _____	

ANALYTICAL PARAMETERS

CONTROL NUMBER	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
<input checked="" type="checkbox"/> VOCs	SW 846 Method 8260B MCP	HCL / 4 DEG. C	3 X 40 ML	<input checked="" type="checkbox"/>	_____/_____/_____
<input checked="" type="checkbox"/> Total metals (Ca,Cu,Cr,Pb)	SW846 6010B MCP	4 DEG. C	1 X 500 ml Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> TSS	160.2	4 DEG. C	1 X 1L Plastic	<input checked="" type="checkbox"/>	_____
<input checked="" type="checkbox"/> PCB	8082	4 DEG. C	2 X 1L AMBER GLASS	<input checked="" type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____
<input type="checkbox"/>				<input type="checkbox"/>	_____

PURGE OBSERVATIONS	MISC. OBSERVATIONS
PURGE WATER CONTAINERIZED <input checked="" type="radio"/> YES <input type="radio"/> NO	Collected QC samples - MW-007A-101309REP, MW-007A-101309MS, and MW-007A-101309MSD

QC INFORMATION	NOTES:
SAMPLED BY: <u>Mark Maggiore</u>	1. Purging should not exceed 5 well volumes
FIELD FORM PREP. BY: <u>DGK 10/16/09</u>	2. Stabilization is considered to be achieved when three consecutive readings are taken at 3 to 5 minute intervals are within the following limits:
FIELD FORM CHECK BY: <u>CTM 10/16/09</u>	turbidity (10% for values greater than 1 NTU), specific conductivity (3%), temperature (1°C), pH (± 0.1 units), dissolved oxygen (10%), ORP (10 mV)

APPENDIX B
Laboratory Analytical Reports

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Client Woods Hole Group Laboratory Alpha
 MACTEC Project 3650090138 Data Report Number/Date L0909201/07/29/09

LABORATORY DATA REVIEW CHECKLIST

	<u>YES</u>	<u>NO</u>	<u>NOT APPLICABLE</u>
1. Laboratory analytical data report appears complete (all data results present for all samples submitted for analysis) and there are no apparent transcription errors:	✓	___	___
2. Samples analyzed within applicable holding times (based on date of sample collection):*	✓	___	___
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	✓	___	___
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	✓	___	___
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	✓	___	___
6. If Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples required to meet project objectives, Percent Recoveries (%R) and Relative Percent Difference (RPD) within laboratory reported acceptance ranges:	✓	___	___
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	✓	___	___
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	✓	___	___
9. Analytical costs within authorized budget for these services:	___	___	✓

✓ (except for naphthalene)
 DAK 1/26/10

COMMENTS: Lab data within requested limits

Notes: 1. This checklist is intended for use with the laboratory reporting formats typical of most projects. If "no" is answered to one or more of the above checklist questions 1 through 7, a more detailed Data Validation may be required, and a person knowledgeable in Data Validation protocols should be consulted. This checklist should not be used if the project scope requires Data Validation from the onset.

2. * = Based upon EPA Guidance and the applicable analytical method references. See reverse side of checklist for details.

3. ** = Based upon EPA Guidance. Use these criteria on duplicate and sample results which exceed five times the reported detection limit. See reverse side of checklist for details.

Checked by: DAK Date: 1/26/10

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ANALYTICAL REPORT

Lab Number: L0909201

Client: Woods Hole Group
81 Technology Park Drive
East Falmouth, MA 02536

ATTN: Bob Hamilton

Project Name: NB HARBOR TASK 3.0 GW

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

**CHECKED FOR COMPLETENESS
OF PARAMETERS ORDERED BY:**

Daron Kurkjian 1/26/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NB HARBOR TASK 3.0 GW
Project Number: NBH TASK 3.0 GW

Lab Number: L0909201
Report Date: 07/29/09

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0909201-01	MW-01-070809	NEW BEDFORD, MA	07/08/09 13:40
L0909201-02	MW-01-070809-DUP	NEW BEDFORD, MA	07/08/09 13:40
L0909201-03	MW-03-070809	NEW BEDFORD, MA	07/08/09 13:50
L0909201-04	MW-04A-070809	NEW BEDFORD, MA	07/08/09 11:50
L0909201-05	MW-05-070809	NEW BEDFORD, MA	07/08/09 13:40
L0909201-06	MW-06-070809	NEW BEDFORD, MA	07/08/09 18:00
L0909201-07	MW-07A-070809	NEW BEDFORD, MA	07/08/09 16:05
L0909201-08	TRIP BLANK	NEW BEDFORD, MA	07/08/09 20:00
L0909201-09	EQUIPMENT BLANK	NEW BEDFORD, MA	07/08/09 20:00

Project Name: NB HARBOR TASK 3.0 GW
Project Number: NBH TASK 3.0 GW

Lab Number: L0909201
Report Date: 07/29/09

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Volatile Organics 8260

The initial calibration had a value for Naphthalene outside of the 15% RSD QC advisory limit but <30% RSD. This initial calibration meets the acceptability criteria.

L0909201-01 through -09 was Non Detect for Total Xylene.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 07/29/09

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ORGANICS

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VOLATILES

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Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-01
Client ID: MW-01-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 07/15/09 15:53
Analyst: BS

Date Collected: 07/08/09 13:40
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1
Dibromomethane	ND		ug/l	2.00	1
Bromodichloromethane	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-01
 Client ID: MW-01-070809
 Sample Location: NEW BEDFORD, MA

Date Collected: 07/08/09 13:40
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	100		70-130
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-02
Client ID: MW-01-070809-DUP
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 07/15/09 17:33
Analyst: BS

Date Collected: 07/08/09 13:40
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1
Dibromomethane	ND		ug/l	2.00	1
Bromodichloromethane	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-02
 Client ID: MW-01-070809-DUP
 Sample Location: NEW BEDFORD, MA

Date Collected: 07/08/09 13:40
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	102		70-130
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	96		70-130

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-03
Client ID: MW-03-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 07/15/09 18:07
Analyst: BS

Date Collected: 07/08/09 13:50
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1
Dibromomethane	ND		ug/l	2.00	1
Bromodichloromethane	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-03
 Client ID: MW-03-070809
 Sample Location: NEW BEDFORD, MA

Date Collected: 07/08/09 13:50
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Volatile Organics by GC/MS - Mansfield Lab

1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	100		70-130
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-04
Client ID: MW-04A-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 07/15/09 18:41
Analyst: BS

Date Collected: 07/08/09 11:50
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1
Dibromomethane	ND		ug/l	2.00	1
Bromodichloromethane	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-04

Date Collected: 07/08/09 11:50

Client ID: MW-04A-070809

Date Received: 07/09/09

Sample Location: NEW BEDFORD, MA

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	102		70-130
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	97		70-130

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-05
Client ID: MW-05-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 07/15/09 19:15
Analyst: BS

Date Collected: 07/08/09 13:40
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1
Dibromomethane	ND		ug/l	2.00	1
Bromodichloromethane	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-05
 Client ID: MW-05-070809
 Sample Location: NEW BEDFORD, MA

Date Collected: 07/08/09 13:40
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	101		70-130
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	96		70-130

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-06
Client ID: MW-06-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 07/15/09 19:48
Analyst: BS

Date Collected: 07/08/09 18:00
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1
Dibromomethane	ND		ug/l	2.00	1
Bromodichloromethane	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-06
 Client ID: MW-06-070809
 Sample Location: NEW BEDFORD, MA

Date Collected: 07/08/09 18:00
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	100		70-130
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-07
Client ID: MW-07A-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 07/15/09 20:22
Analyst: BS

Date Collected: 07/08/09 16:05
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1
Dibromomethane	ND		ug/l	2.00	1
Bromodichloromethane	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-07
 Client ID: MW-07A-070809
 Sample Location: NEW BEDFORD, MA

Date Collected: 07/08/09 16:05
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	104		70-130
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-08
Client ID: TRIP BLANK
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 07/15/09 14:47
Analyst: BS

Date Collected: 07/08/09 20:00
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1
Dibromomethane	ND		ug/l	2.00	1
Bromodichloromethane	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-08
 Client ID: TRIP BLANK
 Sample Location: NEW BEDFORD, MA

Date Collected: 07/08/09 20:00
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	98		70-130
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-09
Client ID: EQUIPMENT BLANK
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 07/15/09 15:20
Analyst: BS

Date Collected: 07/08/09 20:00
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Acetone	26.1		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1
Dibromomethane	ND		ug/l	2.00	1
Bromodichloromethane	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-09
 Client ID: EQUIPMENT BLANK
 Sample Location: NEW BEDFORD, MA

Date Collected: 07/08/09 20:00
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	99		70-130
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260B
 Analytical Date: 07/15/09 13:41
 Analyst: BS

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-09 Batch: WG371011-5				
Dichlorodifluoromethane	ND		ug/l	2.00
Chloromethane	ND		ug/l	2.00
Vinyl chloride	ND		ug/l	2.00
Bromomethane	ND		ug/l	2.00
Chloroethane	ND		ug/l	2.00
Trichlorofluoromethane	ND		ug/l	2.00
Acetone	ND		ug/l	5.00
1,1-Dichloroethene	ND		ug/l	2.00
Methylene chloride	ND		ug/l	5.00
trans-1,2-Dichloroethene	ND		ug/l	2.00
1,1-Dichloroethane	ND		ug/l	2.00
2-Butanone	ND		ug/l	5.00
cis-1,2-Dichloroethene	ND		ug/l	2.00
2,2-Dichloropropane	ND		ug/l	2.00
Bromochloromethane	ND		ug/l	2.00
Chloroform	ND		ug/l	2.00
1,1,1-Trichloroethane	ND		ug/l	2.00
1,1-Dichloropropene	ND		ug/l	2.00
Carbon tetrachloride	ND		ug/l	2.00
Benzene	ND		ug/l	2.00
1,2-Dichloroethane	ND		ug/l	2.00
Trichloroethene	ND		ug/l	2.00
1,2-Dichloropropane	ND		ug/l	2.00
Dibromomethane	ND		ug/l	2.00
Bromodichloromethane	ND		ug/l	2.00
Toluene	ND		ug/l	2.00
1,1,2-Trichloroethane	ND		ug/l	2.00
Tetrachloroethene	ND		ug/l	2.00
1,3-Dichloropropane	ND		ug/l	2.00
Dibromochloromethane	ND		ug/l	2.00
1,2-Dibromoethane	ND		ug/l	2.00

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B
 Analytical Date: 07/15/09 13:41
 Analyst: BS

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-09 Batch: WG371011-5				
Chlorobenzene	ND		ug/l	2.00
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00
Ethylbenzene	ND		ug/l	2.00
p/m-Xylene	ND		ug/l	4.00
o-Xylene	ND		ug/l	2.00
Styrene	ND		ug/l	2.00
Bromoform	ND		ug/l	2.00
Isopropylbenzene	ND		ug/l	2.00
1,1,2,2-Tetrachloroethane	ND		ug/l	2.00
Bromobenzene	ND		ug/l	2.00
1,2,3-Trichloropropane	ND		ug/l	2.00
n-Propylbenzene	ND		ug/l	2.00
o-Chlorotoluene	ND		ug/l	2.00
1,3,5-Trimethylbenzene	ND		ug/l	2.00
p-Chlorotoluene	ND		ug/l	2.00
tert-Butylbenzene	ND		ug/l	2.00
1,2,4-Trimethylbenzene	ND		ug/l	2.00
sec-Butylbenzene	ND		ug/l	2.00
1,3-Dichlorobenzene	ND		ug/l	2.00
p-Isopropyltoluene	ND		ug/l	2.00
1,4-Dichlorobenzene	ND		ug/l	2.00
n-Butylbenzene	ND		ug/l	2.00
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00
1,2-Dichlorobenzene	ND		ug/l	2.00
1,2,4-Trichlorobenzene	ND		ug/l	2.00
Hexachlorobutadiene	ND		ug/l	2.00
Naphthalene	ND		ug/l	2.00
1,2,3-Trichlorobenzene	ND		ug/l	2.00

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260B
Analytical Date: 07/15/09 13:41
Analyst: BS

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-09 Batch: WG371011-5				

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	97		70-130
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 Batch: WG371011-3 WG371011-4					
Dichlorodifluoromethane	91	100	70-130	9	25
Chloromethane	82	88	70-130	7	25
Vinyl chloride	95	102	70-130	7	25
Bromomethane	102	105	70-130	3	25
Chloroethane	97	102	70-130	5	25
Trichlorofluoromethane	83	89	70-130	7	25
Acetone	75	77	70-130	3	25
1,1-Dichloroethene	80	84	70-130	5	25
Methylene chloride	89	93	70-130	4	25
trans-1,2-Dichloroethene	83	87	70-130	5	25
1,1-Dichloroethane	84	88	70-130	5	25
2-Butanone	89	95	70-130	7	25
cis-1,2-Dichloroethene	80	80	70-130	0	25
2,2-Dichloropropane	93	98	70-130	5	25
Bromochloromethane	88	94	70-130	7	25
Chloroform	83	87	70-130	5	25
1,1,1-Trichloroethane	84	89	70-130	6	25
1,1-Dichloropropene	86	93	70-130	8	25
Carbon tetrachloride	75	79	70-130	5	25
Benzene	84	88	70-130	5	25
1,2-Dichloroethane	78	82	70-130	5	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 Batch: WG371011-3 WG371011-4					
Trichloroethene	80	84	70-130	5	25
1,2-Dichloropropane	81	85	70-130	5	25
Dibromomethane	80	84	70-130	5	25
Bromodichloromethane	80	84	70-130	5	25
Toluene	82	86	70-130	5	25
1,1,2-Trichloroethane	81	84	70-130	4	25
Tetrachloroethene	72	73	70-130	1	25
1,3-Dichloropropane	80	84	70-130	5	25
Dibromochloromethane	81	82	70-130	1	25
1,2-Dibromoethane	82	82	70-130	0	25
Chlorobenzene	86	90	70-130	5	25
1,1,1,2-Tetrachloroethane	85	90	70-130	6	25
Ethylbenzene	87	90	70-130	3	25
p/m-Xylene	84	91	70-130	8	25
o-Xylene	85	89	70-130	5	25
Styrene	87	90	70-130	3	25
Bromoform	84	85	70-130	1	25
Isopropylbenzene	85	89	70-130	5	25
1,1,1,2-Tetrachloroethane	83	85	70-130	2	25
Bromobenzene	86	88	70-130	2	25
1,2,3-Trichloropropane	86	90	70-130	5	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 Batch: WG371011-3 WG371011-4					
n-Propylbenzene	87	92	70-130	6	25
o-Chlorotoluene	85	90	70-130	6	25
1,3,5-Trimethylbenzene	87	92	70-130	6	25
p-Chlorotoluene	87	92	70-130	6	25
tert-Butylbenzene	85	89	70-130	5	25
1,2,4-Trimethylbenzene	85	92	70-130	8	25
sec-Butylbenzene	87	92	70-130	6	25
1,3-Dichlorobenzene	86	91	70-130	6	25
p-Isopropyltoluene	86	92	70-130	7	25
1,4-Dichlorobenzene	85	90	70-130	6	25
n-Butylbenzene	91	98	70-130	7	25
1,2-Dibromo-3-chloropropane	81	82	70-130	1	25
1,2-Dichlorobenzene	84	89	70-130	6	25
1,2,4-Trichlorobenzene	83	86	70-130	4	25
Hexachlorobutadiene	84	86	70-130	2	25
Naphthalene	81	82	70-130	1	25
1,2,3-Trichlorobenzene	85	84	70-130	1	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
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Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 Batch: WG371011-3 WG371011-4

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	99		100		70-130
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	97		96		70-130
4-Bromofluorobenzene	99		99		70-130

Matrix Spike Analysis Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW
Project Number: NBH TASK 3.0 GW

Lab Number: L0909201
Report Date: 07/29/09

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG371011-6 WG371011-7 QC Sample: L0909201-01 Client ID: MW-01-070809										
Dichlorodifluoromethane	ND	50	52.2	104	49.7	100	70-130	4	25	
Chloromethane	ND	50	46.3	93	45.8	92	70-130	1	25	
Vinyl chloride	ND	50	53.4	107	53.1	106	70-130	1	25	
Bromomethane	ND	50	52.5	105	55.1	110	70-130	5	25	
Chloroethane	ND	50	55.7	111	53.5	107	70-130	4	25	
Trichlorofluoromethane	ND	50	46.4	93	45.1	90	70-130	3	25	
Acetone	ND	50	38.5	77	38.2	76	70-130	1	25	
1,1-Dichloroethene	ND	50	45.0	90	43.5	87	70-130	3	25	
Methylene chloride	ND	50	47.0	94	47.1	94	70-130	0	25	
trans-1,2-Dichloroethene	ND	50	45.5	91	44.3	89	70-130	2	25	
1,1-Dichloroethane	ND	50	45.0	90	44.1	88	70-130	2	25	
2-Butanone	ND	50	48.5	97	46.5	93	70-130	4	25	
cis-1,2-Dichloroethene	ND	50	41.2	82	42.3	84	70-130	2	25	
2,2-Dichloropropane	ND	50	51.1	102	49.0	98	70-130	4	25	
Bromochloromethane	ND	50	46.6	93	47.1	94	70-130	1	25	
Chloroform	ND	50	44.4	89	44.1	88	70-130	1	25	
1,1,1-Trichloroethane	ND	50	46.1	92	44.3	89	70-130	3	25	
1,1-Dichloropropene	ND	50	49.0	98	48.1	96	70-130	2	25	
Carbon tetrachloride	ND	50	41.9	84	40.6	81	70-130	4	25	
Benzene	ND	50	45.0	90	44.2	88	70-130	2	25	
1,2-Dichloroethane	ND	50	42.0	84	41.6	83	70-130	1	25	

Matrix Spike Analysis Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW
Project Number: NBH TASK 3.0 GW

Lab Number: L0909201
Report Date: 07/29/09

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG371011-6 WG371011-7 QC Sample: L0909201-01 Client ID: MW-01-070809										
Trichloroethene	ND	50	42.7	85	43.0	86	70-130	1	25	
1,2-Dichloropropane	ND	50	42.8	86	42.1	84	70-130	2	25	
Dibromomethane	ND	50	42.1	84	42.7	85	70-130	1	25	
Bromodichloromethane	ND	50	41.7	83	42.5	85	70-130	2	25	
Toluene	ND	50	44.3	88	43.4	87	70-130	1	25	
1,1,2-Trichloroethane	ND	50	41.9	84	42.5	85	70-130	1	25	
Tetrachloroethene	ND	50	37.3	75	37.0	74	70-130	1	25	
1,3-Dichloropropane	ND	50	41.6	83	42.4	85	70-130	2	25	
Dibromochloromethane	ND	50	40.9	82	42.0	84	70-130	2	25	
1,2-Dibromoethane	ND	50	40.8	82	41.7	84	70-130	2	25	
Chlorobenzene	ND	50	44.9	90	45.2	90	70-130	0	25	
1,1,1,2-Tetrachloroethane	ND	50	44.6	89	45.0	90	70-130	1	25	
Ethylbenzene	ND	50	46.2	92	46.0	92	70-130	0	25	
p/m-Xylene	ND	100	90.3	90	90.9	91	70-130	1	25	
o-Xylene	ND	50	45.0	90	44.3	89	70-130	1	25	
Styrene	ND	50	45.1	90	45.4	91	70-130	1	25	
Bromoform	ND	50	41.5	83	42.9	86	70-130	4	25	
Isopropylbenzene	ND	50	46.0	92	45.3	90	70-130	2	25	
1,1,2,2-Tetrachloroethane	ND	50	43.0	86	43.5	87	70-130	1	25	
Bromobenzene	ND	50	44.6	89	44.8	90	70-130	1	25	
1,2,3-Trichloropropane	ND	50	43.4	87	44.5	89	70-130	2	25	

Matrix Spike Analysis Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW
Project Number: NBH TASK 3.0 GW

Lab Number: L0909201
Report Date: 07/29/09

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG371011-6 WG371011-7 QC Sample: L0909201-01 Client ID: MW-01-070809										
n-Propylbenzene	ND	50	47.4	95	46.9	94	70-130	1	25	
o-Chlorotoluene	ND	50	45.2	90	45.1	90	70-130	0	25	
1,3,5-Trimethylbenzene	ND	50	46.6	93	46.1	92	70-130	1	25	
p-Chlorotoluene	ND	50	46.0	92	45.9	92	70-130	0	25	
tert-Butylbenzene	ND	50	45.9	92	46.1	92	70-130	0	25	
1,2,4-Trimethylbenzene	ND	50	46.4	93	46.6	93	70-130	0	25	
sec-Butylbenzene	ND	50	47.8	96	47.2	94	70-130	2	25	
1,3-Dichlorobenzene	ND	50	45.5	91	46.0	92	70-130	1	25	
p-Isopropyltoluene	ND	50	47.3	95	46.9	94	70-130	1	25	
1,4-Dichlorobenzene	ND	50	45.5	91	45.8	92	70-130	1	25	
n-Butylbenzene	ND	50	51.4	103	50.0	100	70-130	3	25	
1,2-Dibromo-3-chloropropane	ND	50	42.8	86	44.5	89	70-130	3	25	
1,2-Dichlorobenzene	ND	50	44.3	89	44.8	90	70-130	1	25	
1,2,4-Trichlorobenzene	ND	50	47.3	95	47.7	95	70-130	0	25	
Hexachlorobutadiene	ND	50	44.6	89	43.8	88	70-130	1	25	
Naphthalene	ND	50	50.0	100	50.4	101	70-130	1	25	
1,2,3-Trichlorobenzene	ND	50	48.1	96	48.1	96	70-130	0	25	

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
1,2-Dichloroethane-d4	96		96		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
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Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG371011-6 WG371011-7 QC Sample: L0909201-01 Client ID: MW-01-070809

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	101		100		70-130
Toluene-d8	97		97		70-130

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Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-01
Client ID: MW-01-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/25/09 22:11
Analyst: JR

Date Collected: 07/08/09 13:40
Date Received: 07/09/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/13/09 12:24

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	67		30-150
Decachlorobiphenyl	52		30-150
Tetrachloro-meta-Xylene	68		30-150
Decachlorobiphenyl	50		30-150

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-02
Client ID: MW-01-070809-DUP
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/25/09 23:45
Analyst: JR

Date Collected: 07/08/09 13:40
Date Received: 07/09/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/13/09 12:24

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.023	1
Aroclor 1221	ND		ug/l	0.023	1
Aroclor 1232	ND		ug/l	0.023	1
Aroclor 1242	ND		ug/l	0.023	1
Aroclor 1248	ND		ug/l	0.023	1
Aroclor 1254	ND		ug/l	0.023	1
Aroclor 1260	ND		ug/l	0.023	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.023	1
Aroclor 1221	ND		ug/l	0.023	1
Aroclor 1232	ND		ug/l	0.023	1
Aroclor 1242	ND		ug/l	0.023	1
Aroclor 1248	ND		ug/l	0.023	1
Aroclor 1254	ND		ug/l	0.023	1
Aroclor 1260	ND		ug/l	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	67		30-150
Decachlorobiphenyl	57		30-150
Tetrachloro-meta-Xylene	67		30-150
Decachlorobiphenyl	54		30-150

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-03
Client ID: MW-03-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/26/09 00:16
Analyst: JR

Date Collected: 07/08/09 13:50
Date Received: 07/09/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/13/09 12:24

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	0.052		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	0.052		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	66		30-150
Decachlorobiphenyl	44		30-150
Tetrachloro-meta-Xylene	66		30-150
Decachlorobiphenyl	43		30-150

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-04
Client ID: MW-04A-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/26/09 00:48
Analyst: JR

Date Collected: 07/08/09 11:50
Date Received: 07/09/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/13/09 12:24

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	ND		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	ND		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	70		30-150
Decachlorobiphenyl	50		30-150
Tetrachloro-meta-Xylene	71		30-150
Decachlorobiphenyl	48		30-150

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-05
Client ID: MW-05-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/26/09 01:19
Analyst: JR

Date Collected: 07/08/09 13:40
Date Received: 07/09/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/13/09 12:24

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	0.051		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	0.051		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	75		30-150
Decachlorobiphenyl	52		30-150
Tetrachloro-meta-Xylene	76		30-150
Decachlorobiphenyl	50		30-150

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-06
Client ID: MW-06-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/26/09 01:51
Analyst: JR

Date Collected: 07/08/09 18:00
Date Received: 07/09/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/13/09 12:24

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	ND		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	ND		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	64		30-150
Decachlorobiphenyl	45		30-150
Tetrachloro-meta-Xylene	67		30-150
Decachlorobiphenyl	43		30-150

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-07
Client ID: MW-07A-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/26/09 02:22
Analyst: JR

Date Collected: 07/08/09 16:05
Date Received: 07/09/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/13/09 12:24

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	77		30-150
Decachlorobiphenyl	43		30-150
Tetrachloro-meta-Xylene	78		30-150
Decachlorobiphenyl	40		30-150

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-09
Client ID: EQUIPMENT BLANK
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 07/26/09 02:53
Analyst: JR

Date Collected: 07/08/09 20:00
Date Received: 07/09/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 07/13/09 12:24

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	75		30-150
Decachlorobiphenyl	48		30-150
Tetrachloro-meta-Xylene	76		30-150
Decachlorobiphenyl	45		30-150

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
 Analytical Date: 07/25/09 20:37
 Analyst: JR

Extraction Method: EPA 3510C
 Extraction Date: 07/13/09 12:24

Parameter	Result	Qualifier	Units	RDL
Polychlorinated Biphenyls by GC - Mansfield Lab for sample(s): 01-07,09 Batch: WG370561-1				
Aroclor 1016	ND		ug/l	0.020
Aroclor 1221	ND		ug/l	0.020
Aroclor 1232	ND		ug/l	0.020
Aroclor 1242	ND		ug/l	0.020
Aroclor 1248	ND		ug/l	0.020
Aroclor 1254	ND		ug/l	0.020
Aroclor 1260	ND		ug/l	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	79		30-150
Decachlorobiphenyl	58		30-150
Tetrachloro-meta-Xylene	80		30-150
Decachlorobiphenyl	56		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Polychlorinated Biphenyls by GC - Mansfield Lab Associated sample(s): 01-07,09 QC Batch ID: WG370561-4 WG370561-5 QC Sample: L0909201-01 Client ID: MW-01-070809										
Aroclor 1016	ND	1190	1.14	96	1.07	92		40-140	4	50
Aroclor 1260	ND	1190	1.05	88	0.991	85		40-140	3	50

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
Decachlorobiphenyl	60		56		30-150
Tetrachloro-meta-Xylene	79		73		30-150
Decachlorobiphenyl	57		53		30-150
Tetrachloro-meta-Xylene	80		74		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Polychlorinated Biphenyls by GC - Mansfield Lab Associated sample(s): 01-07,09 Batch: WG370561-2 WG370561-3					
Aroclor 1016	93	92	40-140	1	50

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	77		77		30-150
Decachlorobiphenyl	59		56		30-150
Tetrachloro-meta-Xylene	78		77		30-150
Decachlorobiphenyl	57		54		30-150

Polychlorinated Biphenyls by GC - Mansfield Lab Associated sample(s): 01-07,09 Batch: WG370561-2 WG370561-3					
Aroclor 1260	87	89	40-140	2	50

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	77		77		30-150
Decachlorobiphenyl	59		56		30-150
Tetrachloro-meta-Xylene	78		77		30-150
Decachlorobiphenyl	57		54		30-150

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METALS

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Project Name: NB HARBOR TASK 3.0 GW
Project Number: NBH TASK 3.0 GW

Lab Number: L0909201
Report Date: 07/29/09

SAMPLE RESULTS

Lab ID: L0909201-01
 Client ID: MW-01-070809
 Sample Location: NEW BEDFORD, MA
 Matrix: Water

Date Collected: 07/08/09 13:40
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:33	41,-	1,6020A	LP
Chromium, Total	ND		mg/l	0.0100	20	07/22/09 12:00	07/24/09 11:40	EPA 3020A	1,6020A	LR
Copper, Total	0.0036		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:33	41,-	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:33	41,-	1,6020A	LP

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-02
 Client ID: MW-01-070809-DUP
 Sample Location: NEW BEDFORD, MA
 Matrix: Water

Date Collected: 07/08/09 13:40
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:36	41,-	1,6020A	LP
Chromium, Total	ND		mg/l	0.0100	20	07/22/09 12:00	07/24/09 11:58	EPA 3020A	1,6020A	LR
Copper, Total	0.0033		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:36	41,-	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:36	41,-	1,6020A	LP



Project Name: NB HARBOR TASK 3.0 GW
Project Number: NBH TASK 3.0 GW

Lab Number: L0909201
Report Date: 07/29/09

SAMPLE RESULTS

Lab ID: L0909201-03
 Client ID: MW-03-070809
 Sample Location: NEW BEDFORD, MA
 Matrix: Water

Date Collected: 07/08/09 13:50
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:37	41,-	1,6020A	LP
Chromium, Total	ND		mg/l	0.0100	20	07/22/09 12:00	07/24/09 12:01	EPA 3020A	1,6020A	LR
Copper, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:37	41,-	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:37	41,-	1,6020A	LP

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-04
 Client ID: MW-04A-070809
 Sample Location: NEW BEDFORD, MA
 Matrix: Water

Date Collected: 07/08/09 11:50
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:38	41,-	1,6020A	LP
Chromium, Total	ND		mg/l	0.0100	20	07/22/09 12:00	07/24/09 12:03	EPA 3020A	1,6020A	LR
Copper, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:38	41,-	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:38	41,-	1,6020A	LP



Project Name: NB HARBOR TASK 3.0 GW
Project Number: NBH TASK 3.0 GW

Lab Number: L0909201
Report Date: 07/29/09

SAMPLE RESULTS

Lab ID: L0909201-05
 Client ID: MW-05-070809
 Sample Location: NEW BEDFORD, MA
 Matrix: Water

Date Collected: 07/08/09 13:40
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:39	41,-	1,6020A	LP
Chromium, Total	ND		mg/l	0.0100	20	07/22/09 12:00	07/24/09 12:06	EPA 3020A	1,6020A	LR
Copper, Total	0.0090		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:39	41,-	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:39	41,-	1,6020A	LP

Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-06

Date Collected: 07/08/09 18:00

Client ID: MW-06-070809

Date Received: 07/09/09

Sample Location: NEW BEDFORD, MA

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:41	41,-	1,6020A	LP
Chromium, Total	ND		mg/l	0.0100	20	07/22/09 12:00	07/24/09 12:09	EPA 3020A	1,6020A	LR
Copper, Total	0.0027		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:41	41,-	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:41	41,-	1,6020A	LP



Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-07
 Client ID: MW-07A-070809
 Sample Location: NEW BEDFORD, MA
 Matrix: Water

Date Collected: 07/08/09 16:05
 Date Received: 07/09/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:42	41,-	1,6020A	LP
Chromium, Total	ND		mg/l	0.0100	20	07/22/09 12:00	07/24/09 12:11	EPA 3020A	1,6020A	LR
Copper, Total	0.0047		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:42	41,-	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	07/27/09 08:00	07/28/09 10:42	41,-	1,6020A	LP



Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-09

Date Collected: 07/08/09 20:00

Client ID: EQUIPMENT BLANK

Date Received: 07/09/09

Sample Location: NEW BEDFORD, MA

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0010	5		07/28/09 10:28	EPA 3020A	1,6020A	LP
Chromium, Total	ND		mg/l	0.0100	20	07/22/09 12:00	07/24/09 12:19	EPA 3020A	1,6020A	LR
Copper, Total	ND		mg/l	0.0025	5		07/28/09 10:28	EPA 3020A	1,6020A	LP
Lead, Total	ND		mg/l	0.005	5		07/28/09 10:28	EPA 3020A	1,6020A	LP

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-07,09 Batch: WG371944-1								
Chromium, Total	ND	mg/l	0.0100	20	07/22/09 12:00	07/24/09 11:35	1,6020A	LR

Prep Information

Digestion Method: EPA 3020A

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-07 Batch: WG372496-1								
Cadmium, Total	ND	mg/l	0.0002	5	07/27/09 08:00	07/28/09 10:32	1,6020A	LP
Copper, Total	ND	mg/l	0.0002	5	07/27/09 08:00	07/28/09 10:32	1,6020A	LP
Lead, Total	ND	mg/l	0.0002	5	07/27/09 08:00	07/28/09 10:32	1,6020A	LP

Prep Information

Digestion Method: 41,-

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 09 Batch: WG372535-1								
Cadmium, Total	ND	mg/l	0.0010	5	07/27/09 11:00	07/28/09 10:27	1,6020A	LP
Copper, Total	ND	mg/l	0.0025	5	07/27/09 11:00	07/28/09 10:27	1,6020A	LP
Lead, Total	ND	mg/l	0.005	5	07/27/09 11:00	07/28/09 10:27	1,6020A	LP

Prep Information

Digestion Method: EPA 3020A

Lab Control Sample Analysis

Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07,09 Batch: WG371944-2					
Chromium, Total	96	-	80-120	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-07 Batch: WG372496-2					
Cadmium, Total	98	-	80-120	-	20
Copper, Total	110	-	80-120	-	20
Lead, Total	99	-	80-120	-	20
Total Metals - Mansfield Lab Associated sample(s): 09 Batch: WG372535-2					
Cadmium, Total	112	-	80-120	-	20
Copper, Total	102	-	80-120	-	20
Lead, Total	109	-	80-120	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW
Project Number: NBH TASK 3.0 GW

Lab Number: L0909201
Report Date: 07/29/09

Parameter	Native Sample	MS Added	MS Found	MS		MSD		Recovery Limits	RPD	RPD Limits
				%Recovery	MSD Found	%Recovery				
Total Metals - Mansfield Lab Associated sample(s): 01-07,09 QC Batch ID: WG371944-4 WG371944-5 QC Sample: L0909201-01 Client ID: MW-01-070809										
Chromium, Total	ND	1	0.9922	99	0.9801	98	75-125	1	20	
Total Metals - Mansfield Lab Associated sample(s): 01-07 QC Batch ID: WG372496-4 WG372496-5 QC Sample: L0909201-01 Client ID: MW-01-070809										
Cadmium, Total	ND	0.1	0.0877	88	0.1036	104	75-125	17	20	
Copper, Total	0.0036	0.1	0.0930	89	0.1104	107	75-125	18	20	
Lead, Total	ND	0.1	0.088	88	0.105	105	75-125	18	20	

Lab Duplicate Analysis

Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW

Project Number: NBH TASK 3.0 GW

Lab Number: L0909201

Report Date: 07/29/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07,09 QC Batch ID: WG371944-3 QC Sample: L0909201-01 Client ID: MW-01-070809					
Chromium, Total	ND	ND	mg/l	NC	20
Total Metals - Mansfield Lab Associated sample(s): 01-07 QC Batch ID: WG372496-3 QC Sample: L0909201-01 Client ID: MW-01-070809					
Cadmium, Total	ND	ND	mg/l	NC	20
Copper, Total	0.0036	ND	mg/l	NC	20
Lead, Total	ND	ND	mg/l	NC	20

INORGANICS & MISCELLANEOUS

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Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-01
Client ID: MW-01-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/08/09 13:40
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	4.00		mg/l	1.00	1	-	07/14/09 07:00	30,2540D	NR



Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-02
Client ID: MW-01-070809-DUP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/08/09 13:40
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	3.40		mg/l	1.00	1	-	07/14/09 07:00	30,2540D	NR



Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-03
Client ID: MW-03-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/08/09 13:50
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	27.0		mg/l	1.00	1	-	07/14/09 07:00	30,2540D	NR



Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-04
Client ID: MW-04A-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/08/09 11:50
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	1.00		mg/l	1.00	1	-	07/14/09 07:00	30,2540D	NR



Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-05
Client ID: MW-05-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/08/09 13:40
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	11.8		mg/l	1.00	1	-	07/14/09 07:00	30,2540D	NR



Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-06
Client ID: MW-06-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/08/09 18:00
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	9.20		mg/l	1.00	1	-	07/14/09 07:00	30,2540D	NR



Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-07
Client ID: MW-07A-070809
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/08/09 16:05
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	ND		mg/l	1.00	1	-	07/14/09 07:00	30,2540D	NR



Project Name: NB HARBOR TASK 3.0 GW**Lab Number:** L0909201**Project Number:** NBH TASK 3.0 GW**Report Date:** 07/29/09**SAMPLE RESULTS**

Lab ID: L0909201-09
Client ID: EQUIPMENT BLANK
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/08/09 20:00
Date Received: 07/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	1.00		mg/l	1.00	1	-	07/14/09 07:00	30,2540D	NR



Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Method Blank Analysis
Batch Quality Control

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 01-07,09 Batch: WG371003-1								
Solids, Total Suspended	ND	mg/l	1.00	1	-	07/14/09 07:00	30,2540D	NR

Lab Control Sample Analysis

Batch Quality Control

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-07,09 Batch: WG371003-2					
Solids, Total Suspended	96	-	80-120	-	20

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0909201-01A	Plastic 250ml HNO3 preserved	B	<2	2.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0909201-01B	Amber 1000ml unpreserved	B	7	2.5	Y	Absent	A2-PCB-8082(7)
L0909201-01C	Plastic 500ml unpreserved	B	7	2.5	Y	Absent	A2-TSS-2540D(7)
L0909201-01D	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-01E	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-01F	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-01G	Plastic 250ml HNO3 preserved	B	<2	2.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0909201-01I	Amber 1000ml unpreserved	B	7	2.5	Y	Absent	A2-PCB-8082(7)
L0909201-01J	Amber 1000ml unpreserved	B	7	2.5	Y	Absent	A2-PCB-8082(7)
L0909201-01K	Plastic 500ml unpreserved	B	7	2.5	Y	Absent	-
L0909201-01L	Plastic 500ml unpreserved	B	7	2.5	Y	Absent	-
L0909201-01M	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-01N	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-01O	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-01P	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-01Q	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-01R	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-02A	Amber 1000ml unpreserved	B	7	2.5	Y	Absent	A2-PCB-8082(7)
L0909201-02B	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-02C	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-02D	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-02E	Plastic 250ml HNO3 preserved	B	<2	2.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0909201-02F	Plastic 1000ml unpreserved	B	7	2.5	Y	Absent	A2-TSS-2540D(7)
L0909201-03A	Plastic 250ml HNO3 preserved	B	<2	2.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)

*Hold days indicated by values in parentheses

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0909201-03B	Amber 1000ml unpreserved	B	7	2.5	Y	Absent	A2-PCB-8082(7)
L0909201-03C	Plastic 500ml unpreserved	B	7	2.5	Y	Absent	A2-TSS-2540D(7)
L0909201-03D	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-03E	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-03F	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-04A	Plastic 250ml HNO3 preserved	A	<2	4.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0909201-04B	Amber 1000ml unpreserved	A	7	4.5	Y	Absent	A2-PCB-8082(7)
L0909201-04C	Plastic 500ml unpreserved	A	7	4.5	Y	Absent	A2-TSS-2540D(7)
L0909201-04D	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-04E	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-04F	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-05A	Plastic 250ml HNO3 preserved	A	<2	4.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0909201-05B	Amber 1000ml unpreserved	A	7	4.5	Y	Absent	A2-PCB-8082(7)
L0909201-05C	Plastic 500ml unpreserved	A	7	4.5	Y	Absent	A2-TSS-2540D(7)
L0909201-05D	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-05E	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-05F	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-06A	Plastic 250ml HNO3 preserved	A	<2	4.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0909201-06B	Amber 1000ml unpreserved	A	7	4.5	Y	Absent	A2-PCB-8082(7)
L0909201-06C	Plastic 500ml unpreserved	A	7	4.5	Y	Absent	A2-TSS-2540D(7)
L0909201-06D	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-06E	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-06F	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-07A	Plastic 250ml HNO3 preserved	A	<2	4.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0909201-07B	Amber 1000ml unpreserved	A	7	4.5	Y	Absent	A2-PCB-8082(7)
L0909201-07C	Plastic 500ml unpreserved	A	7	4.5	Y	Absent	A2-TSS-2540D(7)
L0909201-07D	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-07E	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-07F	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-08A	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)

*Hold days indicated by values in parentheses

Project Name: NB HARBOR TASK 3.0 GW**Project Number:** NBH TASK 3.0 GW**Lab Number:** L0909201**Report Date:** 07/29/09**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0909201-08B	Vial HCl preserved	A	NA	4.5	Y	Absent	A2-VOC-8260(14)
L0909201-09A	Plastic 250ml HNO3 preserved	B	<2	2.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0909201-09B	Amber 1000ml unpreserved	B	7	2.5	Y	Absent	A2-PCB-8082(7)
L0909201-09C	Plastic 500ml unpreserved	B	7	2.5	Y	Absent	A2-TSS-2540D(7)
L0909201-09D	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-09E	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)
L0909201-09F	Vial HCl preserved	B	NA	2.5	Y	Absent	A2-VOC-8260(14)

*Hold days indicated by values in parentheses



Project Name: NB HARBOR TASK 3.0 GW
Project Number: NBH TASK 3.0 GW

Lab Number: L0909201
Report Date: 07/29/09

GLOSSARY

Acronyms

- EPA** - Environmental Protection Agency.
- LCS** - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCSD** - Laboratory Control Sample Duplicate: Refer to LCS.
- MS** - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MSD** - Matrix Spike Sample Duplicate: Refer to MS.
- NA** - Not Applicable.
- NC** - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- ND** - Not detected at the reported detection limit for the sample.
- NI** - Not Ignitable.
- RDL** - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD** - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- *** - The batch duplicate RPD exceeds the acceptance criteria. This flag is not applicable when the sample concentrations are less than 5x the RDL. (Metals only.)
- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- N** - The matrix spike recovery exceeds the acceptance criteria. This flag is not applicable when the sample concentration is greater than 4x the spike added. (Metals only.)
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Project Name: NB HARBOR TASK 3.0 GW

Lab Number: L0909201

Project Number: NBH TASK 3.0 GW

Report Date: 07/29/09

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised June 17, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SM2320B, 4500NH3-F, EPA 120.1, SM2510B, 2340B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, 420.1, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7471. Organic Parameters: EPA 8015, 8270.)

U.S. Army Corps of Engineers

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07290918:41



CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab:

ALPHA Job #: **40909201**

WESTBORO, MA
 TEL: 508-898-9220
 FAX: 508-898-9193

MANSFIELD, MA
 TEL: 508-822-9300
 FAX: 508-822-3288

Project Information

Project Name: **New Bedford**
 Project Location: **New Bedford, MA**
 Project #: **3650 09 0138**
 Project Manager: **DAVE WALSH**
 ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: **MALTEC/Woods Hole**
 Address: **107 Ansonson Row
 Wakefield MA**
 Phone: **781-245-8606**
 Fax:
 Email: **dgenygin@maltec.com**
 These samples have been previously analyzed by Alpha

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
 Date Due: Time:

Regulatory Requirements/Report Limits

State / Fed Program: **MCP GW-1** Criteria:

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS	VOL	PCBS	TSS	Ca, Cr, Cu, Pb	TOTAL # BOTTLES	
	SAMPLE HANDLING					
	Filtration					
	<input type="checkbox"/> Done					
	<input type="checkbox"/> Not needed					
	Preservation					
	<input type="checkbox"/> Lab to do					
	<input type="checkbox"/> Lab to do					
	(Please specify below)					
	Sample Specific Comments					

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	VOL	PCBS	TSS	Ca, Cr, Cu, Pb	Sample Specific Comments
		Date	Time							
40909201-1	MW-01-070809	7/7/09	13:40	GW	DK	X	X	X		
2	MW-01-070809-DUP					X	X	X		
1	MW-01-070809-MS					X	X	X		
1	MW-01-070809-MSD					X	X	X		
3	MW-03-070809	7/8/09	15:50	GW	MAN	X	X	X		
4	MW-04A-070809	"	11:50	"	"	X	X	X		
5	MW-05-070809	"	13:40	"	"	X	X	X		
6	MW-06-070809	"	18:00	"	DEK	X	X	X		
7	MW-07A-070809	7/8/09	16:05	"	"	X	X	X		
8	TRIP BLANK ^{PK}	7/8/09	20:00	Water	DK	X	X	X		
9	EQUIPMENT BLANK	7/8/09	20:00			X	X	X		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT
 MA MCP or CT RCP?

Container Type	VOL	PCBS	TSS	PK
Preservative	114	-	-	114

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	7/9/09 10:40	<i>[Signature]</i>	7/9/09 10:40
<i>[Signature]</i>	7/9/09 12:50	<i>[Signature]</i>	7/9/09 12:50
<i>[Signature]</i>	7/9/09 13:27	<i>[Signature]</i>	7/9/09 13:27

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Client Woods Hole Group Laboratory Alpha
 MACTEC Project 3650090138 Data Report Number/Date LO914566/ 11/04/09

LABORATORY DATA REVIEW CHECKLIST

	<u>YES</u>	<u>NO</u>	<u>NOT APPLICABLE</u>
1. Laboratory analytical data report appears complete (all data results present for all samples submitted for analysis) and there are no apparent transcription errors:	✓	—	—
2. Samples analyzed within applicable holding times (based on date of sample collection):*	✓	—	—
3. Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	✓	—	—
4. If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	✓	—	—
5. Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	✓	—	—
6. If Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples required to meet project objectives, Percent Recoveries (%R) and Relative Percent Difference (RPD) within laboratory reported acceptance ranges:	✓	—	—
7. Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	✓	—	—
8. Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	—	—	—
9. Analytical costs within authorized budget for these services:	—	—	✓

COMMENTS: Limited but acceptable surrogate deviations encountered. See Narrative.

Notes: 1. This checklist is intended for use with the laboratory reporting formats typical of most projects. If "no" is answered to one or more of the above checklist questions 1 through 7, a more detailed Data Validation may be required, and a person knowledgeable in Data Validation protocols should be consulted. This checklist should not be used if the project scope requires Data Validation from the onset.

2. * = Based upon EPA Guidance and the applicable analytical method references. See reverse side of checklist for details.

3. ** = Based upon EPA Guidance. Use these criteria on duplicate and sample results which exceed five times the reported detection limit. See reverse side of checklist for details.

Checked by: DKH Date: 1/26/10

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**FILE COPY**

ANALYTICAL REPORT

Lab Number: L0914566

Client: Woods Hole Group
81 Technology Park Drive
East Falmouth, MA 02536

ATTN: Dave Walsh

Project Name: NEW BEDFORD HARBOR

Project Number: TO-0010

Report Date: 11/04/09

**CHECKED FOR COMPLETENESS
OF PARAMETERS ORDERED BY:**

Danna Kurkjian 1/26/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0914566-01	MW-004A-101309	NEW BEDFORD HARBOR	10/13/09 10:50
L0914566-02	MW-007A-101309	NEW BEDFORD HARBOR	10/13/09 10:50
L0914566-03	MW-007A-101309 REP	NEW BEDFORD HARBOR	10/13/09 10:50
L0914566-04	MW-001-101309	NEW BEDFORD HARBOR	10/13/09 12:15
L0914566-05	MW-005-101309	NEW BEDFORD HARBOR	10/13/09 12:35
L0914566-06	MW-006-101309	NEW BEDFORD HARBOR	10/13/09 14:40
L0914566-07	MW-003-101309	NEW BEDFORD HARBOR	10/13/09 15:20
L0914566-08	MW-001-101309 EB	NEW BEDFORD HARBOR	10/13/09 12:15
L0914566-09	MW-001-101309 TB	NEW BEDFORD HARBOR	10/13/09 12:15

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were delivered directly from the sampling site and were on ice.

Volatile Organics 8260

L0914566-01 through -09: The reporting limits for the following compounds are above the project quantitation limits requested in the QAPP. These reporting limits are 1,4-Dioxane = 100ug/L, 4-Methyl-2-pentanone = 5ug/L and Tetrahydrofuran = 5ug/L and are based on the lowest concentration utilized in the initial calibration

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

Case Narrative (continued)

for each compound.

The bracketing calibration verification standard associated with samples L0914566-01 through -09 has Dichlorodifluoromethane (34%D) and Bromomehtane (35%D) outside the 30%D acceptance limit per QAPP requirement.

The WG385587-3 LCS recoveries are below the individual acceptance criteria for Dichlorodifluoromethane (68%). The LCSD met acceptance criteria and the RPD between the LCS/LCSD met acceptance criteria, therefore no further action was taken.

The WG385587-6/-7 MS/MSD recoveries were below the acceptance criteria for Dichlorodifluoromethane (54%/55%), Chloromethane (66%/66%), Vinyl chloride (66%/65), Bromomethane (40%/52%), Trichlorofluoromethane (64%/65%), Ethyl ether (69%), Acetone (56%/57%), Methylene chloride (66%/66%), Methyl tert butyl ether (63%/64%), Isopropyl ether (66%/68%), 1,1-Dichloroethane (68%/68%), Ethyl-tert-butyl-ether (64%/64%), cis-1,2-Dichloroethene (67%/68%), 2,2-Dichloropropane (64%/63%), Bromochloromethane (68%/67%), Chloroform (68%/68%), Tertiary-amyl methyl ether (66%/67%), Tetrahydrofuran (57%/59%), 1,2-Dichloroethane (65%/65%); however, the associated LCS/LCSD recoveries were within criteria. The results of the sample utilized for the MS/MSD are considered to have a potentially low bias for these compounds.

The MS/MSD RPDs associated with are above the in-house acceptance criteria for Bromomethane (26%). However, the RPD is within project specific criteria of 30% RPD. The results of the associated samples are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 11/04/09

ORGANICS

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VOLATILES

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Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-01
Client ID: MW-004A-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 10/26/09 17:10
Analyst: BS

Date Collected: 10/13/09 10:50
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Ethyl ether	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Carbon disulfide	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
Methyl tert butyl ether	ND		ug/l	2.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
Isopropyl Ether	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	1
Tetrahydrofuran	ND		ug/l	5.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-01

Date Collected: 10/13/09 10:50

Client ID: MW-004A-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dibromomethane	ND		ug/l	2.00	1
1,4-Dioxane	ND		ug/l	100	1
Bromodichloromethane	ND		ug/l	2.00	1
4-Methyl-2-pentanone	ND		ug/l	5.00	1
cis-1,3-Dichloropropene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
trans-1,3-Dichloropropene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
2-Hexanone	ND		ug/l	5.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-01

Date Collected: 10/13/09 10:50

Client ID: MW-004A-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	109		70-130
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	95		70-130

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-02
Client ID: MW-007A-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 10/26/09 20:13
Analyst: BS

Date Collected: 10/13/09 10:50
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Ethyl ether	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Carbon disulfide	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
Methyl tert butyl ether	ND		ug/l	2.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
Isopropyl Ether	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	1
Tetrahydrofuran	ND		ug/l	5.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

SAMPLE RESULTS

Lab ID: L0914566-02

Date Collected: 10/13/09 10:50

Client ID: MW-007A-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dibromomethane	ND		ug/l	2.00	1
1,4-Dioxane	ND		ug/l	100	1
Bromodichloromethane	ND		ug/l	2.00	1
4-Methyl-2-pentanone	ND		ug/l	5.00	1
cis-1,3-Dichloropropene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
trans-1,3-Dichloropropene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
2-Hexanone	ND		ug/l	5.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-02

Date Collected: 10/13/09 10:50

Client ID: MW-007A-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	95		70-130
1,2-Dichloroethane-d4	73		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-03
Client ID: MW-007A-101309 REP
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 10/26/09 17:41
Analyst: BS

Date Collected: 10/13/09 10:50
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Ethyl ether	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Carbon disulfide	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
Methyl tert butyl ether	ND		ug/l	2.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
Isopropyl Ether	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	1
Tetrahydrofuran	ND		ug/l	5.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

SAMPLE RESULTS

Lab ID: L0914566-03

Date Collected: 10/13/09 10:50

Client ID: MW-007A-101309 REP

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dibromomethane	ND		ug/l	2.00	1
1,4-Dioxane	ND		ug/l	100	1
Bromodichloromethane	ND		ug/l	2.00	1
4-Methyl-2-pentanone	ND		ug/l	5.00	1
cis-1,3-Dichloropropene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
trans-1,3-Dichloropropene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
2-Hexanone	ND		ug/l	5.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-03

Date Collected: 10/13/09 10:50

Client ID: MW-007A-101309 REP

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	95		70-130
1,2-Dichloroethane-d4	71		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	96		70-130

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-04
Client ID: MW-001-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 10/26/09 18:11
Analyst: BS

Date Collected: 10/13/09 12:15
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Ethyl ether	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Carbon disulfide	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
Methyl tert butyl ether	ND		ug/l	2.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
Isopropyl Ether	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	1
Tetrahydrofuran	ND		ug/l	5.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-04

Date Collected: 10/13/09 12:15

Client ID: MW-001-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dibromomethane	ND		ug/l	2.00	1
1,4-Dioxane	ND		ug/l	100	1
Bromodichloromethane	ND		ug/l	2.00	1
4-Methyl-2-pentanone	ND		ug/l	5.00	1
cis-1,3-Dichloropropene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
trans-1,3-Dichloropropene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
2-Hexanone	ND		ug/l	5.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-04

Date Collected: 10/13/09 12:15

Client ID: MW-001-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	98		70-130
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	95		70-130

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-05
Client ID: MW-005-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 10/26/09 18:42
Analyst: BS

Date Collected: 10/13/09 12:35
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Ethyl ether	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Carbon disulfide	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
Methyl tert butyl ether	ND		ug/l	2.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
Isopropyl Ether	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	1
Tetrahydrofuran	ND		ug/l	5.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-05

Date Collected: 10/13/09 12:35

Client ID: MW-005-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dibromomethane	ND		ug/l	2.00	1
1,4-Dioxane	ND		ug/l	100	1
Bromodichloromethane	ND		ug/l	2.00	1
4-Methyl-2-pentanone	ND		ug/l	5.00	1
cis-1,3-Dichloropropene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
trans-1,3-Dichloropropene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
2-Hexanone	ND		ug/l	5.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-05

Date Collected: 10/13/09 12:35

Client ID: MW-005-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	117		70-130
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-06
Client ID: MW-006-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 10/26/09 19:12
Analyst: BS

Date Collected: 10/13/09 14:40
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Ethyl ether	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Carbon disulfide	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
Methyl tert butyl ether	ND		ug/l	2.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
Isopropyl Ether	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	1
Tetrahydrofuran	ND		ug/l	5.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

SAMPLE RESULTS

Lab ID: L0914566-06

Date Collected: 10/13/09 14:40

Client ID: MW-006-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dibromomethane	ND		ug/l	2.00	1
1,4-Dioxane	ND		ug/l	100	1
Bromodichloromethane	ND		ug/l	2.00	1
4-Methyl-2-pentanone	ND		ug/l	5.00	1
cis-1,3-Dichloropropene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
trans-1,3-Dichloropropene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
2-Hexanone	ND		ug/l	5.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-06

Date Collected: 10/13/09 14:40

Client ID: MW-006-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	101		70-130
1,2-Dichloroethane-d4	76		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-07
Client ID: MW-003-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 10/26/09 19:43
Analyst: BS

Date Collected: 10/13/09 15:20
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Ethyl ether	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Carbon disulfide	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
Methyl tert butyl ether	ND		ug/l	2.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
Isopropyl Ether	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	1
Tetrahydrofuran	ND		ug/l	5.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-07

Date Collected: 10/13/09 15:20

Client ID: MW-003-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dibromomethane	ND		ug/l	2.00	1
1,4-Dioxane	ND		ug/l	100	1
Bromodichloromethane	ND		ug/l	2.00	1
4-Methyl-2-pentanone	ND		ug/l	5.00	1
cis-1,3-Dichloropropene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
trans-1,3-Dichloropropene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
2-Hexanone	ND		ug/l	5.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-07

Date Collected: 10/13/09 15:20

Client ID: MW-003-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	95		70-130
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	95		70-130

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-08
Client ID: MW-001-101309 EB
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 10/26/09 16:09
Analyst: BS

Date Collected: 10/13/09 12:15
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Ethyl ether	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Carbon disulfide	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
Methyl tert butyl ether	ND		ug/l	2.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
Isopropyl Ether	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	1
Tetrahydrofuran	ND		ug/l	5.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-08

Date Collected: 10/13/09 12:15

Client ID: MW-001-101309 EB

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dibromomethane	ND		ug/l	2.00	1
1,4-Dioxane	ND		ug/l	100	1
Bromodichloromethane	ND		ug/l	2.00	1
4-Methyl-2-pentanone	ND		ug/l	5.00	1
cis-1,3-Dichloropropene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
trans-1,3-Dichloropropene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
2-Hexanone	ND		ug/l	5.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-08

Date Collected: 10/13/09 12:15

Client ID: MW-001-101309 EB

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	94		70-130
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-09
Client ID: MW-001-101309 TB
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8260B
Analytical Date: 10/26/09 16:40
Analyst: BS

Date Collected: 10/13/09 12:15
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dichlorodifluoromethane	ND		ug/l	2.00	1
Chloromethane	ND		ug/l	2.00	1
Vinyl chloride	ND		ug/l	2.00	1
Bromomethane	ND		ug/l	2.00	1
Chloroethane	ND		ug/l	2.00	1
Trichlorofluoromethane	ND		ug/l	2.00	1
Ethyl ether	ND		ug/l	2.00	1
Acetone	ND		ug/l	5.00	1
1,1-Dichloroethene	ND		ug/l	2.00	1
Carbon disulfide	ND		ug/l	2.00	1
Methylene chloride	ND		ug/l	5.00	1
Methyl tert butyl ether	ND		ug/l	2.00	1
trans-1,2-Dichloroethene	ND		ug/l	2.00	1
Isopropyl Ether	ND		ug/l	2.00	1
1,1-Dichloroethane	ND		ug/l	2.00	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	1
2-Butanone	ND		ug/l	5.00	1
cis-1,2-Dichloroethene	ND		ug/l	2.00	1
2,2-Dichloropropane	ND		ug/l	2.00	1
Bromochloromethane	ND		ug/l	2.00	1
Chloroform	ND		ug/l	2.00	1
1,1,1-Trichloroethane	ND		ug/l	2.00	1
1,1-Dichloropropene	ND		ug/l	2.00	1
Carbon tetrachloride	ND		ug/l	2.00	1
Benzene	ND		ug/l	2.00	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	1
Tetrahydrofuran	ND		ug/l	5.00	1
1,2-Dichloroethane	ND		ug/l	2.00	1
Trichloroethene	ND		ug/l	2.00	1
1,2-Dichloropropane	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-09

Date Collected: 10/13/09 12:15

Client ID: MW-001-101309 TB

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
Dibromomethane	ND		ug/l	2.00	1
1,4-Dioxane	ND		ug/l	100	1
Bromodichloromethane	ND		ug/l	2.00	1
4-Methyl-2-pentanone	ND		ug/l	5.00	1
cis-1,3-Dichloropropene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
trans-1,3-Dichloropropene	ND		ug/l	2.00	1
1,1,2-Trichloroethane	ND		ug/l	2.00	1
2-Hexanone	ND		ug/l	5.00	1
Tetrachloroethene	ND		ug/l	2.00	1
1,3-Dichloropropane	ND		ug/l	2.00	1
Dibromochloromethane	ND		ug/l	2.00	1
1,2-Dibromoethane	ND		ug/l	2.00	1
Chlorobenzene	ND		ug/l	2.00	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	4.00	1
o-Xylene	ND		ug/l	2.00	1
Styrene	ND		ug/l	2.00	1
Bromoform	ND		ug/l	2.00	1
Isopropylbenzene	ND		ug/l	2.00	1
1,1,1,2,2-Tetrachloroethane	ND		ug/l	2.00	1
Bromobenzene	ND		ug/l	2.00	1
1,2,3-Trichloropropane	ND		ug/l	2.00	1
n-Propylbenzene	ND		ug/l	2.00	1
o-Chlorotoluene	ND		ug/l	2.00	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	1
p-Chlorotoluene	ND		ug/l	2.00	1
tert-Butylbenzene	ND		ug/l	2.00	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	1
sec-Butylbenzene	ND		ug/l	2.00	1
1,3-Dichlorobenzene	ND		ug/l	2.00	1
p-Isopropyltoluene	ND		ug/l	2.00	1
1,4-Dichlorobenzene	ND		ug/l	2.00	1
n-Butylbenzene	ND		ug/l	2.00	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00	1
1,2-Dichlorobenzene	ND		ug/l	2.00	1

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-09

Date Collected: 10/13/09 12:15

Client ID: MW-001-101309 TB

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Organics by GC/MS - Mansfield Lab					
1,2,4-Trichlorobenzene	ND		ug/l	2.00	1
Hexachlorobutadiene	ND		ug/l	2.00	1
Naphthalene	ND		ug/l	2.00	1
1,2,3-Trichlorobenzene	ND		ug/l	2.00	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	96		70-130
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B
Analytical Date: 10/26/09 14:34
Analyst: BS

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-09 Batch: WG385587-5				
Dichlorodifluoromethane	ND		ug/l	2.00
Chloromethane	ND		ug/l	2.00
Vinyl chloride	ND		ug/l	2.00
Bromomethane	ND		ug/l	2.00
Chloroethane	ND		ug/l	2.00
Trichlorofluoromethane	ND		ug/l	2.00
Ethyl ether	ND		ug/l	2.00
Acetone	ND		ug/l	5.00
1,1-Dichloroethene	ND		ug/l	2.00
Carbon disulfide	ND		ug/l	2.00
Methylene chloride	ND		ug/l	5.00
Methyl tert butyl ether	ND		ug/l	2.00
trans-1,2-Dichloroethene	ND		ug/l	2.00
Isopropyl Ether	ND		ug/l	2.00
1,1-Dichloroethane	ND		ug/l	2.00
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00
2-Butanone	ND		ug/l	5.00
cis-1,2-Dichloroethene	ND		ug/l	2.00
2,2-Dichloropropane	ND		ug/l	2.00
Bromochloromethane	ND		ug/l	2.00
Chloroform	ND		ug/l	2.00
1,1,1-Trichloroethane	ND		ug/l	2.00
1,1-Dichloropropene	ND		ug/l	2.00
Carbon tetrachloride	ND		ug/l	2.00
Benzene	ND		ug/l	2.00
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00
Tetrahydrofuran	ND		ug/l	5.00
1,2-Dichloroethane	ND		ug/l	2.00
Trichloroethene	ND		ug/l	2.00
1,2-Dichloropropane	ND		ug/l	2.00
Dibromomethane	ND		ug/l	2.00

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B
Analytical Date: 10/26/09 14:34
Analyst: BS

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-09 Batch: WG385587-5				
1,4-Dioxane	ND		ug/l	100
Bromodichloromethane	ND		ug/l	2.00
4-Methyl-2-pentanone	ND		ug/l	5.00
cis-1,3-Dichloropropene	ND		ug/l	2.00
Toluene	ND		ug/l	2.00
trans-1,3-Dichloropropene	ND		ug/l	2.00
1,1,2-Trichloroethane	ND		ug/l	2.00
2-Hexanone	ND		ug/l	5.00
Tetrachloroethene	ND		ug/l	2.00
1,3-Dichloropropane	ND		ug/l	2.00
Dibromochloromethane	ND		ug/l	2.00
1,2-Dibromoethane	ND		ug/l	2.00
Chlorobenzene	ND		ug/l	2.00
1,1,1,2-Tetrachloroethane	ND		ug/l	2.00
Ethylbenzene	ND		ug/l	2.00
p/m-Xylene	ND		ug/l	4.00
o-Xylene	ND		ug/l	2.00
Styrene	ND		ug/l	2.00
Bromoform	ND		ug/l	2.00
Isopropylbenzene	ND		ug/l	2.00
1,1,2,2-Tetrachloroethane	ND		ug/l	2.00
Bromobenzene	ND		ug/l	2.00
1,2,3-Trichloropropane	ND		ug/l	2.00
n-Propylbenzene	ND		ug/l	2.00
o-Chlorotoluene	ND		ug/l	2.00
1,3,5-Trimethylbenzene	ND		ug/l	2.00
p-Chlorotoluene	ND		ug/l	2.00
tert-Butylbenzene	ND		ug/l	2.00
1,2,4-Trimethylbenzene	ND		ug/l	2.00
sec-Butylbenzene	ND		ug/l	2.00
1,3-Dichlorobenzene	ND		ug/l	2.00

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

**Method Blank Analysis
 Batch Quality Control**

Analytical Method: 1,8260B
 Analytical Date: 10/26/09 14:34
 Analyst: BS

Parameter	Result	Qualifier	Units	RDL
Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-09 Batch: WG385587-5				
p-Isopropyltoluene	ND		ug/l	2.00
1,4-Dichlorobenzene	ND		ug/l	2.00
n-Butylbenzene	ND		ug/l	2.00
1,2-Dibromo-3-chloropropane	ND		ug/l	2.00
1,2-Dichlorobenzene	ND		ug/l	2.00
1,2,4-Trichlorobenzene	ND		ug/l	2.00
Hexachlorobutadiene	ND		ug/l	2.00
Naphthalene	ND		ug/l	2.00
1,2,3-Trichlorobenzene	ND		ug/l	2.00

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	94		70-130
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 Batch: WG385587-3 WG385587-4								
Dichlorodifluoromethane	68	Q	74		70-130	8		25
Chloromethane	86		94		70-130	9		25
Vinyl chloride	81		89		70-130	9		25
Bromomethane	74		84		70-130	13		25
Chloroethane	87		97		70-130	11		25
Trichlorofluoromethane	77		86		70-130	11		25
Ethyl ether	88		99		70-130	12		25
Acetone	80		91		70-130	13		25
1,1-Dichloroethene	90		100		70-130	11		25
Carbon disulfide	93		104		70-130	11		25
Methylene chloride	82		90		70-130	9		25
Methyl tert butyl ether	82		90		70-130	9		25
trans-1,2-Dichloroethene	90		99		70-130	10		25
Isopropyl Ether	88		95		70-130	8		25
1,1-Dichloroethane	84		92		70-130	9		25
Ethyl-Tert-Butyl-Ether	82		89		70-130	8		25
2-Butanone	99		104		70-130	5		25
cis-1,2-Dichloroethene	81		89		70-130	9		25
2,2-Dichloropropane	88		95		70-130	8		25
Bromochloromethane	83		92		70-130	10		25
Chloroform	84		93		70-130	10		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 Batch: WG385587-3 WG385587-4								
1,1,1-Trichloroethane	99		85		70-130	15		25
1,1-Dichloropropene	85		94		70-130	10		25
Carbon tetrachloride	85		93		70-130	9		25
Benzene	87		95		70-130	9		25
Tertiary-Amyl Methyl Ether	84		91		70-130	8		25
Tetrahydrofuran	79		85		70-130	7		25
1,2-Dichloroethane	82		88		70-130	7		25
Trichloroethene	86		92		70-130	7		25
1,2-Dichloropropane	84		89		70-130	6		25
Dibromomethane	82		91		70-130	10		25
1,4-Dioxane	88		97		70-130	10		25
Bromodichloromethane	84		90		70-130	7		25
4-Methyl-2-pentanone	79		84		70-130	6		25
cis-1,3-Dichloropropene	85		89		70-130	5		25
Toluene	88		93		70-130	6		25
trans-1,3-Dichloropropene	83		87		70-130	5		25
1,1,2-Trichloroethane	87		94		70-130	8		25
2-Hexanone	83		86		70-130	4		25
Tetrachloroethene	79		87		70-130	10		25
1,3-Dichloropropane	86		89		70-130	3		25
Dibromochloromethane	82		87		70-130	6		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 Batch: WG385587-3 WG385587-4								
1,2-Dibromoethane	86		90		70-130	5		25
Chlorobenzene	94		101		70-130	7		25
1,1,1,2-Tetrachloroethane	89		96		70-130	8		25
Ethylbenzene	94		102		70-130	8		25
p/m-Xylene	95		103		70-130	8		25
o-Xylene	95		102		70-130	7		25
Styrene	92		98		70-130	6		25
Bromoform	88		94		70-130	7		25
Isopropylbenzene	94		102		70-130	8		25
1,1,2,2-Tetrachloroethane	90		100		70-130	11		25
Bromobenzene	93		97		70-130	4		25
1,2,3-Trichloropropane	84		92		70-130	9		25
n-Propylbenzene	94		102		70-130	8		25
o-Chlorotoluene	96		104		70-130	8		25
1,3,5-Trimethylbenzene	93		101		70-130	8		25
p-Chlorotoluene	97		105		70-130	8		25
tert-Butylbenzene	94		102		70-130	8		25
1,2,4-Trimethylbenzene	93		102		70-130	9		25
sec-Butylbenzene	95		102		70-130	7		25
1,3-Dichlorobenzene	90		96		70-130	6		25
p-Isopropyltoluene	94		101		70-130	7		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 Batch: WG385587-3 WG385587-4								
1,4-Dichlorobenzene	90		97		70-130	7		25
n-Butylbenzene	95		101		70-130	6		25
1,2-Dibromo-3-chloropropane	92		99		70-130	7		25
1,2-Dichlorobenzene	89		95		70-130	7		25
1,2,4-Trichlorobenzene	83		91		70-130	9		25
Hexachlorobutadiene	94		100		70-130	6		25
Naphthalene	83		90		70-130	8		25
1,2,3-Trichlorobenzene	86		94		70-130	9		25

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
Dibromofluoromethane	111		94		70-130
1,2-Dichloroethane-d4	94		96		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	96		97		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG385587-6 WG385587-7 QC Sample: L0914566-02 Client ID: MW-007A-101309												
Dichlorodifluoromethane	ND	50	27.1	54	Q	27.6	55	Q	70-130	2		25
Chloromethane	ND	50	32.9	66	Q	33.0	66	Q	70-130	0		25
Vinyl chloride	ND	50	32.8	66	Q	32.6	65	Q	70-130	2		25
Bromomethane	ND	50	19.7	40	Q	25.8	52	Q	70-130	26		25
Chloroethane	ND	50	36.7	74		36.7	73		70-130	1		25
Trichlorofluoromethane	ND	50	32.0	64	Q	32.5	65	Q	70-130	2		25
Ethyl ether	ND	50	34.6	69	Q	34.8	70		70-130	1		25
Acetone	ND	50	27.7	56	Q	28.4	57	Q	70-130	2		25
1,1-Dichloroethene	ND	50	36.4	73		36.9	74		70-130	1		25
Carbon disulfide	ND	50	38.5	77		38.8	78		70-130	1		25
Methylene chloride	ND	50	32.9	66	Q	33.0	66	Q	70-130	0		25
Methyl tert butyl ether	ND	50	31.7	63	Q	32.1	64	Q	70-130	2		25
trans-1,2-Dichloroethene	ND	50	36.0	72		36.0	72		70-130	0		25
Isopropyl Ether	ND	50	33.0	66	Q	33.8	68	Q	70-130	3		25
1,1-Dichloroethane	ND	50	33.8	68	Q	33.9	68	Q	70-130	0		25
Ethyl-Tert-Butyl-Ether	ND	50	31.9	64	Q	31.9	64	Q	70-130	0		25
2-Butanone	ND	50	36.5	73		38.2	76		70-130	4		25
cis-1,2-Dichloroethene	ND	50	33.4	67	Q	34.2	68	Q	70-130	1		25
2,2-Dichloropropane	ND	50	31.9	64	Q	31.7	63	Q	70-130	2		25
Bromochloromethane	ND	50	34.0	68	Q	33.4	67	Q	70-130	1		25
Chloroform	ND	50	33.9	68	Q	33.9	68	Q	70-130	0		25

Matrix Spike Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG385587-6 WG385587-7 QC Sample: L0914566-02 Client ID: MW-007A-101309												
1,1,1-Trichloroethane	ND	50	41.0	82		41.6	83		70-130	1		25
1,1-Dichloropropene	ND	50	42.3	85		45.9	92		70-130	8		25
Carbon tetrachloride	ND	50	46.2	92		47.1	94		70-130	2		25
Benzene	ND	50	35.2	70		35.4	71		70-130	1		25
Tertiary-Amyl Methyl Ether	ND	50	33.2	66	Q	33.4	67	Q	70-130	2		25
Tetrahydrofuran	ND	50	28.3	57	Q	29.7	59	Q	70-130	3		25
1,2-Dichloroethane	ND	50	32.7	65	Q	32.6	65	Q	70-130	0		25
Trichloroethene	ND	50	45.5	91		47.0	94		70-130	3		25
1,2-Dichloropropane	ND	50	44.2	88		44.6	89		70-130	1		25
Dibromomethane	ND	50	44.3	89		44.7	89		70-130	0		25
1,4-Dioxane	ND	1000	911	91		990	99		70-130	8		25
Bromodichloromethane	ND	50	42.7	85		44.0	88		70-130	3		25
4-Methyl-2-pentanone	ND	50	40.6	81		42.4	85		70-130	5		25
cis-1,3-Dichloropropene	ND	50	43.6	87		44.0	88		70-130	1		25
Toluene	ND	50	46.4	93		47.5	95		70-130	2		25
trans-1,3-Dichloropropene	ND	50	42.6	85		43.4	87		70-130	2		25
1,1,2-Trichloroethane	ND	50	45.4	91		46.3	93		70-130	2		25
2-Hexanone	ND	50	41.5	83		42.6	85		70-130	2		25
Tetrachloroethene	ND	50	42.8	86		44.1	88		70-130	2		25
1,3-Dichloropropane	ND	50	44.3	89		44.9	90		70-130	1		25
Dibromochloromethane	ND	50	42.3	84		43.0	86		70-130	2		25

Matrix Spike Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG385587-6 WG385587-7 QC Sample: L0914566-02 Client ID: MW-007A-101309												
1,2-Dibromoethane	ND	50	44.8	90		45.2	90		70-130	0		25
Chlorobenzene	ND	50	49.4	99		50.4	101		70-130	2		25
1,1,1,2-Tetrachloroethane	ND	50	46.7	93		48.0	96		70-130	3		25
Ethylbenzene	ND	50	50.3	101		51.0	102		70-130	1		25
p/m-Xylene	ND	100	102	102		104	104		70-130	2		25
o-Xylene	ND	50	50.5	101		51.4	103		70-130	2		25
Styrene	ND	50	48.9	98		49.5	99		70-130	1		25
Bromoform	ND	50	46.3	93		47.9	96		70-130	3		25
Isopropylbenzene	ND	50	50.6	101		51.4	103		70-130	2		25
1,1,2,2-Tetrachloroethane	ND	50	47.7	95		49.3	99		70-130	4		25
Bromobenzene	ND	50	48.8	98		49.1	98		70-130	0		25
1,2,3-Trichloropropane	ND	50	44.2	88		46.2	92		70-130	4		25
n-Propylbenzene	ND	50	50.6	101		51.6	103		70-130	2		25
o-Chlorotoluene	ND	50	51.2	102		51.8	104		70-130	2		25
1,3,5-Trimethylbenzene	ND	50	50.2	100		50.7	101		70-130	1		25
p-Chlorotoluene	ND	50	52.7	105		52.5	105		70-130	0		25
tert-Butylbenzene	ND	50	51.4	103		52.4	105		70-130	2		25
1,2,4-Trimethylbenzene	ND	50	51.1	102		51.6	103		70-130	1		25
sec-Butylbenzene	ND	50	52.2	104		52.8	106		70-130	2		25
1,3-Dichlorobenzene	ND	50	48.8	98		49.2	98		70-130	0		25
p-Isopropyltoluene	ND	50	52.2	104		51.9	104		70-130	0		25

Matrix Spike Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
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Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG385587-6 WG385587-7 QC Sample: L0914566-02 Client ID: MW-007A-101309

1,4-Dichlorobenzene	ND	50	48.6	97		49.3	99		70-130	2		25
n-Butylbenzene	ND	50	51.7	103		51.4	103		70-130	0		25
1,2-Dibromo-3-chloropropane	ND	50	47.8	96		49.2	98		70-130	2		25
1,2-Dichlorobenzene	ND	50	48.6	97		49.3	99		70-130	2		25
1,2,4-Trichlorobenzene	ND	50	45.0	90		46.8	94		70-130	4		25
Hexachlorobutadiene	ND	50	47.9	96		49.5	99		70-130	3		25
Naphthalene	ND	50	45.8	92		47.6	95		70-130	3		25
1,2,3-Trichlorobenzene	ND	50	46.7	93		47.8	96		70-130	3		25

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	72		72		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	95		94		70-130
Toluene-d8	98		97		70-130

PCBS

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Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-01
Client ID: MW-004A-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 10/23/09 02:45
Analyst: JR

Date Collected: 10/13/09 10:50
Date Received: 10/13/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/19/09 16:15

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	48		30-150
Decachlorobiphenyl	80		30-150
Tetrachloro-meta-Xylene	50		30-150
Decachlorobiphenyl	78		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-02
Client ID: MW-007A-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 10/23/09 03:16
Analyst: JR

Date Collected: 10/13/09 10:50
Date Received: 10/13/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/19/09 16:15

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	46		30-150
Decachlorobiphenyl	68		30-150
Tetrachloro-meta-Xylene	46		30-150
Decachlorobiphenyl	66		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-03
Client ID: MW-007A-101309 REP
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 10/23/09 04:50
Analyst: JR

Date Collected: 10/13/09 10:50
Date Received: 10/13/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/19/09 16:15

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	ND		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	47		30-150
Decachlorobiphenyl	61		30-150
Tetrachloro-meta-Xylene	49		30-150
Decachlorobiphenyl	59		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-04
Client ID: MW-001-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 10/23/09 05:21
Analyst: JR

Date Collected: 10/13/09 12:15
Date Received: 10/13/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/19/09 16:15

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.022	1
Aroclor 1221	ND		ug/l	0.022	1
Aroclor 1232	ND		ug/l	0.022	1
Aroclor 1242	ND		ug/l	0.022	1
Aroclor 1248	ND		ug/l	0.022	1
Aroclor 1254	ND		ug/l	0.022	1
Aroclor 1260	ND		ug/l	0.022	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Aroclor 1016	ND		ug/l	0.022	1
Aroclor 1221	ND		ug/l	0.022	1
Aroclor 1232	ND		ug/l	0.022	1
Aroclor 1242	ND		ug/l	0.022	1
Aroclor 1248	ND		ug/l	0.022	1
Aroclor 1254	ND		ug/l	0.022	1
Aroclor 1260	ND		ug/l	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	45		30-150
Decachlorobiphenyl	75		30-150
Tetrachloro-meta-Xylene	44		30-150
Decachlorobiphenyl	73		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-05
Client ID: MW-005-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 10/23/09 05:52
Analyst: JR

Date Collected: 10/13/09 12:35
Date Received: 10/13/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/19/09 16:15

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	ND		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.021	1
Aroclor 1221	ND		ug/l	0.021	1
Aroclor 1232	ND		ug/l	0.021	1
Aroclor 1242	ND		ug/l	0.021	1
Aroclor 1248	ND		ug/l	0.021	1
Aroclor 1254	ND		ug/l	0.021	1
Aroclor 1260	ND		ug/l	0.021	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	48		30-150
Decachlorobiphenyl	77		30-150
Tetrachloro-meta-Xylene	54		30-150
Decachlorobiphenyl	75		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-06
Client ID: MW-006-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 10/23/09 06:24
Analyst: JR

Date Collected: 10/13/09 14:40
Date Received: 10/13/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/19/09 16:15

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	52		30-150
Decachlorobiphenyl	78		30-150
Tetrachloro-meta-Xylene	53		30-150
Decachlorobiphenyl	76		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-07
Client ID: MW-003-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 10/23/09 06:55
Analyst: JR

Date Collected: 10/13/09 15:20
Date Received: 10/13/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/19/09 16:15

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Aroclor 1016	ND		ug/l	0.020	1
Aroclor 1221	ND		ug/l	0.020	1
Aroclor 1232	ND		ug/l	0.020	1
Aroclor 1242	ND		ug/l	0.020	1
Aroclor 1248	ND		ug/l	0.020	1
Aroclor 1254	ND		ug/l	0.020	1
Aroclor 1260	ND		ug/l	0.020	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	41		30-150
Decachlorobiphenyl	69		30-150
Tetrachloro-meta-Xylene	43		30-150
Decachlorobiphenyl	67		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-08
Client ID: MW-001-101309 EB
Sample Location: NEW BEDFORD HARBOR
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 10/23/09 07:26
Analyst: JR

Date Collected: 10/13/09 12:15
Date Received: 10/13/09
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/19/09 16:15

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Polychlorinated Biphenyls by GC - Mansfield Lab					
Aroclor 1016	ND		ug/l	0.024	1
Aroclor 1221	ND		ug/l	0.024	1
Aroclor 1232	ND		ug/l	0.024	1
Aroclor 1242	ND		ug/l	0.024	1
Aroclor 1248	ND		ug/l	0.024	1
Aroclor 1254	ND		ug/l	0.024	1
Aroclor 1260	ND		ug/l	0.024	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	52		30-150
Decachlorobiphenyl	68		30-150
Tetrachloro-meta-Xylene	56		30-150
Decachlorobiphenyl	67		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 10/23/09 01:11
Analyst: JR

Extraction Method: EPA 3510C
Extraction Date: 10/19/09 16:15

Parameter	Result	Qualifier	Units	RDL
Polychlorinated Biphenyls by GC - Mansfield Lab for sample(s): 01-08 Batch: WG384952-1				
Aroclor 1016	ND		ug/l	0.020
Aroclor 1221	ND		ug/l	0.020
Aroclor 1232	ND		ug/l	0.020
Aroclor 1242	ND		ug/l	0.020
Aroclor 1248	ND		ug/l	0.020
Aroclor 1254	ND		ug/l	0.020
Aroclor 1260	ND		ug/l	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Tetrachloro-meta-Xylene	53		30-150
Decachlorobiphenyl	93		30-150
Tetrachloro-meta-Xylene	55		30-150
Decachlorobiphenyl	92		30-150

Matrix Spike Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG384952-4 WG384952-5 QC Sample: L0914566-02 Client ID: MW-007A-101309												
Aroclor 1016	ND	1.03	0.737	72		0.752	75		40-140	4		50
Aroclor 1260	ND	1.03	0.881	86		0.824	82		40-140	5		50

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
Decachlorobiphenyl	73		68		30-150
Tetrachloro-meta-Xylene	51		51		30-150
Decachlorobiphenyl	71		67		30-150
Tetrachloro-meta-Xylene	53		53		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Polychlorinated Biphenyls by GC - Mansfield Lab Associated sample(s): 01-08 Batch: WG384952-2 WG384952-3								
Aroclor 1016	74		67		40-140	11		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Tetrachloro-meta-Xylene	60		52		30-150
Decachlorobiphenyl	94		92		30-150
Tetrachloro-meta-Xylene	66		54		30-150
Decachlorobiphenyl	93		91		30-150

Polychlorinated Biphenyls by GC - Mansfield Lab Associated sample(s): 01-08 Batch: WG384952-2 WG384952-3								
Aroclor 1260	85		85		40-140	0		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Tetrachloro-meta-Xylene	60		52		30-150
Decachlorobiphenyl	94		92		30-150
Tetrachloro-meta-Xylene	66		54		30-150
Decachlorobiphenyl	93		91		30-150

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METALS

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Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-01

Date Collected: 10/13/09 10:50

Client ID: MW-004A-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:27	CHELATION	1,6020A	LP
Chromium, Total	ND		mg/l	0.020	20	10/29/09 11:20	11/04/09 11:25	EPA 3020A	1,6020A	LR
Copper, Total	0.0024		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:27	CHELATION	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:27	CHELATION	1,6020A	LP



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-02

Date Collected: 10/13/09 10:50

Client ID: MW-007A-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:28	CHELATION	1,6020A	LP
Chromium, Total	ND		mg/l	0.020	20	10/29/09 11:20	11/04/09 11:28	EPA 3020A	1,6020A	LR
Copper, Total	0.0064		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:28	CHELATION	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:28	CHELATION	1,6020A	LP



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-03

Date Collected: 10/13/09 10:50

Client ID: MW-007A-101309 REP

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:31	CHELATION	1,6020A	LP
Chromium, Total	ND		mg/l	0.020	20	10/29/09 11:20	11/04/09 11:44	EPA 3020A	1,6020A	LR
Copper, Total	0.0068		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:31	CHELATION	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:31	CHELATION	1,6020A	LP



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-04

Date Collected: 10/13/09 12:15

Client ID: MW-001-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:34	CHELATION	1,6020A	LP
Chromium, Total	ND		mg/l	0.020	20	10/29/09 11:20	11/04/09 11:46	EPA 3020A	1,6020A	LR
Copper, Total	0.0032		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:34	CHELATION	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:34	CHELATION	1,6020A	LP



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-05

Date Collected: 10/13/09 12:35

Client ID: MW-005-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:35	CHELATION	1,6020A	LP
Chromium, Total	ND		mg/l	0.020	20	10/29/09 11:20	11/04/09 11:49	EPA 3020A	1,6020A	LR
Copper, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:35	CHELATION	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:35	CHELATION	1,6020A	LP



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-06

Date Collected: 10/13/09 14:40

Client ID: MW-006-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:36	CHELATION	1,6020A	LP
Chromium, Total	ND		mg/l	0.020	20	10/29/09 11:20	11/04/09 11:52	EPA 3020A	1,6020A	LR
Copper, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:36	CHELATION	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:36	CHELATION	1,6020A	LP



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0914566**Project Number:** TO-0010**Report Date:** 11/04/09**SAMPLE RESULTS**

Lab ID: L0914566-07

Date Collected: 10/13/09 15:20

Client ID: MW-003-101309

Date Received: 10/13/09

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab										
Cadmium, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:36	CHELATION	1,6020A	LP
Chromium, Total	ND		mg/l	0.020	20	10/29/09 11:20	11/04/09 11:54	EPA 3020A	1,6020A	LR
Copper, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:36	CHELATION	1,6020A	LP
Lead, Total	ND		mg/l	0.0020	5	10/29/09 11:20	11/04/09 09:36	CHELATION	1,6020A	LP



Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-07 Batch: WG386409-1								
Cadmium, Total	ND	mg/l	0.0002	5	10/29/09 11:20	11/04/09 09:25	1,6020A	LP
Copper, Total	ND	mg/l	0.0002	5	10/29/09 11:20	11/04/09 09:25	1,6020A	LP
Lead, Total	ND	mg/l	0.0002	5	10/29/09 11:20	11/04/09 09:25	1,6020A	LP

Prep Information

Digestion Method: CHELATION

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-07 Batch: WG386410-1								
Chromium, Total	ND	mg/l	0.020	20	10/29/09 11:20	11/04/09 11:20	1,6020A	LR

Prep Information

Digestion Method: EPA 3020A

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07 Batch: WG386409-2								
Cadmium, Total	97		-		80-120	-		20
Copper, Total	98		-		80-120	-		20
Lead, Total	96		-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-07 Batch: WG386410-2								
Chromium, Total	92		-		80-120	-		20

Matrix Spike Analysis Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07			QC Batch ID: WG386409-4			QC Sample: L0914566-02			Client ID: MW-007A-101309			
Cadmium, Total	ND	0.1	0.1009	101		-	-		75-125	-		20
Copper, Total	0.0064	0.1	0.1113	105		-	-		75-125	-		20
Lead, Total	ND	0.1	0.0980	98		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-07			QC Batch ID: WG386410-4			QC Sample: L0914566-02			Client ID: MW-007A-101309			
Chromium, Total	ND	1	0.985	98		-	-		75-125	-		20

Lab Duplicate Analysis Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Project Number: TO-0010

Lab Number: L0914566

Report Date: 11/04/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07 QC Batch ID: WG386409-3 QC Sample: L0914566-02 Client ID: MW-007A-101309						
Cadmium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.0064	0.0066	mg/l	3		20
Lead, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-07 QC Batch ID: WG386410-3 QC Sample: L0914566-02 Client ID: MW-007A-101309						
Chromium, Total	ND	ND	mg/l	NC		20



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INORGANICS & MISCELLANEOUS

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Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

SAMPLE RESULTS

Lab ID: L0914566-01
Client ID: MW-004A-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water

Date Collected: 10/13/09 10:50
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	1.80		mg/l	1.00	1	-	10/20/09 21:59	30,2540D	ES



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

SAMPLE RESULTS

Lab ID: L0914566-02
Client ID: MW-007A-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water

Date Collected: 10/13/09 10:50
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	ND		mg/l	1.00	1	-	10/20/09 21:59	30,2540D	ES



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

SAMPLE RESULTS

Lab ID: L0914566-03
Client ID: MW-007A-101309 REP
Sample Location: NEW BEDFORD HARBOR
Matrix: Water

Date Collected: 10/13/09 10:50
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	ND		mg/l	1.00	1	-	10/20/09 21:59	30,2540D	ES



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

SAMPLE RESULTS

Lab ID: L0914566-04
Client ID: MW-001-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water

Date Collected: 10/13/09 12:15
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	2.80		mg/l	1.00	1	-	10/20/09 21:59	30,2540D	ES



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

SAMPLE RESULTS

Lab ID: L0914566-05
Client ID: MW-005-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water

Date Collected: 10/13/09 12:35
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	4.00		mg/l	1.00	1	-	10/20/09 21:59	30,2540D	ES



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

SAMPLE RESULTS

Lab ID: L0914566-06
Client ID: MW-006-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water

Date Collected: 10/13/09 14:40
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	3.40		mg/l	1.00	1	-	10/20/09 21:59	30,2540D	ES



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

SAMPLE RESULTS

Lab ID: L0914566-07
Client ID: MW-003-101309
Sample Location: NEW BEDFORD HARBOR
Matrix: Water

Date Collected: 10/13/09 15:20
Date Received: 10/13/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total Suspended	33.5		mg/l	1.00	1	-	10/20/09 21:59	30,2540D	ES



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

Method Blank Analysis
Batch Quality Control

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 01-07 Batch: WG385225-1								
Solids, Total Suspended	ND	mg/l	1.00	1	-	10/20/09 21:59	30,2540D	ES

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-07 Batch: WG385225-2								
Solids, Total Suspended	94		-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Project Number: TO-0010

Lab Number: L0914566

Report Date: 11/04/09

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-07 QC Batch ID: WG385225-3 QC Sample: L0914566-02 Client ID: MW-007A-101309						
Solids, Total Suspended	ND	ND	mg/l	NC		20

Project Name: NEW BEDFORD HARBOR

Lab Number: L0914566

Project Number: TO-0010

Report Date: 11/04/09

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0914566-01A	Plastic 500ml unpreserved	B	7	7.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0914566-01B	Amber 1000ml unpreserved	B	7	7.5	Y	Absent	A2-PCB-8082(7)
L0914566-01C	Amber 1000ml unpreserved	B	7	7.5	Y	Absent	A2-PCB-8082(7)
L0914566-01D	Plastic 1000ml unpreserved	B	7	7.5	Y	Absent	A2-TSS-2540D(7)
L0914566-01E	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-01F	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-01G	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-02A	Plastic 500ml unpreserved	A	7	11.6	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0914566-02B	Amber 1000ml unpreserved	A	7	11.6	Y	Absent	A2-PCB-8082(7)
L0914566-02C	Amber 1000ml unpreserved	A	7	11.6	Y	Absent	A2-PCB-8082(7)
L0914566-02D	Plastic 1000ml unpreserved	A	7	11.6	Y	Absent	A2-TSS-2540D(7)
L0914566-02E	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-02F	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-02G	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-02H	Amber 1000ml unpreserved	B	7	7.5	Y	Absent	A2-PCB-8082(7)
L0914566-02I	Amber 1000ml unpreserved	A	7	11.6	Y	Absent	A2-PCB-8082(7)
L0914566-02J	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-02K	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-02L	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-02M	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-02N	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-02O	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-03A	Plastic 500ml unpreserved	A	7	11.6	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0914566-03B	Amber 1000ml unpreserved	A	7	11.6	Y	Absent	A2-PCB-8082(7)
L0914566-03C	Amber 1000ml unpreserved	A	7	11.6	Y	Absent	A2-PCB-8082(7)

*Hold days indicated by values in parentheses



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0914566-03D	Plastic 1000ml unpreserved	A	7	11.6	Y	Absent	A2-TSS-2540D(7)
L0914566-03E	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-03F	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-03G	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-04A	Plastic 500ml unpreserved	A	7	11.6	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0914566-04B	Amber 1000ml unpreserved	A	7	11.6	Y	Absent	A2-PCB-8082(7)
L0914566-04C	Amber 1000ml unpreserved	A	7	11.6	Y	Absent	A2-PCB-8082(7)
L0914566-04D	Plastic 1000ml unpreserved	A	7	11.6	Y	Absent	A2-TSS-2540D(7)
L0914566-04E	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-04F	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-04G	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-05A	Plastic 500ml unpreserved	B	7	7.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0914566-05B	Amber 1000ml unpreserved	B	7	7.5	Y	Absent	A2-PCB-8082(7)
L0914566-05C	Amber 1000ml unpreserved	B	7	7.5	Y	Absent	A2-PCB-8082(7)
L0914566-05D	Plastic 1000ml unpreserved	B	7	7.5	Y	Absent	A2-TSS-2540D(7)
L0914566-05E	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-05F	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-05G	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-06A	Plastic 500ml unpreserved	B	7	7.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0914566-06B	Amber 1000ml unpreserved	A	7	11.6	Y	Absent	A2-PCB-8082(7)
L0914566-06C	Amber 1000ml unpreserved	A	7	11.6	Y	Absent	A2-PCB-8082(7)
L0914566-06D	Plastic 1000ml unpreserved	A	7	11.6	Y	Absent	A2-TSS-2540D(7)
L0914566-06E	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-06F	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-06G	Vial HCl preserved	A	N/A	11.6	Y	Absent	A2-VOC-8260(14)
L0914566-07A	Plastic 500ml unpreserved	B	7	7.5	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-PREP-3020(180),A2-CU-6020T(180)
L0914566-07B	Amber 1000ml unpreserved	B	7	7.5	Y	Absent	A2-PCB-8082(7)
L0914566-07C	Amber 1000ml unpreserved	B	7	7.5	Y	Absent	A2-PCB-8082(7)
L0914566-07D	Plastic 1000ml unpreserved	B	7	7.5	Y	Absent	A2-TSS-2540D(7)
L0914566-07E	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)

*Hold days indicated by values in parentheses

Project Name: NEW BEDFORD HARBOR**Project Number:** TO-0010**Lab Number:** L0914566**Report Date:** 11/04/09**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0914566-07F	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-07G	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-08B	Amber 1000ml unpreserved	B	7	7.5	Y	Absent	A2-PCB-8082(7)
L0914566-08C	Amber 1000ml unpreserved	B	7	7.5	Y	Absent	A2-PCB-8082(7)
L0914566-08E	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-08F	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-08G	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-09A	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)
L0914566-09B	Vial HCl preserved	B	N/A	7.5	Y	Absent	A2-VOC-8260(14)

Container Comments

L0914566-02D USED ENTIRE SAMPLE

*Hold days indicated by values in parentheses

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

GLOSSARY

Acronyms

- EPA** - Environmental Protection Agency.
- LCS** - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCSD** - Laboratory Control Sample Duplicate: Refer to LCS.
- MS** - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MSD** - Matrix Spike Sample Duplicate: Refer to MS.
- NA** - Not Applicable.
- NC** - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- ND** - Not detected at the reported detection limit for the sample.
- NI** - Not Ignitable.
- RDL** - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD** - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0914566
Report Date: 11/04/09

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised June 17, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SM2320B, 4500NH3-F, EPA 120.1, SM2510B, 2340B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, 420.1, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7471. Organic Parameters: EPA 8015, 8270.)

U.S. Army Corps of Engineers

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CHAIN OF CUSTODY

PAGE 1 OF 2

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: 20914566

Project Information

Project Name: NBH WATER QUALITY MONITORING
Project Location: NEW BEDFORD HARBOR
Project #: TO-0010
Project Manager: DAVE WALSH
ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: WOODS HOLE GROUP
Address: 81 Technology Park Drive
P. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgr.com

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: Time:

Regulatory Requirements/Report Limits

State/Fed Program Criteria
Fed

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
Level III data report & Project-speak EPP

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
<u>20914566-1</u>	<u>MW-007A-101309</u>	<u>10/13/09</u>	<u>10:50</u>	<u>GW</u>	<u>DCH</u>
<u>-2</u>	<u>MW-007A-101309</u>		<u>10:50</u>		<u>MAN</u>
<u>-3</u>	<u>MW-007A-101309 REP</u>		<u>10:50</u>		<u>MAN</u>
<u>-2</u>	<u>MW-007A-101309 MS</u>		<u>10:50</u>		<u>MAN</u>
<u>✓</u>	<u>MW-007A-101309 MSD</u>		<u>10:50</u>		<u>MAN</u>
<u>-4</u>	<u>MW-001-101309</u>		<u>12:15</u>		<u>MAN</u>
<u>5</u>	<u>MW-005-101309</u>		<u>12:35</u>		<u>DCH</u>
<u>6</u>	<u>MW-006-101309</u>		<u>14:40</u>		<u>MAN</u>
<u>7</u>	<u>MW-003-101309</u>		<u>15:20</u>		<u>DCH</u>

ANALYSIS

PCB Analytals
M & Tals
TSS
VOC

10/13/09

SAMPLE HANDLING

Filtration
 Done
 Not needed
 Lab to do
 Preservation
 Lab to do
(Please specify below)

TOTAL # BOTTLES

PLEASE ANSWER QUESTIONS ABOVE!
IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By: <u>[Signature]</u>	Date/Time: <u>10/13/09 1720</u>	Received By: <u>[Signature]</u>	Date/Time: <u>10/13/09 1720</u>
-------------------------------------	---------------------------------	---------------------------------	---------------------------------

Container Type	<u>A</u>	<u>P</u>	<u>B</u>	<u>V</u>
Preservative	<u>A</u>	<u>A</u>	<u>A</u>	<u>B</u>

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

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CHAIN OF CUSTODY

PAGE 2 OF 2

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0914566

Client Information

Client: Woods Hole Group
Address: see page 1

Project Information

Project Name: NBM Water Qual. Monit
Project Location: see page 1
Project #:
Project Manager:
ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Phone:

Fax:

Email:

These samples have been previously analyzed by Alpha

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: Time:

Regulatory Requirements/Report Limits

State/Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS		SAMPLE HANDLING		TOTAL # BOTTLES
PCP Analytical Methods	TSS	Vol	Filtration	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do	
			(Please specify below)	
			Sample Specific Comments	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
<u>L0914566-8</u>	<u>MW-001-101309 EB</u>	<u>10/13/09</u>	<u>1215</u>	<u>GW</u>	<u>MAN</u>
<u>9</u>	<u>MW-001-101309 TB</u>	<u>10/13/09</u>	<u>1215</u>	<u>GW</u>	<u>MAN</u>

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01 (rev. 30-JUL-07)

Relinquished By: <u>[Signature]</u>	Date/Time: <u>10/13/09 17:3</u>	Received By: <u>[Signature]</u>	Date/Time: <u>10/13/09 1720</u>
-------------------------------------	---------------------------------	---------------------------------	---------------------------------

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.



**US Army Corps
of Engineers**
New England District

**SEDIMENT TRAP STUDY SUMMARY REPORT
2009 REMEDIAL DREDGING
NEW BEDFORD HARBOR SUPERFUND SITE, OU #1**

Contract No. W912WJ-09-D-0001-0010



Prepared For:
United States Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Prepared By:
Woods Hole Group, Inc.
81 Technology Park Drive
East Falmouth, MA 02536

June 2010

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**SEDIMENT TRAP STUDY SUMMARY REPORT
2009 REMEDIAL DREDGING
NEW BEDFORD HARBOR SUPERFUND SITE
OPERATIONAL UNIT #1
NEW BEDFORD, MASSACHUSETTS**

Contract No. W912WJ-09-D-0001-0010

June 2010

Prepared for:

United States Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

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EXECUTIVE SUMMARY

Suspended sediment monitoring was performed for six months during the 2009 dredge season as part of the Environmental Monitoring, Sampling and Analysis for the New Bedford Harbor Superfund Site. Sediment trap samplers were positioned in three locations within the upper harbor with the goal of characterizing the chemical and physical properties of sediments that are actively transported. The study area reached from the previously remediated area north of Wood Street (NWS), south to the Coggeshall Street and Interstate-195 bridges, and spanned four active remediation dredge locations.

The sediment trap study was performed during active dredging periods and demobilization of dredge-related equipment. Two sediment trap samplers were deployed at each of three stations within the study area. The northernmost station, ST-001 was located 100 feet north of the Wood Street Bridge. The centralized station, ST-002, was located 300 feet south of Dredge Area J. The southernmost station, ST-003 was located 100 feet south of the I-195 Bridge, adjacent to a sediment trap maintained by the City of New Bedford. The sediment traps were serviced every 35 days. Co-located surface sediments were collected each time the sediment traps were recovered and deployed to represent an integrated measurement of newly deposited sediment characteristics and PCB concentration. The sediment trap samples and co-located surface samples were analyzed for polychlorinated biphenyl (PCB) concentrations, total organic carbon (TOC), and sediment grain size.

All sediment trap samples were processed to determine the particulate mass accumulated and to calculate sediment deposition rates. The mass of sediment accumulated in the sediment traps varied by location and deployment period. Sedimentation rates ranged across the study area from approximately 75 g/m²/day at ST-001 during October-November, to almost 340 g/m²/day at ST-003 during July-August. Results from previous years indicate that sediment deposition rates vary seasonally, increasing from late spring to summer, reaching a maximum during July and August, and decreasing from late fall to winter.

Sediment trap samples were generally comprised of fine-grained sediments (clay and silt) and contained minimal gravel (<2%). Co-located surface sediments were highly variable. Surface samples were comprised of more sand and gravel than their sediment trap sample counterparts. The content of TOC in sediment trap samples exhibited a seasonal trend in concentration similar to sedimentation rates, decreasing between summer and winter.

The accumulated sediment from the trap samplers was analyzed for PCB content to determine the PCB flux for each location. Concentrations of PCBs in the sediment trap samples ranged from 29.91 to 378.70 mg/kg (ppm) over the 2009 season. Substantial variability in PCB concentrations was observed between the stations and deployment periods. In general, surface sediments contained higher concentrations of PCBs than the co-located trap samples for stations ST-001 and ST-002. Conversely, surface grab samples at station ST-003 contained lower concentrations of PCBs than the ST-003 sediment trap samples.

Daily flux of PCBs is defined as the deposition rate of PCB contaminated sediments from the water column to the bottom sediments. Flux of PCBs at the northernmost (ST-001) and southernmost (ST-003) locations remained relatively constant throughout the dredge season, averaging 8.22 ± 3.95 and 11.84 ± 3.31 mg/m²/day, respectively. At the central trap, however, daily flux of PCBs ranged from 24.34 to 104.06 mg/m²/day.

The general relationships between stations and among the two sample types suggests that the suspended sediments transported out of the upper harbor have a higher concentration of PCBs than the sediments already present in the lower harbor. All three stations confirm that sediment associated PCB transport is active in the system. The variation in the relationships between sediment trap and surface sediment contaminant levels indicates the possible existence of two or more sediment sources in the study area: the resuspension of contaminated sediments into the water column, and at least one other source of “clean” sediments. Overall, the study showed that the estuary is a highly variable system, with both natural and anthropogenic influences that affect resuspension and, likely, sediment transport. Continued suspended sediment monitoring will be valuable in providing additional data regarding the potential redistribution of contaminated sediments within the estuary.

1.0 INTRODUCTION

1.1 SITE LOCATION AND DESCRIPTION

The New Bedford Harbor Superfund Site, located in Bristol County, Massachusetts, extends from the shallow northern reaches of the Acushnet River estuary south through the commercial harbors of New Bedford and Fairhaven and into 17,000 adjacent acres of Buzzards Bay (Figure 1). The City of New Bedford, located along the western shore of the Site, is approximately 55 miles south of Boston. New Bedford is currently home port to a large offshore fishing fleet and is a densely populated manufacturing and commercial center. By comparison, the eastern shore of New Bedford Harbor is predominantly residential, light commercial, or salt marsh.

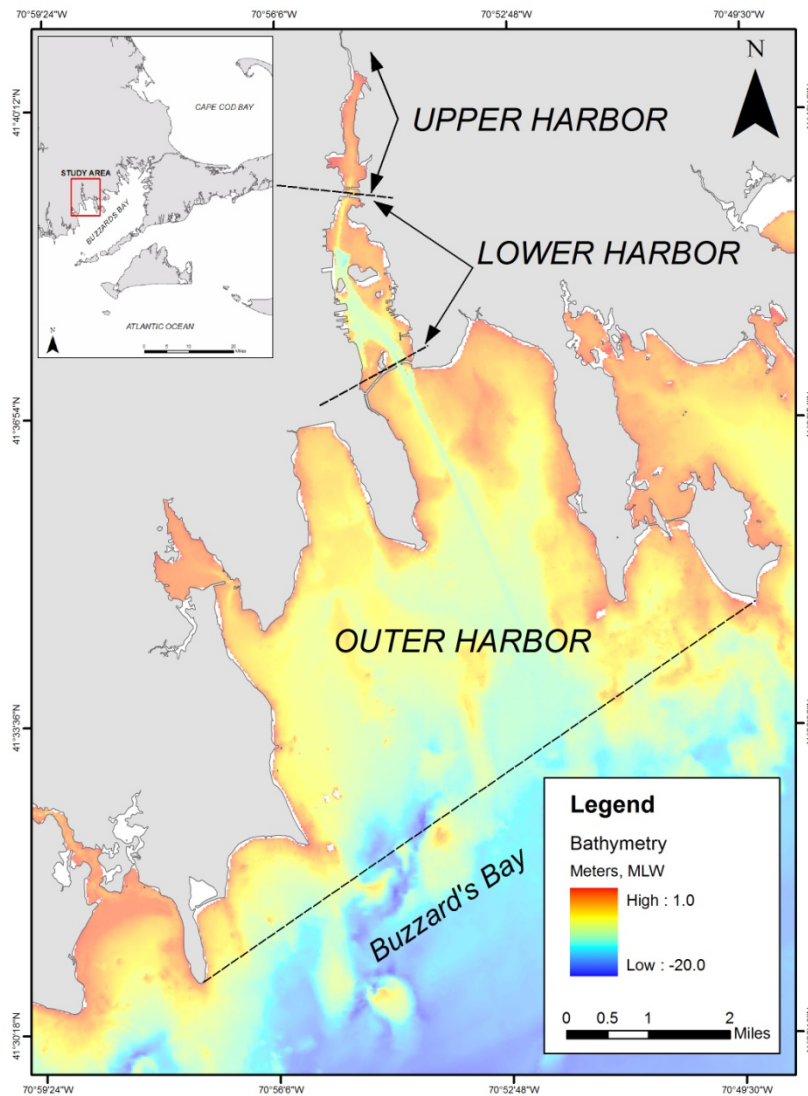


Figure 1. Basemap of New Bedford Harbor Superfund Site in southeastern, MA

The Acushnet River's 16.5 square mile drainage basin discharges to New Bedford Harbor in the northern reaches of the Site, contributing relatively minor volumes of fresh water to the tidally influenced harbor (VHB, 1996). Numerous storm drains, combined sewer overflows (CSOs), industrial discharges, as well as smaller brooks and creeks also discharge directly to the Site. The upper and lower harbors are believed to be areas of net groundwater discharge. The estuary can be characterized as a shallow, well-mixed system.

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. Contaminant gradients within harbor sediments decrease from north to south. The source of the contamination has been attributed to two electrical capacitor manufacturing facilities that operated between the 1940s and the 1970s. One facility, Aerovox Corporation, is located near the northern boundary of the Site, and the other, Cornell-Dubilier Electronics, Inc. is located just south of the New Bedford Harbor hurricane barrier. The two facilities are known to have discharged PCB-laden wastes either directly into the harbor or indirectly via discharges to the City's sewerage system.

Based on human health concerns and ecological risk assessments, the United States 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 United States Army Corps of Engineers, New England District (USACE NAE), the USACE is responsible for carrying out the design and implementation of remedial measures at the Site.

The Site has been divided into three geographic areas: the upper, lower and outer harbors, consistent with geographic features, basin morphology and gradients of contamination (Figure 1). The Site is also defined by three state-sanctioned fishing closure areas extending approximately 6.8 miles north to south and encompassing approximately 18,000 acres in total. The upper harbor comprises approximately 187 acres, with current sediment PCB levels ranging from below detection to approximately 4,000 parts per million (ppm). Prior to the removal of the most contaminated hot spot sediments in 1994 and 1995 as part of EPA's first cleanup phase, sediment PCB levels were reported higher than 100,000 ppm in the upper harbor. The boundary between the upper and lower harbor is the Coggeshall Street Bridge; at this point the harbor is constricted to a width of approximately 100 feet. The lower harbor comprises approximately 750 acres, with current sediment PCB levels ranging from below detection to over 100 ppm. The boundary between the lower and outer harbor is the 150 foot wide opening of the New Bedford hurricane barrier. The hurricane barrier was constructed in the mid-1960s. Sediment PCB levels in the outer harbor are generally low, with only localized areas of PCBs in the 50 – 100 ppm range near the Cornell-Dubilier plant and the New Bedford sewage treatment plant's outfall pipes. The southern extent of the outer harbor is a line mapped from Rock Point (the southern tip of West Island in Fairhaven), southwesterly to Negro Ledge, and then southwesterly to Mishaum Point in Dartmouth (Figure 1).

1.2 PROJECT OBJECTIVES AND SCOPE

The remediation of the Site involves the excavation and dredging of approximately 900,000 cubic yards of PCB-contaminated sediment. The majority of the contaminated material is being removed by a hydraulic dredge that pumps a spoils-slurry to the project's Sawyer Street facility where it is mechanically processed to remove all sand, gravel, and debris. The remaining silt and clay slurry is then pumped to the Area D Dewatering Facility located on Herman Melville Boulevard where it is mechanically dewatered and transported off-site for disposal.

The Site is divided into a series of Dredge Management Units (DMU) based primarily on contamination levels, contamination sources, and topography. In 2009, remediation activities at the Site included hydraulic dredging in four areas, M, G, J and L (Figure 2). Three of the four areas (Areas M, G and J) dredged during the 2009 season were in the vicinity of the Aerovox facility. These three areas comprised the majority of the estuary between the Wood Street Bridge and the Aerovox facility. The fourth area, Area L, is located south of the submerged cable crossing.



Figure 2. Basemap of 2009 remediation dredging areas

The re-suspension of sediments during dredging, and dredging related activities, can transport contaminated sediments away from the dredge area. Additionally, contaminated sediments suspended in the water column present a concern for toxicity to aquatic organisms in the area.

The primary objective of the 2009 sediment trap study was to assess sedimentation rates throughout the Upper Harbor and evaluate the potential for redistribution or transport of contaminated sediments through re-suspension caused by dredging. The ultimate goal of this program was to monitor PCB concentrations in suspended sediments captured in the traps in order to evaluate whether contamination is occurring in areas of lower PCB concentrations, such as south of the Coggeshall Street Bridge, as well as previously remediated areas, such as north of Wood Street (NWS).

Changes in sedimentation rates and contaminant concentrations observed within the various sediment stations could be associated with a number of processes. These processes include, but are not limited to: 1) the re-suspension of contaminated material by remedial dredging activities, 2) naturally occurring movement of suspended sediments in the harbor, and 3) upland sources such as combined sewer overflows (CSOs). Analytical data collected to support the study objectives included: sediment grain size, total organic carbon (TOC) concentration, and polychlorinated biphenyls (PCBs) concentrations of both sediment trap samples and surface sediments collected at each trap location. In-situ water quality measurements (e.g., turbidity) were recorded during sediment trap deployment and recovery to establish typical baseline water quality standards at each site.

2.0 METHODS

The study design and methods used to collect and analyze sediment trap and surface sediment samples are summarized in this section and described in detail in the project Field Sampling Plan (Woods Hole Group 2009A) and Quality Assurance Project Plan (Woods Hole Group 2009B).

2.1 STUDY AREA AND DESIGN

The 2009 sediment trap study area reached from the previously remediated area north of Wood Street (NWS) through the upper New Bedford Harbor, south to the Coggeshall Street and Interstate-195 bridges. This area included the entire active remediation dredge locations and combined sewer overflows (CSOs). North of the Wood Street Bridge, the estuary is shallow and the narrow channel is flanked with steep marsh banks. As the estuary widens to the south, the western shoreline becomes more industrialized. This portion of the upper harbor contained the highest concentrations of PCB contamination, and is the active remediation site. South of the Coggeshall Street and I-195 bridges, the river opens into the lower harbor, where harbor sediment PCB concentrations are generally much lower, typically below 100 ppm.

The sediment trap study was performed over a 6 month period in 2009, with individual deployments occurring during active dredging periods and demobilization of dredge-related equipment. An additional deployment is scheduled for the spring of 2010 to assess natural movement of sediment in the harbor, independent of remediation activities. Sediment trap samplers were deployed at three stations within the study area (Figure 3).

The northernmost station, ST-001 was located 100 feet north of the Wood Street Bridge. The centralized station, ST-002, was located 300 feet south of Dredge Area J. The southernmost station, ST-003 was located 100 feet south of the I-195 Bridge, adjacent to a sediment trap maintained by the City of New Bedford. Sediment traps were recovered once a sufficient quantity of suspended sediment material had accumulated (usually five weeks) to meet mass requirements for physical and chemical testing. Co-located surface sediments were collected each time the sediment traps were recovered and deployed to represent an integrated measurement of newly deposited sediment characteristics and PCB concentration.

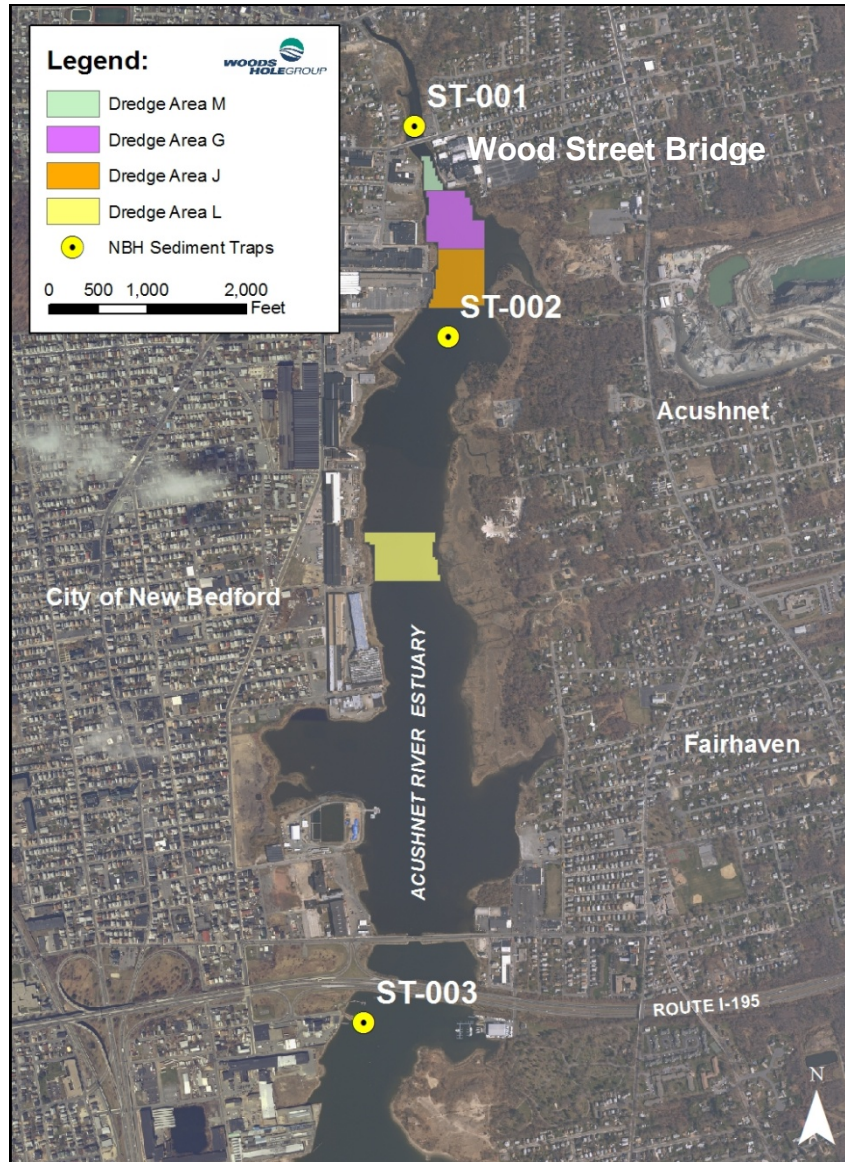


Figure 3. 2009 Sediment trap stations

All sediment samples (traps and surface sediment grabs) were analyzed for grain size, TOC, and PCB congeners, which were reported using the NOAA 18 PCB congener list (WHG 2009B). As part of a separate project monitoring task, continuous in-situ water

quality monitoring was performed at two of the three stations using co-located moored instruments to collect temperature, salinity, dissolved oxygen (DO) and turbidity data. During deployment and recovery, in-situ water quality measurements were also manually recorded at all stations. Other field data including sampling location, sample deployment and collection date, and sample depth were recorded on the field logs.

2.2 FIELD METHODS

2.2.1 Sediment Trap Deployment and Retrieval

Two sediment traps were deployed at each location to ensure the collection of adequate material volume for analysis. All information pertaining to the deployment and retrieval of sediment traps was recorded in the WHG field log book. Following sediment trap deployment at each station, an in-situ profile of turbidity, temperature, dissolved oxygen, and salinity measurements was recorded on the water quality monitoring data log sheets (Appendix A). In addition to these profiles, a moored fixed-station YSI data sonde was stationed at ST-001 and ST-002. These moored units provided a continuous record of the pertinent water quality parameters during deployment periods for the traps positioned closest to dredge activities (Appendix B). The third sediment trap station was not co-located with a fixed-station water quality mooring, but was co-located with the sediment trap maintained by the City of New Bedford. A Garmin GPS Map 76CSx was used to record the geographic positions of the stations.

Each sediment trap sampler consisted of a one gallon, wide mouth plastic jar with a funnel affixed to the mouth. The outer diameter of the funnel was 8 inches. The jar/funnel assembly was secured inside a weighted plastic bucket. This configuration placed the opening of the trap (mouth of the funnel) approximately 1.5 feet above the sediment water interface. Figure 4 depicts the sediment trap assembly following recovery. A line from the weighted bucket was used to lower the assembly to the bottom under control and ensure an upright deployment. During deployment, clean sediment traps were lowered slowly through the water column and placed gently on the bottom. This process was important to minimize re-suspension of sediments during deployment of the trap. A small float secured to the line kept the line buoyant to prevent it from fouling the trap. This line was attached to a surface marker buoy.

Sediment traps were retrieved after a deployment period of five-weeks, provided that a sufficient quantity of material had accumulated in the traps. Based on visual observation of traps, approximately 20 grams of wet material was required to meet mass requirements for physical and chemical testing. During sediment trap retrieval, the traps were pulled to the surface in a slow, controlled manner using the surface buoy line. Every effort was made to minimize disturbance of sediments within the trap. After the traps were secured aboard the vessel, the funnel was gently removed, and a cap was placed on the 1-gallon jar. The caps were secured with tape to ensure that no sediment or water was lost from the jars. Samples were kept cold (4°C) and transported under chain of custody to EnviroSystems Inc. (ESI) for dewatering and processing. At ESI, the two sample containers from each station were composited into one sediment sample. Following sample processing at ESI, samples were transported by courier to Alpha Analytical Labs for chemical and physical analysis.



Figure 4. Sediment traps after recovery from ST-002 (left) and ST-003 (right)

2.2.2 Surface Sediment Sampling

Surface sediments were collected at each of the three sediment trap locations to represent an integrated measurement of actual surface sediment characteristics and PCB concentrations before and after sediment trap sample collection. Co-located surface sediment samples were compared to sediment trap samples to determine if sediments deposited in the trap samplers are representative of the material that has accumulated on the estuary floor. Figure 5 contains a series of photographs that depict this process. Sediment was collected using a stainless-steel petite PONAR grab sampler. Each grab sample was inspected to ensure the sample surface was undisturbed and representative of the sediment-water interface (Figure 5-A). Sediment was sampled using a pre-cleaned stainless steel spoon to scoop the top 0–2 cm of the sediment in the grab (Figure 5-B). Often times, more than one grab was necessary to collect enough material for all chemical and physical analyses. The PONAR grab and sub-sampling process was repeated multiple times to ensure enough sediment was collected for all required samples (Figure 5-C). Sediment was homogenized prior to sample collection by stirring with a stainless steel spoon in a clean stainless steel container (Figure 5-D). Samples were spooned into the appropriate sample containers, stored on ice (4°C), and transported to Alpha Analytical Labs (AAL) under chain of custody. At AAL, samples were analyzed for grain size, TOC, and PCB congeners (NOAA 18).

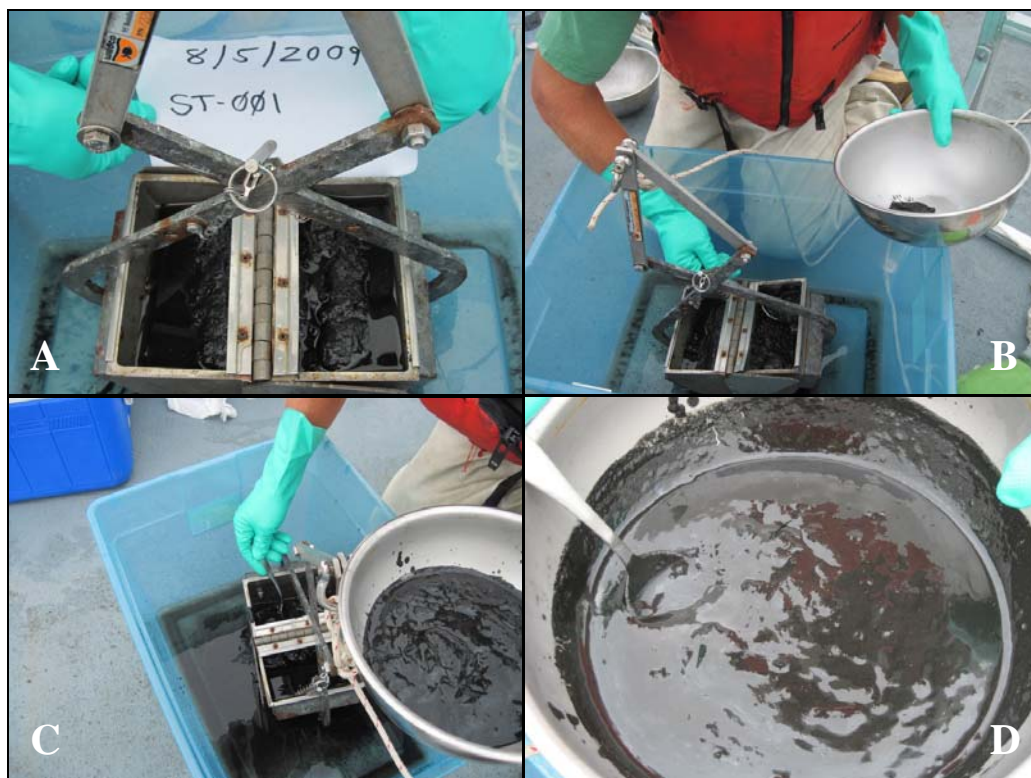


Figure 5. Process of collecting and sampling co-located surface sediment grabs (shown August 5, 2009, ST-001, North of Wood Street location)

2.3 QUALITY ASSURANCE/QUALITY CONTROL

2.3.1 Decontamination

All of the sampling equipment was decontaminated prior to use in the field and between stations to prevent cross-contamination. The decontamination procedure specified in EPA Region II, CERCLA Quality Assurance Manual from October 1989, Revision 1 (WHG 2009B) was implemented prior to each station for sampling equipment that came into direct contact with the media to be sampled (e.g., PONAR grab sampler, stainless steel bowls, spoons, etc.). The EPA Region II procedures used for decontamination are summarized below (solvents used during decontamination activities were collected and stored for disposal at the laboratory):

- 1) Rinse with tap water (or site water on board)
- 2) Clean with non-phosphate soap (Liquinox) and tap water (or site water)
- 3) Rinse with Milli-Q or deionized water
- 4) Rinse with Acetone a
- 5) Rinse with dichloromethane (DCM) a, b
- 6) Let air-dry

^a Solvent waste created during decontamination activities was collected for disposal at the laboratory.

^b Used if oily contamination is apparent and only on metal/stainless steel surfaces.

2.3.2 Field-Based Quality Control Samples

Replicate or field duplicate samples of the surface grabs were collected at one of the three stations during each sampling event. The purpose of these samples was to ensure that field procedures did not affect the quality of the data. Field duplicate samples were used to evaluate the sampling procedure and analytical precision. The replicate samples were collected using two methods. The replicate samples were collected using the same techniques, and were handled, containerized, preserved, stored and transported in the same manner as field samples. All samples were analyzed by the same laboratory.

The reason for the two methods was due to miscommunication by field sampling teams and project manager. Replicate samples were collected as: A) a sub-sample of the multiple grab composite that was used for the field sample, or B) a completely different set of grabs that were composited and sub-sampled for the field duplicate samples only. Method A has since been approved for use as the method for field duplicate sample collection. It is thought that Method B introduces too much variability due to the spatial heterogeneity of PCB concentration in harbor sediments. Method A was used during the sampling events that occurred on August 5th, October 14th and November 11th, 2009. Method B was used for the events occurring on September 9th and December 28th, 2009.

2.3.3 Laboratory-Based Quality Control Samples

A routine suite of laboratory-based quality control (QC) samples were prepared with each set of field samples to evaluate data quality in terms of accuracy and precision. Grain size QC samples consisted of one laboratory duplicate sample for each batch of 20 or fewer samples. Quality control samples for TOC consisted of one method blank, and one laboratory duplicate sample for each batch of 20 or fewer samples. Quality control samples for PCB analysis included one procedural blank (also called a method blank or procedural method blank), one laboratory control sample (LCS), one matrix spike (MS) and one matrix spike duplicate (MSD) for each batch of 20 or fewer samples.

3.0 RESULTS

This section summarizes results from the sediment trap study. Complete analytical results are provided in Appendix C of this report.

3.1 FIELD SAMPLING SUMMARY

A total of five deployments were performed at each of the three sample locations during the six month study. Sediment traps were recovered for analysis after approximately five weeks (35 days). The traps were initially deployed on July 1st, 2009, and routine sample collection and redeployments occurred on August 5th, September 9th, October 14th, and November 18th. The final recovery of the sediment traps occurred on December 28th, 2009. All sediment trap stations remained constant over the season except ST-003. After the first deployment of ST-003, the USEPA requested that the station be repositioned in closer proximity to the City of New Bedford's sediment trap. WHG repositioned the ST-003 traps on August 5th; the station remained at this position for the remainder of the 2009 season.

During the final deployment period (November 18th to December 28th, 2009), the two traps located at ST-002 were fouled, compromising the data quality of the samples and rendering them unusable. These traps had been tipped over and dragged away from their locations, which apparently occurred during the demobilization activities of dredge equipment. Also during this deployment period, one of the traps at ST-001 was dragged off station, likely by ice flow. However, since the trap was recovered upright and appeared un-fouled, the sample was deemed uncompromised. Due to heavy icing conditions on the harbor, no sediment traps were deployed after December 28th. Table 1 summarizes the location and duration of the sediment trap deployment periods, as well as sample IDs and the general dredge activity during each deployment period.

Table 1. Summary of sediment trap sampler deployments

Deployment Period	Deployment Duration (days)	Station ID	Station Location	Remediation Activities	Sample ID
07/01/09 - 08/05/09	36	ST-001	41° 40.726' N 70° 55.020' W	Debris Removal and Dredging in Areas G, J, L	S-09G-T001-0-0
		ST-002	41° 40.373' N 70° 54.949' W		S-09G-T002-0-0
		ST-003	41° 39.197' N 70° 55.126' W		S-09G-T003-0-0
08/05/09- 09/09/09	36	ST-002	41° 40.726' N 70° 55.020' W	Debris Removal and Dredging in Areas G, J, L	S-09S-T001-0-0
		ST-003	41° 40.373' N 70° 54.949' W		S-09S-T002-0-0
		ST-003	41° 39.225' N 70° 55.153' W		S-09S-T003-0-0
09/09/09 - 10/14/09	36	ST-001	41° 40.726' N 70° 55.020' W	Debris Removal and Dredging in Areas G, L Dredging in J	S-09O-T001-0-0
		ST-002	41° 40.373' N 70° 54.949' W		S-09O-T002-0-0
		ST-003	41° 39.225' N 70° 55.153' W		S-09O-T003-0-0
10/14/09 - 11/18/09	36	ST-001	41° 40.726' N 70° 55.020' W	Debris Removal and Dredging in Areas M, L, J Debris Removal in G	S-09N-T001-0-0
		ST-002	41° 40.373' N 70° 54.949' W		S-09N-T002-0-0
		ST-003	41° 39.225' N 70° 55.153' W		S-09N-T003-0-0
11/18/09 - 12/28/09	40	ST-001	41° 40.717' N 70° 55.020' W	Debris Removal and Dredging in Areas G, M Dredging in J, L	S-09D-T001-0-0
			41° 40.692' N 70° 55.017' W		No Sample Submitted for Analysis
		ST-002	41° 40.373' N 70° 54.949' W		S-09D-T003-0-0
		ST-003	41° 39.225' N 70° 55.153' W		

Co-located surface sediment samples were collected from the top 0 – 2 cm of sediment of a petite PONAR grab sample at each of the three trap locations before each sediment trap deployment. A final set of surface grab samples was collected on December 28th, although no new trap samplers were deployed at that time. No surface samples were collected in the central location on December 28th, 2009 due to the lack of trap samples for analysis from that location. The initial set of surface sediment samples collected on July 1, 2009 was not analyzed, but instead archived.

All sediment trap samples were processed to determine the particulate mass accumulated and to calculate sediment deposition rates. The accumulated sediment was analyzed for PCB content to determine the PCB flux for each location. Samples collected in the sediment traps were also analyzed for total organic carbon (TOC) content and grain size. All co-located surface sediment samples were analyzed in the same manner.

Upon deployment and recovery of each set of sediment trap samplers, a water quality profile was recorded. The profile was collected adjacent to or at the site of the sediment traps. During collection of the profile, water quality parameters were recorded at various depths to characterize the water column in the vicinity of the sample location. The water quality parameters recorded include: depth, turbidity, dissolved oxygen (DO), salinity, and temperature. If the water was particularly shallow, only surface and bottom readings were recorded. Field log sheets of this water quality data are provided in Appendix A and summarized in Table 2.

In general, the water quality data from ST-001 exhibited a well stratified salt-wedge structure, where fresh water from the Acushnet River flowed in the top 0.0 – 0.5 feet, atop more dense brackish or saline water from Buzzard's Bay. At station ST-002, the estuary appeared less stratified, but retained the salt-wedge structure. The water column in the lower harbor was well mixed, with a slight halocline observed on occasion.

Turbidity values at ST-001 ranged from 1 – 15 NTU, and averaged 6.3 NTU. Turbidity at ST-002 was occasionally elevated, possibly due to dredge operations in Area J, or potentially due to weather, tide, or anthropogenic sources such as CSOs. During water column profiles, turbidity ranged from 1.5 – 21.8 NTU, and averaged 6.8 NTU. South of the I-195 and Coggeshall bridges at ST-003, turbidity appeared to be characteristic of background conditions for the harbor and ranged from 0 – 5 NTU, with an average of 2.0 NTU.

The general characterization of the salinity and turbidity at these three sites is typical of a funnel shaped estuary in New England. Moored YSI data sondes were located at the northern ST-001 and central ST-002 stations to collect continuous in-situ water quality data. These data are presented in Appendix B.

Table 2. Summary of in-situ water quality data

Station	Water Depth (ft)	Sample Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temperature (°C)
July 1, 2009						
ST-001	4.0	0.96	5.0	7.13	1.37	20.91
		3.02	13.2	3.32	27.18	21.37
ST-002	7.3	1.01	6.3	7.81	17.62	22.67
		3.00	8.8	5.84	25.49	21.80
		6.02	21.8	4.31	28.24	21.34
ST-003	>20	1.03	2.6	6.85	28.83	20.71
		5.01	3.2	6.49	28.99	20.57
		10.12	3.5	6.21	29.56	20.21
		15.00	2.4	5.93	30.26	19.88
		20.02	4.9	6.01	31.07	19.04
August 5, 2009						
ST-001	5.6	0.56	3.0	4.87	2.32	23.40
		2.02	5.8	2.96	15.75	25.34
		3.03	7.4	1.86	20.90	25.54
		4.52	7.1	1.61	23.65	25.54
ST-002	8.3	0.76	8.5	10.18	6.24	25.55
		2.59	7.6	2.42	25.20	25.53
		4.60	5.3	3.32	26.31	25.39
		7.00	5.4	3.36	26.50	25.25
ST-003	18.0	0.58	4.4	9.91	25.87	25.89
		3.01	4.4	9.61	25.95	25.84
		8.16	1.8	6.73	27.21	25.13
		12.14	1.6	4.92	27.84	24.79
		16.95	2.2	2.27	30.05	23.90
September 9, 2009						
ST-001	6.0	0.52	8.2	5.75	26.98	22.71
		2.55	7.8	4.89	27.60	22.74
		5.02	11.1	4.47	27.71	22.70
ST-002	8.8	0.51	3.6	7.29	24.76	22.43
		4.12	3.1	6.36	27.66	22.09
		6.47	4.6	5.36	28.59	21.99
ST-003	21.2	1.01	0.9	6.13	29.35	22.00
		10.23	0.9	5.77	29.59	21.97
		18.79	3.1	4.57	30.49	21.70
October 14, 2009						
ST-001	4	0.33	1.8	8.1	5.68	10.85
		1.68	8.6	6.25	24.51	13.50
		3.02	5.9	5.5	25.04	13.52
ST-002	4.4	0.66	12	8.1	23.34	13.17
		1.68	7.1	7.26	25.45	13.73
		3.55	5.7	6.72	26.80	14.28

ST-003	17.5	0.68	0.6	7.89	27.22	14.14
		5.56	0.9	7.48	27.79	14.58
		11.24	1.0	7.36	28.18	14.96
		16.75	3.5	7.31	28.27	15.05
November 18, 2009						
ST-001	6.7	1.73	2.0	7.43	20.70	10.78
		4.16	3.6	6.93	26.40	11.24
		6.33	4.4	6.89	26.67	11.32
ST-002	7.3	1.68	4.4	8.07	26.2	10.97
		3.30	3.3	7.9	27.22	10.95
		6.76	1.5	7.89	27.84	10.98
ST-003	21.7	18.23	0.0	8.41	28.00	10.86
		11.79	0.5	8.37	27.82	10.78
		7.33	0.0	8.35	27.83	10.79
		1.56	0.2	8.35	27.76	10.79

3.2 LABORATORY TESTING SUMMARY

The mass of sediment that accumulated in the sediment traps varied by location and deployment period. The wet mass of sediment in the traps ranged from 176.1 g at station ST-001 during the fourth deployment (October 14 – November 18, 2009) to 986.7 g at station ST-003 during the first deployment (July 1 – August 8, 2009). Total solid percentages ranged from 70.8% at station ST-001 during the first deployment to 97.2% at the same station during the final deployment.

For all of the six deployments, the sediment trap located south of the I-195 bridge (ST-003) accumulated the most sediment. The station north of Wood Street (ST-001) accumulated the lowest mass of sediment during four of the five deployments. Dry sediment mass data was calculated by multiplying the wet mass of sediment, reported by ESI, times the total percentage of solids, reported by AAL (Table 3).

Table 3. Summary of sediment trap sample accumulation

Deployment Period	Activity	Sample ID	Sediment Wet Weight (g)	Total Solids (%)	Sediment Dry Weight (g)
Deployment 1					
07/01/09 - 08/05/09	Debris Removal and Dredging in Area G, J, L	S-09G-T001-0-0	375.70	70.80	266.00
		S-09G-T002-0-0	730.10	85.30	622.78
		S-09G-T003-0-0	986.70	77.80	767.65
Deployment 2					
08/05/09- 09/09/09	Debris Removal and Dredging in Area G, J, L	S-09S-T001-0-0	523.80	94.10	492.90
		S-09S-T002-0-0	348.00	94.80	329.90
		S-09S-T003-0-0	678.10	95.40	646.91
Deployment 3					
09/09/09 -	Debris Removal and	S-09O-T001-0-0	201.30	92.70	186.61

10/14/09	Dredging in Area G, L Dredging in J	S-09O-T002-0-0	239.30	82.10	196.47
		S-09O-T003-0-0	425.60	93.10	396.23
Deployment 4					
10/14/09 - 11/18/09	Debris Removal and Dredging in Area M, L, J Debris Removal in G	S-09N-T001-0-0	176.10	96.10	169.23
		S-09N-T002-0-0	270.10	94.10	254.16
		S-09N-T003-0-0	592.80	95.10	563.75
Deployment 5					
11/18/09 - 12/28/09	Debris Removal and Dredging in Area G, M Dredging in J, L	S-09D-T001-0-0	253.70	97.20	246.60
		S-09D-T002-0-0	N/A	N/A	N/A
		S-09D-T003-0-0	336.10	95.40	320.64

Sediment trap samples and co-located surface grab samples were analyzed for the NOAA 18 PCB congeners. Total PCB congener content was calculated by multiplying the sum of the NOAA 18 congeners by a site-specific regression factor of 2.6. In the case of a non-detect for a particular congener, a value of zero was used during the summation.

Concentrations of PCBs in the sediment trap samples ranged from 29.91 mg/kg (ppm) to 378.70 mg/kg (ppm) over the 2009 season. These minimum and maximum concentrations were analyzed in samples collected during the July-August deployment. Substantial variability in PCB concentrations was observed between the stations and deployment periods. A summary of the dry weight, total concentration of PCBs and TOC results for each sediment trap station over the five deployments is provided in Table 4.

Table 4. Summary of sediment trap analytical results

Deployment Period	Remediation Activities	Sample ID	Sediment Dry Weight (g)	Total PCBs (µg/kg)	Total Organic Carbon (%)
Deployment 1					
07/01/09 - 08/05/09	Debris Removal and Dredging in Area G, J, L	S-09G-T001-0-0	266.00	29,910.40	6.87
		S-09G-T002-0-0	622.78	378,697.80	5.01
		S-09G-T003-0-0	767.65	41,714.40	4.45
Deployment 2					
08/05/09- 09/09/09	Debris Removal and Dredging in Area G, J, L	S-09S-T001-0-0	492.90	53,815.32	8.09
		S-09S-T002-0-0	329.90	221,683.54	5.17
		S-09S-T003-0-0	646.91	37,866.40	3.75
Deployment 3					
09/09/09 - 10/14/09	Debris Removal and Dredging in Area G, L Dredging in J	S-09O-T001-0-0	186.61	79,812.20	5.88
		S-09O-T002-0-0	196.47	280,961.20	3.84
		S-09O-T003-0-0	396.23	38,911.60	2.11
Deployment 4					
10/14/09 - 11/18/09	Debris Removal and Dredging in Area M, L, J Debris Removal in G	S-09N-T001-0-0	169.23	173,170.40	4.12
		S-09N-T002-0-0	254.16	248,903.20	4.17
		S-09N-T003-0-0	563.75	48,755.20	3.89

Deployment 5					
11/18/09 - 12/28/09	Debris Removal and Dredging in Area G, M Dredging in J, L	S-09D-T001-0-0	246.60	67,106.00	4.97
		S-09D-T002-0-0	N/A	N/A	N/A
		S-09D-T003-0-0	320.64	124,209.80	8.80

Similarly, surface sediment grab samples were analyzed for PCB and TOC content. In general, surface sediments contained higher concentrations of PCBs than the co-located trap samples for stations ST-001 and ST-002. Conversely, surface grab samples at station ST-003 contained lower concentrations of PCBs than the ST-003 sediment trap samples. This difference is discussed further in Section 4.0. Table 5 summarizes the PCB and TOC analytical results for the surface sediment grabs.

Table 5. Summary of surface sediment grab analytical results

Sampling Date	Remediation Activities	Station ID	Total PCBs (mg/kg)	Total Organic Carbon (%)
8/5/09	Debris Removal and Dredging in Areas G, J, L	ST-001	153.075	6.54
		ST-002	488.030	5.35
		ST-002 REP*	471.658	5.13
		ST-003	32.367	2.95
9/9/09	Debris Removal and Dredging in Areas G, J, L	ST-001	110.107	7.84
		ST-002	312.606	5.69
		ST-002 REP	439.665	5.78
		ST-003	30.316	3.25
10/14/09	Debris Removal and Dredging in Areas G, J, L	ST-001	91.034	2.22
		ST-002	477.685	4.15
		ST-002 REP	489.739	3.47
		ST-003	31.226	3.44
11/18/09	Debris Removal and Dredging in Areas G, J, L	ST-001	143.299	5.86
		ST-002	564.951	2.59
		ST-002 REP	525.736	3.75
		ST-003	32.640	2.62
12/28/09	Debris Removal and Dredging in Areas G and M	ST-001	211.380	5.66
		ST-001 REP	167.830	5.79
		ST-003	70.990	2.40

*REP designates a replicate sample (field duplicate)

Results of grain size analysis for the sediment trap and surface grab samples are presented in Table 6. Grain size was determined by a standard sieve method. This method utilizes a series of sieves and later differentiates size fractions into categories using the Wentworth scale. Due to very low sample volume, hydrometer analysis was

performed on only the trap samples recovered in September and October. The hydrometer method can quantify the distinction between clay, silt, and very fine sand, although very fine sand is difficult to quantify due to the rapid settling rate of the hydrometer. For all samples that were not analyzed using hydrometer methods, the clay and silt fractions are combined in Table 6 as “% silt,” and the very fine sand fraction is included in the percentage of “fine sand.” TOC results are also presented in Table 6. Sediment trap samples generally resulted in higher concentrations of organic carbon than surface sediment samples. Grain size varied between the locations of the sampling stations. For example, sediment samples from south of I-195 (ST-003) were generally composed of coarser material than samples from the upper harbor (ST-002). The trap stationed at ST-001 during the third deployment did not collect sufficient material for grain size analysis. Likewise, the fourth and fifth deployments resulted in insufficient volume for grain size analysis of trap samples from all three locations.

Table 6. Summary of physical results for sediment trap and surface sediment grab samples

Type of Sample	Sample ID	TOC (%)	% Clay (<1.95um)	% Silt (1.95-62.5um)	% Very Fine Sand (0.063-0.125mm)	% Fine Sand (0.125-0.25mm)	% Medium Sand (0.25-0.5mm)	% Coarse Sand (0.5-1.0mm)	% Very Coarse Sand (1.0-2.0mm)	% Gravel (>2.0mm)
Deployment 1 (07/01/09 - 08/05/09)										
Sediment Trap	ST-09G-T001-0-0	6.87	N/A	88.8	N/A	2.4	2.7	3.0	3.0	0.1
	ST-09G-T002-0-0	5.005	N/A	82.8	N/A	5.2	4.8	3.6	3.5	0.1
	ST-09G-T003-0-0	4.445	N/A	73.7	N/A	6.1	6.2	6.9	6.8	0.2
Surface Grab	S-09G-G001-0-0	6.54	N/A	84.8	N/A	5.4	4.7	2.5	2.6	0.0
	S-09G-G002-0-0	5.35	N/A	69.7	N/A	5.3	6.2	9.0	9.0	0.4
	S-09G-G002-0-0REP	5.13	N/A	88.6	N/A	3.4	3.3	2.3	2.3	0.1
	S-09G-G003-0-0	2.95	N/A	73.8	N/A	9.6	8.4	3.9	4.0	0.2
Deployment 2 (08/05/09-09/09/09)										
Sediment Trap	ST-09S-T001-0-0	8.09	17.9	36.3	17.1	8.3	6.4	6.4	5.3	1.6
	ST-09S-T002-0-0	5.17	38.3	48.9	10.0	0.8	1.0	0.7	0.3	ND
	ST-09S-T003-0-0	3.745	18.4	58.1	15.8	2.1	2.6	2.2	0.7	0.1
Surface Grab	S-09S-G001-0-0	7.84	45.2	27.4	12.4	7.6	3.7	2.3	1.2	0.2
	S-09S-G002-0-0	5.685	36.3	48.8	9.2	1.8	1.6	1.5	0.5	0.2
	S-09S-G002-0-0REP	5.775	33.3	43.0	8.0	3.1	3.7	3.8	2.3	0.5
	S-09S-G003-0-0	3.25	14.1	43.3	14.9	13.0	5.1	2.9	4.0	2.2
Deployment 3 (09/09/09-10/14/09)										
Sediment Trap	ST-09O-T001-0-0	5.88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	ST-09O-T002-0-0	3.84	38.4	47.7	10.8	0.8	1.7	0.5	0.1	ND
	ST-09O-T003-0-0	2.11	21.2	48.9	14.9	3.2	5.0	4.9	1.9	ND
Surface Grab	S-09O-G001-0-0	2.22	N/A	50.2	N/A	16.0	14.3	8.8	8.8	0.6
	S-09O-G002-0-0	4.145	N/A	40.8	N/A	12.2	13.0	16.0	15.9	1.7
	S-09O-G002-0-0REP	3.465	N/A	41.7	N/A	12.9	13.4	15.1	15.1	0.9
	S-09O-G003-0-0	3.435	N/A	53.8	N/A	20.0	16.2	4.0	3.9	0.2
Deployment 4 (10/14/09-11/18/09)										
Sediment	ST-09N-T001-0-0	4.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Trap	ST-09N-T002-0-0	4.17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	ST-09N-T003-0-0	3.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Surface Grab	S-09N-G001-0-0	5.855	N/A	68.9	N/A	11.8	9.9	3.8	3.8	1.3
	S-09N-G002-0-0	2.59	N/A	84.6	N/A	3.8	3.7	3.1	3.1	1.1
	S-09N-G002-0-0REP	3.75	N/A	85.4	N/A	3.2	3.1	2.6	2.7	0.9
	S-09N-G003-0-0	2.62	N/A	69.5	N/A	12.7	10.1	1.5	1.6	1.3
Deployment 5 (11/18/09-12/28/09)										
Sediment Trap	ST-09D-T001-0-0	4.965	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	ST-09D-T003-0-0	8.795	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Surface Grab	S-09D-G001-0-0	5.66	N/A	74.2	N/A	10.0	8.5	3.4	3.3	0.4
	S-09D-G001-0-0REP	5.785	N/A	74.5	N/A	10.0	8.3	3.2	3.1	0.4
	S-09D-G003-0-0	2.395	N/A	62.4	N/A	15.9	13.1	3.9	4.0	0.6

*REP designates a replicate sample (field duplicate)

3.3 QUALITY ASSURANCE/ QUALITY CONTROL

3.3.1 Field-Based Quality Control Samples

Replicate samples, or field duplicates, were collected in the field throughout the study to evaluate reproducibility of sampling and analytical techniques. These samples were tested and compared with their field sample counterparts for consistency in the following parameters: grain size, TOC and concentration of NOAA 18 PCB congeners. Replicates were collected from surface sediments only. Previously, replicate sediment traps were positioned at each location in order to evaluate sediment accumulation accuracy and reproducibility. This year, however, it was determined that the two sediment trap samplers at each location would need to be composited and treated as one sample in order to ensure enough material had accumulated for all desired analyses. Replicate surface sediment samples were collected once per field sampling event and analyzed for grain size, TOC and PCB concentrations. Results are displayed in Tables 5 and 6. When collected using replicate collection Method A (the accepted method), PCB congener concentrations of the replicates were comparable to the field samples. However, the replicates collected using Method B differ more in comparison to the field samples.

3.3.2 Laboratory-Based Quality Control Samples

Laboratory-based QC results are reported with the sample data as appendices to this report (Appendix C). Results from the analysis of laboratory-based QC samples for PCBs were evaluated against the project measurement quality objectives for accuracy and precision, as defined in the project QAPP (WHG 2009B). The evaluation is summarized in the QA/QC narrative of the Alpha Lab reports (Appendix C). Overall, results from the laboratory-based QC samples for all tests parameters indicate that the laboratory methods were in control and the data is usable. Sediment grab data were validated by a third party to Tier I+ standards for entry into the New Bedford Harbor Superfund Site Database; however, sediment trap data were not validated.

4.0 DISCUSSION

This section presents the analytical results, discusses sediment accumulation at the harbor sampling locations, and addresses trends in PCB concentrations at those sites. These data were collected to assess whether contaminated sediment particles are actively transported in the water column, and to quantify the rates at which deposition of that sediment occurs. The data were reviewed for the presence of statistically significant trends using the analysis of variance (ANOVA) exercise.

4.1 SEDIMENT DEPOSITION AND PHYSICAL CHARACTERISTICS

Sediment deposition rates were calculated by dividing the total mass of dry sediment collected in the trap over the total time the trap was deployed. The calculation is represented per unit area to take into account the size of the funnel mouth, and expanded over a one square meter. Trends in sediment deposition rate (g/m²/day) over the five deployment periods are presented in Figure 6.

Sediment deposition rates and the physical properties of accumulated suspended sediments varied greatly between sediment trap stations and deployment periods. The sediment traps located in the lower harbor (ST-003) accumulated more sediment than the traps in the upper harbor during all five deployments. This is evident in Figure 6. This result was surprising considering ST-003 is located over one-half mile south of any dredge-related activity, and ST-001 and ST-002 were located just 300 feet north and south of active dredging and debris removal occurring in Areas M, G and J, respectively. A possible explanation for this trend may be that the higher salinity of the lower harbor caused suspended fine grained material to flocculate and fall out of suspension. However, other explanations may include a change in physical hydraulic environment or a sediment source that is proximal to the ST-003 location. Additionally, the ST-003 station was down gradient of a CSO located near major construction activity, including the demolition and excavation of a large river-side building. Increased sediment deposition at the ST-003 location may have been the result of increased run-off from this construction site.

Sedimentation rates ranged across the study area from approximately 75 g/m²/day at ST-001 during October-November, to almost 340 g/m²/day at ST-003 during July-August. The first two deployment periods resulted in the greatest amounts of accumulated sediments in the traps at all three locations. Results from previous years indicate that sediment deposition rates vary seasonally, increasing from late spring to summer, reach a maximum during July and August, and decrease from late fall to winter. Results from the five deployments from the 2009 season are consistent with this seasonal trend. Maximum sedimentation rates occurred during the first deployment (mid-summer), and decreased thereafter (Figure 6). Table 7 presents the calculated daily sedimentation rate.

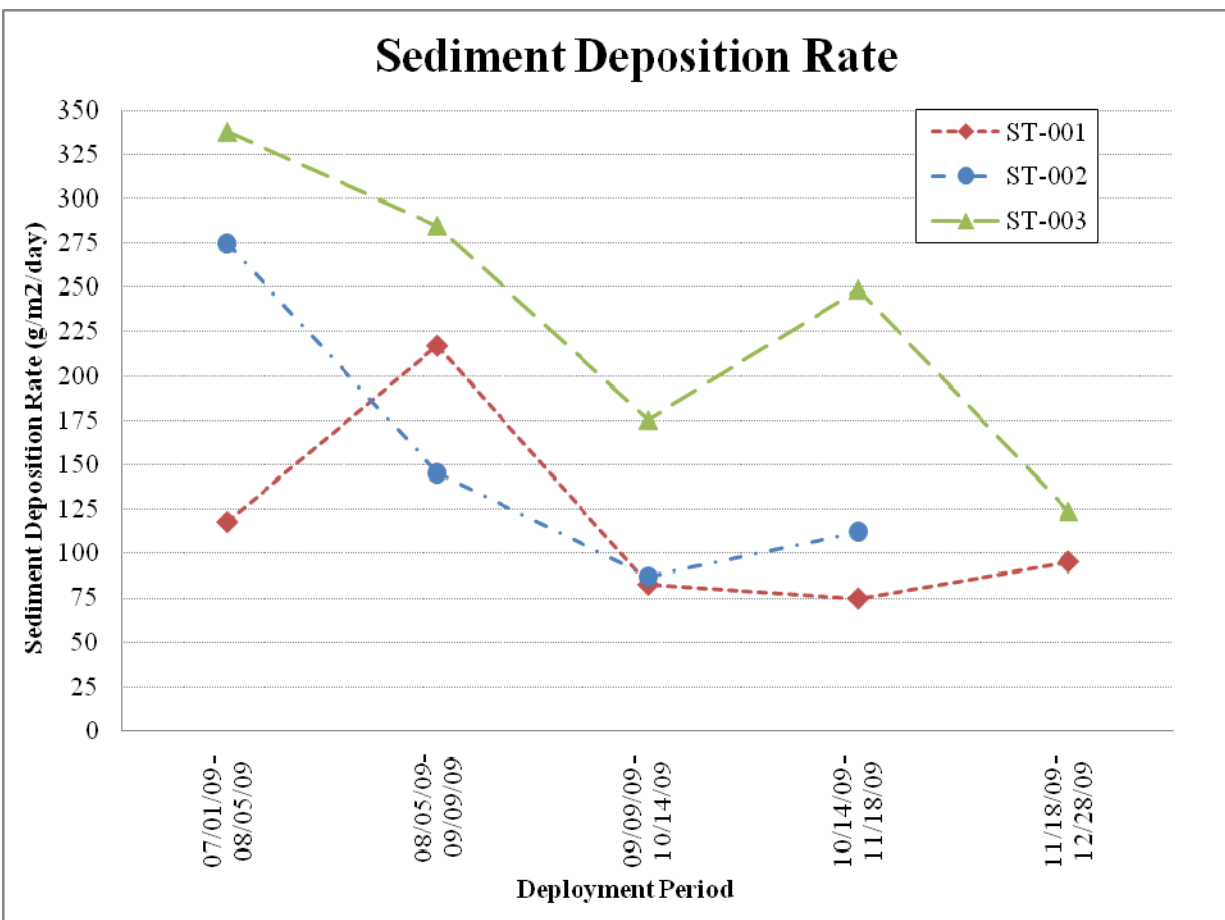


Figure 6. Sediment deposition rate by deployment period

Sediment trap samples were generally comprised of fine-grained sediments (clay and silt) and contained minimal gravel (<2%). Co-located surface sediments were highly variable. These were comprised of more sand and gravel than their sediment trap sample counterparts. Due to insufficient sample volume, grain size data are only available for three of the five sediment trap deployments. Sediment analysis was prioritized to ensure proper volume for PCB analysis, followed by TOC and grain size. Concentrations of organic carbon in the samples from the southernmost trap (ST-003) were lower than in the northern traps for all but one of the five deployments. Surface sediment samples from ST-003 also typically contained lower percent TOC, with the exception of the final sampling event on December 28, 2009. Organic carbon content was consistently under 10%, and averaged 4.7%. The content of TOC in sediment trap samples exhibited a seasonal trend in concentration similar to sedimentation rates, decreasing between summer and winter.

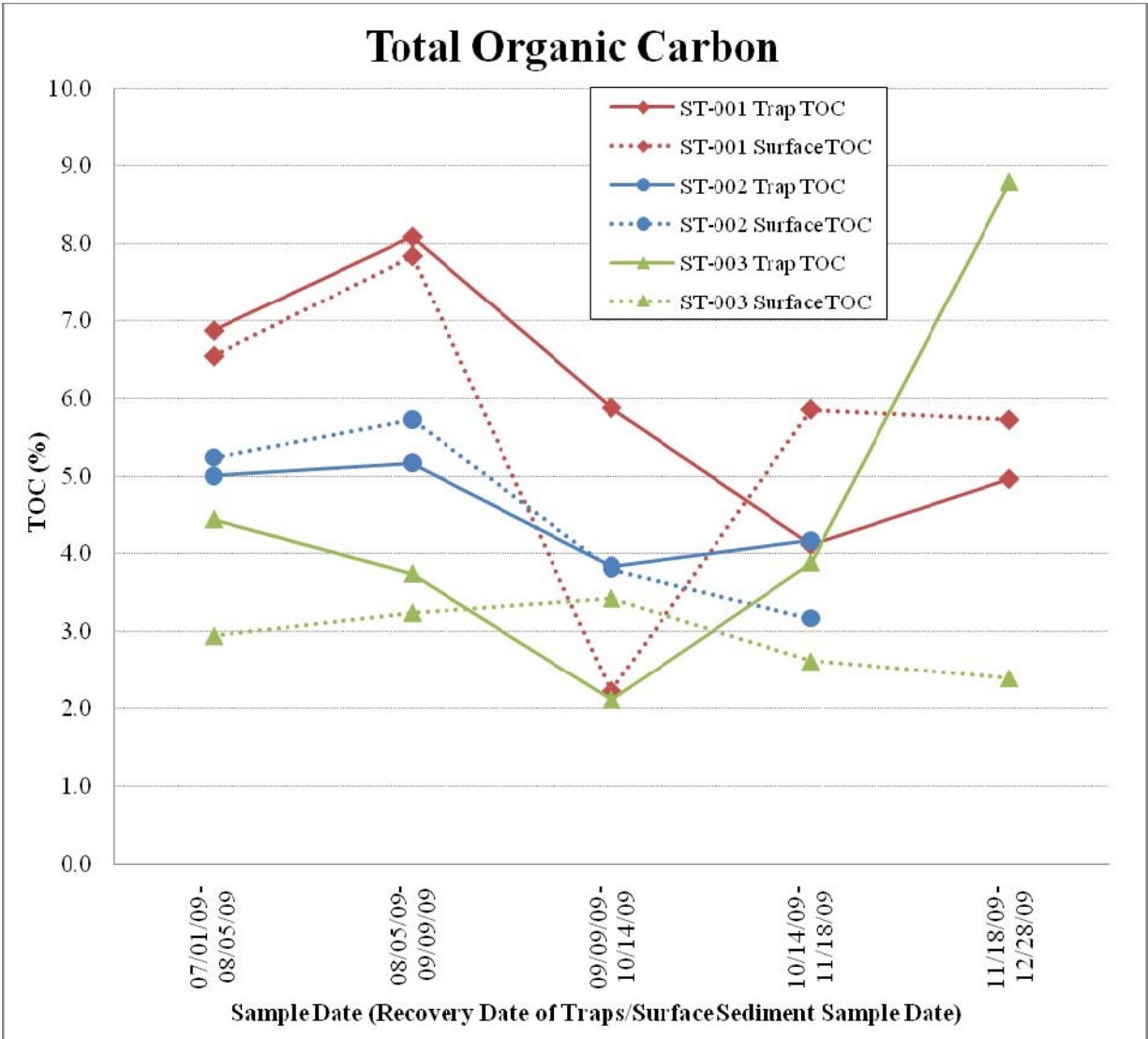


Figure 7. Total organic carbon concentrations for traps and surface grabs

4.2 POLYCHLORINATED BIPHENYLS

Daily flux of PCBs is defined as the deposition rate of PCB contaminated sediments from the water column to the bottom sediments. PCB flux was quantified using the calculated sediment deposition rate (g/m²/day) and the total PCB concentration of the sediment trap sample. The PCB flux is representative of the period during which the sediment trap was deployed. A summary of sediment deposition rate and PCB flux results for the 2009 season is provided in Table 7.

Table 7. Summary of sediment and PCB deposition rates (PCB Flux)

Deployment Period	Activity	Sample ID	Sediment Deposition Rate (g/m ² /day)	Total PCB Flux (mg/m ² /day)
Deployment 1				
07/01/09 - 08/05/09	Debris Removal and Dredging in Area G, J, L	S-09G-T001-0-0	117.67	3.52
		S-09G-T002-0-0	310.13	117.45
		S-09G-T003-0-0	337.80	14.09
Deployment 2				
08/05/09- 09/09/09	Debris Removal and Dredging in Area G, J, L	S-09S-T001-0-0	217.28	11.69
		S-09S-T002-0-0	145.36	32.22
		S-09S-T003-0-0	284.94	10.79
Deployment 3				
09/09/09 - 10/14/09	Debris Removal and Dredging in Area G, L Dredging in J	S-09O-T001-0-0	82.53	6.59
		S-09O-T002-0-0	86.95	24.43
		S-09O-T003-0-0	175.35	6.82
Deployment 4				
10/14/09 - 11/18/09	Debris Removal and Dredging in Area M, L, J Debris Removal in G	S-09N-T001-0-0	74.65	12.93
		S-09N-T002-0-0	112.20	27.93
		S-09N-T003-0-0	248.86	12.13
Deployment 5				
11/18/09 - 12/28/09	Debris Removal and Dredging in Area G, M Dredging in J, L	S-09D-T001-0-0	95.24	6.39
		S-09D-T002-0-0	N/A	N/A
		S-09D-T003-0-0	123.82	15.38

Flux of PCBs at the northernmost (ST-001) and southernmost (ST-003) locations remained relatively constant throughout the dredge season, averaging 8.22 ± 3.95 and 11.84 ± 3.31 mg/m²/day, respectively. At the central trap, however, daily flux of PCBs ranged from 24.34 to 104.06 mg/m²/day. The average rate of PCB deposition at ST-002 was 50.51 ± 44.74 ; removing the initial spike in July – August, the remaining three deployments (115 days) averaged 28.19 ± 3.90 mg/m²/day. Statistically, this average rate is significantly greater than the traps at ST-001 and ST-003, over the same three month deployment period. Despite less total sediment deposition compared to ST-003, the greater PCB deposition at ST-002 may be attributed to the station's close proximity to remediation activities and to the Aerovox facility, where sediment PCB concentrations are exceptionally high. In other words, although ST-002 accumulated less sediment than ST-003, the sediments contained higher concentrations of PCBs. Figure 8 depicts the total daily PCB flux for each location and deployment period.

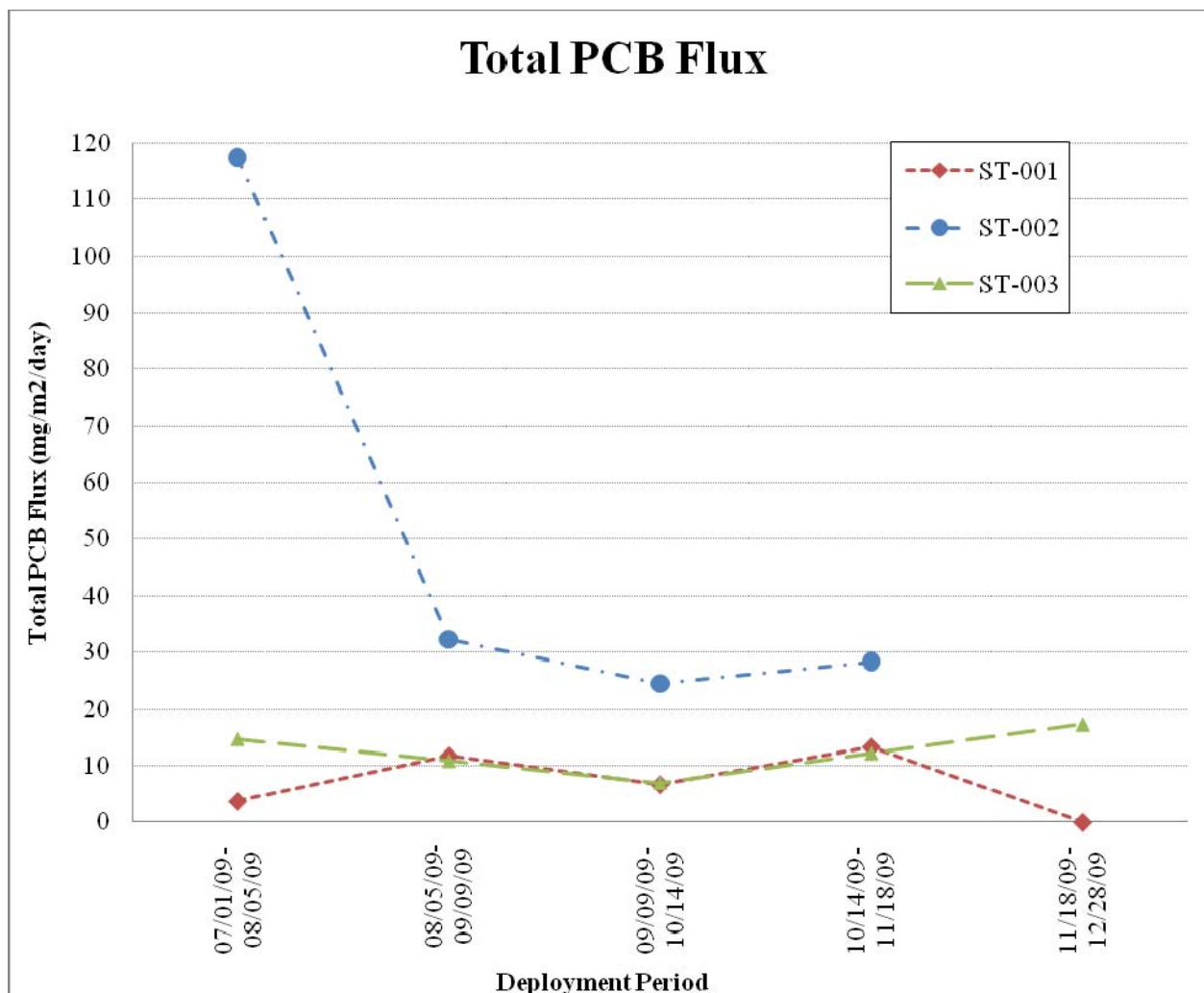


Figure 8. PCB deposition rate (PCB Flux)

A review of the analytical data reveals two distinct patterns, one between PCB concentrations and station location, and the other between sediment traps and surface sediments. Figure 9 depicts PCB concentration in sediment traps and surface grabs over the course of the 2009 season. The figure highlights the significantly (ANOVA quantified) greater concentrations of ST-002 versus the other stations in both sediment traps and surface sediment samples. This relationship was alluded to in Figure 8, but it is clear from Figure 9 that the positioning of ST-002 in a “hot spot” of contaminants has influenced the concentrations of PCB contaminants in the traps and surface sediment samples. Furthermore, ST-002 was located in closest proximity to remediation activities, whereas ST-001 is situated in a previously remediated area, and ST-003 is in a far field position known to have lower contaminant levels. Analysis of variance reveals that PCB concentrations in sediment trap samples from ST-002 were significantly different than those from ST-001 and ST-003. Differences between PCB concentrations in ST-001 and ST-003 sediment traps were statistically insignificant.

A comparison of PCB concentration between sediment traps and surface samples demonstrates varying relationships between the three sites. At ST-002, surface sediments

consistently contained a greater concentration of PCBs over the sediment trap samples (Figure 9.) In this location, the difference in PCB concentration between the two sample types is statistically significant. This may be due to the positioning of the trap in a location of high contamination that has yet to be remediated. Suspended sediments in the vicinity of ST-002, while of high PCB content, are not as contaminated as the surface sediments in that location. Differences in contaminant concentrations between trap and surface sediment at ST-001 were variable and insignificant. At ST-003, the sediment traps contained a consistently higher concentration of PCBs than their surface sample counterparts, although the difference is statistically insignificant.

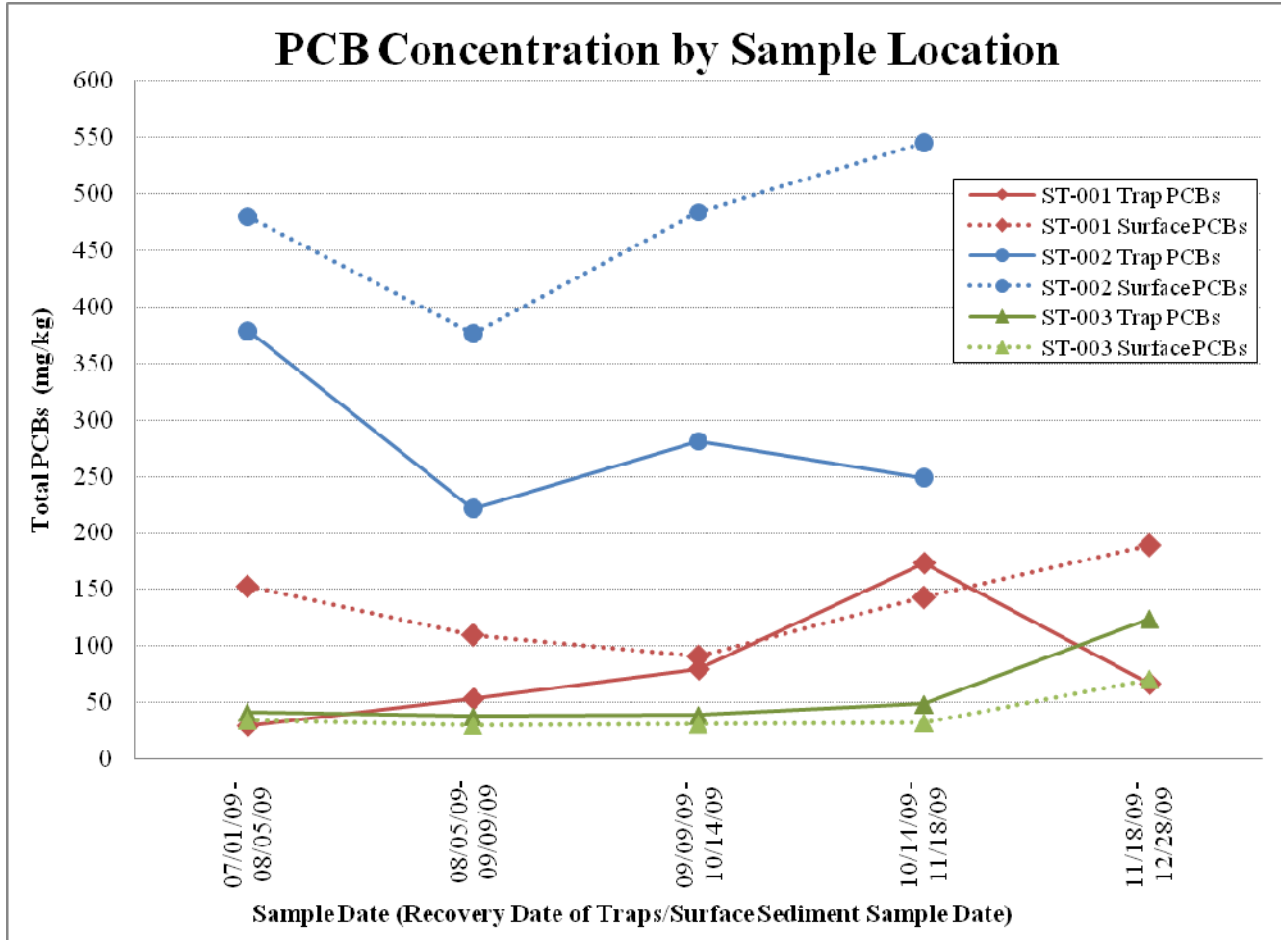


Figure 9. Correlation of PCB concentrations between sediment trap samples and co-located surface sediment grab samples

The general relationships between stations and among the two sample types suggests that the suspended sediments transported out of the upper harbor have a higher concentration of PCBs than the sediments already deposited in the lower harbor. All three stations confirm that sediment associated PCB transport is active in the system. The variation in the relationships between sediment trap and surface sediment contaminant levels indicates the possible existence of two or more sediment sources in the study area: the resuspension of contaminated sediments into the water column, and at least one other

source of “clean” sediments. “Clean” sources could be fluvial, CSOs, biological or lower harbor sediments being transported into the estuary.

Sediment trap samples and surface sediments samples were comparable in terms of the PCB distribution patterns and indicate that sediments deposited in the trap samplers are representative of the material that has accumulated on the estuary floor.

4.3 DISCUSSION SUMMARY

The 2009 sediment trap study has confirmed that PCB-contaminated sediments are actively deposited at all monitored locations in the study area. Contaminant transport may be contributing to short-term changes in surface sediment PCB levels in the lower harbor and north of Wood Street. Pre-dredge and post-dredge period monitoring data were not available from 2009 as data were collected only during periods of active remediation activities; this hindered any assessment of whether the active remediation had an impact on the ambient sedimentation patterns of the harbor. The absence of samples for months of inactivity prevents the establishment of conclusions regarding sources of suspended sediments and potential for recontamination. Collection of post-dredge period data was attempted, however due to the extension of the dredge season into winter ice buildup prevented the ability for successful collection of samples using the established methodology. Continued monitoring during the pre- and post-dredge period in 2010 would be valuable in the assessment of site conditions and to better understand potential impacts that ongoing remediation activities may have on the estuarine system.

5.0 REFERENCES

Woods Hole Group. 2009A. Environmental Monitoring, Sampling and Analysis Water Quality Monitoring Field Sampling Plan. New Bedford Harbor Superfund Site, New Bedford, MA. Prepared under Contract W912WJ-09-D-0001 Task Order No 0010 for the U.S. Army Corps of Engineers New England District, Concord, MA.

Woods Hole Group. 2009B. Environmental Monitoring, Sampling and Analysis Quality Assurance Project Plan Addendum. New Bedford Harbor Superfund Site, New Bedford, Massachusetts. Prepared under Contract W912WJ-09-D-0001 Task Order No 0010 for the U.S. Army Corps of Engineers New England District, Concord, MA.

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APPENDIX A: *IN-SITU* WATER QUALITY DATA FIELD LOGS

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Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Sediment traps / grab samples

P/N George Hampson
K. McCarthy
M. Walsh
OVERCAST

Date
Page

7/1/09
1 of 1

Tide Information

High	0340
Low	0923
High	1617
Low	2305

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
ST-003	10:52	41°39.197'	70°05.126'	720'	1.03	2.6	6.85	28.83	20.71	
ST-003	10:53	↓	↓	"	5.01	3.2	6.49	28.99	20.57	
ST-003	10:54	↓	↓	"	10.12	3.5	6.21	29.56	20.21	
ST-003	10:55	↓	↓	"	15.00	2.4	5.93	30.26	19.88	
ST-003	10:57	↓	↓	"	29.02	4.9	6.01	31.07	19.04	
ST-002	11:54	41°40.373'	70°54.949'	7.3	1.01	6.3	7.81	17.62	22.67	
ST-002	11:56	↓	↓	"	3.00	8.8	5.84	25.49	21.80	
ST-002	11:58	↓	↓	"	6.02	21.8	4.31	28.24	21.34	
ST-001	12:15	41°40.726'	70°55.020'	4.0	0.96	5.0	7.13	1.37	20.91	
ST-001	12:16	"	"	"	3.02	13.2	3.32	27.18	21.37	



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Samples taken at sites of sediment traps
activity in L, J and G
R/V George Hampton
K. McCartney
M. Walsh
Overcast, wind 10-20 mph out of S

Date 8/5/09
Page 1 of 1

Tide Information	
High	0816
Low	0150
High	2036
Low	1339

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
ST-001	09:10	41°40.726	70°55.022	5.6	0.56	3.0	4.87	23.32	23.40	@ NBH-NWS sed trap
"	09:11	"	"	"	2.02	5.8	2.96	15.75	25.34	"
"	09:12	"	"	"	3.03	7.4	1.86	20.90	25.54	"
"	09:13	"	"	"	4.52	7.1	1.61	23.65	25.54	"
ST-002	11:04	41°40.375	70°54.952	8.3	0.76	8.5	10.18	6.24	23.55	@ NBH-SARCAL sed trap
"	11:06	"	"	"	2.59	7.6	2.42	25.20	25.53	"
"	11:06	"	"	"	4.60	5.3	3.32	26.31	25.39	"
"	11:10	"	"	"	7.00	5.4	3.36	26.50	25.25	"
ST-003	12:55	41°39.225	70°55.153	18.0	0.58	4.4	9.91	25.87	25.89	@ sed traps Sof 195
"	12:55	"	"	"	3.01	4.4	9.61	25.95	25.84	"
"	12:57	"	"	"	8.16	1.8	6.73	27.21	25.13	"
"	12:58	"	"	"	12.14	1.6	4.92	27.84	24.79	"
"	12:59	"	"	"	16.95	2.2	2.27	20.05	23.90	"

Sediment Trap Study Summary Report W912WJ-09-D-0001



New Bedford Harbor Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location: AREA 6
 Dredging Description: BOUNDARY @ M/G
 Survey Vessel: R/V GEORGE HAMPSON
 Chief Scientist: D. WARSIT
 Sampling Technician: D. WARSIT, M. WARSIT
 Vessel Captain: M. WARSIT
 Other Personnel:
 Weather Conditions: SUNNY, WINDY (NW 15-20 knots)

Date: 9/9/2009
 Page: 1 of 1

Tide Information	
High	1057
Low	1631
High	
Low	

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity NTU	DO $\mu\text{S/L}$	Salinity PPT	Temp $^{\circ}\text{C}$	Notes
ST-001	1049	N. 41° 40.723'	70° 55.021'	6.0'	0.52'	8.2	5.75	26.98	22.71	WA profile, pre-sea grab.
"	1053	"	"	"	2.55'	7.8	4.89	27.60	22.74	"
"	1055	"	"	"	5.02'	11.1	4.47	27.71	22.70	"
ST-002	1157	41° 40.372'	70° 54.954'	8.8'	0.51'	3.6	7.29	24.76	22.43	WA profile, pre-sea grab
"	1158	"	"	"	4.12	3.1	6.36	27.66	22.09	"
"	1201	"	"	"	6.47	4.6	5.36	28.59	21.99	"
ST-003	1323	41° 39.220'	70° 55.155'	21.2'	1.01'	0.9	6.13	29.35	22.00	WA profile, pre sea
"	1325	"	"	"	10.23	0.9	5.77	29.59	21.97	"
"	1328	"	"	"	18.79	3.1	4.57	30.49	21.70	"

Sedim + Grabs



Attachment 2
Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

R/V George Hampson
D. Bailey
M. Welch
Sunny

Date 10/14/09
Page 1 of

Tide Information
High
Low
High
Low

Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
ST-001	08:41	41°40.719	70°55.019	4.0	0.33	1.8	8.10	25.68	10.85	
	08:42	" "	" "	"	1.68	8.6	6.25	24.51	13.50	
	08:44	" "	" "	"	3.02	5.9	5.50	25.04	13.52	
ST-002	09:35	41°40.364	70°54.964	4.4	0.66	12.0	8.10	23.34	13.17	
	09:36	" "	" "	"	1.68	7.1	7.26	25.45	13.73	
	09:37	" "	" "	"	3.55	5.7	6.72	26.80	14.28	
ST-003	11:21	41°39.217	70°55.164	17.50	16.75	3.5	7.31	28.27	15.05	
	11:23	" "	" "	"	11.24	1.0	7.36	28.18	14.96	
	11:24	" "	" "	"	5.56	0.9	7.48	27.79	14.58	
	11:25	" "	" "	"	0.86	0.6	7.89	27.22	14.14	



Attachment 2 Water Quality Monitoring *In situ* Data Log Sheet

Dredging Location
Dredging Description
Survey Vessel
Chief Scientist
Sampling Technician
Vessel Captain
Other Personnel
Weather Conditions

Sediment Grabs + Traps

R/V George Hampton
D. Bailey

Date 11/18/09
Page 1 of 1

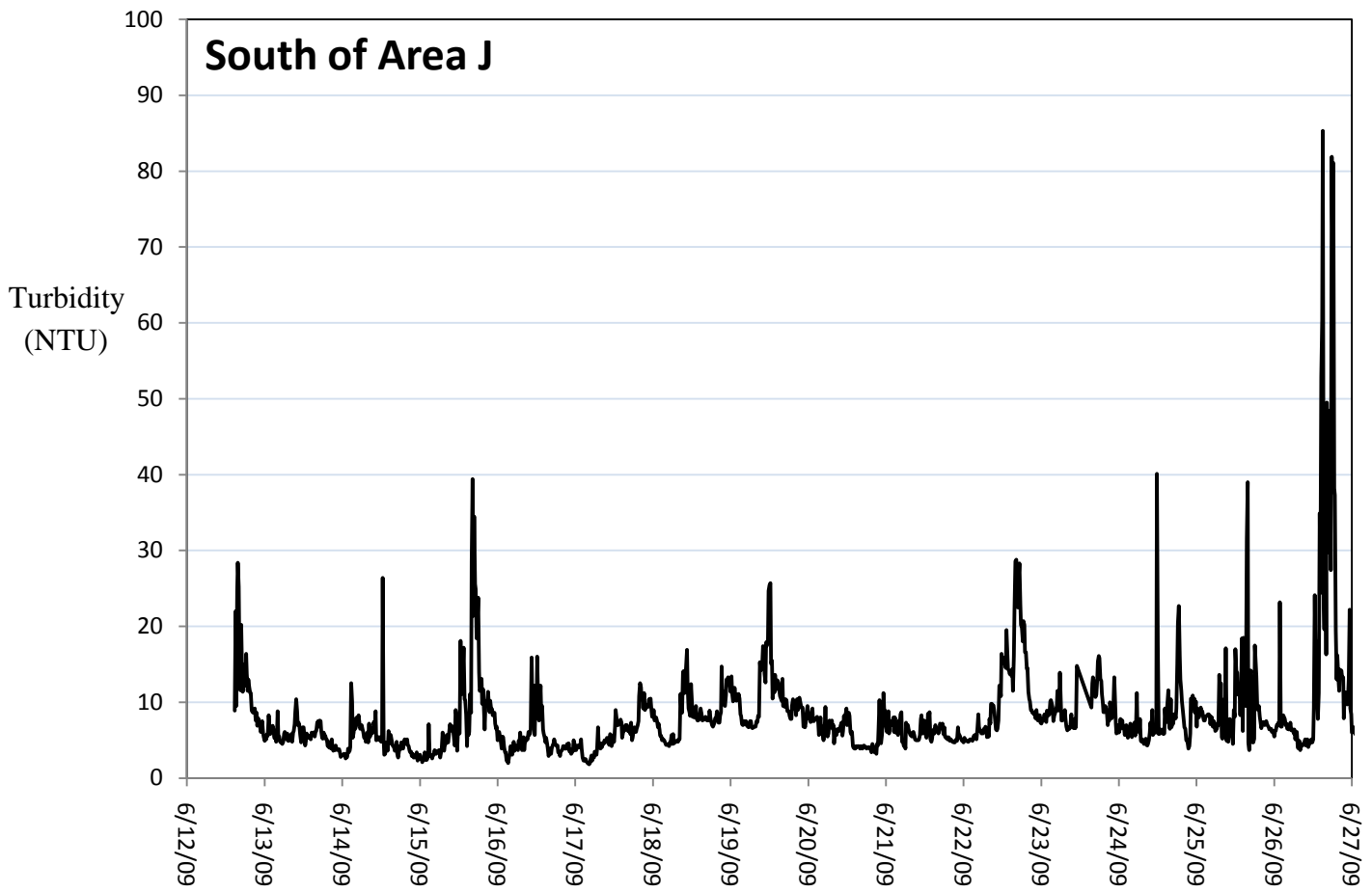
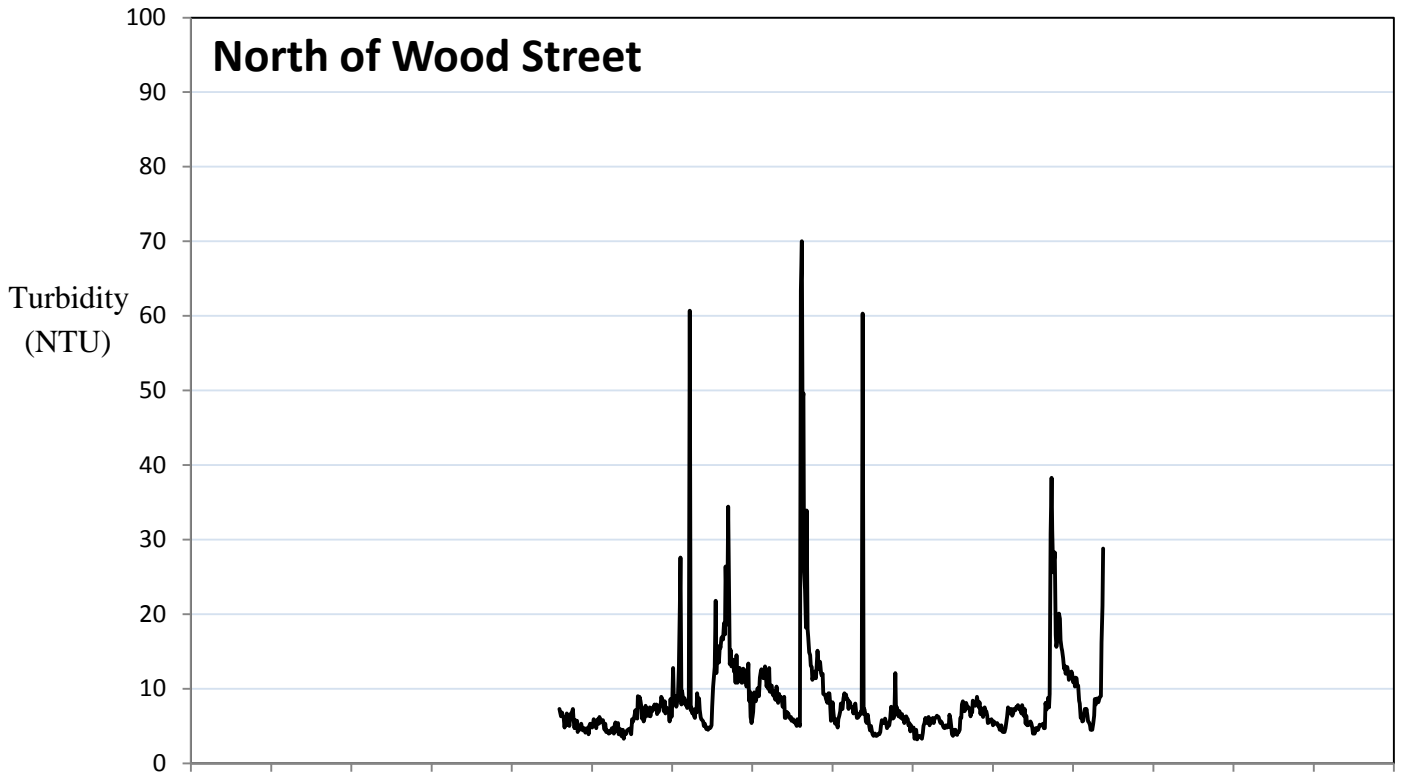
Tide Information

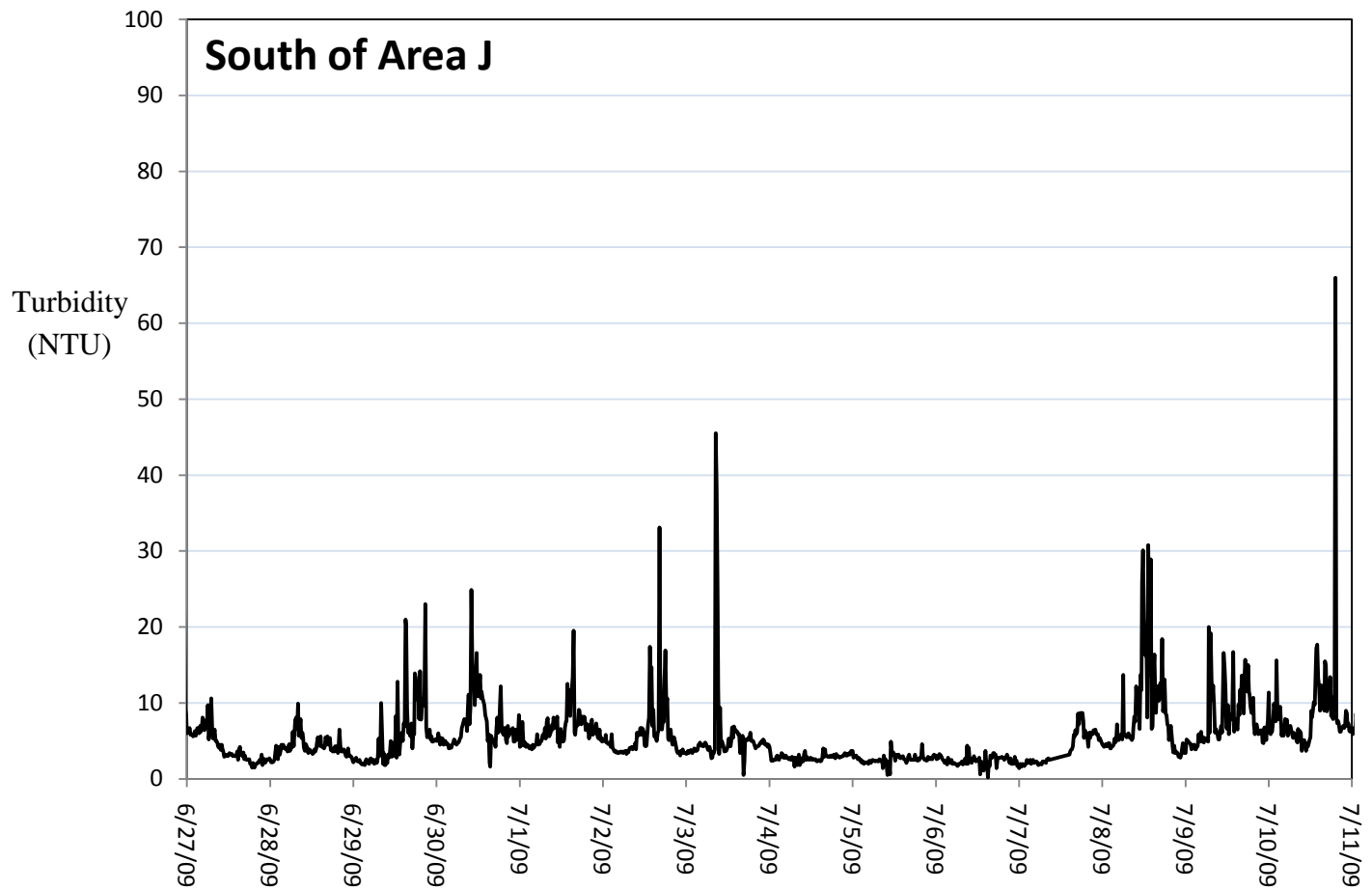
High 08:23
Low 01:35
High 20:42
Low 14:27

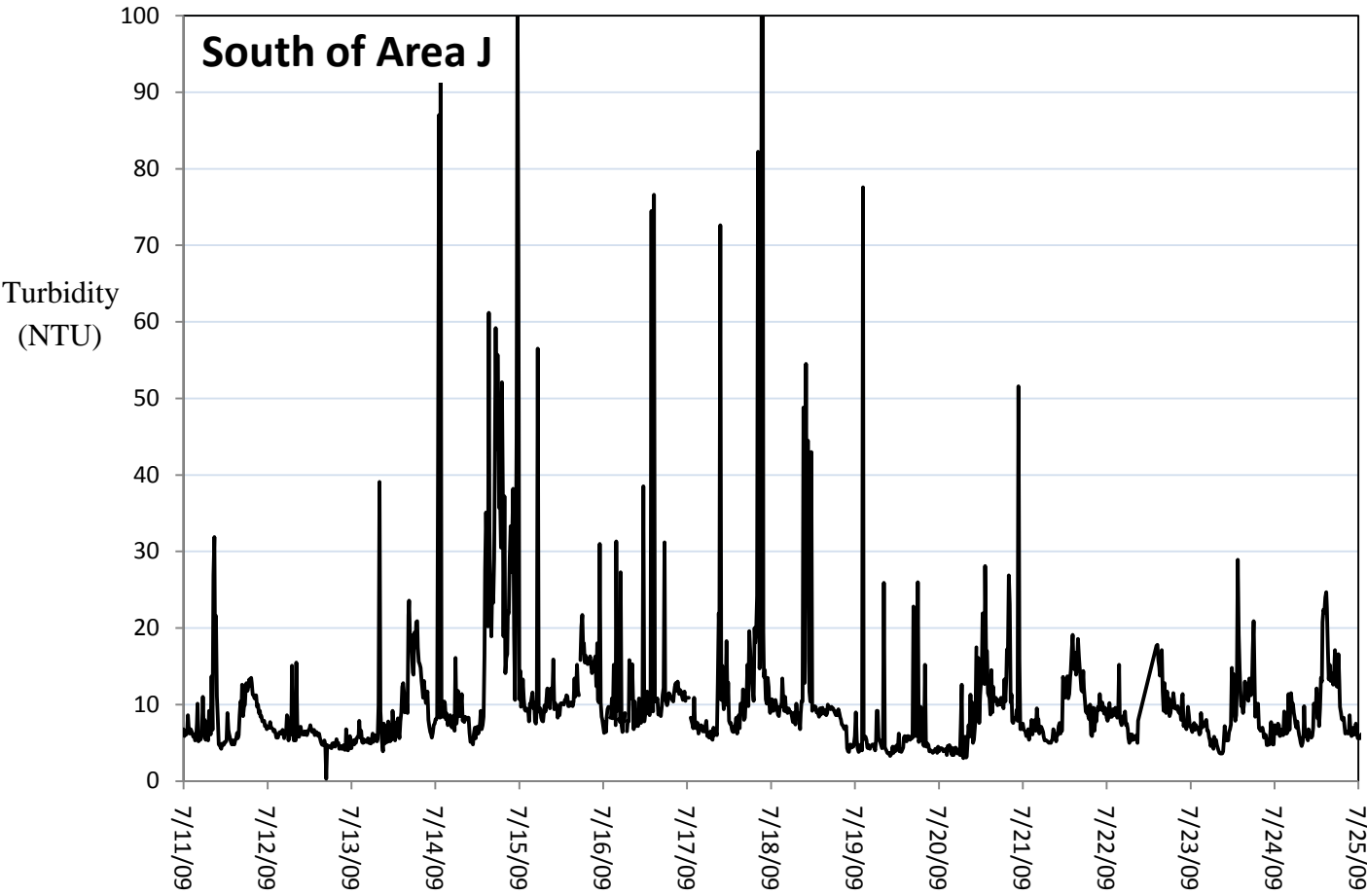
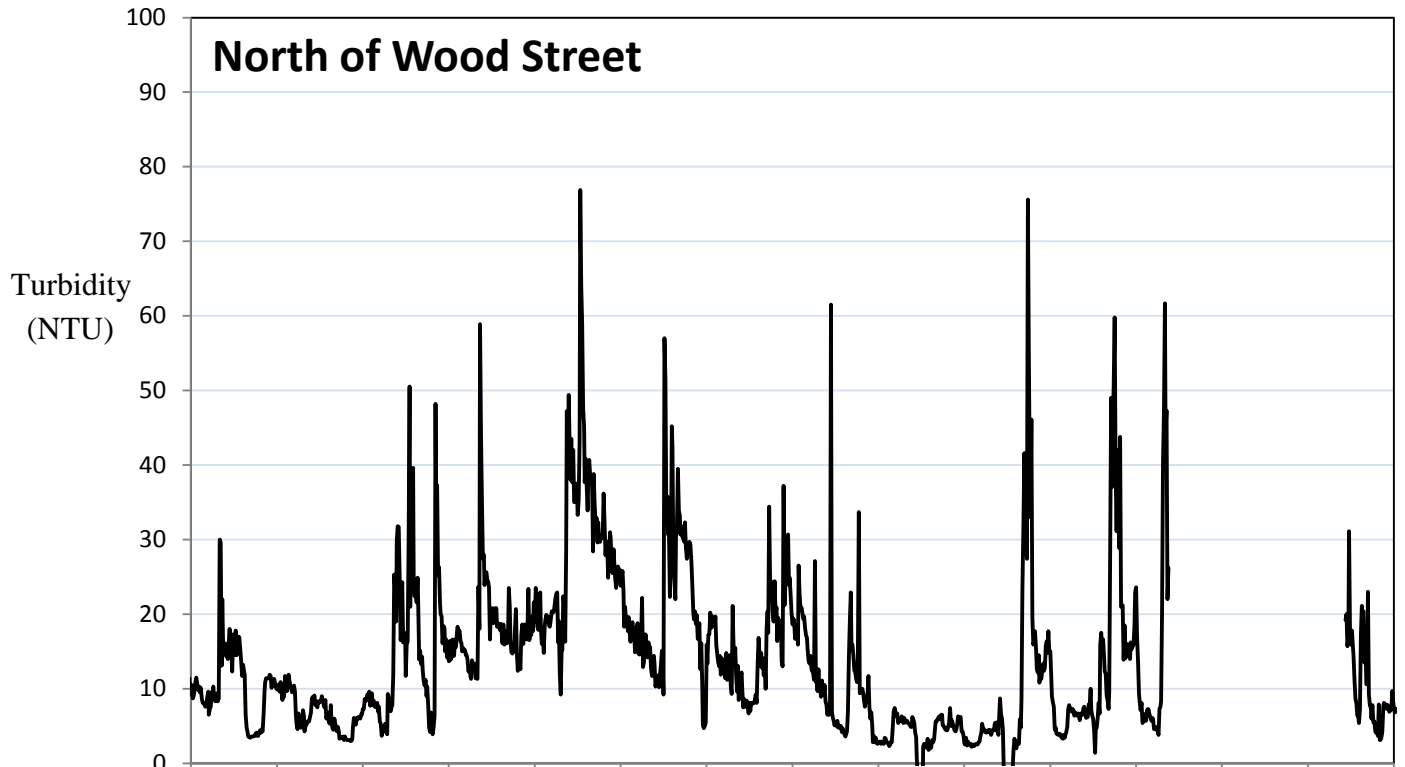
Station Name	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
ST-001	09:08	41°40.719	70°55.021	6.7	1.73	2.0	7.43	20.70	10.78	
" "	09:09	" "	" "	"	4.16	3.6	6.93	26.40	11.24	
" "	09:16	" "	" "	"	6.33	4.4	6.89	26.67	11.32	
ST-002	09:59	41°40.365	70°54.955	7.3	1.68	4.4	8.07	26.20	10.97	
	10:00	" "	" "	"	3.30	3.3	7.90	27.22	10.95	
	10:01	" "	" "	"	6.76	1.5	7.89	27.84	10.98	
ST-003	11:05	41°39.218	70°55.161	21.7	18.23	0.0	8.41	28.00	10.86	
	11:06	" "	" "	"	11.79	0.5	8.37	27.82	10.78	
	11:07	" "	" "	"	7.33	0.0	8.35	27.83	10.79	
	11:09	" "	" "	"	1.56	0.2	8.35	27.76	10.79	

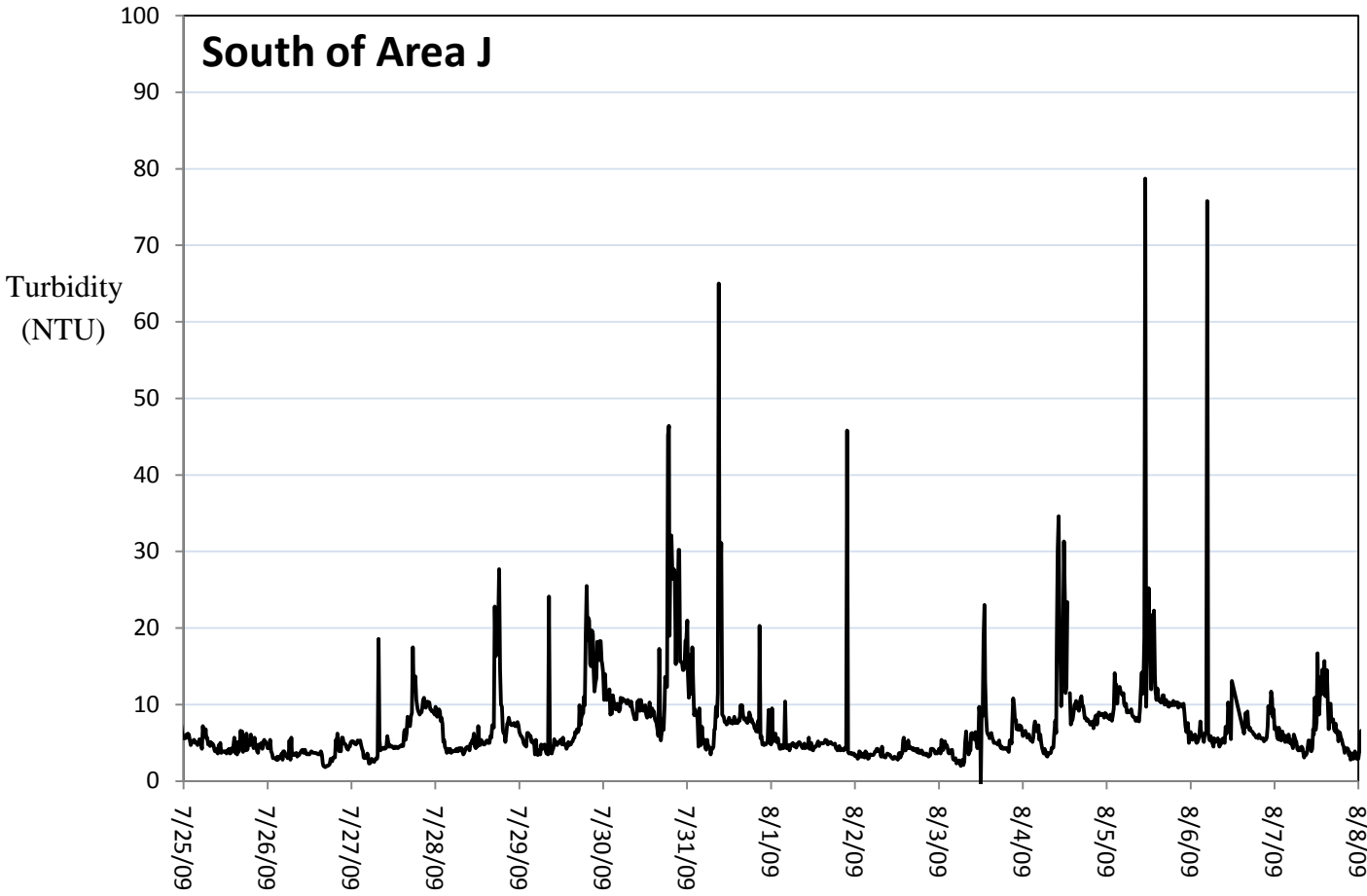
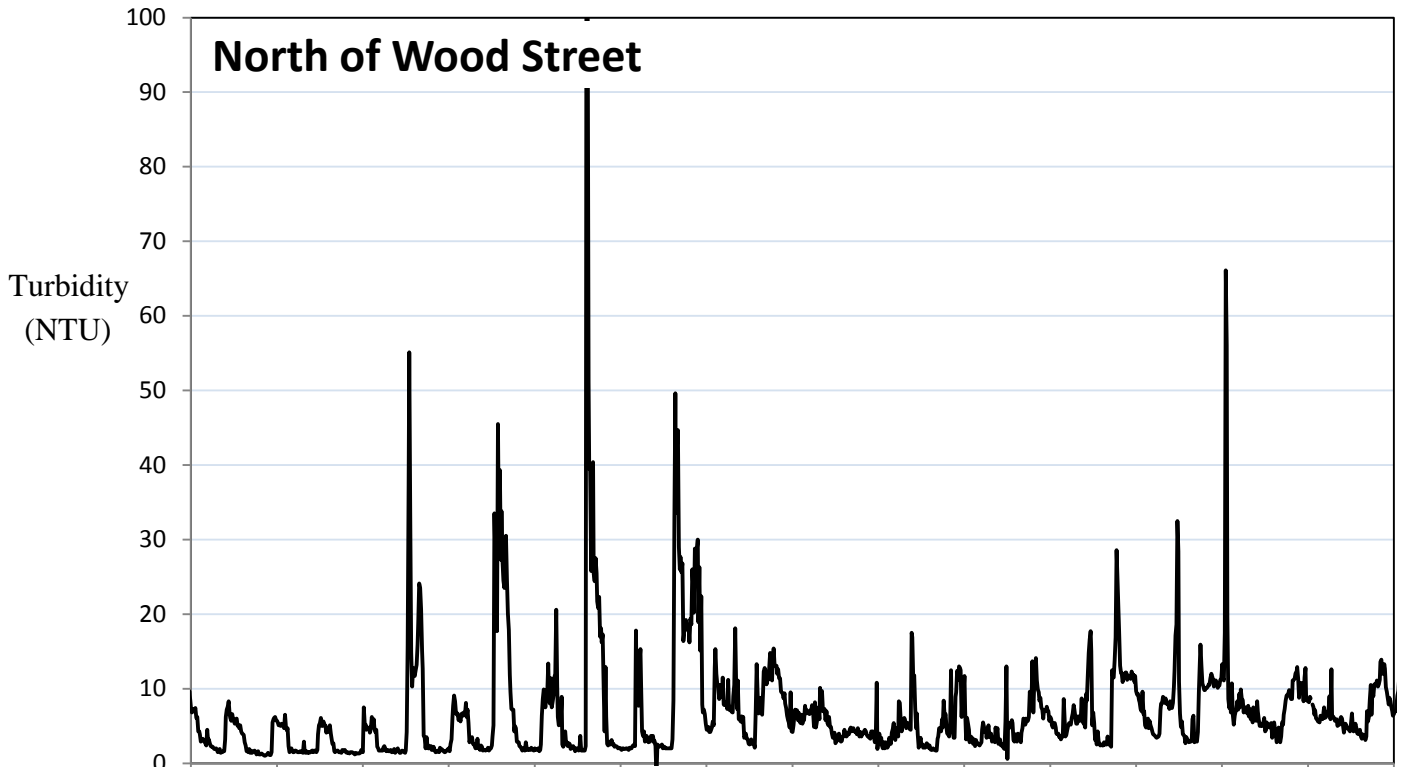
**APPENDIX B: CONTINUOUS *IN-SITU* FIXED STATION WATER
QUALITY DATA**

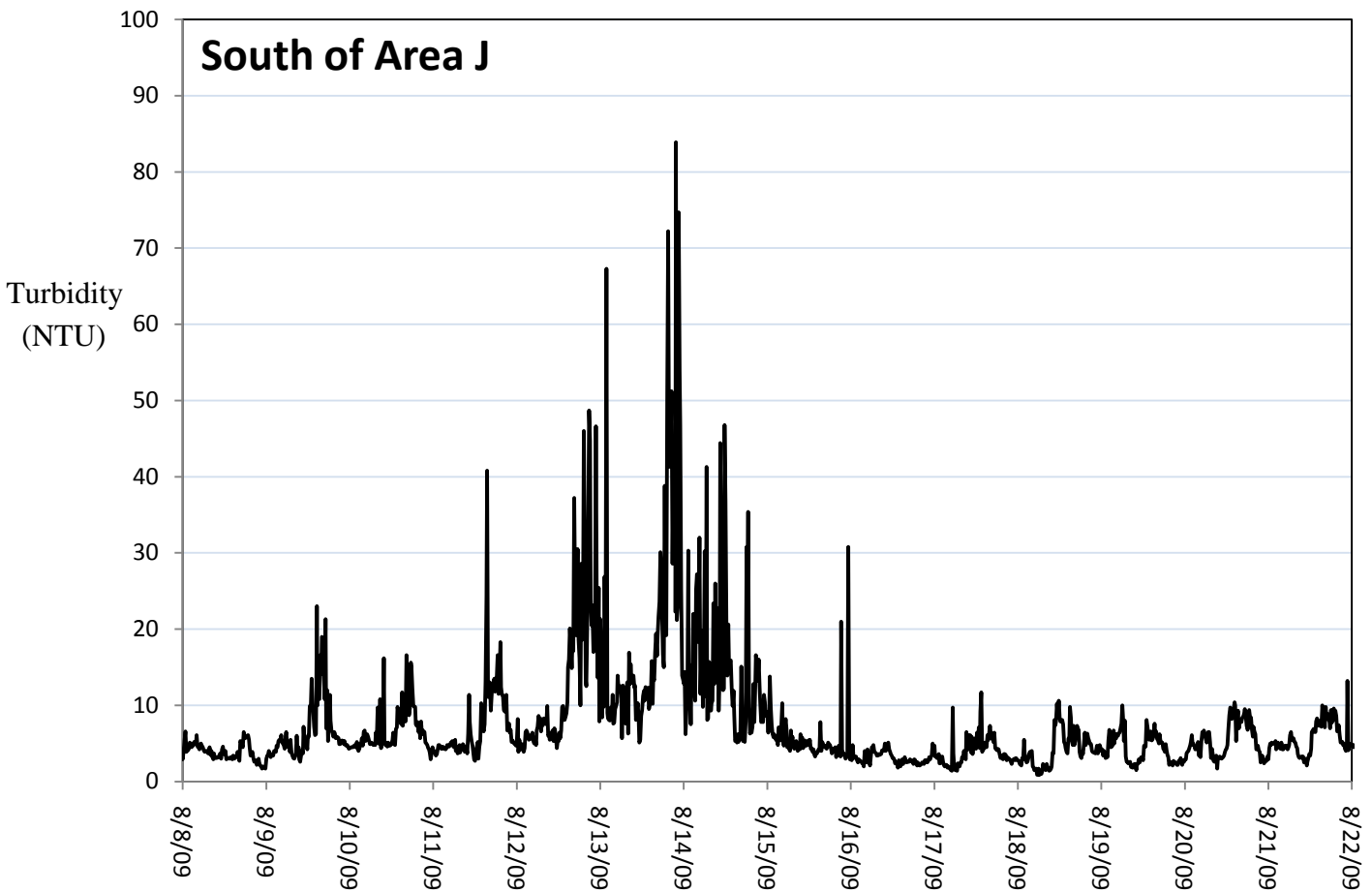
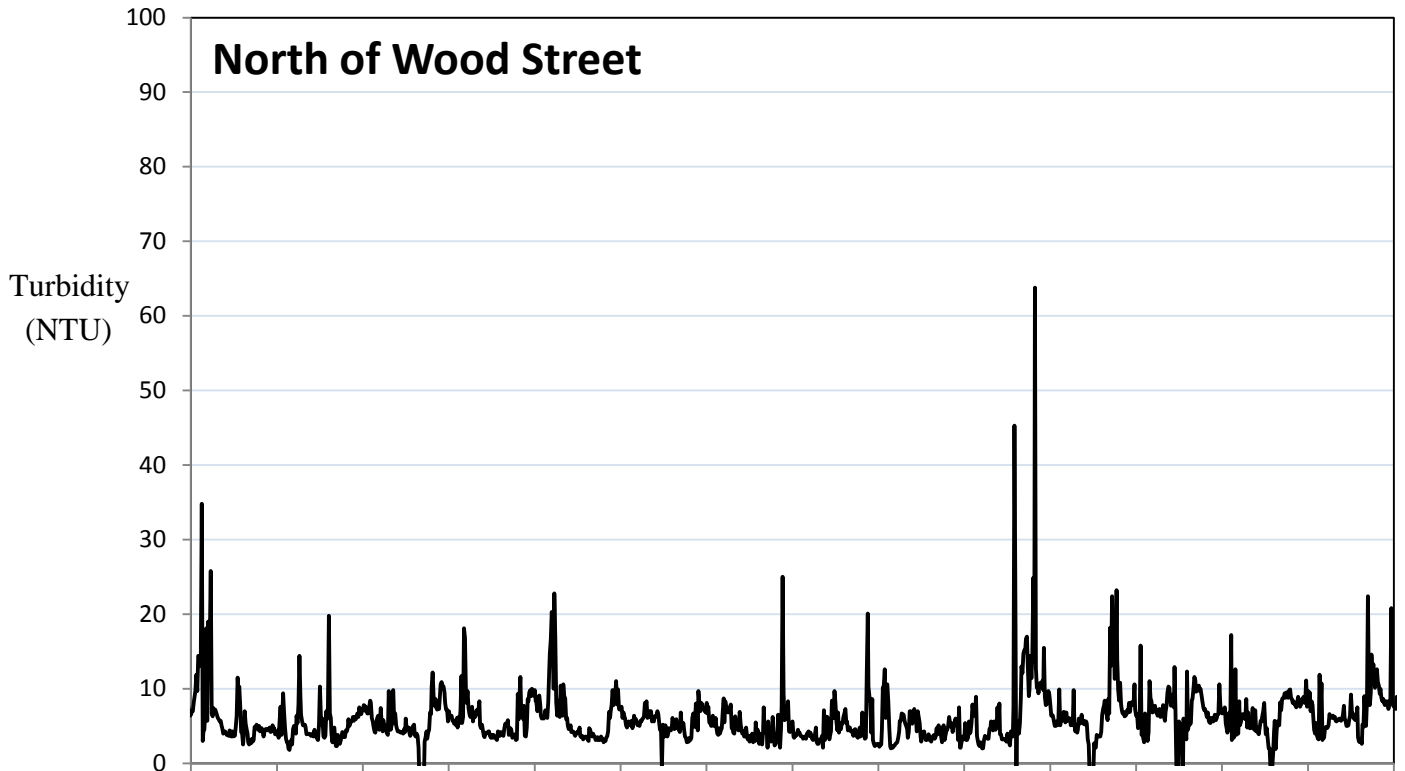
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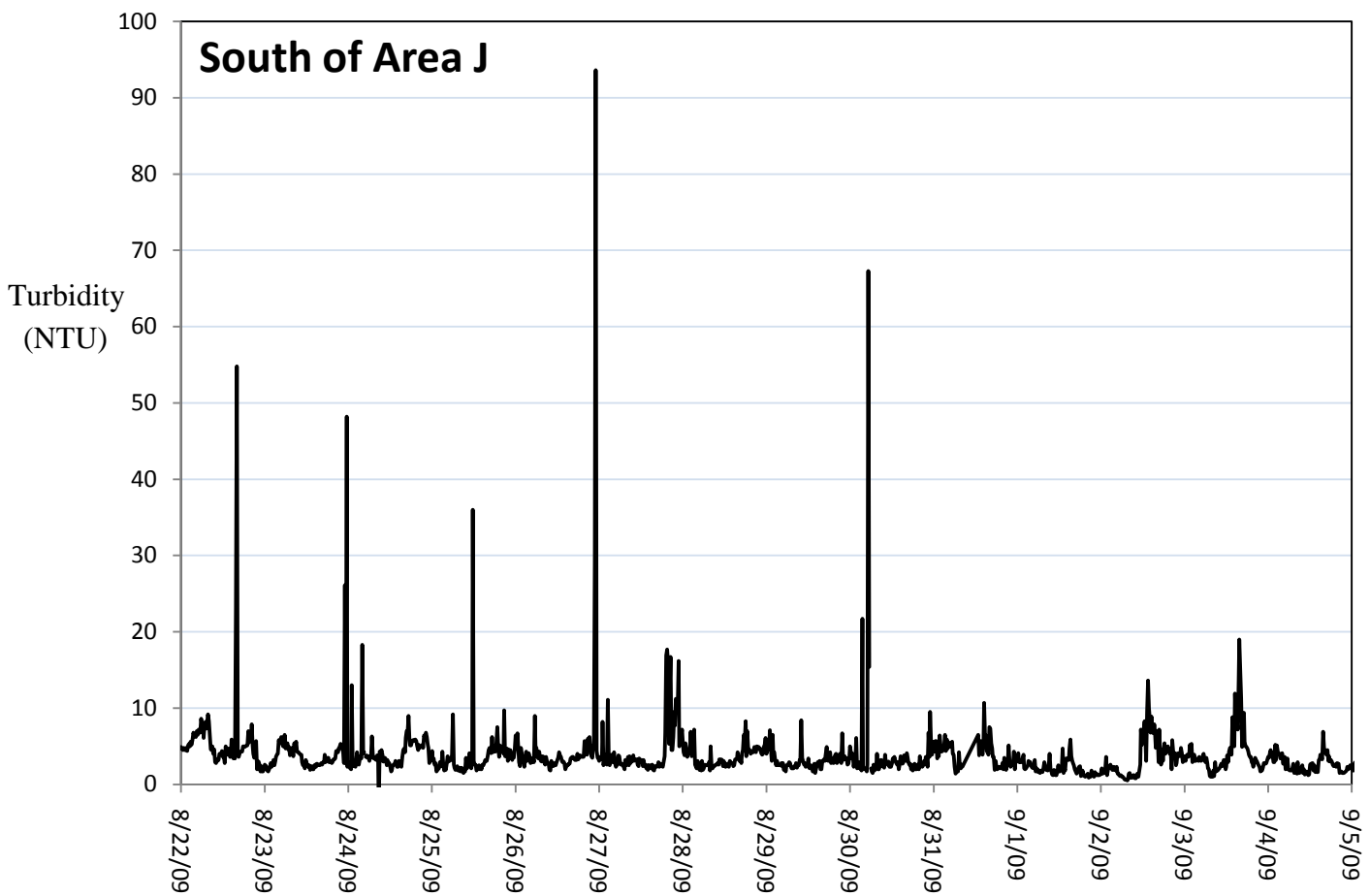
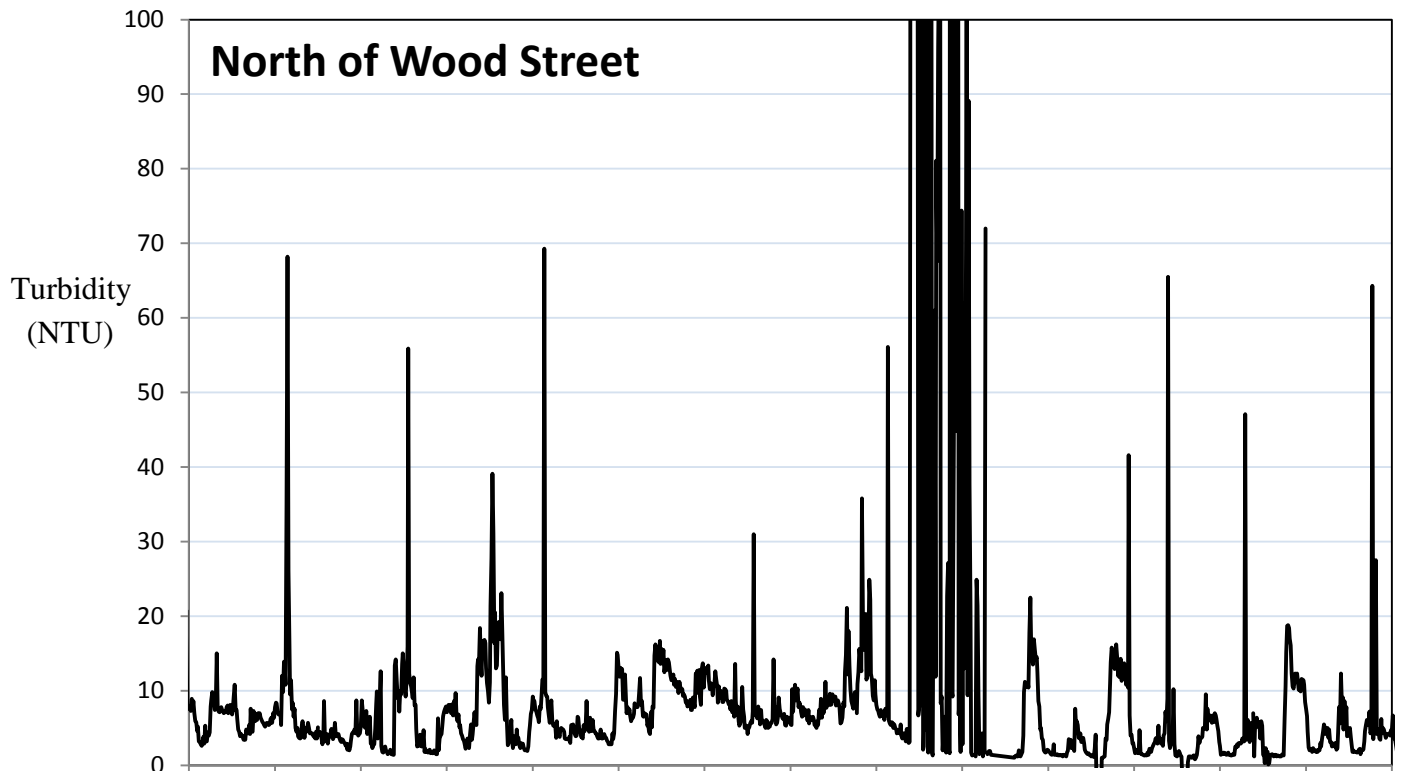


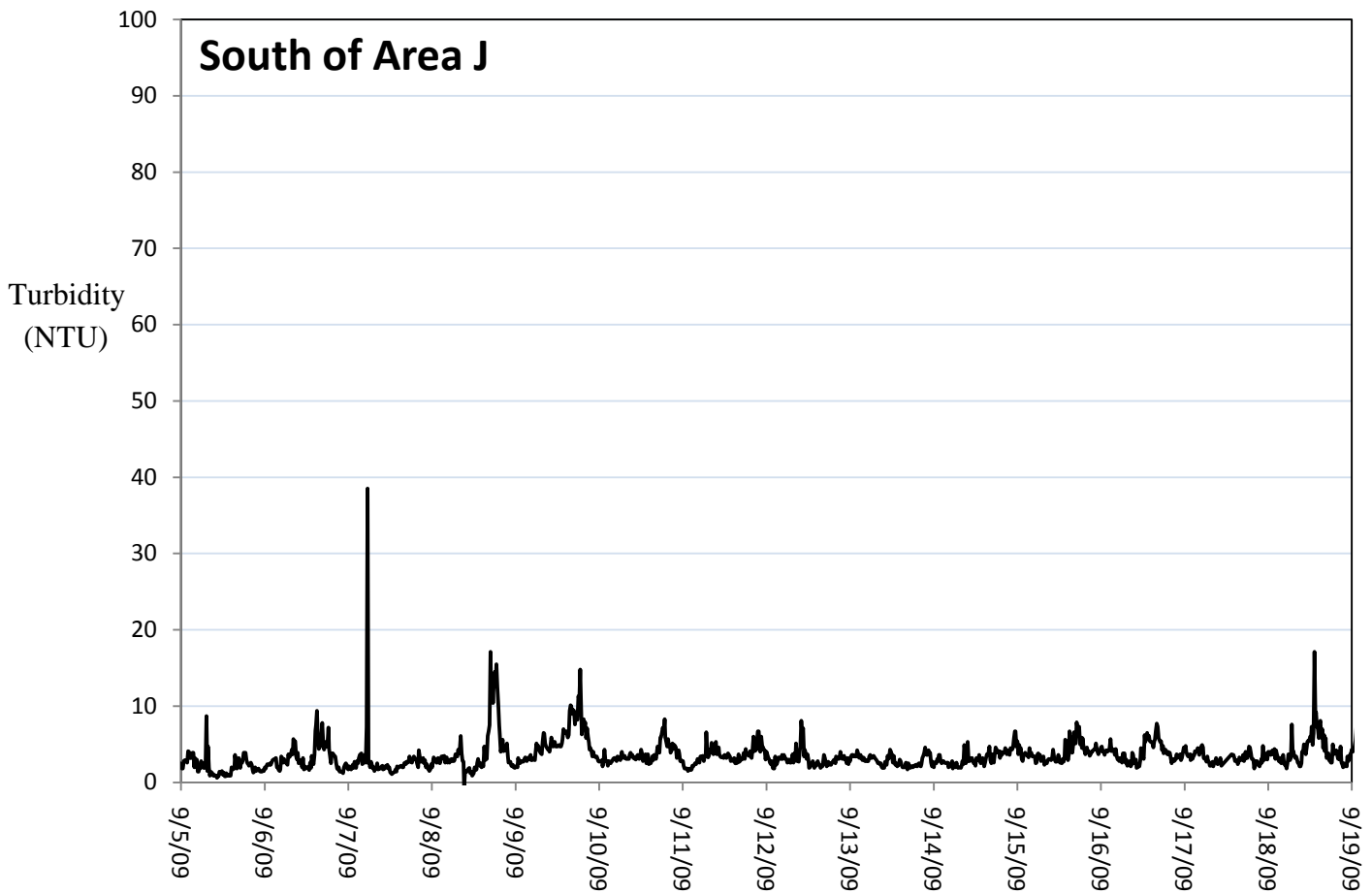
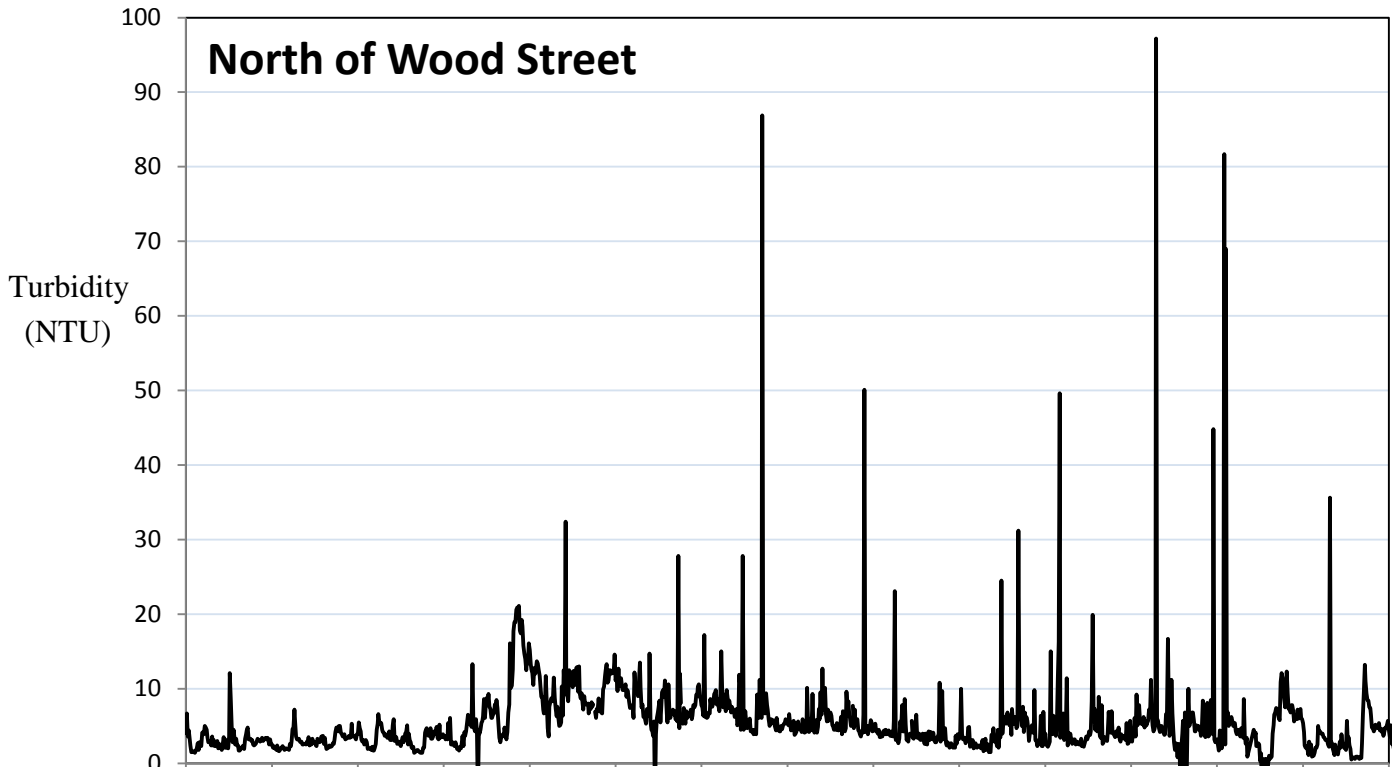


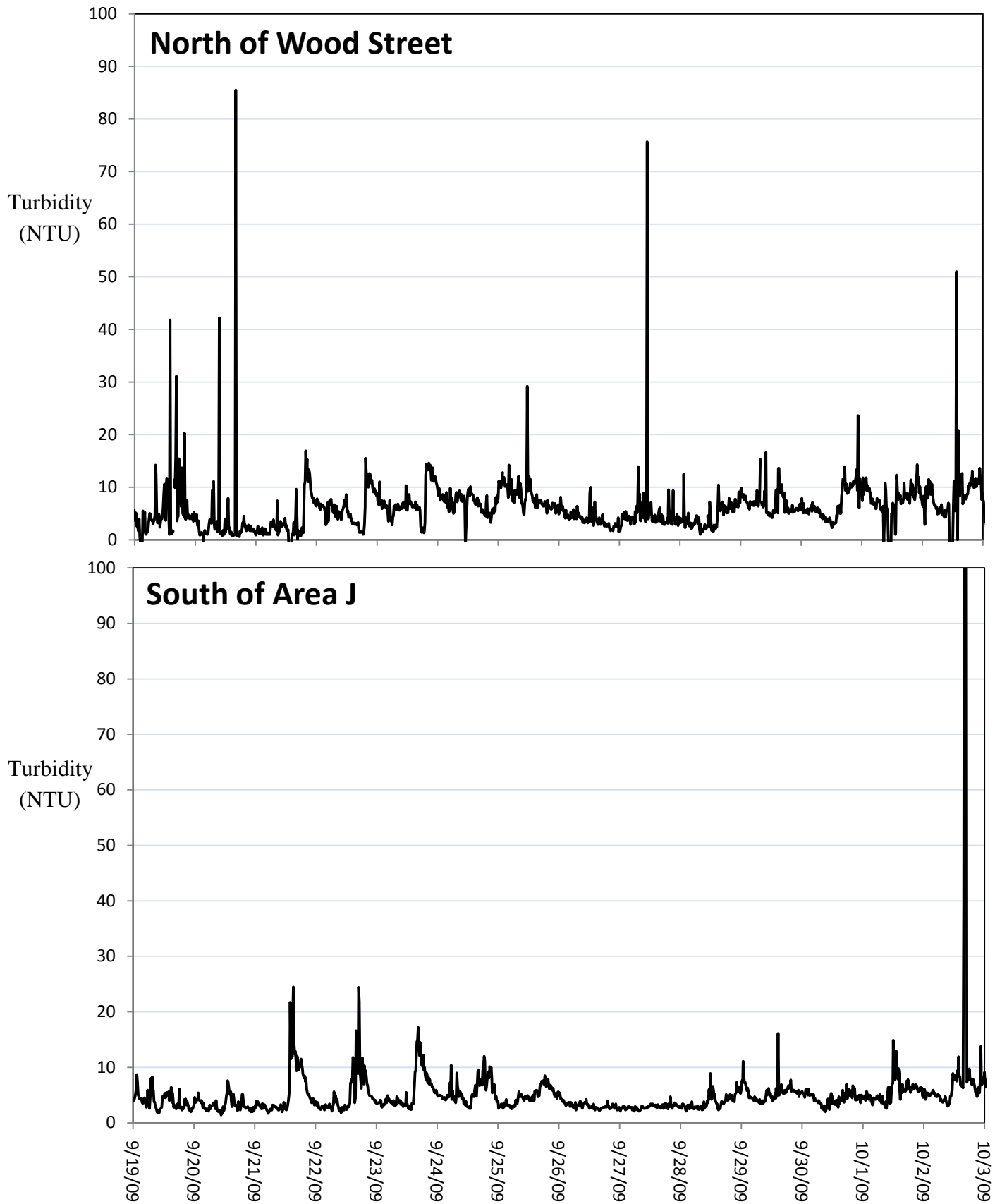


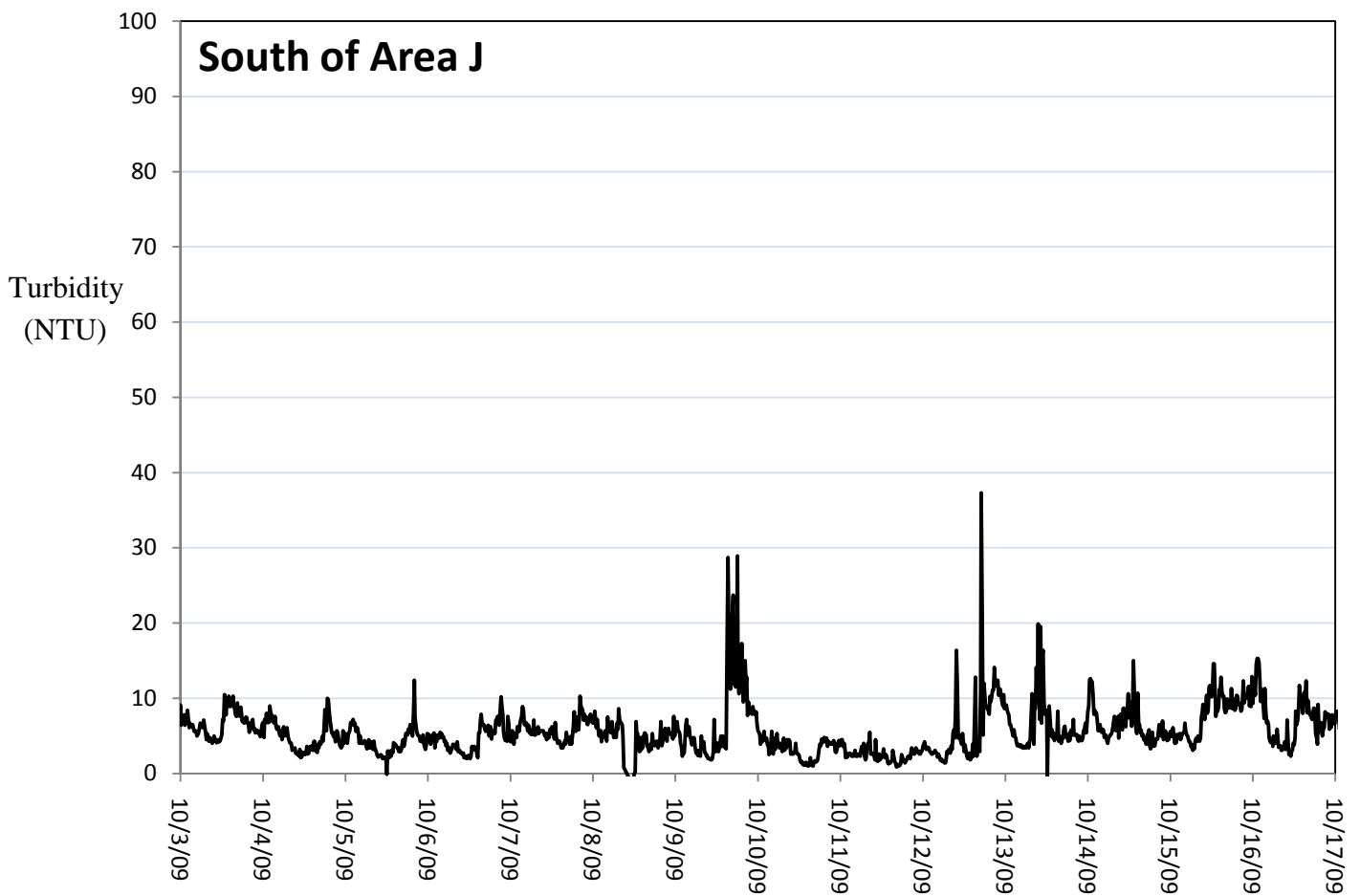
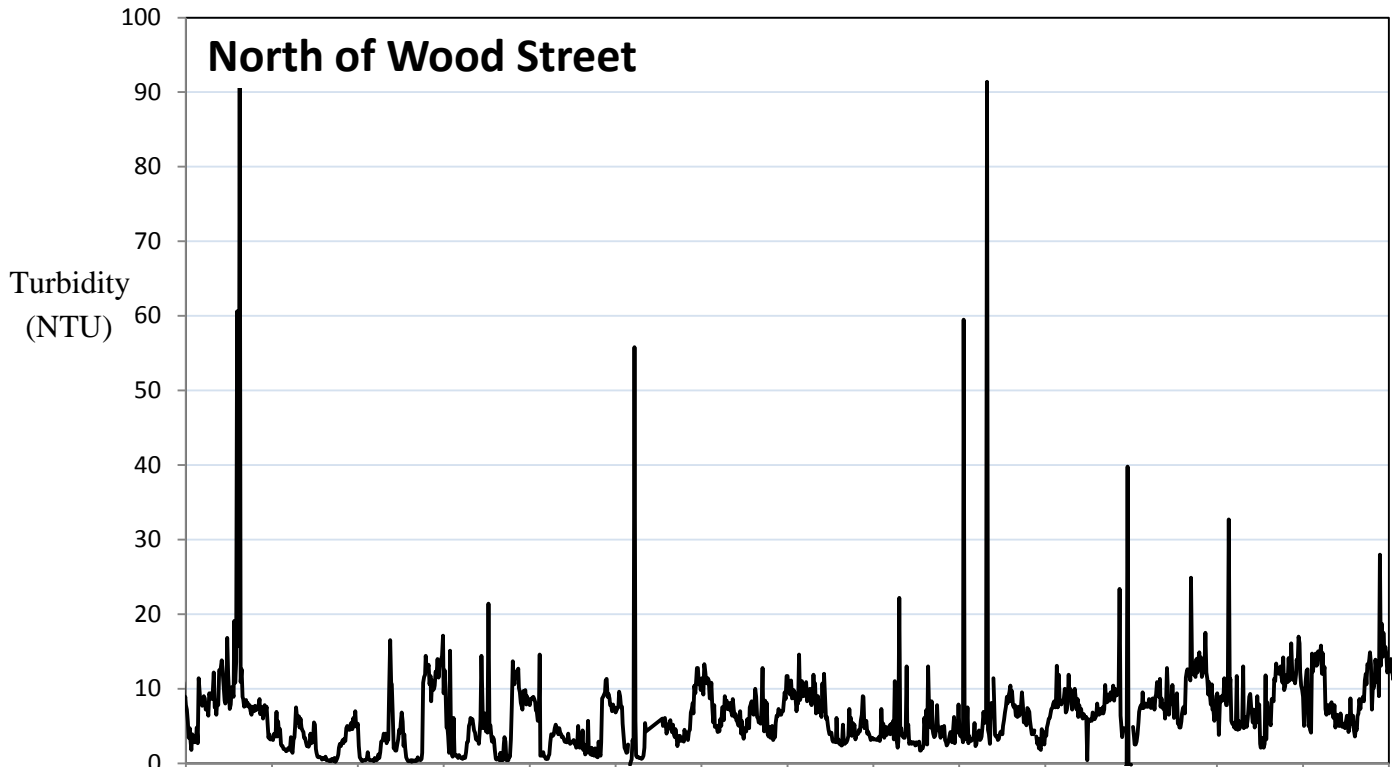


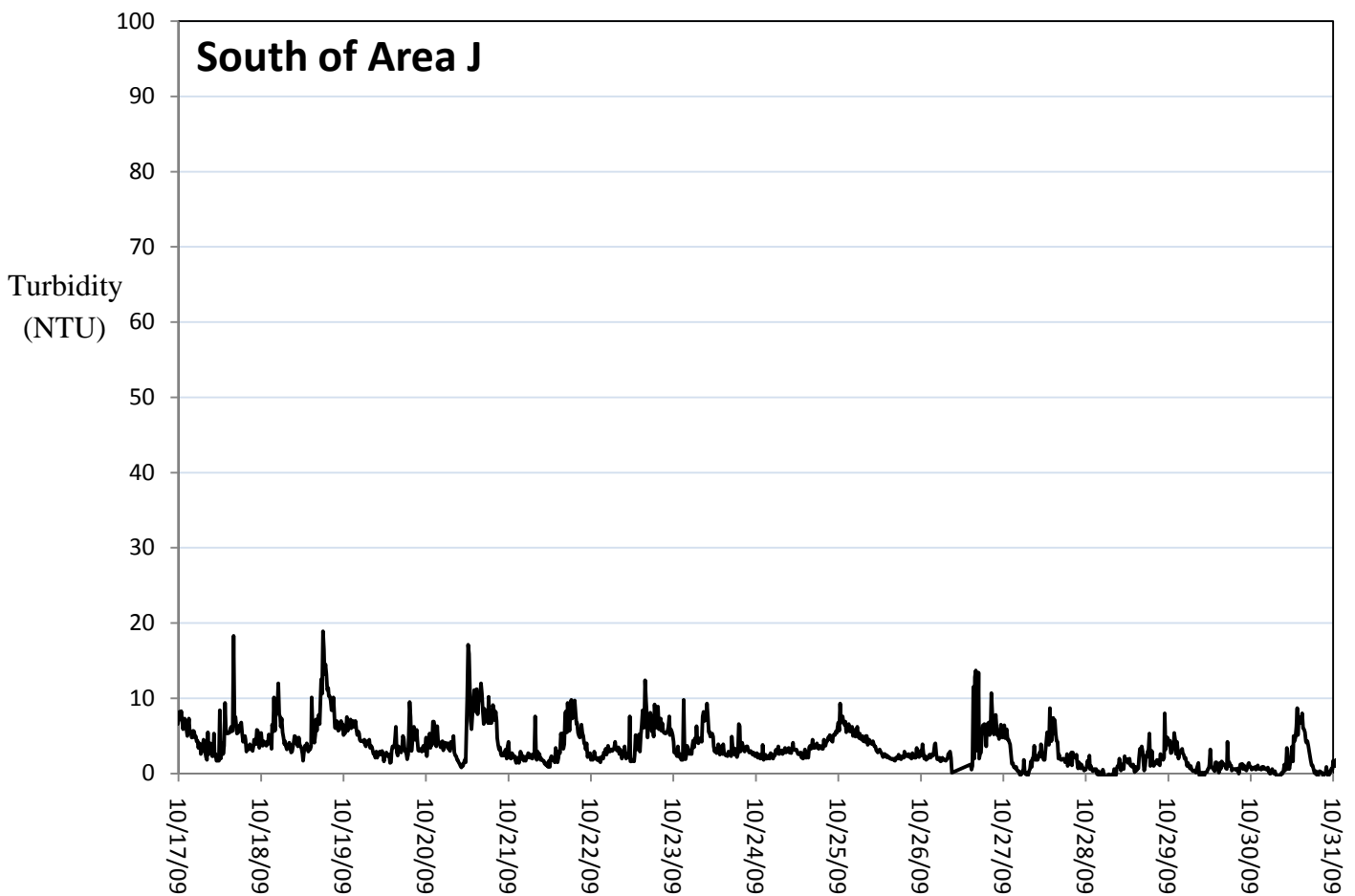
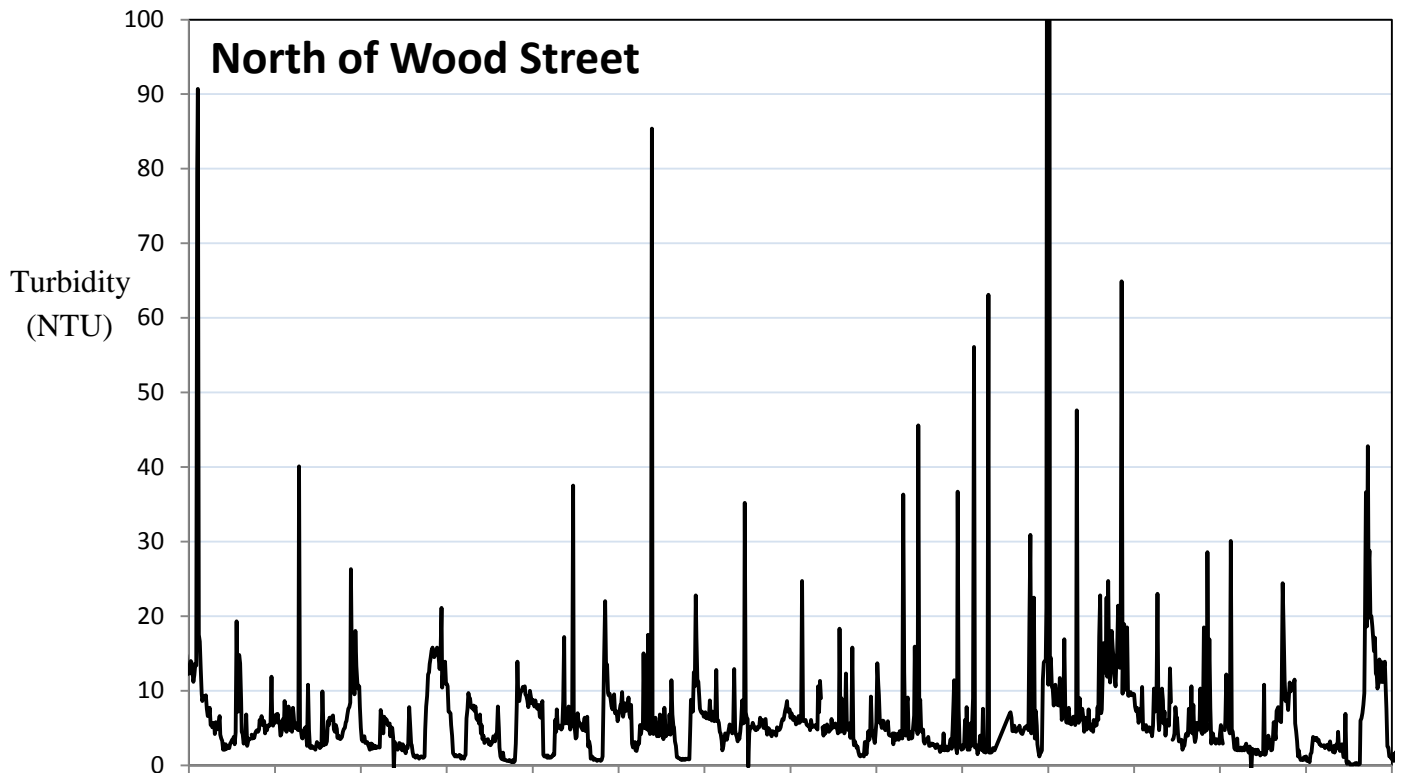


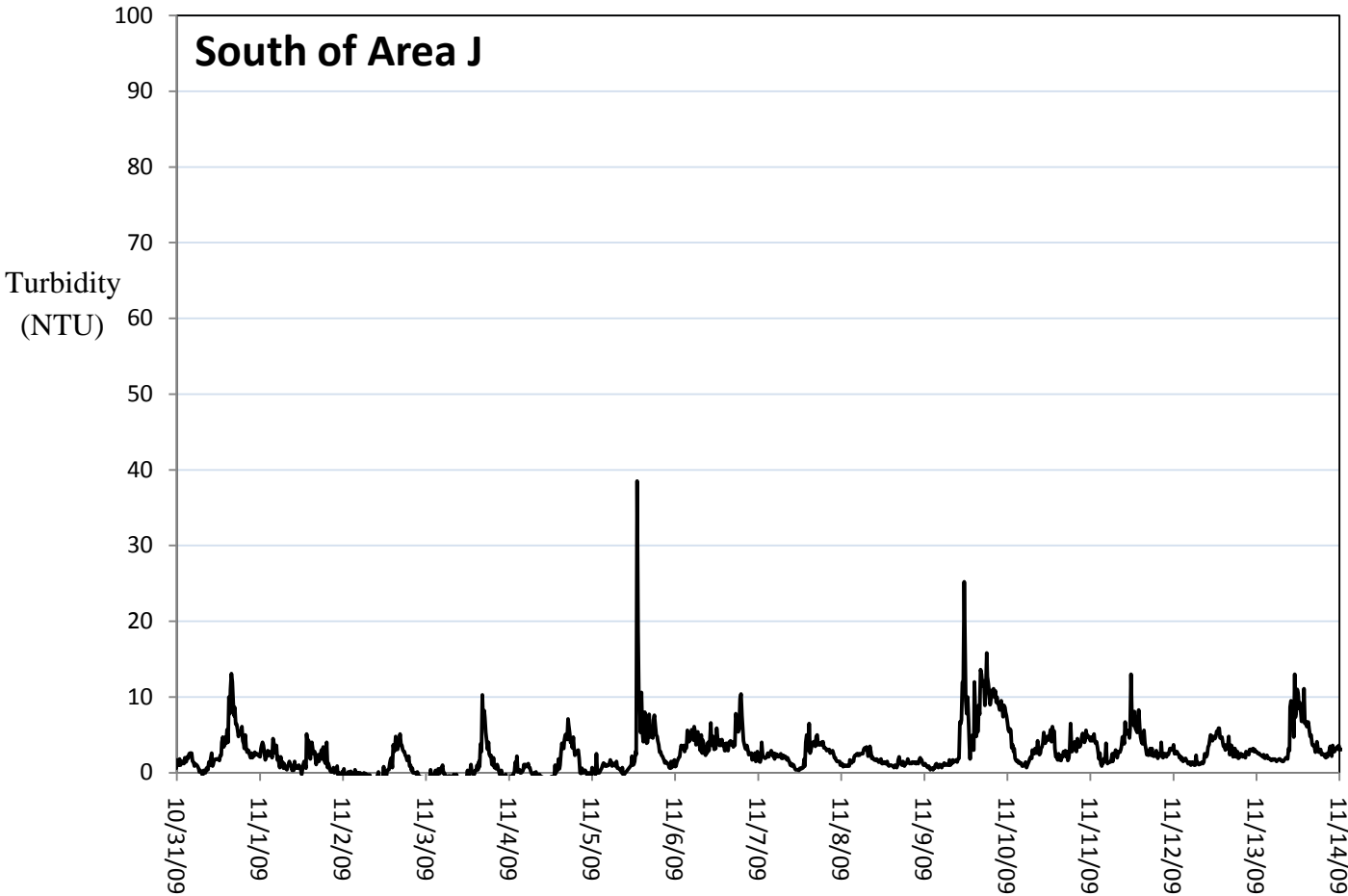
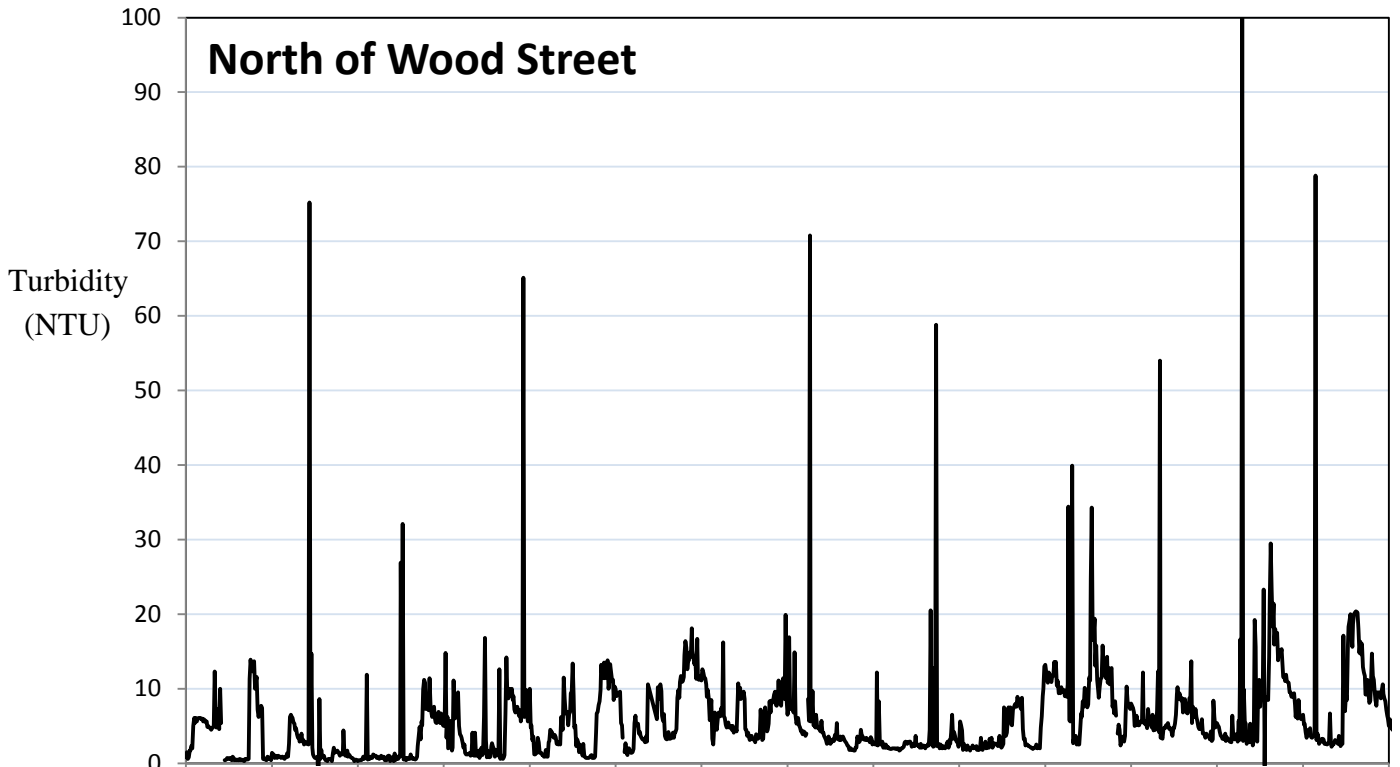


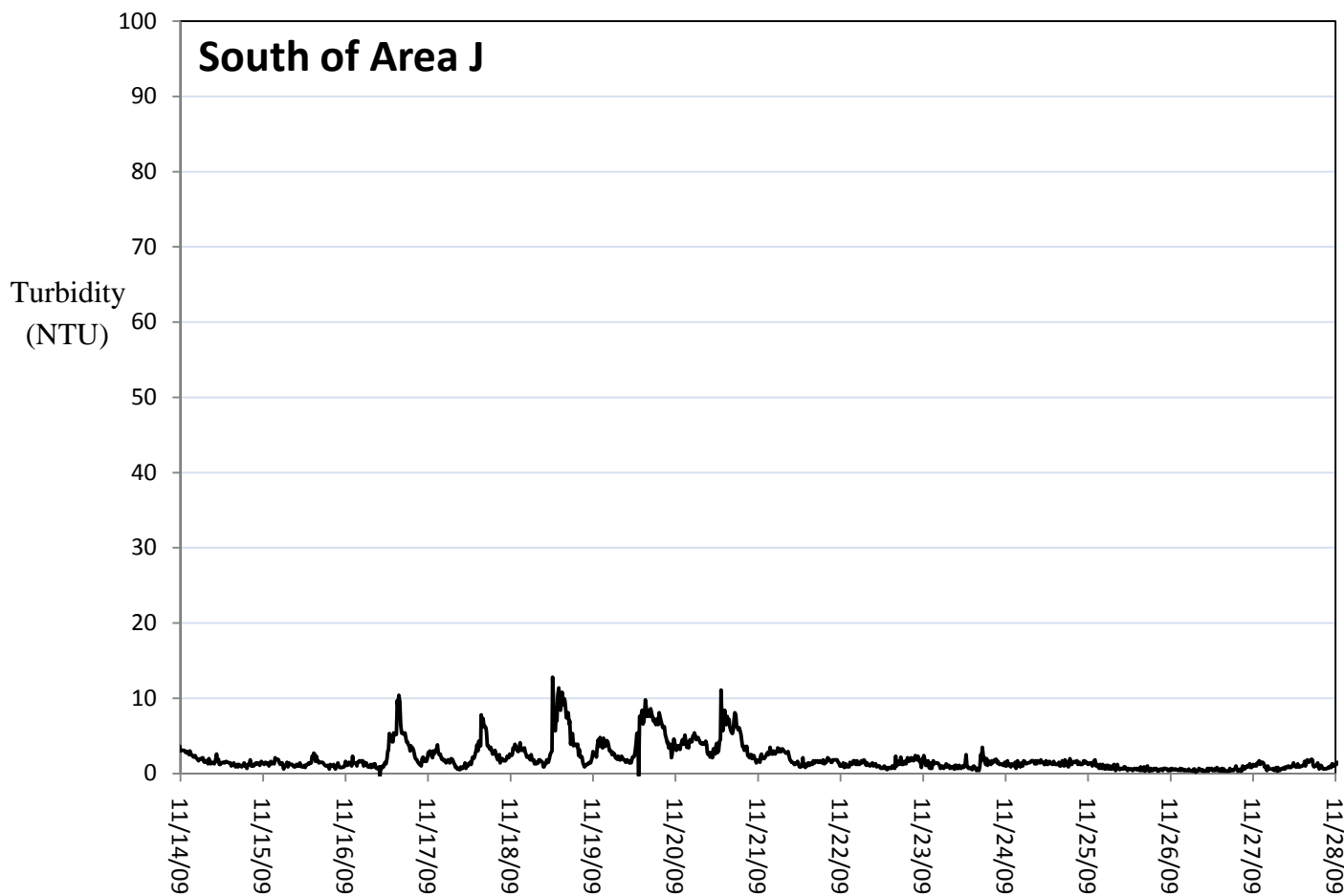
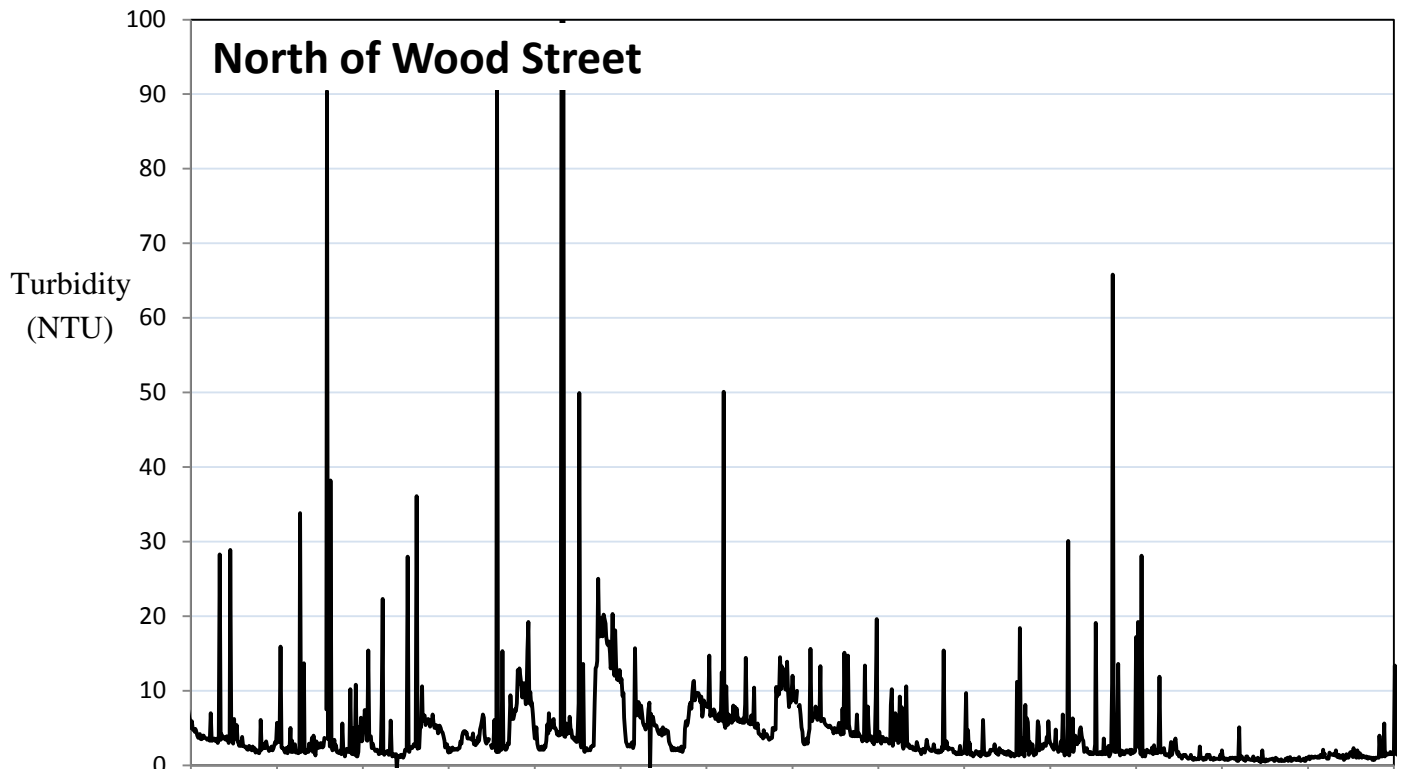


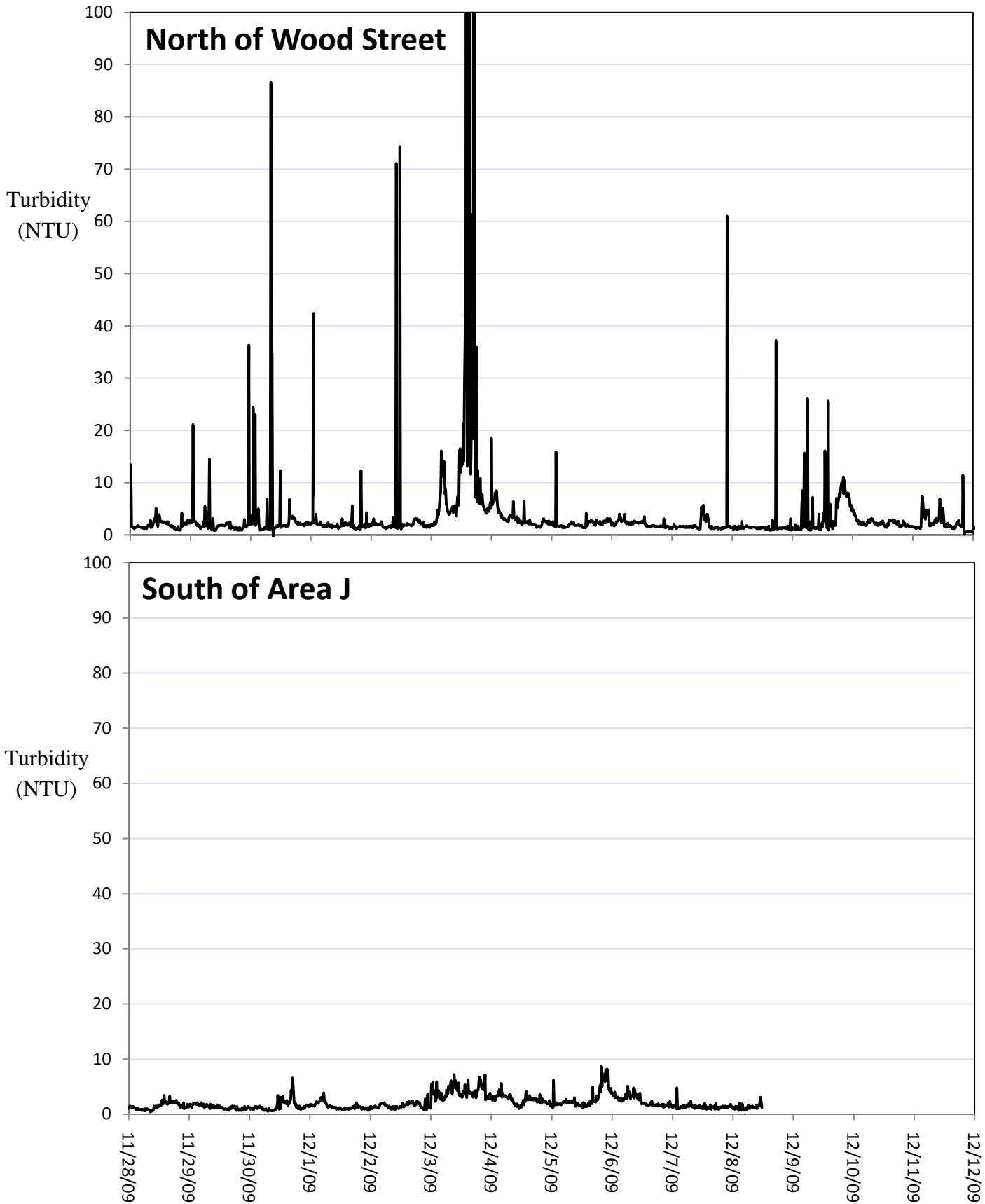


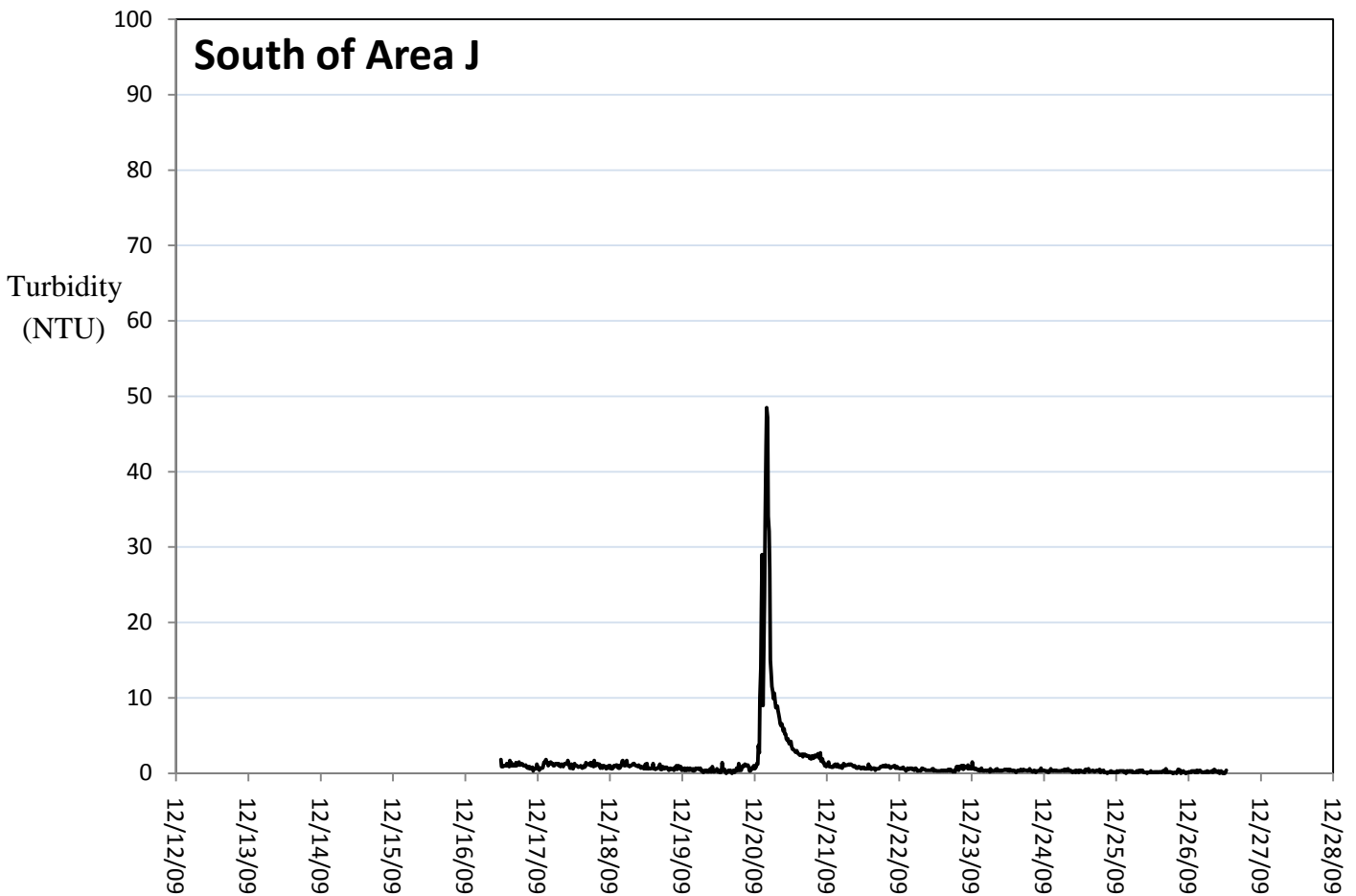
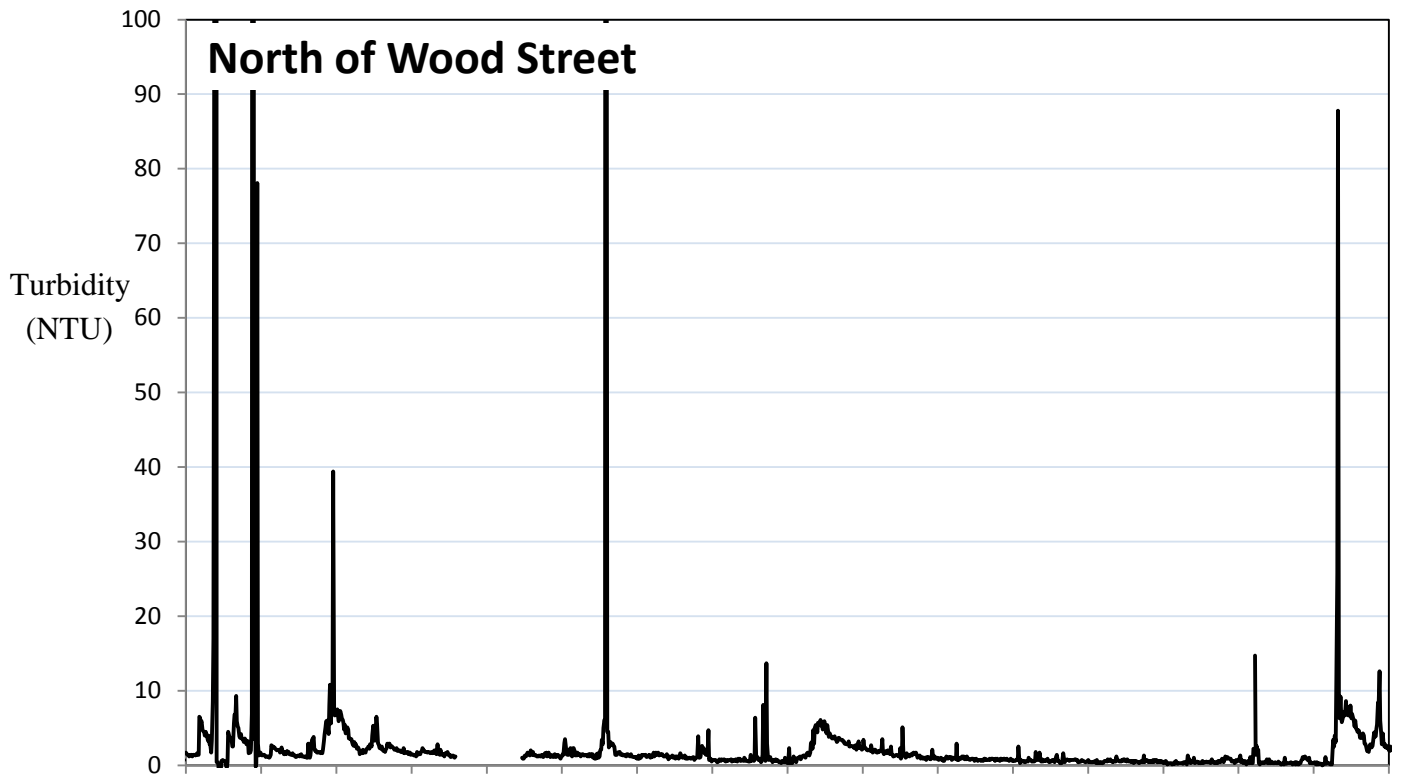












**APPENDIX C: ALPHA ANALYTICAL LABORATORIES REPORTS AND
ANALYTICAL DATA**

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ANALYTICAL REPORT

Lab Number:	L0910702
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Lee Weishar
Project Name:	NBH WATER QUALITY MONITORING
Project Number:	NBH TASK 4.0 ST
Report Date:	02/11/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0910702-01	S-09G-G001-0-0	NEW BEDFORD	08/05/09 10:00
L0910702-02	S-09G-G002-0-0REP	NEW BEDFORD	08/05/09 12:05
L0910702-03	S-09G-G002-0-0	NEW BEDFORD	08/05/09 11:45
L0910702-04	S-09G-G003-0-0	NEW BEDFORD	08/05/09 13:15
L0910702-05	S-09G-G001-0-0 AIR DRIED	NEW BEDFORD	08/05/09 10:00
L0910702-06	S-09G-G002-0-0REP AIR DRIED	NEW BEDFORD	08/05/09 12:05
L0910702-07	S-09G-G002-0-0 AIR DRIED	NEW BEDFORD	08/05/09 11:45
L0910702-08	S-09G-G003-0-0 AIR DRIED	NEW BEDFORD	08/05/09 13:15



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the original report issued on September 15, 2009. The report was amended to include revised Grain Size data.

PCB CONGENERS BY 8082

L0910702-05 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. The surrogates were diluted out of the sample due to the dilution required. The surrogates were not recovered for L0910702-05 due to the dilutions required to quantitate the sample. Re-

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Case Narrative (continued)

extraction is not required; therefore, the results of the original analysis are reported.

L0910702-06 was re-analyzed on dilution in order to quantitate the sample within the calibration range. The re-analysis was performed only for the compound that exceeded the calibration range. The surrogate recoveries for L0910702-06 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.

L0910702-07 was re-analyzed on dilution in order to quantitate the sample within the calibration range. The re-analysis was performed only for the compound that exceeded the calibration range. The surrogate recoveries for L0910702-07 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.

The surrogate recoveries for L0910702-08 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.

L0910702-08 was re-analyzed on dilution in order to quantitate the sample within the calibration range. The re-analysis was performed only for the compound that exceeded the calibration range.

The WG376956-1 Method Blank associated with L0910702-05,L0910702-06,L0910702-07,L0910702-08 has concentrations above the reporting limits for several congeners; however, the associated samples have high concentrations of the affected compounds. The associated samples are reported and no qualification of the results is required.

The WG376956-2 LCS recoveries associated with L0910702-05,L0910702-06,L0910702-07,L0910702-08 were outside the acceptance criteria for several compounds. The results of the original analyses are reported; however, all results are considered to have a potentially high bias for cl2-bz#8(157%),cl3-bz#18(226%),cl4-bz#52(168%), cl3-bz#28(194%).

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Case Narrative (continued)

The WG376956-3 LCSD recoveries associated with L0910702-05,L0910702-06,L0910702-07,L0910702-08 were above the acceptance criteria for c13-bz#28(208%), c12-bz#8(170%),c13-bz#18(257%),c14-bz#52(187%). The results of the original analyses are reported; however, all positive detects are considered to have a potentially high bias for these compounds.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/11/10

ORGANICS



PCBS

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02111018:11

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID:	L0910702-05	Date Collected:	08/05/09 10:00
Client ID:	S-09G-G001-0-0 AIR DRIED	Date Received:	08/05/09
Sample Location:	NEW BEDFORD	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3570
Analytical Method:	1,8082	Extraction Date:	08/25/09 13:37
Analytical Date:	09/05/09 05:45	Cleanup Method1:	EPA 3630
Analyst:	JS	Cleanup Date1:	08/25/09
Percent Solids:	85%	Cleanup Method2:	- - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#28	13300		ug/kg	1940	1000
C14-BZ#52	16100		ug/kg	1940	1000



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-05
 Client ID: S-09G-G001-0-0 AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 05:45
 Analyst: JS
 Percent Solids: 85%

Date Collected: 08/05/09 10:00
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#18	9400		ug/kg	1940	1000



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-05 R
 Client ID: S-09G-G001-0-0 AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 14:33
 Analyst: JS
 Percent Solids: 85%

Date Collected: 08/05/09 10:00
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	2480		ug/kg	194	100
C14-BZ#66	3540		ug/kg	194	100
C15-BZ#101	2990		ug/kg	194	100
C15-BZ#118	1810		ug/kg	194	100
C16-BZ#128	359		ug/kg	194	100
C16-BZ#138	1740		ug/kg	194	100
C17-BZ#170	304		ug/kg	194	100
C17-BZ#180	393		ug/kg	194	100
C17-BZ#187	492		ug/kg	194	100
C18-BZ#195	ND		ug/kg	194	100
C19-BZ#206-Cal/RTW	ND		ug/kg	194	100
C110-BZ#209-Cal/RTW	ND		ug/kg	194	100

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-05 R
 Client ID: S-09G-G001-0-0 AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 14:33
 Analyst: JS
 Percent Solids: 85%

Date Collected: 08/05/09 10:00
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#44	3350		ug/kg	194	100
C15-BZ#105	387		ug/kg	194	100
C16-BZ#153	2230		ug/kg	194	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0		50-125
BZ 198	0		50-125



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-06
 Client ID: S-09G-G002-0-0REP AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 06:26
 Analyst: JS
 Percent Solids: 78%

Date Collected: 08/05/09 12:05
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	9680		ug/kg	2130	1000
C13-BZ#28	40200		ug/kg	2130	1000
C14-BZ#66	13200		ug/kg	2130	1000
C15-BZ#101	12200		ug/kg	2130	1000
C15-BZ#118	6200		ug/kg	2130	1000
C16-BZ#138	5960		ug/kg	2130	1000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0		50-125
BZ 198	0		50-125



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-06
 Client ID: S-09G-G002-0-0REP AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 06:26
 Analyst: JS
 Percent Solids: 78%

Date Collected: 08/05/09 12:05
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#44	13800		ug/kg	2130	1000
C16-BZ#153	8450		ug/kg	2130	1000



02111018:11

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-06 R2
Client ID: S-09G-G002-0-0REP AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 00:21
Analyst: JS
Percent Solids: 78%

Date Collected: 08/05/09 12:05
Date Received: 08/05/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#52	46800		ug/kg	4250	2000



02111018:11

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-06 R2
Client ID: S-09G-G002-0-0REP AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 00:21
Analyst: JS
Percent Solids: 78%

Date Collected: 08/05/09 12:05
Date Received: 08/05/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#18	27300		ug/kg	4250	2000



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-06 R
 Client ID: S-09G-G002-0-0REP AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 15:14
 Analyst: JS
 Percent Solids: 78%

Date Collected: 08/05/09 12:05
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C16-BZ#128	687		ug/kg	213	100
C17-BZ#170	638		ug/kg	213	100
C17-BZ#180	864		ug/kg	213	100
C17-BZ#187	1070		ug/kg	213	100
C18-BZ#195	ND		ug/kg	213	100
C19-BZ#206-Cal/RTW	ND		ug/kg	213	100
C110-BZ#209-Cal/RTW	ND		ug/kg	213	100

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-06 R
 Client ID: S-09G-G002-0-0REP AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 15:14
 Analyst: JS
 Percent Solids: 78%

Date Collected: 08/05/09 12:05
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C15-BZ#105	655		ug/kg	213	100



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-07
 Client ID: S-09G-G002-0-0 AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 07:07
 Analyst: JS
 Percent Solids: 78%

Date Collected: 08/05/09 11:45
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	8980		ug/kg	2070	1000
C13-BZ#28	35400		ug/kg	2070	1000
C14-BZ#66	12900		ug/kg	2070	1000
C15-BZ#101	11300		ug/kg	2070	1000
C15-BZ#118	6090		ug/kg	2070	1000
C16-BZ#138	5750		ug/kg	2070	1000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0		50-125
BZ 198	0		50-125

02111018:11

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-07
Client ID: S-09G-G002-0-0 AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 07:07
Analyst: JS
Percent Solids: 78%

Date Collected: 08/05/09 11:45
Date Received: 08/05/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#18	24400		ug/kg	2070	1000
C14-BZ#44	13600		ug/kg	2070	1000
C16-BZ#153	7920		ug/kg	2070	1000



02111018:11

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-07 R2
Client ID: S-09G-G002-0-0 AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 01:01
Analyst: JS
Percent Solids: 78%

Date Collected: 08/05/09 11:45
Date Received: 08/05/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#52	50800		ug/kg	4140	2000



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-07 R
 Client ID: S-09G-G002-0-0 AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 15:54
 Analyst: JS
 Percent Solids: 78%

Date Collected: 08/05/09 11:45
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C16-BZ#128	797		ug/kg	207	100
C17-BZ#170	684		ug/kg	207	100
C17-BZ#180	926		ug/kg	207	100
C17-BZ#187	1140		ug/kg	207	100
C18-BZ#195	ND		ug/kg	207	100
C19-BZ#206-Ca/RTW	ND		ug/kg	207	100
C110-BZ#209-Ca/RTW	ND		ug/kg	207	100

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-07 R
 Client ID: S-09G-G002-0-0 AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 15:54
 Analyst: JS
 Percent Solids: 78%

Date Collected: 08/05/09 11:45
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C15-BZ#105	720		ug/kg	207	100



02111018:11

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-08
Client ID: S-09G-G003-0-0 AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 09:49
Analyst: JS
Percent Solids: 90%

Date Collected: 08/05/09 13:15
Date Received: 08/05/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#28	2210		ug/kg	181	100
C14-BZ#52	2220		ug/kg	181	100



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-08 R
 Client ID: S-09G-G003-0-0 AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 17:56
 Analyst: JS
 Percent Solids: 90%

Date Collected: 08/05/09 13:15
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	277		ug/kg	90.7	50
C14-BZ#66	1470		ug/kg	90.7	50
C15-BZ#101	1480		ug/kg	90.7	50
C15-BZ#118	1220		ug/kg	90.7	50
C16-BZ#128	252		ug/kg	90.7	50
C16-BZ#138	976		ug/kg	90.7	50
C17-BZ#170	153		ug/kg	90.7	50
C17-BZ#180	211		ug/kg	90.7	50
C18-BZ#195	ND		ug/kg	90.7	50
C19-BZ#206-Cal/RTW	ND		ug/kg	90.7	50
C110-BZ#209-Cal/RTW	ND		ug/kg	90.7	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0		50-125
BZ 198	0		50-125

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-08 R
 Client ID: S-09G-G003-0-0 AIR DRIED
 Sample Location: NEW BEDFORD
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 09/05/09 17:56
 Analyst: JS
 Percent Solids: 90%

Date Collected: 08/05/09 13:15
 Date Received: 08/05/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#18	700		ug/kg	90.7	50
C14-BZ#44	790		ug/kg	90.7	50
C15-BZ#105	319		ug/kg	90.7	50
C16-BZ#153	948		ug/kg	90.7	50
C17-BZ#187	200		ug/kg	90.7	50

DBOB 0 50-125
 BZ 198 0 50-125



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1.8082
 Analytical Date: 09/04/09 19:37
 Analyst: JS

Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 05-08 Batch: WG376956-1				
C13-BZ#28	2.01		ug/kg	1.67
C14-BZ#44	ND		ug/kg	1.67
C14-BZ#66	ND		ug/kg	1.67
C15-BZ#101	ND		ug/kg	1.67
C15-BZ#105	ND		ug/kg	1.67
C15-BZ#118	ND		ug/kg	1.67
C16-BZ#128	ND		ug/kg	1.67
C16-BZ#138	ND		ug/kg	1.67
C17-BZ#170	ND		ug/kg	1.67
C17-BZ#180	ND		ug/kg	1.67
C17-BZ#187	ND		ug/kg	1.67
C18-BZ#195	ND		ug/kg	1.67
C19-BZ#206-Cal/RTW	ND		ug/kg	1.67
C10-BZ#209-Cal/RTW	ND		ug/kg	1.67

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	81		50-125
BZ 198	96		50-125



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1.8082
 Analytical Date: 09/04/09 19:37
 Analyst: JS

Extraction Method: EPA 3570
 Extraction Date: 08/25/09 13:37
 Cleanup Method1: EPA 3630
 Cleanup Date1: 08/25/09
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 05-08 Batch: WG376956-1				
C12-BZ#8	2.03		ug/kg	1.67
C13-BZ#18	3.95		ug/kg	1.67
C14-BZ#52	2.10		ug/kg	1.67
C16-BZ#153	ND		ug/kg	1.67

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	81		50-125
BZ 198	96		50-125



Lab Control Sample Analysis
Batch Quality Control

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 Batch: WG376956-2 WG376956-3								
C13-BZ#28	194		208		40-120	7		30

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
DBOB	91		76		50-125
BZ 198	109		101		50-125

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 Batch: WG376956-2 WG376956-3								
Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
C12-BZ#8	157		170		40-120	8		30
C13-BZ#18	226		257		40-120	13		30
C14-BZ#44	115		117		40-120	2		30
C14-BZ#52	168		187		40-120	11		30
C14-BZ#66	108		104		40-120	4		30
C15-BZ#101	106		98		40-120	8		30
C15-BZ#105	98		90		40-120	9		30
C15-BZ#118	101		93		40-120	8		30
C16-BZ#128	107		94		40-120	13		30

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Lab Control Sample Analysis
Batch Quality Control

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 Batch: WG376956-2 WG376956-3								
C16-BZ#138	105		96		40-120	9		30
C16-BZ#153	100		93		40-120	7		30
C17-BZ#170	103		96		40-120	7		30
C17-BZ#180	109		96		40-120	13		30
C18-BZ#195	103		95		40-120	8		30
C19-BZ#206	117		109		40-120	7		30
C10-BZ#209	109		101		40-120	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	91		76		50-125
BZ 198	109		101		50-125



INORGANICS & MISCELLANEOUS

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Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-01
 Client ID: S-09G-G001-0-0
 Sample Location: NEW BEDFORD
 Matrix: Sediment

Date Collected: 08/05/09 10:00
 Date Received: 08/05/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	23.5		%	0.100	1	-	08/06/09 08:15	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-02
 Client ID: S-09G-G002-0-0REP
 Sample Location: NEW BEDFORD
 Matrix: Sediment

Date Collected: 08/05/09 12:05
 Date Received: 08/05/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	27.2		%	0.100	1	-	08/06/09 08:15	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-03
 Client ID: S-09G-G002-0-0
 Sample Location: NEW BEDFORD
 Matrix: Sediment

Date Collected: 08/05/09 11:45
 Date Received: 08/05/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	27.5		%	0.100	1	-	08/06/09 08:15	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-04
 Client ID: S-09G-G003-0-0
 Sample Location: NEW BEDFORD
 Matrix: Sediment

Date Collected: 08/05/09 13:15
 Date Received: 08/05/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	31.8		%	0.100	1	-	08/06/09 08:15	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-05
Client ID: S-09G-G001-0-0 AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment

Date Collected: 08/05/09 10:00
Date Received: 08/05/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	6.30		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	6.78		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	ND		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	2.60		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	2.50		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	4.70		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	5.40		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	84.8		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	84.8		%	0.100	1	-	08/10/09 14:12	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-06
Client ID: S-09G-G002-0-0REP AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment

Date Collected: 08/05/09 12:05
Date Received: 08/05/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	5.14		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	5.12		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.100		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	2.30		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	2.30		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	3.30		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	3.40		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	88.6		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	77.6		%	0.100	1	-	08/10/09 14:12	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-07
Client ID: S-09G-G002-0-0 AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment

Date Collected: 08/05/09 11:45
Date Received: 08/05/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	5.33		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	5.36		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.400		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	9.00		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	9.00		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	6.20		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	5.30		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	69.7		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	78.3		%	0.100	1	-	08/10/09 14:12	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910702-08
Client ID: S-09G-G003-0-0 AIR DRIED
Sample Location: NEW BEDFORD
Matrix: Sediment

Date Collected: 08/05/09 13:15
Date Received: 08/05/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	2.89		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	3.00		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.200		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	4.00		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	3.90		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	8.40		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	9.60		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	73.8		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	08/12/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	90.2		%	0.100	1	-	08/10/09 14:12	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 05-08 Batch: WG374439-1									
Total Organic Carbon (Rep1)	ND		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	ND		%	0.010	1	-	08/20/09 09:00	1,9060	NR



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0910702
Report Date: 02/11/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG374111-2 QC Sample: L0910702-01 Client ID: S-09G-G001-0-0						
Solids, Total	23.5	23.6	%	0		20
General Chemistry - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG374661-1 QC Sample: L0910702-07 Client ID: S-09G-G002-0-0 AIR DRIED						
Solids, Total	78.3	78.7	%	1		20



Project Name: NBH WATER QUALITY MONITORING**Lab Number:** L0910702**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/11/10**S.R.M. Standard Quality Control**

Standard Reference Material (SRM): WG374439-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	109		75-125
Total Organic Carbon (Rep2)	110		75-125



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0910702-01A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-TS(7)
L0910702-01B	Glass 100ml unpreserved	A	N/A	5	Y	Absent	A2-TS(7)
L0910702-02A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-TS(7)
L0910702-02B	Glass 100ml unpreserved	A	N/A	5	Y	Absent	A2-TS(7)
L0910702-03A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-TS(7)
L0910702-03B	Glass 100ml unpreserved	A	N/A	5	Y	Absent	A2-TS(7)
L0910702-04A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-TS(7)
L0910702-04B	Glass 100ml unpreserved	A	N/A	5	Y	Absent	A2-TS(7)
L0910702-05A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0910702-05B	6x8 Ziploc Bag	A	N/A	5	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0910702-06A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0910702-06B	6x8 Ziploc Bag	A	N/A	5	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0910702-07A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0910702-07B	6x8 Ziploc Bag	A	N/A	5	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0910702-07C	Glass 100ml unpreserved	A	N/A	5	Y	Absent	-
L0910702-08A	Glass 250ml unpreserved	A	N/A	5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0910702-08B	6x8 Ziploc Bag	A	N/A	5	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)

*Hold days indicated by values in parentheses



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
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Container Comments

L0910702-01B	EMPTY						
L0910702-02B	EMPTY						
L0910702-04B	EMPTY						
L0910702-05B	USED ENTIRE BAG						
L0910702-06B	USED ENTIRE BAG						
L0910702-07B	USED ENTIRE BAG						
L0910702-08B	USED ENTIRE BAG						



Project Name: NBH WATER QUALITY MONITORING **Lab Number:** L0910702
Project Number: NBH TASK 4.0 ST **Report Date:** 02/11/10

GLOSSARY

Acronyms

EPA	-Environmental Protection Agency.
LCS	-Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	-Laboratory Control Sample Duplicate: Refer to LCS.
MS	-Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	-Matrix Spike Sample Duplicate: Refer to MS.
NA	-Not Applicable.
NC	-Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	-Not detected at the reported detection limit for the sample.
NI	-Not Ignitable.
RDL	-Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	-Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	-Spectra identified as "Aldol Condensation Product".
B	-The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	-Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	-Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	-The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	-The RPD between the results for the two columns exceeds the method-specified criteria.
Q	-The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	-Analytical results are from sample re-analysis.
RE	-Analytical results are from sample re-extraction.
J	-Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910702
Report Date: 02/11/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 12 Annual Book of ASTM Standards. American Society for Testing and Materials.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

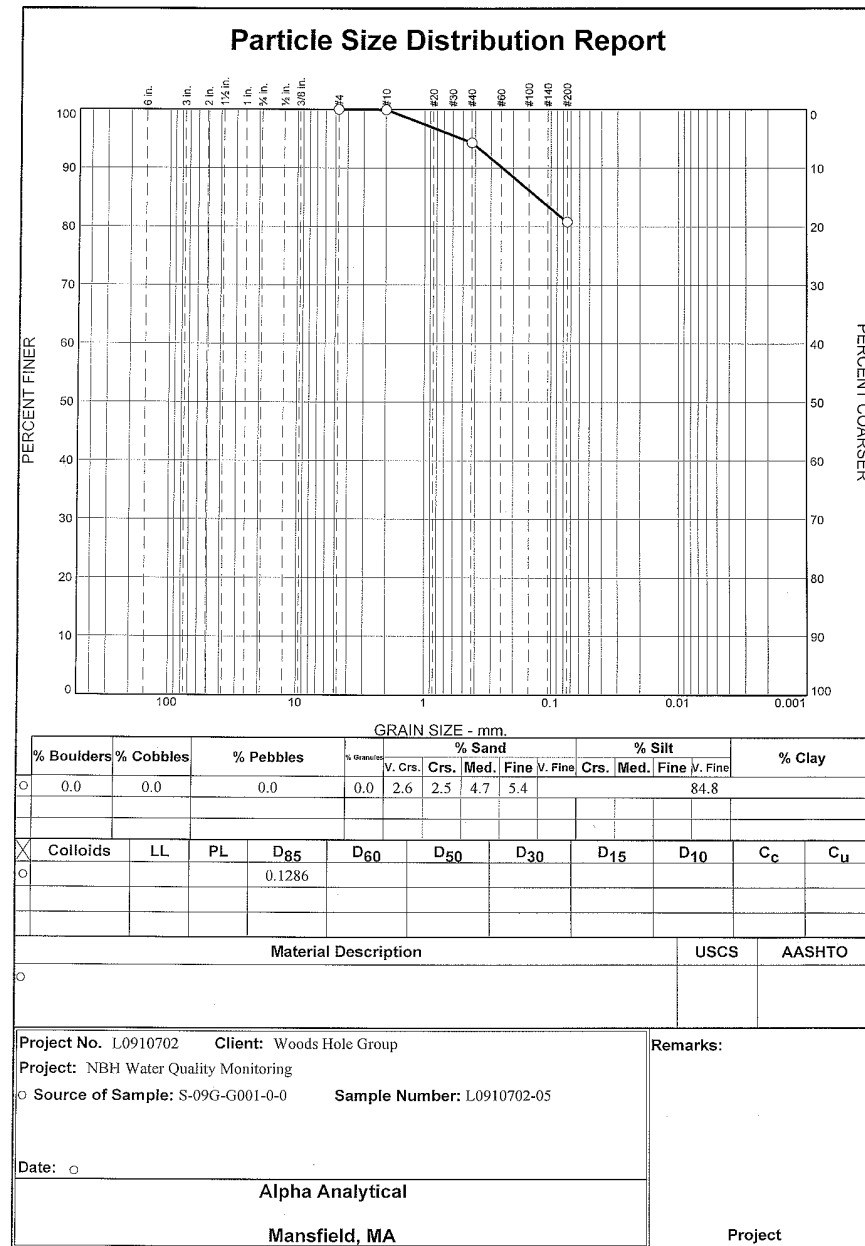
LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

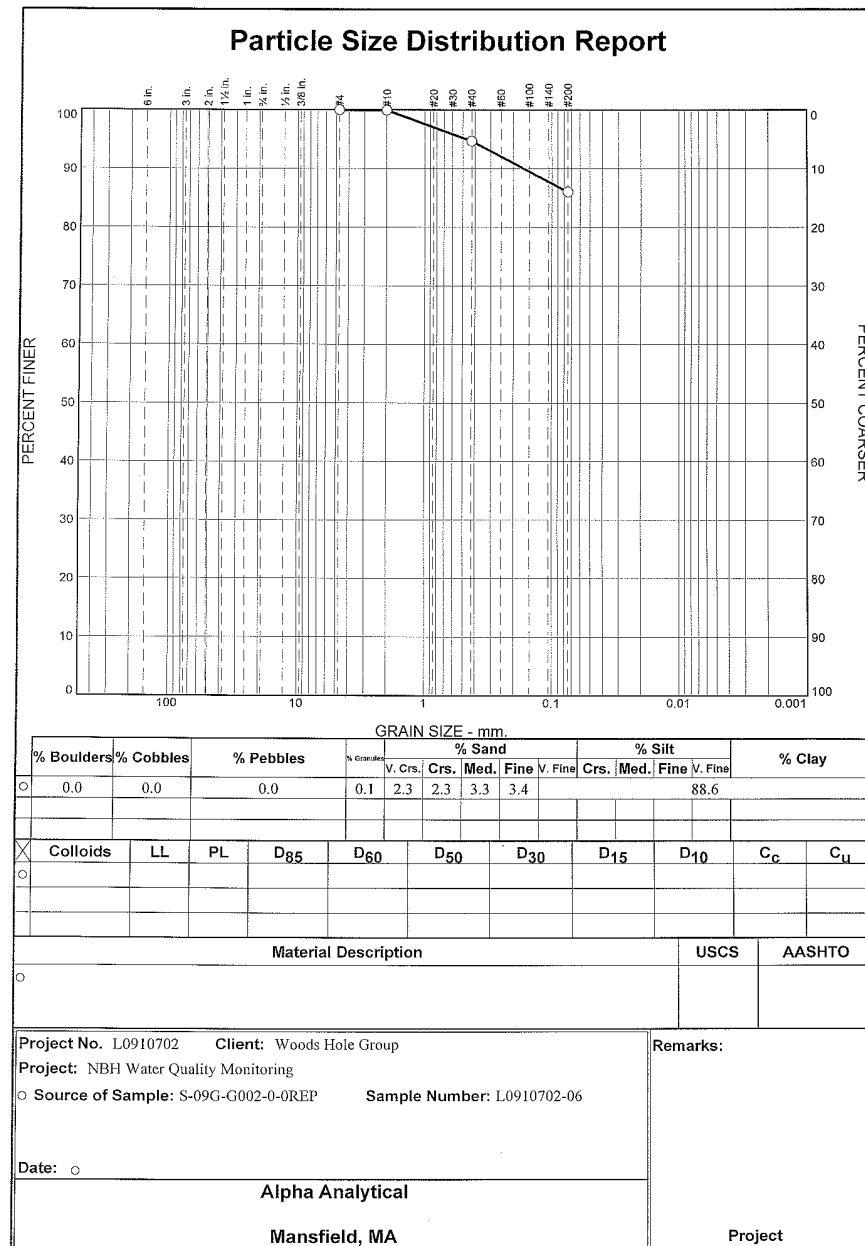
We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



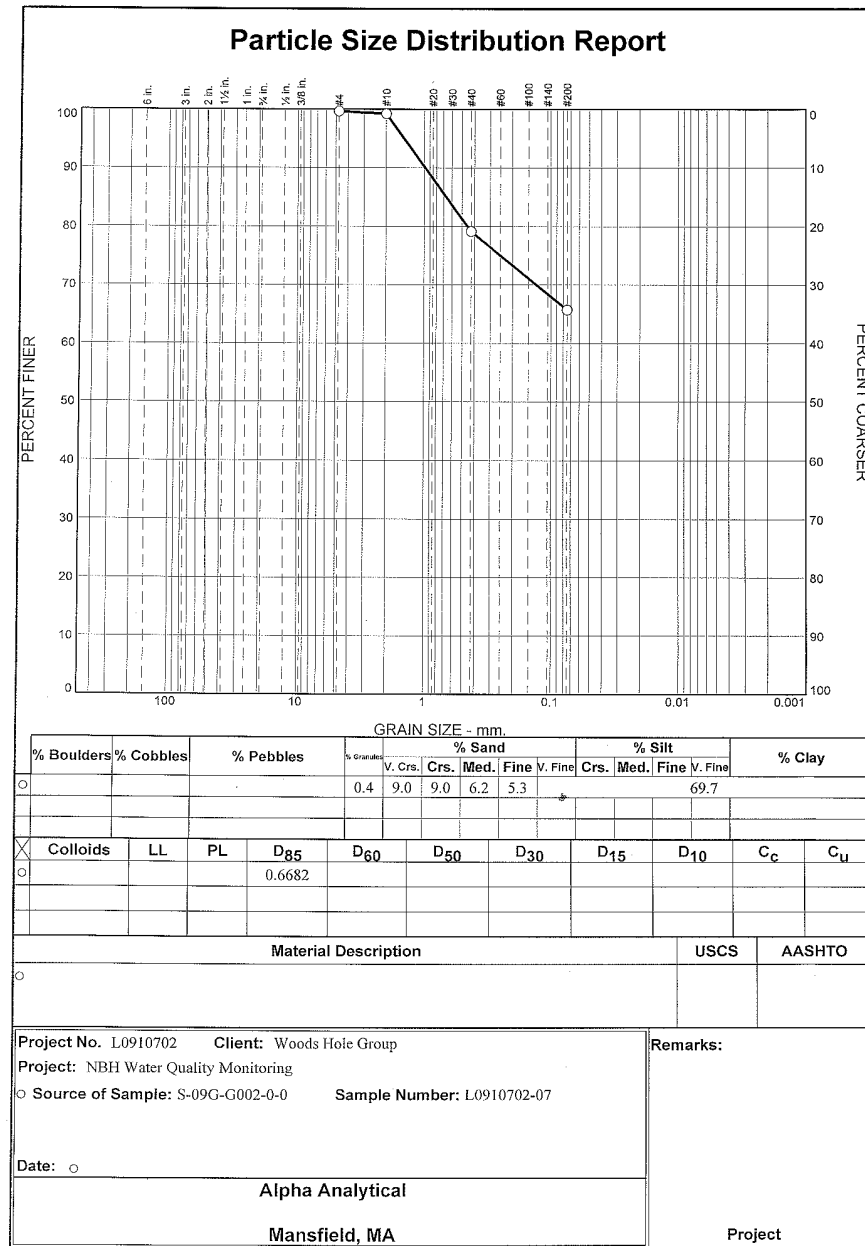
ASTM 422D Bulk Sediment



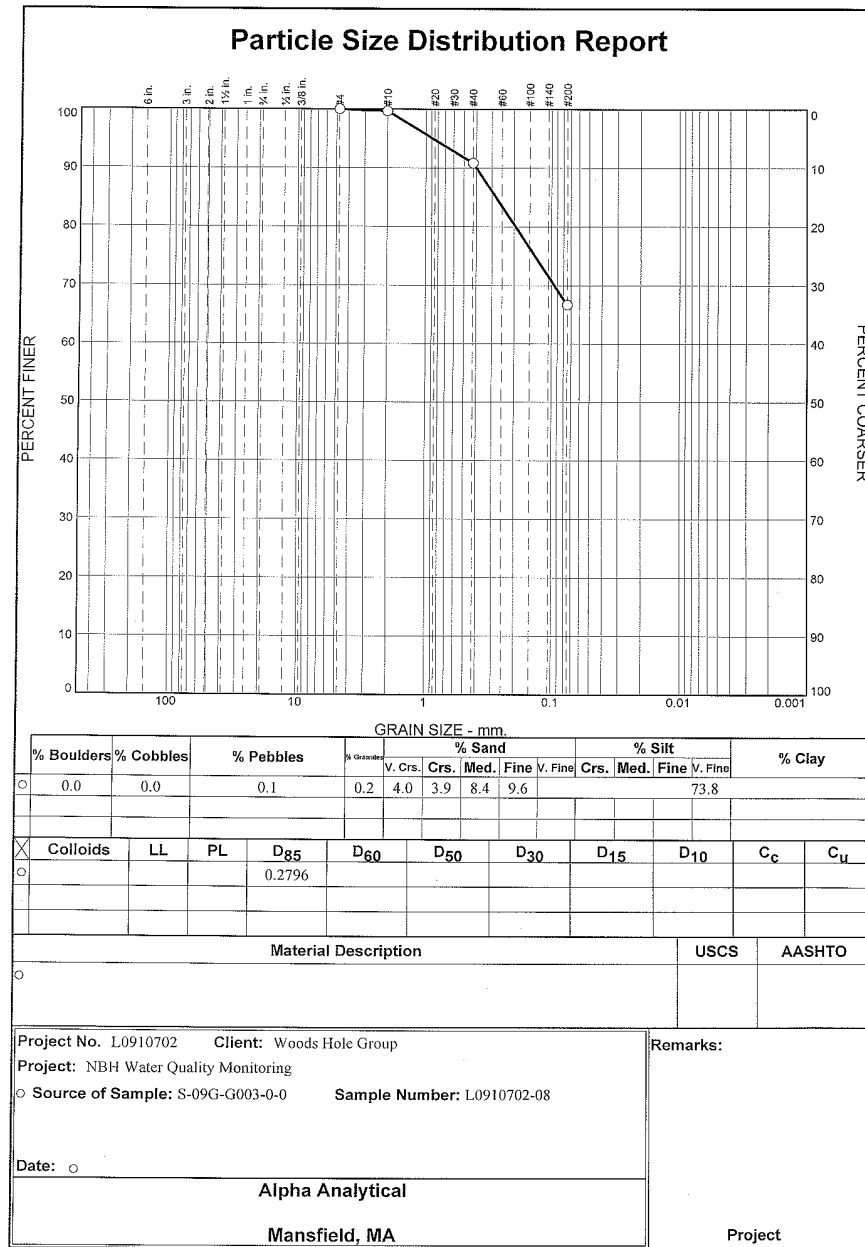
GRAIN SIZE DISTRIBUTION TEST DATA										1/28/2010					
Client: Woods Hole Group															
Project: NBH Water Quality Monitoring															
Project Number: L0910702															
Location: S-09G-G001-0-0															
Sample Number: L0910702-05															
Sieve opening list: BS Bulk Sieve															
Sieve Test Data															
Post #200 Wash Test Weights (grams): Dry Sample and Tare = 17.41															
Tare Wt. = 4.04															
Minus #200 from wash = 71.9%															
Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained									
51.66	4.14	#4	522.38	522.38	100.0	0.0									
		#10	485.19	485.17	100.0	0.0									
		#40	362.35	359.68	94.3	5.7									
		#200	352.09	345.65	80.8	19.2									
Fractional Components															
Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
0.0	0.0	0.0	0.0	2.6	2.5	4.7	5.4								
D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅						
							0.1286	0.2439	0.5099						
Fineness Modulus		0.29													
Alpha Analytical															



GRAIN SIZE DISTRIBUTION TEST DATA												1/28/2010				
Client: Woods Hole Group																
Project: NBH Water Quality Monitoring																
Project Number: L0910702																
Location: S-09G-G002-0-0REP																
Sample Number: L0910702-06																
Sieve opening list: BS Bulk Sieve																
Sieve Test Data																
Post #200 Wash Test Weights (grams): Dry Sample and Tare = 15.36																
Tare Wt. = 4.14																
Minus #200 from wash = 77.2%																
Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained										
53.26	4.15	#4	521.51	521.51	100.0	0.0										
		#10	482.49	482.46	99.9	0.1										
		#40	380.86	378.29	94.7	5.3										
		#200	351.97	347.70	86.0	14.0										
Fractional Components																
Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay		
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total	
0.0	0.0	0.0	0.1	2.3	2.3	3.3	3.4									
D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅							
								0.1662	0.4637							
Fineness Modulus		0.24														
Alpha Analytical																



GRAIN SIZE DISTRIBUTION TEST DATA													1/28/2010		
Client: Woods Hole Group															
Project: NBH Water Quality Monitoring															
Project Number: L0910702															
Location: S-09G-G002-0-0															
Sample Number: L0910702-07															
Sieve opening list: BS Bulk Sieve															
Sieve Test Data															
Post #200 Wash Test Weights (grams): Dry Sample and Tare = 32.72															
Tare Wt. = 4.32															
Minus #200 from wash = 54.4%															
Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained									
66.35	4.02	#4	522.58	522.38	99.7	0.3									
		#10	485.45	485.17	99.2	0.8									
		#40	372.21	359.68	79.1	20.9									
		#200	354.00	345.65	65.7	34.3									
Fractional Components															
Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			0.4	9.0	9.0	6.2	5.3								
D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅						
						0.4546	0.6682	0.9822	1.4438						
Fineness Modulus															
0.77															
Alpha Analytical															



GRAIN SIZE DISTRIBUTION TEST DATA										1/28/2010						
Client: Woods Hole Group																
Project: NBH Water Quality Monitoring																
Project Number: L0910702																
Location: S-09G-G003-0-0																
Sample Number: L0910702-08																
Sieve opening list: BS Bulk Sieve																
Sieve Test Data																
Post #200 Wash Test Weights (grams): Dry Sample and Tare = 26.13																
Tare Wt. = 4.11																
Minus #200 from wash = 63.9%																
Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained										
64.98	4.05	#4	521.51	521.51	100.0	0.0										
		#10	482.65	482.46	99.7	0.3										
		#40	383.69	378.29	90.8	9.2										
		#200	362.40	347.70	66.7	33.3										
Fractional Components																
Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay		
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total	
0.0	0.0	0.1	0.2	4.0	3.9	8.4	9.6									
D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅							
						0.1951	0.2796	0.4005	0.8815							
Fineness Modulus																
0.48																
Alpha Analytical																

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.



CHAIN OF CUSTODY

PAGE 1 OF 2

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Drive
E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com

Project Information

Project Name: NBH Water Quality Monitoring
Project Location: New Bedford Harbor
Project #: TO-0010 NBH Task 4.0 Sed Traps
Project Manager: Dave Walsh
ALPHA Quote #:
Turn-Around Time

Standard Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

These samples have been Previously analyzed by Alpha
Other Project Specific Requirements/Comments/Detection Limits:
Level III data report & Project-specific EDD

Date Rec'd in Lab:

ALPHA Job #: 10910702

Report Information Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program Criteria
fed

ANALYSIS

total PCB congeners NOAA 18	TOC	grainsize																	
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<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAMPLE HANDLING
Filtration
 Done
 Not Needed
 Lab to do
Preservation
 Lab to do
(Please specify below)

field identifier
Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials																	
		Date	Time																			
-1	S-09G-G001-0-0	08/05/09	10:00	SED	KGM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ST-001	1	
	S-09G-G001-0-0	08/05/09	10:00	SED	KGM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ST-001	1
	S-09G-G001-0-0	08/05/09	10:00	SED	KGM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ST-001	1
-2	S-09G-G002-0-0-REP	08/05/09	12:05	SED	KGM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ST-002REP	1
	S-09G-G002-0-0-REP	08/05/09	12:05	SED	KGM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ST-002REP	1
	S-09G-G002-0-0-REP	08/05/09	12:05	SED	KGM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ST-002REP	1
	S-09G-G002-0-0-MSMSD	08/05/09	12:05	SED	KGM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ST-002 MS/MSD	1
-3	S-09G-G002-0-0	08/05/09	11:45	SED	KGM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ST-002	1
	S-09G-G002-0-0	08/05/09	11:45	SED	KGM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ST-002	1
	S-09G-G002-0-0	08/05/09	11:45	SED	KGM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ST-002	1

Container Type	G	G	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	A	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
<i>Kareem Fikani</i>	8/5 14:10	<i>Jonatha Fikani</i>	8/5/09 2:40
<i>Jonatha Fikani</i>	8/5 15:26	<i>[Signature]</i>	8/5/09 15:26

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

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FORM NO. 01-01(1-AJ)
(rev. 29-APR-09)

Delivery Order-0010
June 2010

C-59

Sediment Trap Study Summary Report
W912WJ-09-D-0001

02414018-1



CHAIN OF CUSTODY

PAGE 2 OF 2

Westborough, MA
 TEL: 508-898-9220
 FAX: 508-898-9193

Mansfield, MA
 TEL: 508-822-9300
 FAX: 508-822-3288

Client Information

Client: Woods Hole Group
 Address: 81 Technology Park Drive
 E. Falmouth, MA 02536
 Phone: 508-540-8080
 Fax: 508-540-1001
 Email: dwalsh@whgrp.com

Project Information

Project Name: NBH Water Quality Monitoring
 Project Location: New Bedford Harbor
 Project #: TO-0010 NBH Task 4.0 Sed Traps
 Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

Standard Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

These samples have been Previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Level III data report & Project-specific EDD

Date Rec'd in Lab:

ALPHA Job #: LD910702

Report Information Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: fed
 Criteria:

ANALYSIS

total PCB congeners NOAA 18	TOC	grainsize																		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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SAMPLE HANDLING
 Filtration
 Done
 Not Needed
 Lab to do
 Preservation
 Lab to do
 (Please specify below)

field identifier
 Sample-Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
-4	S-09G-G003-0-0	08/05/09	13:16	SED	KGM
	S-09G-G003-0-0	08/05/09	13:16	SED	KGM
	S-09G-G003-0-0	08/05/09	13:16	SED	KGM

Container Type	G	G	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	A	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
<i>Patrick McCarroll</i>	8/5 14:10	<i>Matthew Fiedler</i>	8/5 14:10
<i>Heather Fiedler</i>	8/5 13:26	<i>[Signature]</i>	8/5/09 15:25

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

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FORM NO. 01-01-01 (Rev. 03/97/02)



ANALYTICAL REPORT

Lab Number:	L0910950
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Lee Weishar
Project Name:	NBH WATER QUALITY MONITORING
Project Number:	NBH TASK 4.0 ST
Report Date:	02/11/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0910950-01	S-09G-T001-0-0COMP	NEW BEDFORD, MA	08/07/09 10:30
L0910950-02	S-09G-T002-0-0COMP	NEW BEDFORD, MA	08/07/09 12:20
L0910950-03	S-09G-T003-0-0COMP	NEW BEDFORD, MA	08/07/09 13:00
L0910950-04	S-09G-T001-0-0COMP AIR DRIED	NEW BEDFORD, MA	08/07/09 10:30
L0910950-05	S-09G-T002-0-0COMP AIR DRIED	NEW BEDFORD, MA	08/07/09 12:20
L0910950-06	S-09G-T003-0-0COMP AIR DRIED	NEW BEDFORD, MA	08/07/09 13:00



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the original report issued on September 15, 2009. The report was amended to include revised Grain Size data.

PCB CONGENERS

The WG376956-1 Method Blank associated with L0910950-04,L0910950-05,L0910950-06 has concentrations above the reporting limits for several congeners; however, the associated samples have high

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

Case Narrative (continued)

concentrations of the affected compounds. The associated samples are reported and no qualification of the results is required.

The WG376956-2/-3 LCS/LCSD recoveries associated with L0910950-04,L0910950-05,L0910950-06 were above the acceptance criteria for ,cl3-bz#28(194%)/(208%). The results of the original analyses are reported; however, all positive detects are considered to have a potentially high bias for these compounds.

The WG376956-2/-3 LCS/LCSD recoveries associated with L0910950-04,L0910950-05,L0910950-06 were outside the acceptance criteria for several compounds. The results of the original analyses are reported; however, all results are considered to have a potentially high bias for cl2-bz#8(157%)/(170%),cl3-bz#18(226%)/(257%),cl4-bz#49(162%)/(178%),cl4-bz#52(168%)/(187%).

L0910950-04 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. The surrogate recoveries for L0910950-04 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.

The surrogate recoveries for L0910950-05 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.

L0910950-05 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L0910950-06 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. The surrogate recoveries for L0910950-06 are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.'

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

Case Narrative (continued)

Grain Size

The WG376563-1 Laboratory Duplicate RPD associated with L0910950-04,L0910950-05,L0910950-06 is outside the acceptance criteria for Gravel (67%), % Very Coarse Sand (41%), % Coarse Sand (40%), % Medium Sand (38%), % Fine Sand (39%). The elevated RPD has been attributed to the non-homogenous nature of the sample utilized for the laboratory duplicate.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/11/10

ORGANICS



PCBS



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID:	L0910950-04	Date Collected:	08/07/09 10:30
Client ID:	S-09G-T001-0-0COMP AIR DRIED	Date Received:	08/07/09
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3570
Analytical Method:	1,8082	Extraction Date:	08/25/09 13:37
Analytical Date:	09/05/09 18:37	Cleanup Method1:	EPA 3630
Analyst:	JS	Cleanup Date1:	08/25/09
Percent Solids:	71%	Cleanup Method2:	- - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	1600		ug/kg	116	50
C13-BZ#18	ND		ug/kg	116	50
C13-BZ#28	ND		ug/kg	116	50
C14-BZ#52	ND		ug/kg	116	50
C14-BZ#66	2070		ug/kg	116	50
C15-BZ#101	1680		ug/kg	116	50
C15-BZ#118	940		ug/kg	116	50
C16-BZ#128	ND		ug/kg	116	50
C16-BZ#138	930		ug/kg	116	50
C17-BZ#180	205		ug/kg	116	50
C17-BZ#187	271		ug/kg	116	50
C18-BZ#195	ND		ug/kg	116	50
C19-BZ#206-Cal/RTW	ND		ug/kg	116	50
C110-BZ#209-Cal/RTW	ND		ug/kg	116	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0		50-125
BZ 198	0		50-125



02111018:31

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-04
Client ID: S-09G-T001-0-0COMP AIR DRIED
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 18:37
Analyst: JS
Percent Solids: 71%

Date Collected: 08/07/09 10:30
Date Received: 08/07/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	2160		ug/kg	116	50
Cl5-BZ#105	199		ug/kg	116	50
Cl6-BZ#153	1250		ug/kg	116	50
Cl7-BZ#170	199		ug/kg	116	50

DBOB	0	50-125
BZ 198	0	50-125



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-05
Client ID: S-09G-T002-0-0COMP AIR DRIED
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 09:08
Analyst: JS
Percent Solids: 85%

Date Collected: 08/07/09 12:20
Date Received: 08/07/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	6340		ug/kg	1930	1000
Cl3-BZ#28	29200		ug/kg	1930	1000
Cl4-BZ#52	36100		ug/kg	1930	1000
Cl4-BZ#66	11400		ug/kg	1930	1000
Cl5-BZ#101	9600		ug/kg	1930	1000
Cl5-BZ#118	5440		ug/kg	1930	1000
Cl6-BZ#138	5350		ug/kg	1930	1000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0		50-125
BZ 198	0		50-125



02111018:31

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-05
Client ID: S-09G-T002-0-0COMP AIR DRIED
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 09:08
Analyst: JS
Percent Solids: 85%

Date Collected: 08/07/09 12:20
Date Received: 08/07/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	19800		ug/kg	1930	1000
Cl4-BZ#44	11300		ug/kg	1930	1000
Cl6-BZ#153	7340		ug/kg	1930	1000



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Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-05
Client ID: S-09G-T002-0-0COMP AIR DRIED
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 19:17
Analyst: JS
Percent Solids: 85%

Date Collected: 08/07/09 12:20
Date Received: 08/07/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#128	700		ug/kg	193	100
Cl7-BZ#170	616		ug/kg	193	100
Cl7-BZ#180	828		ug/kg	193	100
Cl7-BZ#187	1020		ug/kg	193	100
Cl8-BZ#195	ND		ug/kg	193	100
Cl9-BZ#206-Cal/RTW	ND		ug/kg	193	100
Cl10-BZ#209-Cal/RTW	ND		ug/kg	193	100



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Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-05
Client ID: S-09G-T002-0-0COMP AIR DRIED
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 19:17
Analyst: JS
Percent Solids: 85%

Date Collected: 08/07/09 12:20
Date Received: 08/07/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C15-BZ#105	619		ug/kg	193	100



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID:	L0910950-06	Date Collected:	08/07/09 13:00
Client ID:	S-09G-T003-0-0COMP AIR DRIED	Date Received:	08/07/09
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Sediment	Extraction Method:	EPA 3570
Analytical Method:	1,8082	Extraction Date:	08/25/09 13:37
Analytical Date:	09/05/09 11:10	Cleanup Method1:	EPA 3630
Analyst:	JS	Cleanup Date1:	08/25/09
Percent Solids:	78%	Cleanup Method2:	- - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	297		ug/kg	210	100
Cl3-BZ#28	2140		ug/kg	210	100
Cl4-BZ#52	2300		ug/kg	210	100
Cl4-BZ#66	1840		ug/kg	210	100
Cl5-BZ#101	1760		ug/kg	210	100
Cl5-BZ#118	1650		ug/kg	210	100
Cl6-BZ#128	336		ug/kg	210	100
Cl6-BZ#138	1300		ug/kg	210	100
Cl7-BZ#180	275		ug/kg	210	100
Cl8-BZ#195	ND		ug/kg	210	100
Cl9-BZ#206-Cal/RTW	ND		ug/kg	210	100
Cl10-BZ#209-Cal/RTW	ND		ug/kg	210	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0		50-125
BZ 198	0		50-125



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Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-06
Client ID: S-09G-T003-0-0COMP AIR DRIED
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 09/05/09 11:10
Analyst: JS
Percent Solids: 78%

Date Collected: 08/07/09 13:00
Date Received: 08/07/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	1050		ug/kg	210	100
Cl4-BZ#44	901		ug/kg	210	100
Cl5-BZ#105	431		ug/kg	210	100
Cl6-BZ#153	1280		ug/kg	210	100
Cl7-BZ#170	233		ug/kg	210	100
Cl7-BZ#187	251		ug/kg	210	100

DBOB	0	50-125
BZ 198	0	50-125



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 09/04/09 19:37
Analyst: JS

Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 04-06 Batch: WG376956-1				
Cl3-BZ#28	2.01		ug/kg	1.67
Cl4-BZ#44	ND		ug/kg	1.67
Cl4-BZ#66	ND		ug/kg	1.67
Cl5-BZ#101	ND		ug/kg	1.67
Cl5-BZ#105	ND		ug/kg	1.67
Cl5-BZ#118	ND		ug/kg	1.67
Cl6-BZ#128	ND		ug/kg	1.67
Cl6-BZ#138	ND		ug/kg	1.67
Cl7-BZ#170	ND		ug/kg	1.67
Cl7-BZ#180	ND		ug/kg	1.67
Cl7-BZ#187	ND		ug/kg	1.67
Cl8-BZ#195	ND		ug/kg	1.67
Cl9-BZ#206-Cal/RTW	ND		ug/kg	1.67
Cl10-BZ#209-Cal/RTW	ND		ug/kg	1.67

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	81		50-125
BZ 198	96		50-125



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 09/04/09 19:37
Analyst: JS

Extraction Method: EPA 3570
Extraction Date: 08/25/09 13:37
Cleanup Method1: EPA 3630
Cleanup Date1: 08/25/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 04-06 Batch: WG376956-1				
Cl2-BZ#8	2.03		ug/kg	1.67
Cl3-BZ#18	3.95		ug/kg	1.67
Cl4-BZ#52	2.10		ug/kg	1.67
Cl6-BZ#153	ND		ug/kg	1.67

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	81		50-125
BZ 198	96		50-125



Lab Control Sample Analysis
Batch Quality Control

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 Batch: WG376956-2 WG376956-3								
C13-BZ#28	194		208		40-120	7		30

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
DBOB	91		76		50-125
BZ 198	109		101		50-125

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 Batch: WG376956-2 WG376956-3								
C12-BZ#8	157		170		40-120	8		30
C13-BZ#18	226		257		40-120	13		30
C14-BZ#44	115		117		40-120	2		30
C14-BZ#52	168		187		40-120	11		30
C14-BZ#66	108		104		40-120	4		30
C15-BZ#101	106		98		40-120	8		30
C15-BZ#105	98		90		40-120	9		30
C15-BZ#118	101		93		40-120	8		30
C16-BZ#128	107		94		40-120	13		30



Lab Control Sample Analysis
Batch Quality Control

Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 Batch: WG376956-2 WG376956-3								
C16-BZ#138	105		96		40-120	9		30
C16-BZ#153	100		93		40-120	7		30
C17-BZ#170	103		96		40-120	7		30
C17-BZ#180	109		96		40-120	13		30
C18-BZ#195	103		95		40-120	8		30
C19-BZ#206	117		109		40-120	7		30
C110-BZ#209	109		101		40-120	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	91		76		50-125
BZ 198	109		101		50-125



INORGANICS & MISCELLANEOUS

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Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-01
 Client ID: S-09G-T001-0-0COMP
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 08/07/09 10:30
 Date Received: 08/07/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	32.1		%	0.100	1	-	08/10/09 12:41	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-02
 Client ID: S-09G-T002-0-0COMP
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 08/07/09 12:20
 Date Received: 08/07/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	38.2		%	0.100	1	-	08/10/09 12:41	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-03
 Client ID: S-09G-T003-0-0COMP
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 08/07/09 13:00
 Date Received: 08/07/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	45.1		%	0.100	1	-	08/10/09 12:41	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-04
Client ID: S-09G-T001-0-0COMP AIR DRIED
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 08/07/09 10:30
Date Received: 08/07/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	6.98		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	6.76		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.100		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	3.00		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	3.00		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	2.70		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	2.40		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	88.8		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	70.8		%	0.100	1	-	08/14/09 09:35	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-05
Client ID: S-09G-T002-0-0COMP AIR DRIED
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 08/07/09 12:20
Date Received: 08/07/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	5.02		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	4.99		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.100		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	3.50		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	3.60		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	4.80		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	5.20		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	82.8		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	85.3		%	0.100	1	-	08/14/09 09:35	30,2540G	KB



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0910950-06
Client ID: S-09G-T003-0-0COMP AIR DRIED
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 08/07/09 13:00
Date Received: 08/07/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	4.72		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	4.17		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.200		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	6.80		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	6.90		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	6.20		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	6.10		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	73.7		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	08/21/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	77.8		%	0.100	1	-	08/14/09 09:35	30,2540G	KB



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Project Name: NBH WATER QUALITY MONITORING

Lab Number: L0910950

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 04-06 Batch: WG376251-1									
Total Organic Carbon (Rep1)	ND		%	0.010	1	-	08/20/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	ND		%	0.010	1	-	08/20/09 09:00	1,9060	NR



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST
Lab Duplicate Analysis
Batch Quality Control
Lab Number: L0910950
Report Date: 02/11/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG374619-1 QC Sample: L0910950-01 Client ID: S-09G-T001-0-0COMP						
Solids, Total	32.1	32.5	%	1		20
General Chemistry - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG375456-1 QC Sample: L0910950-04 Client ID: S-09G-T001-0-0COMP AIR DRIED						
Solids, Total	70.8	70.6	%	0		20
Grain Size (Wentworth Method) - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG376563-1 QC Sample: L0910950-06 Client ID: S-09G-T003-0-0COMP AIR DRIED						
Gravel (>2.00mm)	0.2	0.100	%	67	Q	20
Very Coarse Sand (1.00-2.00 mm)	6.8	4.50	%	41	Q	20
Coarse Sand (0.50-1.00 mm)	6.9	4.60	%	40	Q	20
Medium Sand (0.25-0.50 mm)	6.2	4.20	%	38	Q	20
Fine Sand (0.125-0.25 mm)	6.1	4.10	%	39	Q	20
Very Fine Sand (0.063-0.125 mm)	ND	ND	%	NC		20
Silt - (1.95-62.5 um)	73.7	82.5	%	11		20
Clay - (<1.95 um)	ND	ND	%	NC		20

Project Name: NBH WATER QUALITY MONITORING**Lab Number:** L0910950**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/11/10**S.R.M. Standard Quality Control**

Standard Reference Material (SRM): WG376251-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	109		75-125
Total Organic Carbon (Rep2)	110		75-125



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0910950-01A	Glass 500ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0910950-02A	Glass 1000ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0910950-03A	Glass 1000ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0910950-04A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7)
L0910950-05A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7)
L0910950-05B	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7)
L0910950-06A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7)
L0910950-06B	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7)

Container Comments

L0910950-01A	EMPTY
L0910950-02A	EMPTY
L0910950-03A	EMPTY

*Hold days indicated by values in parentheses



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	- Not detected at the reported detection limit for the sample.
NI	- Not Ignitable.
RDL	- Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NBH WATER QUALITY MONITORING
Project Number: NBH TASK 4.0 ST

Lab Number: L0910950
Report Date: 02/11/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 12 Annual Book of ASTM Standards. American Society for Testing and Materials.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

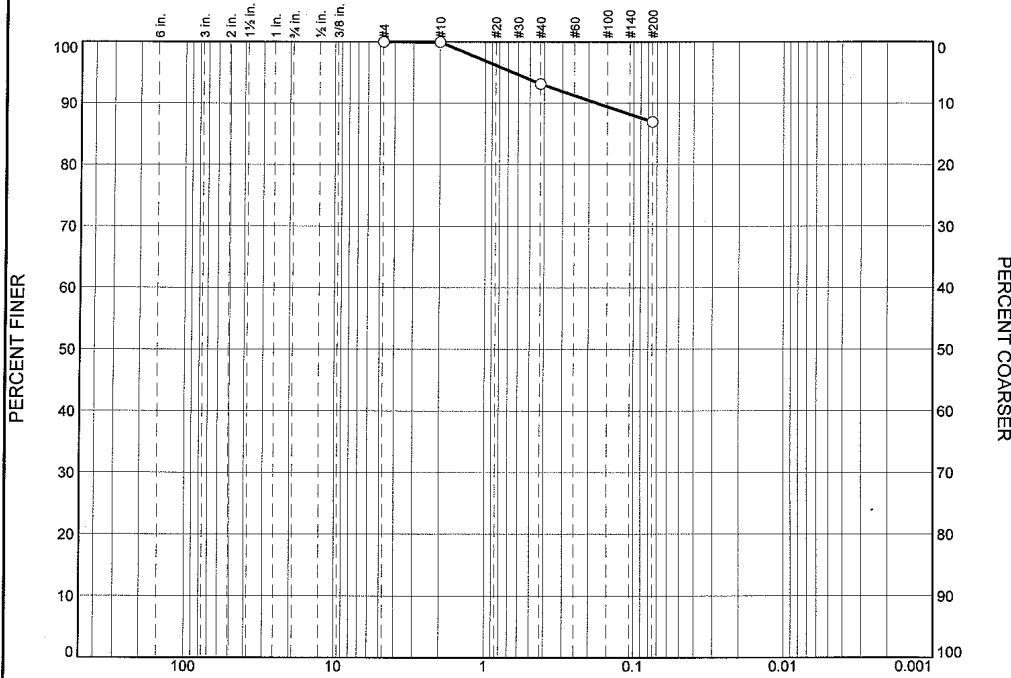
Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



ASTM 422D Bulk Sediment

Particle Size Distribution Report



GRAIN SIZE - mm.												
% Boulders	% Cobbles	% Pebbles	% Gravel	% Sand				% Silt				% Clay
				V. Crs.	Crs.	Med.	Fine V. Fine	Crs.	Med.	Fine V. Fine		
0.0	0.0	0.0	0.1	3.0	3.0	2.7	2.4	88.8				
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu			

Material Description	USCS	AASHTO

<p>Project No. L0910950 Client: Woods Hole Group</p> <p>Project: NBH Task 4.0</p> <p>Source of Sample: S-09G-T001-0-0COMP Sample Number: L0910950-04</p>	<p>Remarks:</p>
<p>Alpha Analytical</p> <p>Mansfield, MA</p>	<p>Figure</p>

GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

Client: Woods Hole Group
 Project: NBH Task 4.0
 Project Number: L0910950
 Location: S-09G-T001-0-0COMP
 Sample Number: L0910950-04
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 18.42
 Tare Wt. = 3.95
 Minus #200 from wash = 82.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
84.22	3.92	#4	521.49	521.49	100.0	0.0
		#10	482.50	482.45	99.9	0.1
		#40	383.85	378.39	93.1	6.9
		#200	352.68	347.72	87.0	13.0

Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total		
0.0	0.0	0.0	0.1	3.0	3.0	2.7	2.4									

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
								0.1761	0.6495

Fineness Modulus
0.26

Alpha Analytical

GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

Client: Woods Hole Group
 Project: NBH Task 4.0
 Project Number: L0910950
 Location: S-09G-T002-0-0COMP
 Sample Number: L0910950-05
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 22.20
 Tare Wt. = 3.94
 Minus #200 from wash = 65.2%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
56.43	3.92	#4	522.32	522.32	100.0	0.0
		#10	485.19	485.15	99.9	0.1
		#40	363.71	359.56	92.0	8.0
		#200	352.47	345.63	79.0	21.0

Fractional Components

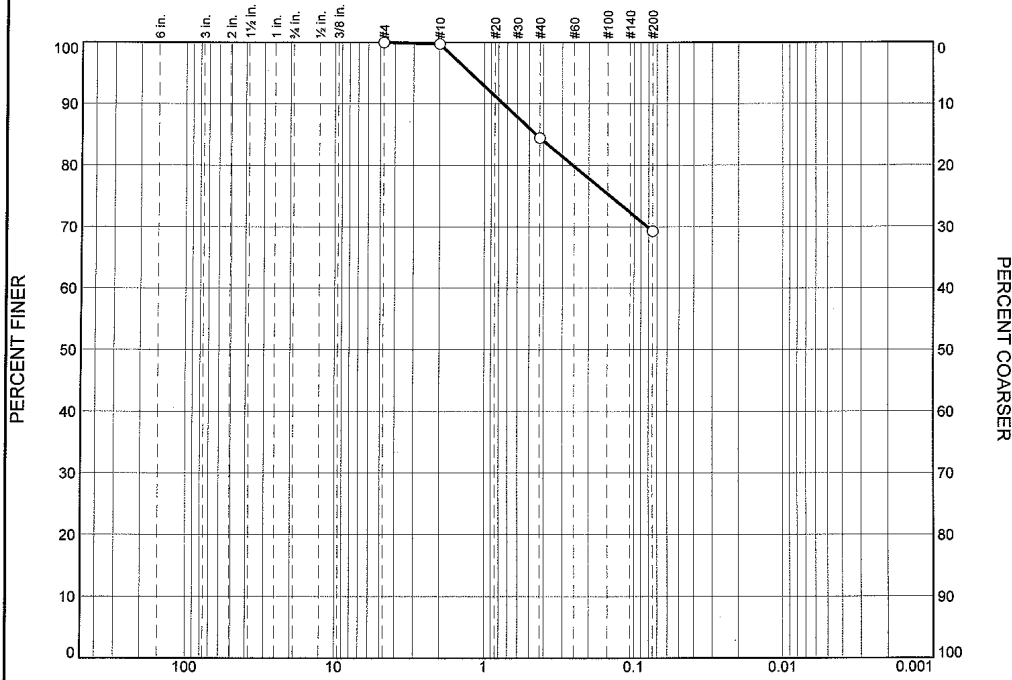
Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total		
0.0	0.0	0.0	0.1	3.5	3.6	4.8	5.2									

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
						0.0857	0.1669	0.3247	0.7620

Fineness Modulus
0.35

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.											
% Boulders	% Cobbles	% Pebbles	% Gravel	% Sand					% Silt		% Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	
0.0	0.0	0.1	0.2	6.8	6.9	6.2	6.1			73.7	
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu		
		0.4501									

Material Description	USCS	AASHTO

Project No. L0910950 Client: Woods Hole Group Project: NBH Task 4.0 <input type="checkbox"/> Source of Sample: S-09G-T003-0-0COMP Sample Number: L0910950-06	Remarks:
Alpha Analytical Mansfield, MA	

GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

Client: Woods Hole Group
 Project: NBH Task 4.0
 Project Number: L0910950
 Location: S-09G-T003-0-0COMP
 Sample Number: L0910950-06
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 24.01
 Tare Wt. = 4.07
 Minus #200 from wash = 55.8%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
49.01	3.85	#4	521.49	521.49	100.0	0.0
		#10	482.57	482.45	99.7	0.3
		#40	385.30	378.39	84.4	15.6
		#200	354.57	347.72	69.3	30.7

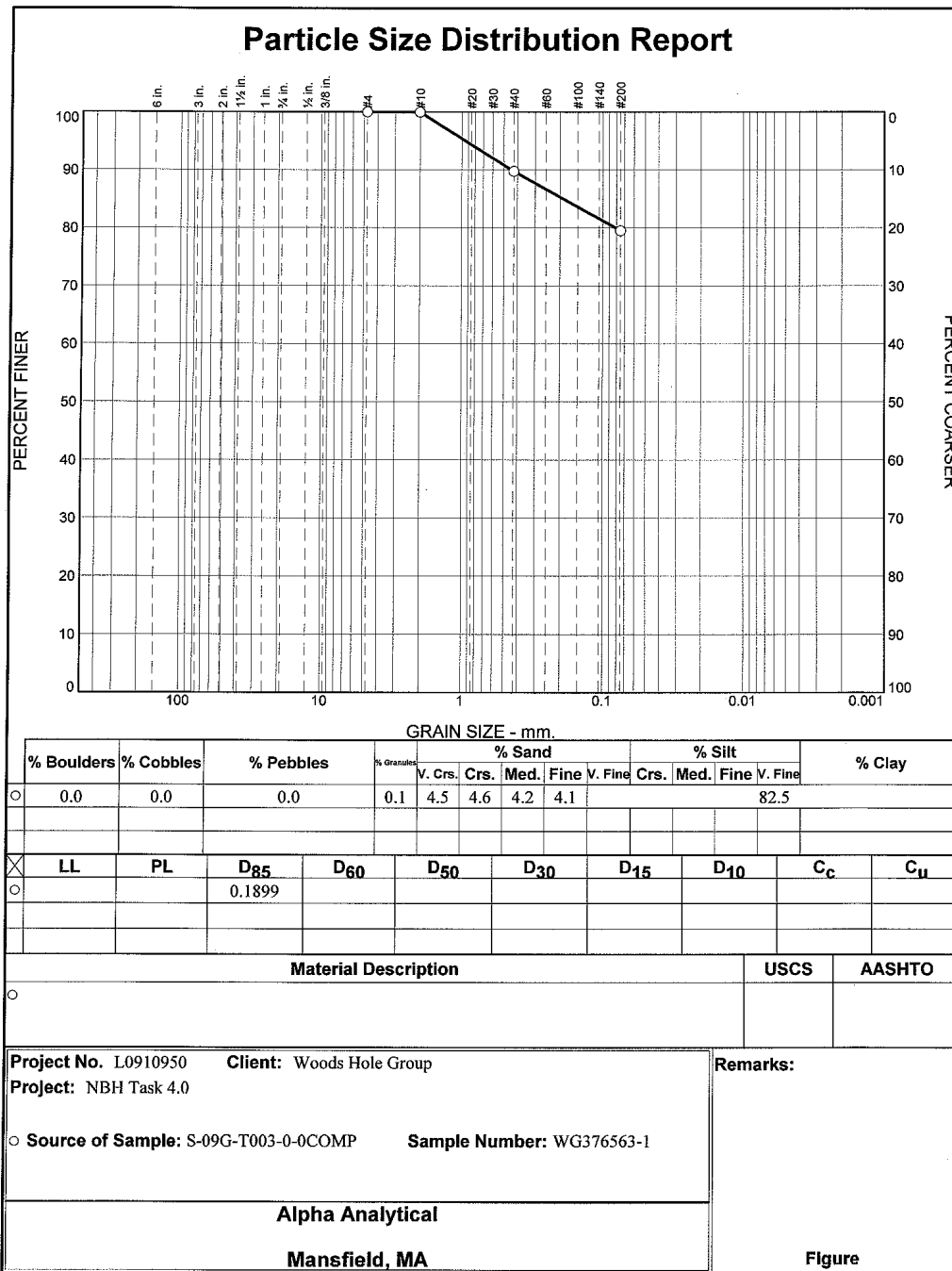
Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total		
0.0	0.0	0.1	0.2	6.8	6.9	6.2	6.1									

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
						0.2560	0.4501	0.7466	1.2385

Fineness Modulus
0.61

Alpha Analytical



GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

Client: Woods Hole Group

Project: NBH Task 4.0

Project Number: L0910950

Location: S-09G-T003-0-0COMP

Sample Number: WG376563-1

Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 20.75

Tare Wt. = 4.03

Minus #200 from wash = 69.6%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
58.97	3.88	#4	522.32	522.32	100.0	0.0
		#10	485.18	485.15	99.9	0.1
		#40	365.17	359.56	89.8	10.2
		#200	351.28	345.63	79.5	20.5

Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total		
0.0	0.0	0.0	0.1	4.5	4.6	4.2	4.1									

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
						0.0815	0.1899	0.4407	0.9427

Fineness Modulus
0.40

Alpha Analytical

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.

02111018:31



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: **L0910950**

Project Information

Project Name: **NBH Water Quality Monitoring**

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: **Woods Hole Group**

Project Location: **New Bedford Harbor**

Project #: **To-0010-NBH Task 4.0 sed traps**

Address: **81 Technology Park Drive**

Project Manager: **Dave Walsh**

E. Falmouth, MA 02536

ALPHA Quote #:

Phone: **508-540-8080**

Turn-Around Time

Fax: **508-540-1001**

Standard RUSH (only confirmed if pre-approved!)

Date Due: Time:

Email: **dwalsh@whgrp.com**

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

****ESI has process sed Trap samples to provide COMPOSITE samples (comp) to Alpha**

**** Level III data report & Project-Specific EDD**

Regulatory Requirements/Report Limits

State /Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY -- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS	SAMPLE HANDLING		TOTAL # BOTTLES
	Grain Size	TDC	
PCB congeners MB03			

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Sample Specific Comments
		Date	Time			

L0910950	-1	S-09G-T001-0-COMP	8/7/09	10:30	SED	KAT	✓	✓	✓		1
	-2	S-09G-T002-0-COMP	↓	12:20	SED	KAT	✓	✓	✓		1
	-3	S-09G-T003-0-COMP	↓	13:00	SED	KAT	✓	✓	✓		1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type

G A A

Preservative

A A A

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:

[Signature]

Date/Time

8/7/09 1430

Received By:

[Signature]

Date/Time

8/7/09 1430

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORM NO: 01-01 (rev. 30-JUL-07)



ANALYTICAL REPORT

Lab Number: L0912660
Client: Woods Hole Group
81 Technology Park Drive
East Falmouth, MA 02536
ATTN: Dave Walsh
Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010
Report Date: 02/04/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0912660-01	S-09S-G001-0-0	NEW BEDFORD, MA	09/09/09 10:58
L0912660-02	S-09S-G002-0-0	NEW BEDFORD, MA	09/09/09 12:08
L0912660-03	S-09S-G002-0-0 REP	NEW BEDFORD, MA	09/09/09 12:08
L0912660-04	S-09S-G003-0-0	NEW BEDFORD, MA	09/09/09 13:37
L0912660-05	S-09S-G001-0-0 AD	NEW BEDFORD, MA	09/09/09 13:37
L0912660-06	S-09S-G002-0-0 AD	NEW BEDFORD, MA	09/09/09 13:37
L0912660-07	S-09S-G002-0-0 REP AD	NEW BEDFORD, MA	09/09/09 13:37
L0912660-08	S-09S-G003-0-0 AD	NEW BEDFORD, MA	09/09/09 13:37



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the original report issued on October 14, 2009. The report was amended to include revised Grain Size data.

PCB Congeners

All samples required a dilution due to the high levels of target compounds. This resulted in the extraction surrogates being diluted from the sample. Results over calibration are denoted with an "E" qualifier.

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

Case Narrative (continued)

The WG381060-3 LCS/LCSD RPD(s) associated with L0912660-05,L0912660-06,L0912660-07,L0912660-08 are above the acceptance criteria for cl3-bz#18(35%); however, the individual LCS/LCSD recoveries are within method limits. The results of the associated samples are reported.

The WG381060-4/-5 MS/MSD recoveries were outside the acceptance criteria for several compounds; however, the associated LCS/LCSD recoveries were within criteria.

Grain Size

The WG381842-1 Laboratory Duplicate RPD is outside the acceptance criteria for sieve,gravel(67%),% very coarse sand(133%),% coarse sand(86%),% medium sand(37%),% fine sand(48%),% very fine sand(52%),silt(22%),clay(56%). The elevated RPD has been attributed to the non-homogenous nature of the sample utilized for the laboratory duplicate.

TOC

The WG381843 MS#1 recovery is 128% above the acceptance criteria. MS#2 is 121% recovery which is within acceptance limits. All remaining QC is within QC limits.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Peter Neri

Title: Technical Director/Representative

Date: 02/04/10

ORGANICS



PCBS



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

02041015:25
Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-05
Client ID: S-09S-G001-0-0 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/02/09 22:58
Analyst: JR
Percent Solids: 77%

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#52	13000		ug/kg	4300	1000



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-05
 Client ID: S-09S-G001-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/05/09 19:47
 Analyst: JR
 Percent Solids: 77%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2350	E	ug/kg	107	25
Cl3-BZ#18	4300	E	ug/kg	107	25
Cl3-BZ#28	8940	E	ug/kg	107	25
Cl4-BZ#52	9350	E	ug/kg	107	25
Cl4-BZ#66	2840	E	ug/kg	107	25
Cl5-BZ#101	2040		ug/kg	107	25
Cl5-BZ#118	1380		ug/kg	107	25
Cl6-BZ#128	264		ug/kg	107	25
Cl6-BZ#138	1180		ug/kg	107	25
Cl7-BZ#170	185		ug/kg	107	25
Cl7-BZ#180	253		ug/kg	107	25
Cl7-BZ#187	327		ug/kg	107	25
Cl8-BZ#195	ND		ug/kg	107	25
Cl9-BZ#206	ND		ug/kg	107	25
Cl10-BZ#209	ND		ug/kg	107	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-05
 Client ID: S-09S-G001-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/05/09 19:47
 Analyst: JR
 Percent Solids: 77%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	2550	E	ug/kg	107	25
Cl5-BZ#105	270		ug/kg	107	25
Cl6-BZ#153	1480		ug/kg	107	25
DBOB	0	Q	50-125		
BZ 198	0	Q	50-125		

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-05
 Client ID: S-09S-G001-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/09/09 22:05
 Analyst: JR
 Percent Solids: 77%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2180		ug/kg	430	100
Cl3-BZ#18	5650		ug/kg	430	100
Cl3-BZ#28	8170		ug/kg	430	100
Cl4-BZ#52	9680	E	ug/kg	430	100
Cl4-BZ#66	2910		ug/kg	430	100



02041015:25

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-05
Client ID: S-09S-G001-0-0 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/09/09 22:05
Analyst: JR
Percent Solids: 77%

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	3060		ug/kg	430	100



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-06
 Client ID: S-09S-G002-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/05/09 20:27
 Analyst: JR
 Percent Solids: 89%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	4400	E	ug/kg	37.0	25
Cl3-BZ#18	9660	E	ug/kg	37.0	25
Cl3-BZ#28	22000	E	ug/kg	37.0	25
Cl4-BZ#44	5220	E	ug/kg	37.0	25
Cl4-BZ#52	20800	E	ug/kg	37.0	25
Cl4-BZ#66	6420	E	ug/kg	37.0	25
Cl5-BZ#101	5950	E	ug/kg	37.0	25
Cl5-BZ#105	346		ug/kg	37.0	25
Cl5-BZ#118	2810	E	ug/kg	37.0	25
Cl6-BZ#128	502		ug/kg	37.0	25
Cl6-BZ#138	2590	E	ug/kg	37.0	25
Cl7-BZ#170	438		ug/kg	37.0	25
Cl7-BZ#180	609		ug/kg	37.0	25
Cl7-BZ#187	765	E	ug/kg	37.0	25
Cl8-BZ#195	ND		ug/kg	37.0	25
Cl9-BZ#206	107		ug/kg	37.0	25
Cl10-BZ#209	ND		ug/kg	37.0	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-06
 Client ID: S-09S-G002-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/05/09 20:27
 Analyst: JR
 Percent Solids: 89%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#153	2060	E	ug/kg	37.0	25
DBOB	0	Q	50-125		
BZ 198	0	Q	50-125		



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-06
 Client ID: S-09S-G002-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/09/09 02:07
 Analyst: JR
 Percent Solids: 89%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	8990		ug/kg	2960	2000
Cl3-BZ#18	18200		ug/kg	2960	2000
Cl3-BZ#28	38000		ug/kg	2960	2000
Cl4-BZ#52	44400		ug/kg	2960	2000
Cl5-BZ#118	5860		ug/kg	2960	2000
Cl6-BZ#138	5440		ug/kg	2960	2000



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-06
 Client ID: S-09S-G002-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/09/09 02:07
 Analyst: JR
 Percent Solids: 89%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	14100		ug/kg	2960	2000
Cl4-BZ#66	12700		ug/kg	2960	2000
Cl5-BZ#101	9930		ug/kg	2960	2000
Cl6-BZ#153	8460		ug/kg	2960	2000



02041015:25

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-06
Client ID: S-09S-G002-0-0 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/09/09 22:45
Analyst: JR
Percent Solids: 89%

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C17-BZ#187	1020		ug/kg	148	100



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-07
 Client ID: S-09S-G002-0-0 REP AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/03/09 00:19
 Analyst: JR
 Percent Solids: 78%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	6820		ug/kg	1690	1000
Cl3-BZ#28	25400		ug/kg	1690	1000
Cl4-BZ#52	30400		ug/kg	1690	1000
Cl4-BZ#66	8600		ug/kg	1690	1000
Cl5-BZ#101	7580		ug/kg	1690	1000
Cl5-BZ#118	3930		ug/kg	1690	1000
Cl6-BZ#138	3600		ug/kg	1690	1000

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-07
 Client ID: S-09S-G002-0-0 REP AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/03/09 00:19
 Analyst: JR
 Percent Solids: 78%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	16400		ug/kg	1690	1000
Cl4-BZ#44	9350		ug/kg	1690	1000
Cl6-BZ#153	5460		ug/kg	1690	1000



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-07
 Client ID: S-09S-G002-0-0 REP AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/05/09 21:08
 Analyst: JR
 Percent Solids: 78%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	4140	E	ug/kg	42.2	25
Cl3-BZ#18	10200	E	ug/kg	42.2	25
Cl3-BZ#28	18300	E	ug/kg	42.2	25
Cl4-BZ#44	5140	E	ug/kg	42.2	25
Cl4-BZ#52	21100	E	ug/kg	42.2	25
Cl4-BZ#66	6090	E	ug/kg	42.2	25
Cl5-BZ#101	5010	E	ug/kg	42.2	25
Cl5-BZ#105	332		ug/kg	42.2	25
Cl5-BZ#118	2700	E	ug/kg	42.2	25
Cl6-BZ#128	497		ug/kg	42.2	25
Cl6-BZ#138	2550	E	ug/kg	42.2	25
Cl7-BZ#170	434		ug/kg	42.2	25
Cl7-BZ#180	599	E	ug/kg	42.2	25
Cl7-BZ#187	721		ug/kg	42.2	25
Cl8-BZ#195	ND		ug/kg	42.2	25
Cl9-BZ#206	110		ug/kg	42.2	25
Cl10-BZ#209	ND		ug/kg	42.2	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-07
 Client ID: S-09S-G002-0-0 REP AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/05/09 21:08
 Analyst: JR
 Percent Solids: 78%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#153	2060	E	ug/kg	42.2	25
DBOB	0	Q	50-125		
BZ 198	0	Q	50-125		



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-08
 Client ID: S-09S-G003-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/05/09 21:48
 Analyst: JR
 Percent Solids: 82%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	259		ug/kg	39.9	25
Cl3-BZ#28	1830	E	ug/kg	39.9	25
Cl4-BZ#52	1860	E	ug/kg	39.9	25
Cl4-BZ#66	1400	E	ug/kg	39.9	25
Cl5-BZ#101	1430	E	ug/kg	39.9	25
Cl5-BZ#105	252		ug/kg	39.9	25
Cl5-BZ#118	1100	E	ug/kg	39.9	25
Cl6-BZ#128	193		ug/kg	39.9	25
Cl6-BZ#138	765		ug/kg	39.9	25
Cl7-BZ#170	114		ug/kg	39.9	25
Cl7-BZ#180	154		ug/kg	39.9	25
Cl7-BZ#187	131		ug/kg	39.9	25
Cl8-BZ#195	ND		ug/kg	39.9	25
Cl9-BZ#206	ND		ug/kg	39.9	25
Cl10-BZ#209	ND		ug/kg	39.9	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-08
 Client ID: S-09S-G003-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/05/09 21:48
 Analyst: JR
 Percent Solids: 82%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	760		ug/kg	39.9	25
Cl4-BZ#44	633		ug/kg	39.9	25
Cl6-BZ#153	676		ug/kg	39.9	25

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-08
 Client ID: S-09S-G003-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/10/09 00:06
 Analyst: JR
 Percent Solids: 82%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	1830		ug/kg	160	100
Cl4-BZ#52	1870		ug/kg	160	100
Cl4-BZ#66	1390		ug/kg	160	100
Cl5-BZ#118	1200		ug/kg	160	100



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-08
 Client ID: S-09S-G003-0-0 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/10/09 00:06
 Analyst: JR
 Percent Solids: 82%

Date Collected: 09/09/09 13:37
 Date Received: 09/09/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl5-BZ#101	1160		ug/kg	160	100
Cl6-BZ#153	949		ug/kg	160	100



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 10/02/09 20:56
 Analyst: JR

Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 05-08 Batch: WG381060-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206	ND		ug/kg	1.33
Cl10-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	78		50-125
BZ 198	88		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 10/02/09 20:56
 Analyst: JR

Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 05-08 Batch: WG381060-1				
C16-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	78		50-125
BZ 198	88		50-125



Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG381060-4 WG381060-5 QC Sample: L0912754-06 Client ID: MS Sample												
C12-BZ#8	373	3390	4710	128	Q	3990	106		40-120	19		30
C13-BZ#18	ND	3390	6040	165	Q	5070	136	Q	40-120	19		30
C13-BZ#28	2380E	3390	6710	128	Q	5970	106		40-120	19		30
C14-BZ#44	923	3390	5470	134	Q	4510	106		40-120	23		30
C14-BZ#52	2300E	3390	7520	154	Q	6240	116		40-120	28		30
C14-BZ#66	1660E	3390	6360	139	Q	5340	108		40-120	25		30
C15-BZ#101	1750E	3390	6820	150	Q	5560	112		40-120	29		30
C15-BZ#105	299	3390	4350	120		3830	104		40-120	14		30
C15-BZ#118	1370E	3390	5990	136	Q	5000	107		40-120	24		30
C16-BZ#128	250	3390	4130	115		3580	98		40-120	16		30
C16-BZ#138	989E	3390	5220	125	Q	4410	101		40-120	21		30
C16-BZ#153	846E	3390	5970	151	Q	4630	111		40-120	31	Q	30
C17-BZ#180	206	3390	4420	124	Q	3630	101		40-120	20		30
C17-BZ#187	ND	3390	4410	126	Q	3690	104		40-120	19		30
C19-BZ#206	ND	3390	4040	119		3490	103		40-120	14		30
C110-BZ#209	ND	3390	4170	123	Q	3490	103		40-120	18		30

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
BZ 198	0	QQ	0	QQ	50-125
DBOB	0	QQ	0	QQ	50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 Batch: WG381060-2 WG381060-3								
C12-BZ#8	64		75		40-120	16		30
C13-BZ#28	74		90		40-120	20		30
C14-BZ#44	76		86		40-120	12		30
C14-BZ#52	76		88		40-120	15		30
C14-BZ#66	77		87		40-120	12		30
C15-BZ#101	80		90		40-120	12		30
C15-BZ#105	80		87		40-120	8		30
C15-BZ#118	85		96		40-120	12		30
C16-BZ#128	86		94		40-120	9		30
C16-BZ#138	87		96		40-120	10		30
C16-BZ#153	82		93		40-120	13		30
C17-BZ#170	86		91		40-120	6		30
C17-BZ#180	87		94		40-120	8		30
C17-BZ#187	84		95		40-120	12		30
C18-BZ#195	83		89		40-120	7		30
C19-BZ#206	95		103		40-120	8		30
C10-BZ#209	88		94		40-120	7		30



Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 05-08 Batch: WG381060-2 WG381060-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	67		74		50-125
BZ 198	89		88		50-125



INORGANICS & MISCELLANEOUS



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-01
Client ID: S-09S-G001-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 10:58
Date Received: 09/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	23.7		%	0.100	1	-	09/11/09 11:12	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-02
Client ID: S-09S-G002-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 12:08
Date Received: 09/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	27.9		%	0.100	1	-	09/11/09 11:12	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-03
Client ID: S-09S-G002-0-0 REP
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 12:08
Date Received: 09/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	27.6		%	0.100	1	-	09/11/09 11:12	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-04
Client ID: S-09S-G003-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	33.3		%	0.100	1	-	09/11/09 11:12	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-05
Client ID: S-09S-G001-0-0 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	6.96		%	0.010	1	-	09/30/09 13:00	1,9060	NA
Total Organic Carbon (Rep2)	8.72		%	0.010	1	-	09/30/09 13:00	1,9060	NA
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.200		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	1.20		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	2.30		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	3.70		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	7.60		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	12.4		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	27.4		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	45.2		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	76.6		%	0.100	1	-	09/17/09 09:27	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-06
Client ID: S-09S-G002-0-0 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	5.60		%	0.010	1	-	09/30/09 13:00	1,9060	NA
Total Organic Carbon (Rep2)	5.77		%	0.010	1	-	09/30/09 13:00	1,9060	NA
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.200		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	0.500		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	1.50		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	1.60		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	1.80		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	9.20		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	48.8		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	36.3		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	88.9		%	0.100	1	-	09/17/09 09:27	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-07
Client ID: S-09S-G002-0-0 REP AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	5.79		%	0.010	1	-	09/30/09 13:00	1,9060	NA
Total Organic Carbon (Rep2)	5.76		%	0.010	1	-	09/30/09 13:00	1,9060	NA
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.500		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	2.30		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	3.80		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	3.70		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	3.10		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	8.00		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	43.0		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	33.3		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	78.1		%	0.100	1	-	09/17/09 09:27	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

SAMPLE RESULTS

Lab ID: L0912660-08
Client ID: S-09S-G003-0-0 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/09/09 13:37
Date Received: 09/09/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	3.36		%	0.010	1	-	09/30/09 13:00	1,9060	NA
Total Organic Carbon (Rep2)	3.14		%	0.010	1	-	09/30/09 13:00	1,9060	NA
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	2.20		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	4.00		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	2.90		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	5.10		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	13.0		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	14.9		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	43.3		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	14.1		%	0.100	1	-	09/28/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	82.1		%	0.100	1	-	09/17/09 09:27	30,2540G	KB



Project Name: NEW BEDFORD HARBOR

Lab Number: L0912660

Project Number: TO-0010

Report Date: 02/04/10

Method Blank Analysis
Batch Quality Control

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 05-08 Batch: WG381843-1								
Total Organic Carbon (Rep1)	ND	%	0.010	1	-	09/30/09 13:00	1,9060	NA
Total Organic Carbon (Rep2)	ND	%	0.010	1	-	09/30/09 13:00	1,9060	NA



Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

<u>Parameter</u>	<u>Native Sample</u>	<u>MS Added</u>	<u>MS Found</u>	<u>MS %Recovery</u>	<u>MSD Qual</u>	<u>MSD Found</u>	<u>MSD %Recovery</u>	<u>MSD Qual</u>	<u>Recovery Limits</u>	<u>RPD</u>	<u>Qual</u>	<u>RPD Limits</u>
Total Organic Carbon - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG381843-4 QC Sample: L0912660-06 Client ID: S-09S-G002-0-0 AD												
Total Organic Carbon (Rep1)	5.60	2.19	8.41	128	-	-	-	-	75-125	-	-	25
Total Organic Carbon (Rep2)	5.77	1.43	7.34	121	-	-	-	-	75-125	-	-	25

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0912660
Report Date: 02/04/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG379299-1 QC Sample: L0912660-04 Client ID: S-09S-G003-0-0						
Solids, Total	33.3	34.1	%	2		20
General Chemistry - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG380152-1 QC Sample: L0912660-05 Client ID: S-09S-G001-0-0 AD						
Solids, Total	76.6	75.5	%	1		20
Grain Size (Wentworth Method) - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG381842-1 QC Sample: L0912660-06 Client ID: S-09S-G002-0-0 AD						
Gravel (>2.00mm)	0.2	0.100	%	67	Q	20
Very Coarse Sand (1.00-2.00 mm)	0.5	0.100	%	133	Q	20
Coarse Sand (0.50-1.00 mm)	1.5	0.600	%	86	Q	20
Medium Sand (0.25-0.50 mm)	1.6	1.10	%	37	Q	20
Fine Sand (0.125-0.25 mm)	1.8	1.10	%	48	Q	20
Very Fine Sand (0.063-0.125 mm)	9.2	15.7	%	52	Q	20
Silt - (1.95-62.5 um)	48.8	60.8	%	22	Q	20
Clay - (<1.95 um)	36.3	20.5	%	56	Q	20
Total Organic Carbon - Mansfield Lab Associated sample(s): 05-08 QC Batch ID: WG381843-3 QC Sample: L0912660-06 Client ID: S-09S-G002-0-0 AD						
Total Organic Carbon (Rep1)	5.60	5.65	%	1		25
Total Organic Carbon (Rep2)	5.77	5.97	%	3		25



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG381843-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	118		75-125
Total Organic Carbon (Rep2)	119		75-125



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0912660-01A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-01B	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-01C	Glass 100ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-01D	Bag	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-02A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-02B	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-02C	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-02D	Glass 100ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-02E	Bag	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-03A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-03B	Glass 100ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-03C	Bag	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-04A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-04B	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-04C	Glass 100ml unpreserved	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-04D	Bag	A	N/A	2	Y	Absent	A2-TS(7)
L0912660-05A	Glass 250ml unpreserved split	A	N/A	2	Y	Absent	A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28)
L0912660-05B	Bag	A	N/A	2	Y	Absent	-
L0912660-06A	Glass 250ml unpreserved split	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0912660-06B	Bag	A	N/A	2	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7)
L0912660-07A	Glass 250ml unpreserved split	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0912660-07B	Bag	A	N/A	2	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7)
L0912660-08A	Glass 250ml unpreserved split	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)

*Hold days indicated by values in parentheses



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal
L0912660-08B	Bag	A	N/A	2	Y	Absent

Analysis

A2-SIEVE_#10(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7)

*Hold days indicated by values in parentheses



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

GLOSSARY

Acronyms

EPA	· Environmental Protection Agency.
LCS	· Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	· Laboratory Control Sample Duplicate: Refer to LCS.
MS	· Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	· Matrix Spike Sample Duplicate: Refer to MS.
NA	· Not Applicable.
NC	· Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	· Not detected at the reported detection limit for the sample.
NI	· Not Ignitable.
RDL	· Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	· Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1.8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	· Spectra identified as "Aldol Condensation Product".
B	· The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	· Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	· Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	· The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	· The RPD between the results for the two columns exceeds the method-specified criteria.
Q	· The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	· Analytical results are from sample re-analysis.
RE	· Analytical results are from sample re-extraction.
J	· Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912660
Report Date: 02/04/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 12 Annual Book of ASTM Standards. American Society for Testing and Materials.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

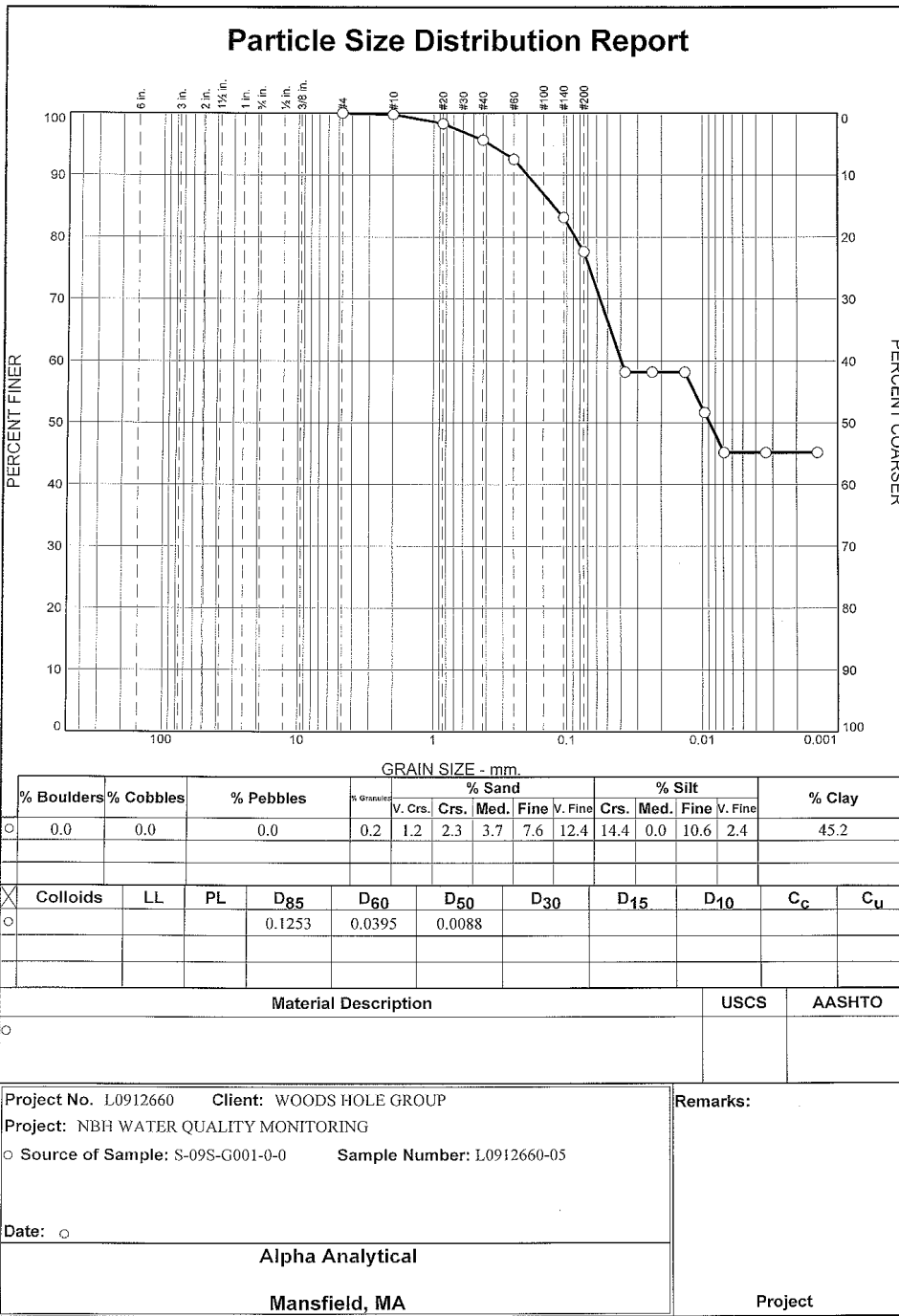
LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Wet Sieve Hydrometer ASTM D422



GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

Client: WOODS HOLE GROUP
 Project: NBH WATER QUALITY MONITORING
 Project Number: L0912660
 Location: S-09S-G001-0-0
 Sample Number: L0912660-05
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 10.64
 Tare Wt. = 4.06
 Minus #200 from wash = 65.6%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
19.13	0.00	#4	521.92	521.92	100.0	0.0
		#10	484.87	484.83	99.8	0.2
		#20	405.84	405.56	98.3	1.7
		#40	359.75	359.24	95.7	4.3
		#60	366.78	366.19	92.6	7.4
		#140	344.73	342.93	83.2	16.8
		#200	346.39	345.33	77.6	22.4

Hydrometer Test Data

Hydrometer test uses material passing #200
 Percent passing #200 based upon complete sample = 77.6
 Weight of hydrometer sample = 19.13
 Automatic temperature correction
 Composite correction (fluid density and meniscus height) at 20 deg. C = 0.04
 Meniscus correction only = -3.0
 Specific gravity of solids = 2.65
 Hydrometer type = 151H
 Hydrometer effective depth equation: $L = 16.294964 - 0.2645 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
2.00	20.0	1.0090	1.0089	0.0136	6.0	14.7	0.0370	58.2	41.8
5.00	20.0	1.0090	1.0089	0.0136	6.0	14.7	0.0234	58.2	41.8
15.00	20.0	1.0090	1.0089	0.0136	6.0	14.7	0.0135	58.2	41.8
30.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0096	51.7	48.3
60.00	20.0	1.0070	1.0069	0.0136	4.0	15.2	0.0069	45.2	54.8
250.00	20.0	1.0070	1.0069	0.0136	4.0	15.2	0.0034	45.2	54.8
1440.00	20.0	1.0070	1.0069	0.0136	4.0	15.2	0.0014	45.2	54.8

Fractional Components

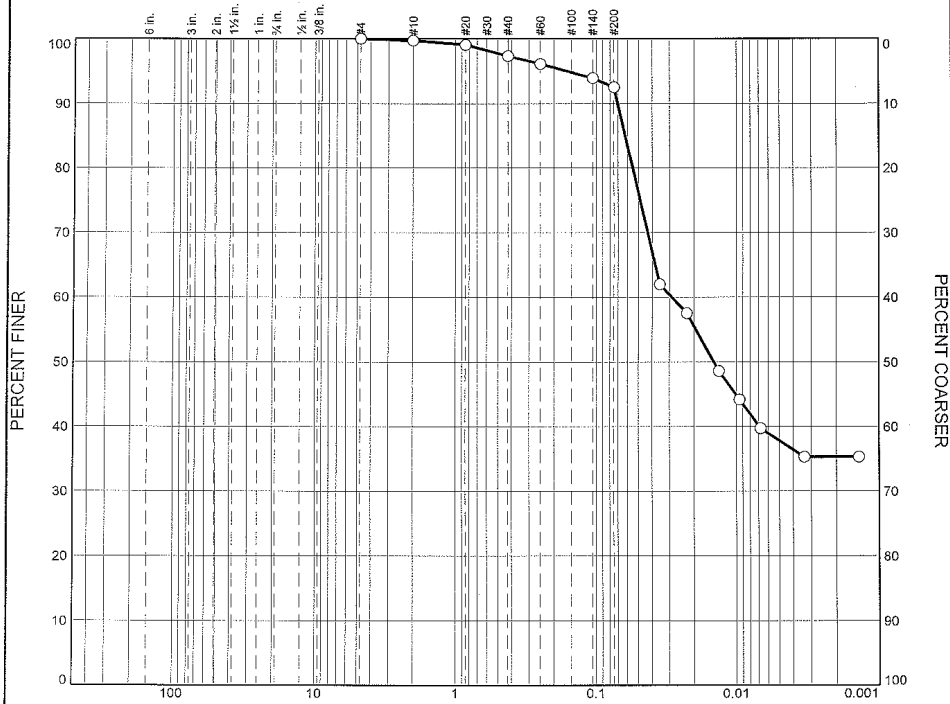
Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total	
0.0	0.0	0.0	0.2	1.2	2.3	3.7	7.6	12.4	27.2	14.4	0.0	10.6	2.4	27.4	45.2

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
				0.0088	0.0395	0.0870	0.1253	0.1976	0.3793

Fineness Modulus
0.24

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.															
% Boulders	% Cobbles	% Pebbles			% Gravel	% Sand					% Silt				% Clay
		D ₈₅	D ₆₀	D ₅₀		V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine	V. Fine	
0.0	0.0	0.1	0.2	0.5	1.5	1.6	1.8	9.2	24.4	9.4	9.7	5.3	36.3		

Colloids	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
			0.0623	0.0289	0.0144					

Material Description							USCS	AASHTO

Project No. L0912660 Client: WOODS HOLE GROUP Project: NBH WATER QUALITY MONITORING Source of Sample: S-09S-G002-0-0 Sample Number: L0912660-06 Date: ○	Remarks:
Alpha Analytical Mansfield, MA	Project

GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

Client: WOODS HOLE GROUP
 Project: NBH WATER QUALITY MONITORING
 Project Number: L0912660
 Location: S-09S-G002-0-0
 Sample Number: L0912660-06
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 7.45
 Tare Wt. = 4.14
 Minus #200 from wash = 90.1%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
33.41	0.00	#4	521.00	521.00	100.0	0.0
		#10	482.24	482.15	99.7	0.3
		#20	411.51	411.29	99.1	0.9
		#40	378.52	377.94	97.3	2.7
		#60	370.44	370.03	96.1	3.9
		#140	348.00	347.27	93.9	6.1
		#200	347.06	346.59	92.5	7.5

Hydrometer Test Data

Hydrometer test uses material passing #200
 Percent passing #200 based upon complete sample = 92.5
 Weight of hydrometer sample = 33.41
 Automatic temperature correction
 Composite correction (fluid density and meniscus height) at 20 deg. C = 0.04
 Meniscus correction only = -3.0
 Specific gravity of solids = 2.65
 Hydrometer type = 151H
 Hydrometer effective depth equation: $L = 16.294964 - 0.2645 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
2.00	20.0	1.0140	1.0139	0.0136	11.0	13.4	0.0353	62.0	38.0
5.00	20.0	1.0130	1.0129	0.0136	10.0	13.6	0.0225	57.5	42.5
15.00	20.0	1.0110	1.0109	0.0136	8.0	14.2	0.0133	48.6	51.4
30.00	20.0	1.0100	1.0099	0.0136	7.0	14.4	0.0095	44.2	55.8
60.00	20.0	1.0090	1.0089	0.0136	6.0	14.7	0.0068	39.7	60.3
250.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0033	35.3	64.7
1440.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0014	35.3	64.7

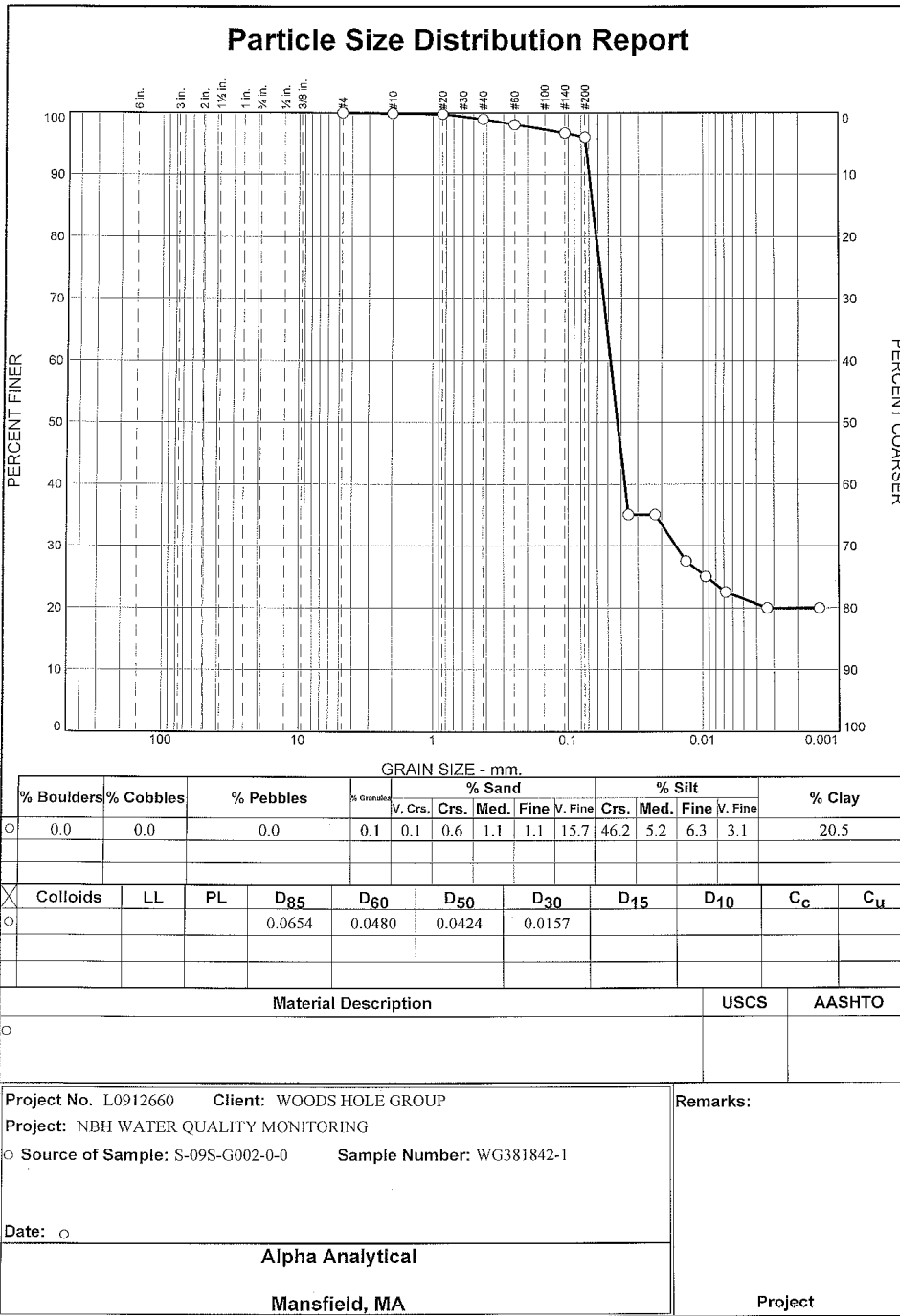
Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total	
0.0	0.0	0.1	0.2	0.5	1.5	1.6	1.8	9.2	14.6	24.4	9.4	9.7	5.3	48.8	36.3

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
				0.0144	0.0289	0.0551	0.0623	0.0705	0.1617

Fineness Modulus
0.11

Alpha Analytical



GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

Client: WOODS HOLE GROUP
 Project: NBH WATER QUALITY MONITORING
 Project Number: L0912660
 Location: S-09S-G002-0-0
 Sample Number: WG381842-1
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare =7.78
 Tare Wt. = 4.12
 Minus #200 from wash =94.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
61.25	0.00	#4	521.90	521.90	100.0	0.0
		#10	484.89	484.83	99.9	0.1
		#20	405.64	405.56	99.8	0.2
		#40	359.73	359.24	99.0	1.0
		#60	366.73	366.19	98.1	1.9
		#140	343.76	342.93	96.7	3.3
		#200	345.74	345.33	96.1	3.9

Hydrometer Test Data

Hydrometer test uses material passing #200
 Percent passing #200 based upon complete sample =96.1
 Weight of hydrometer sample =61.25
 Automatic temperature correction
 Composite correction (fluid density and meniscus height) at 20 deg. C =0.04
 Meniscus correction only =-3.0
 Specific gravity of solids =2.65
 Hydrometer type = 151H
 Hydrometer effective depth equation: $L = 16.294964 - 0.2645 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
2.00	20.0	1.0140	1.0139	0.0136	11.0	13.4	0.0353	35.1	64.9
5.00	20.0	1.0140	1.0139	0.0136	11.0	13.4	0.0223	35.1	64.9
15.00	20.0	1.0110	1.0109	0.0136	8.0	14.2	0.0133	27.5	72.5
30.00	20.0	1.0100	1.0099	0.0136	7.0	14.4	0.0095	25.0	75.0
60.00	20.0	1.0090	1.0089	0.0136	6.0	14.7	0.0068	22.5	77.5
250.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0033	20.0	80.0
1440.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0014	20.0	80.0

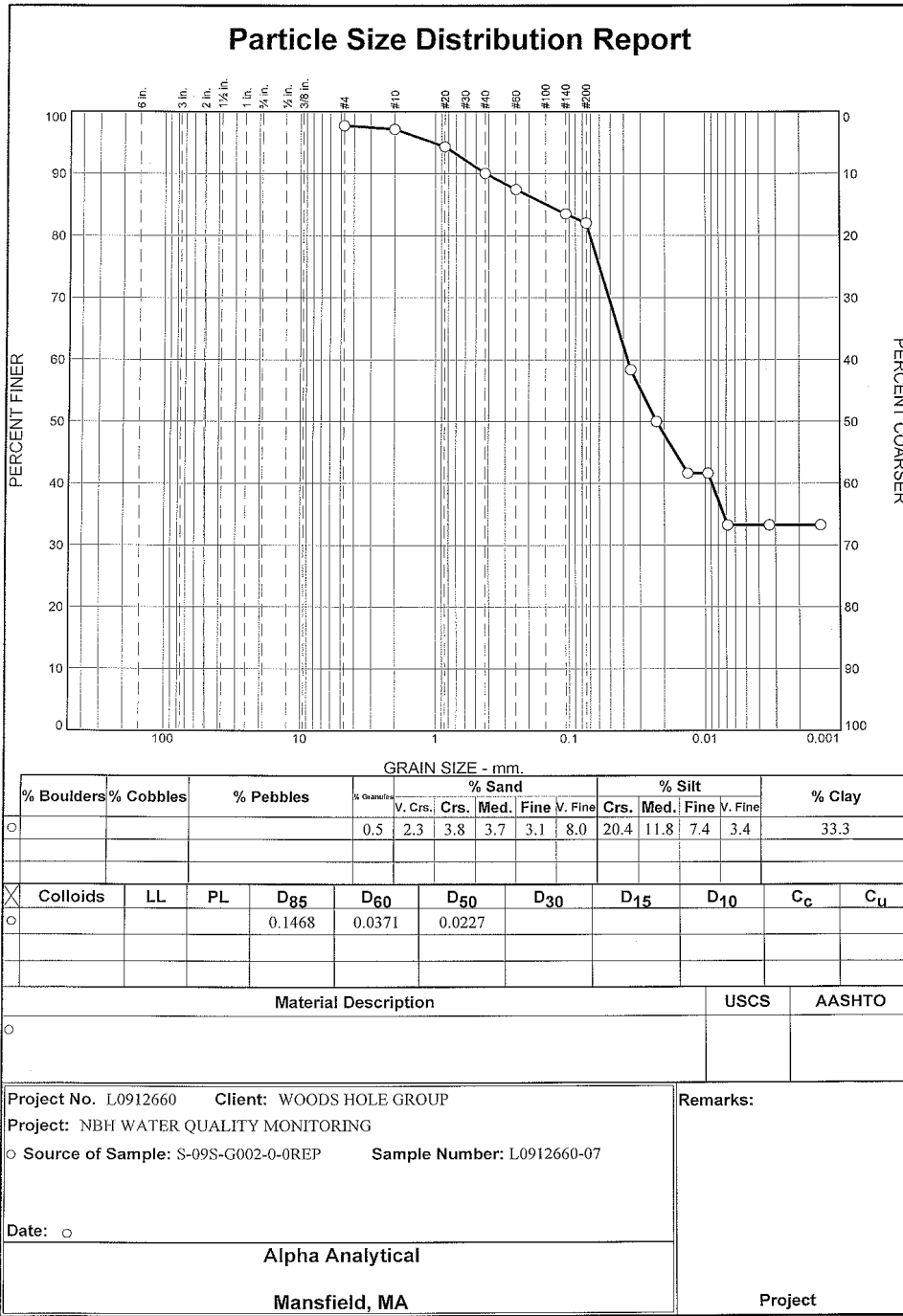
Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total	
0.0	0.0	0.0	0.1	0.1	0.6	1.1	1.1	15.7	18.6	46.2	5.2	6.3	3.1	60.8	20.5

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
		0.0034	0.0157	0.0424	0.0480	0.0615	0.0654	0.0696	0.0740

Fineness Modulus
0.05

Alpha Analytical



GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

Client: WOODS HOLE GROUP
 Project: NBH WATER QUALITY MONITORING
 Project Number: L0912660
 Location: S-09S-G002-0-0REP
 Sample Number: L0912660-07
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 11.05
 Tare Wt. = 4.13
 Minus #200 from wash = 78.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
31.42	0.00	#4	522.59	521.90	97.8	2.2
		#10	485.02	484.83	97.2	2.8
		#20	406.45	405.56	94.4	5.6
		#40	360.59	359.24	90.1	9.9
		#60	367.02	366.19	87.4	12.6
		#140	344.16	342.93	83.5	16.5
		#200	345.80	345.33	82.0	18.0

Hydrometer Test Data

Hydrometer test uses material passing #200
 Percent passing #200 based upon complete sample = 82.0
 Weight of hydrometer sample = 31.42
 Automatic temperature correction
 Composite correction (fluid density and meniscus height) at 20 deg. C = 0.04
 Meniscus correction only = -3.0
 Specific gravity of solids = 2.65
 Hydrometer type = 151H
 Hydrometer effective depth equation: $L = 16.294964 - 0.2645 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
2.00	20.0	1.0140	1.0139	0.0136	11.0	13.4	0.0353	58.4	41.6
5.00	20.0	1.0120	1.0119	0.0136	9.0	13.9	0.0228	50.0	50.0
15.00	20.0	1.0100	1.0099	0.0136	7.0	14.4	0.0134	41.6	58.4
30.00	20.0	1.0100	1.0099	0.0136	7.0	14.4	0.0095	41.6	58.4
60.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0068	33.3	66.7
250.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0033	33.3	66.7
1440.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0014	33.3	66.7

Fractional Components

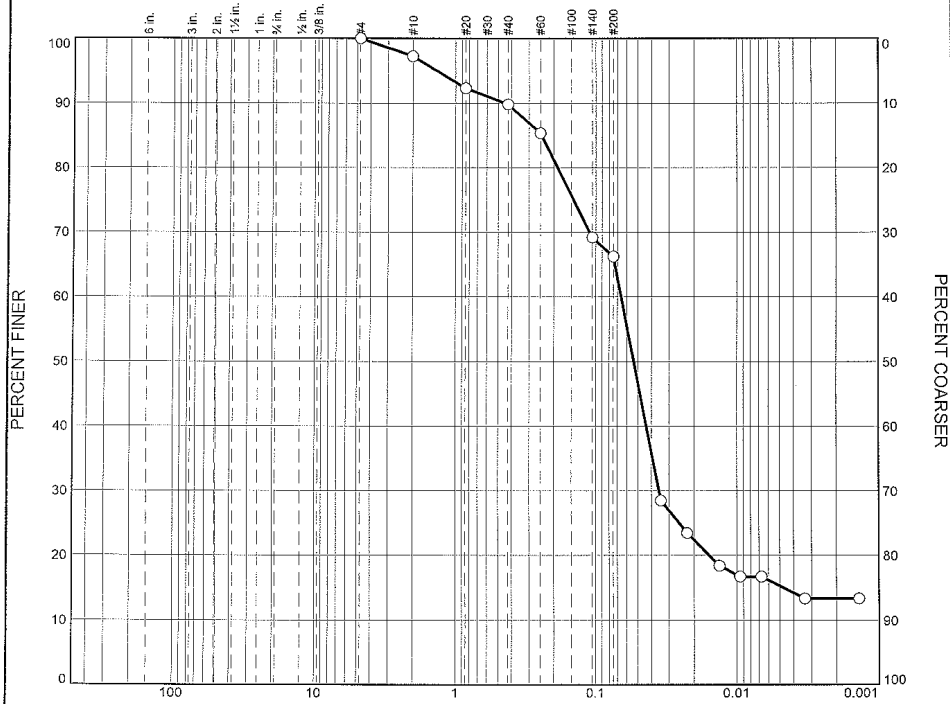
Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total	
			0.5	2.3	3.8	3.7	3.1	8.0	20.9	20.4	11.8	7.4	3.4	43.0	33.3

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.0227	0.0371	0.0703	0.1468	0.4191	1.0292

Fineness Modulus
0.44

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.													
% Boulders	% Cobbles	% Pebbles	% Sand					% Silt			% Clay		
			V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine		V. Fine	
0.0	0.0	0.5	2.2	4.0	2.9	5.1	13.0	14.9	30.0	7.4	3.3	2.6	14.1

Colloids	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
			0.2459	0.0659	0.0535	0.0353	0.0047			

Material Description	USCS	AASHTO

Project No. L0912660 Client: WOODS HOLE GROUP Project: NBH WATER QUALITY MONITORING Source of Sample: S-09S-G003-0-0 Sample Number: L0912660-08 Date: ○	Remarks:
Alpha Analytical Mansfield, MA	Project

GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

Client: WOODS HOLE GROUP
 Project: NBH WATER QUALITY MONITORING
 Project Number: L0912660
 Location: S-09S-G003-0-0
 Sample Number: L0912660-08
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare =27.18
 Tare Wt. =4.11
 Minus #200 from wash =63.4%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
63.10	0.00	#4	521.00	521.00	100.0	0.0
		#10	483.87	482.15	97.3	2.7
		#20	414.42	411.29	92.3	7.7
		#40	379.53	377.94	89.8	10.2
		#60	372.86	370.03	85.3	14.7
		#140	357.46	347.27	69.2	30.8
		#200	348.46	346.59	66.2	33.8

Hydrometer Test Data

Hydrometer test uses material passing #200
 Percent passing #200 based upon complete sample =66.2
 Weight of hydrometer sample =63.10
 Automatic temperature correction
 Composite correction (fluid density and meniscus height) at 20 deg. C =0.04
 Meniscus correction only =-3.0
 Specific gravity of solids =2.65
 Hydrometer type = 151H
 Hydrometer effective depth equation: $L = 16.294964 - 0.2645 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
2.00	20.0	1.0170	1.0169	0.0136	14.0	12.6	0.0342	28.5	71.5
5.00	20.0	1.0140	1.0139	0.0136	11.0	13.4	0.0223	23.5	76.5
15.00	20.0	1.0110	1.0109	0.0136	8.0	14.2	0.0133	18.4	81.6
30.00	20.0	1.0100	1.0099	0.0136	7.0	14.4	0.0095	16.7	83.3
60.00	20.0	1.0100	1.0099	0.0136	7.0	14.4	0.0067	16.7	83.3
250.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0033	13.4	86.6
1440.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0014	13.4	86.6

Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total	
0.0	0.0	0.5	2.2	4.0	2.9	5.1	13.0	14.9	39.9	30.0	7.4	3.3	2.6	43.3	14.1

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
	0.0047	0.0156	0.0353	0.0535	0.0659	0.1886	0.2459	0.4498	1.3510

Fineness Modulus
0.54

Alpha Analytical

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide.

Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 *Organic Parameters:* EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. *Organic Parameters:* SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 *Organic Parameters:* SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. *Organic Parameters:* EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. *Organic Parameters:* EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. *Organic Parameters:* EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. *Organic Parameters:* EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)


Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. *Organic Parameters:* EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

02041015:25



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab:

ALPHA Job #: L0912660

Client Information	Project Information	Report Information - Data Deliverables	Billing Information
Client: <u>WOODS HOLE GROUP</u>	Project Name: <u>NBH WATER QUALITY MONITORING</u>	<input type="checkbox"/> FAX <input checked="" type="checkbox"/> EMAIL	<input checked="" type="checkbox"/> Same as Client info PO #:
Address: <u>81 TECHNOLOGY PARK Dr E. FALMOUTH, MA 02536</u>	Project Location: <u>New Bedford Harbor</u>	<input checked="" type="checkbox"/> ADEX <input type="checkbox"/> Add'l Deliverables	
Phone: <u>508-540-8080</u>	Project #: <u>TO-0010 NBH TASK 4.0 SED</u>	Regulatory Requirements/Report Limits	
Fax: <u>508-540-1001</u>	Project Manager: <u>DAVID WALSH</u>	State / Fed Program: <u>fed</u>	Criteria:
Email: <u>DWALSH@WHGRP.COM</u>	ALPHA Quote #:	MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS	
<input type="checkbox"/> These samples have been previously analyzed by Alpha	Turn-Around Time	<input type="checkbox"/> Yes <input type="checkbox"/> No Are MCP Analytical Methods Required? <input type="checkbox"/> Yes <input type="checkbox"/> No Are CT RCP (Reasonable Confidence Protocols) Required?	
Other Project Specific Requirements/Comments/Detection Limits: <u>Level III data report & Project specific EDD</u>	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH (only confirmed if pre-approved!) Date Due: Time:	ANALYSIS <u>Total PCB Cong. (week 10)</u> <u>TOC</u> <u>Grain size</u>	
		SAMPLE HANDLING Filtration <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS	TOTAL # BOTTLES
		Date	Time				
- 1	S-09S-G001-0-0	9/9/09	1058	SED	DEW	X	2
	S-09S-G001-0-0		1058			X	1
	S-09S-G001-0-0		1058			X	1
- 2	S-09S-G002-0-0		1208			X	2
	S-09S-G002-0-0		1208			X	1
	S-09S-G002-0-0		1208			X	1
- 3	S-09S-G002-0-0REP		1208			X	1
	S-09S-G002-0-0REP		1208			X	1
	S-09S-G002-0-0REP		1208			X	1
- 2	S-09S-G002-0-0MSMSD		1208			X	1

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Container Type: G G O
Preservative: A A A

Relinquished By: Mitchell Beck Date/Time: 9/19/09 18:35
Received By: Colleen Sullivan Date/Time: 9/19/09 18:35

FORM NO: 01-01 (rev. 30-JUL-07)

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until all ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

Delivery Order-0010
June 2010

C-164

Sediment Trap Study Summary Report
W912WJ-09-D-0001

02041015:25



CHAIN OF CUSTODY

PAGE 2 OF 2

WESTBORO, MA
TEL: 508-896-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L0912660

Project Information

Project Name: NBH WATER QUALITY MONITORING

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: WOODS HOLE GROUP
Address: 81 TECHNOLOGY PARK DR.
W. PALMOUTH, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DWALS.H@WHERP.COM

Project Location: New Bedford Harbor

Project #: T0-0010 NBH Task 4.0 Sed Traps

Project Manager: DAVE WALSH

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: Time:

Regulatory Requirements/Report Limits

State Fed Program: Fed

Criteria:

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Level III DATA REPORT & Project Specific EDD

ANALYSIS	HPLC-RESIDING (ANALYST)	TOTAL # BOTTLES
	PC	
	GRAVIMETER	

SAMPLE HANDLING
Filtration
 Done
 Not needed
 Lab to do
Preservation
 Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials							Sample Specific Comments	TOTAL # BOTTLES	
		Date	Time											
-4	S-09S-G003-0-0	9/9/09	1337	SED	DRW	X								2
	S-09S-G003-0-0		1337				X							1
	S-09S-G003-0-0		1337				X							1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type: GGO
Preservative: AAA

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

IS YOUR PROJECT
MA MCP or CT RCP?

Relinquished By: Mikorell Buel Date/Time: 9/9/09 15:35
Received By: L. Sullivan Date/Time: 9/9/09 18:25

FORM NO: 01-01 (rev. 30 JUL 07)

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Delivery Order-0010
June 2010

C-165

Sediment Trap Study Summary Report
W912WJ-09-D-0001



ANALYTICAL REPORT

Lab Number:	L0912754
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Project Name:	NEW BEDFORD HARBOR
Project Number:	TO-0010
Report Date:	02/05/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0912754-01	S-09S-T001-00	NEW BEDFORD, MA	09/10/09 11:45
L0912754-02	S-09S-T002-00	NEW BEDFORD, MA	09/10/09 13:15
L0912754-03	S-09S-T003-00	NEW BEDFORD, MA	09/10/09 14:15
L0912754-04	S-09S-T001-00 AD	NEW BEDFORD, MA	09/10/09 11:45
L0912754-05	S-09S-T002-00 AD	NEW BEDFORD, MA	09/10/09 13:15
L0912754-06	S-09S-T003-00 AD	NEW BEDFORD, MA	09/10/09 14:15



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the original report issued on October 14, 2009. The report was amended to include revised Grain Size data.

PCB Congeners

All samples required a dilution due to the high levels of target compounds. This resulted in the extraction surrogates being diluted from the sample. Results that are over the calibration range of the instrument are denoted with an "E" qualifier.

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

Case Narrative (continued)

The WG381060-3 LCS/LCSD RPD(s) associated with L0912754-04,L0912754-05,L0912754-06 are above the acceptance criteria for c13-bz#18(35%); however, the individual LCS/LCSD recoveries are within method limits. The results of the associated samples are reported.

The WG381060-4/-5 MS/MSD recoveries were outside the acceptance criteria for several compounds; however, the associated LCS/LCSD recoveries were within criteria.

The WG381060-5 MS/MSD RPDs associated with L0912754-04,L0912754-05,L0912754-06 are above the acceptance criteria for c16-bz#153(31%).

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/05/10

ORGANICS



PCBS



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

02051017:12
Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-04
Client ID: S-09S-T001-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/03/09 04:22
Analyst: JR
Percent Solids: 94%

Date Collected: 09/10/09 11:45
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#28	4580		ug/kg	1400	400



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-04
Client ID: S-09S-T001-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/03/09 04:22
Analyst: JR
Percent Solids: 94%

Date Collected: 09/10/09 11:45
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	5820		ug/kg	1400	400



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-04
 Client ID: S-09S-T001-00 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/06/09 01:11
 Analyst: JR
 Percent Solids: 94%

Date Collected: 09/10/09 11:45
 Date Received: 09/11/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1070	E	ug/kg	35.0	10
Cl3-BZ#18	2290	E	ug/kg	35.0	10
Cl3-BZ#28	3900	E	ug/kg	35.0	10
Cl4-BZ#52	4560	E	ug/kg	35.0	10
Cl4-BZ#66	1330	E	ug/kg	35.0	10
Cl5-BZ#101	1010	E	ug/kg	35.0	10
Cl5-BZ#118	633		ug/kg	35.0	10
Cl6-BZ#128	126		ug/kg	35.0	10
Cl6-BZ#138	582		ug/kg	35.0	10
Cl7-BZ#170	95.2		ug/kg	35.0	10
Cl7-BZ#180	126		ug/kg	35.0	10
Cl8-BZ#195	ND		ug/kg	35.0	10
Cl9-BZ#206	ND		ug/kg	35.0	10
Cl10-BZ#209	ND		ug/kg	35.0	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-04
Client ID: S-09S-T001-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/06/09 01:11
Analyst: JR
Percent Solids: 94%

Date Collected: 09/10/09 11:45
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	1220	E	ug/kg	35.0	10
Cl5-BZ#105	131		ug/kg	35.0	10
Cl6-BZ#153	704	E	ug/kg	35.0	10
Cl7-BZ#187	157		ug/kg	35.0	10
DBOB	0	Q		50-125	
BZ 198	0	Q		50-125	

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-04
Client ID: S-09S-T001-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/10/09 02:08
Analyst: JR
Percent Solids: 94%

Date Collected: 09/10/09 11:45
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	1150		ug/kg	140	40
CI3-BZ#18	2550		ug/kg	140	40
CI3-BZ#28	3660	E	ug/kg	140	40
CI4-BZ#52	4720	E	ug/kg	140	40
CI4-BZ#66	1410		ug/kg	140	40
CI5-BZ#105	ND		ug/kg	140	40
CI5-BZ#118	ND		ug/kg	140	40
CI6-BZ#128	ND		ug/kg	140	40
CI6-BZ#138	ND		ug/kg	140	40
CI7-BZ#170	ND		ug/kg	140	40
CI7-BZ#180	ND		ug/kg	140	40
CI7-BZ#187	ND		ug/kg	140	40
CI8-BZ#195	ND		ug/kg	140	40
CI9-BZ#206	ND		ug/kg	140	40
CI10-BZ#209	ND		ug/kg	140	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-04
Client ID: S-09S-T001-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/10/09 02:08
Analyst: JR
Percent Solids: 94%

Date Collected: 09/10/09 11:45
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	1430		ug/kg	140	40
Cl5-BZ#101	1020		ug/kg	140	40
Cl6-BZ#153	888		ug/kg	140	40
DBOB	0	Q		50-125	
BZ 198	0	Q		50-125	

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-05
Client ID: S-09S-T002-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/03/09 01:40
Analyst: JR
Percent Solids: 95%

Date Collected: 09/10/09 13:15
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	4270		ug/kg	1370	1000
Cl3-BZ#28	17900		ug/kg	1370	1000
Cl4-BZ#52	20800		ug/kg	1370	1000
Cl4-BZ#66	6610		ug/kg	1370	1000
Cl5-BZ#118	3270		ug/kg	1370	1000
Cl6-BZ#138	2950		ug/kg	1370	1000



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-05
Client ID: S-09S-T002-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/03/09 01:40
Analyst: JR
Percent Solids: 95%

Date Collected: 09/10/09 13:15
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	10900		ug/kg	1370	1000
Cl4-BZ#44	6810		ug/kg	1370	1000
Cl5-BZ#101	5200		ug/kg	1370	1000
Cl6-BZ#153	4410		ug/kg	1370	1000



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-05
Client ID: S-09S-T002-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/05/09 22:29
Analyst: JR
Percent Solids: 95%

Date Collected: 09/10/09 13:15
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	2390	E	ug/kg	34.3	25
CI3-BZ#18	6920	E	ug/kg	34.3	25
CI3-BZ#28	11500	E	ug/kg	34.3	25
CI4-BZ#44	3550	E	ug/kg	34.3	25
CI4-BZ#52	13300	E	ug/kg	34.3	25
CI4-BZ#66	4460	E	ug/kg	34.3	25
CI5-BZ#101	4190	E	ug/kg	34.3	25
CI5-BZ#118	2070	E	ug/kg	34.3	25
CI6-BZ#128	396		ug/kg	34.3	25
CI6-BZ#138	2000	E	ug/kg	34.3	25
CI7-BZ#170	356		ug/kg	34.3	25
CI7-BZ#180	485		ug/kg	34.3	25
CI7-BZ#187	563		ug/kg	34.3	25
CI8-BZ#195	ND		ug/kg	34.3	25
CI9-BZ#206	87.9		ug/kg	34.3	25
CI10-BZ#209	ND		ug/kg	34.3	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-05
 Client ID: S-09S-T002-00 AD
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 10/05/09 22:29
 Analyst: JR
 Percent Solids: 95%

Date Collected: 09/10/09 13:15
 Date Received: 09/11/09
 Field Prep: Not Specified
 Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl5-BZ#105	255		ug/kg	34.3	25
Cl6-BZ#153	1610	E	ug/kg	34.3	25
DBOB	0	Q		50-125	
BZ 198	0	Q		50-125	



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-06
Client ID: S-09S-T003-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/05/09 23:09
Analyst: JR
Percent Solids: 95%

Date Collected: 09/10/09 14:15
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	373		ug/kg	34.5	25
CI3-BZ#18	486		ug/kg	34.5	25
CI3-BZ#28	2380	E	ug/kg	34.5	25
CI4-BZ#44	723	E	ug/kg	34.5	25
CI4-BZ#52	2300	E	ug/kg	34.5	25
CI4-BZ#66	1660	E	ug/kg	34.5	25
CI5-BZ#101	1750	E	ug/kg	34.5	25
CI5-BZ#105	299		ug/kg	34.5	25
CI5-BZ#118	1370	E	ug/kg	34.5	25
CI6-BZ#128	250		ug/kg	34.5	25
CI6-BZ#138	989	E	ug/kg	34.5	25
CI7-BZ#170	150		ug/kg	34.5	25
CI7-BZ#180	206		ug/kg	34.5	25
CI7-BZ#187	177		ug/kg	34.5	25
CI8-BZ#195	ND		ug/kg	34.5	25
CI9-BZ#206	ND		ug/kg	34.5	25
CI10-BZ#209	ND		ug/kg	34.5	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



02051017:12

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-06
Client ID: S-09S-T003-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/05/09 23:09
Analyst: JR
Percent Solids: 95%

Date Collected: 09/10/09 14:15
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#153	846	E	ug/kg	34.5	25
DBOB	0	Q	50-125		
BZ 198	0	Q	50-125		



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-06
Client ID: S-09S-T003-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/10/09 01:28
Analyst: JR
Percent Solids: 95%

Date Collected: 09/10/09 14:15
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	2290		ug/kg	138	100
Cl4-BZ#52	2380		ug/kg	138	100
Cl4-BZ#66	1700		ug/kg	138	100
Cl5-BZ#118	1540		ug/kg	138	100
Cl6-BZ#138	1160		ug/kg	138	100



02051017:12

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-06
Client ID: S-09S-T003-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 10/10/09 01:28
Analyst: JR
Percent Solids: 95%

Date Collected: 09/10/09 14:15
Date Received: 09/11/09
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	923		ug/kg	138	100
Cl5-BZ#101	1400		ug/kg	138	100
Cl6-BZ#153	1230		ug/kg	138	100



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 10/02/09 20:56
Analyst: JR

Extraction Method: EPA 3570
Extraction Date: 09/23/09 14:44
Cleanup Method1: EPA 3630
Cleanup Date1: 09/28/09
Cleanup Method2: ----
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 04-06 Batch: WG381060-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206	ND		ug/kg	1.33
Cl10-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	78		50-125
BZ 198	88		50-125



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 10/02/09 20:56
 Analyst: JR

Extraction Method: EPA 3570
 Extraction Date: 09/23/09 14:44
 Cleanup Method1: EPA 3630
 Cleanup Date1: 09/28/09
 Cleanup Method2: ----
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 04-06 Batch: WG381060-1				
C16-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	78		50-125
BZ 198	88		50-125



Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG381060-4 WG381060-5 QC Sample: L0912754-06 Client ID: S-09S-T003-00 AD												
C12-BZ#8	373	3390	4710	128	Q	3990	106		40-120	19		30
C13-BZ#18	ND	3390	6040	165	Q	5070	136	Q	40-120	19		30
C13-BZ#28	2380E	3390	6710	128	Q	5970	106		40-120	19		30
C14-BZ#44	923	3390	5470	134	Q	4510	106		40-120	23		30
C14-BZ#52	2300E	3390	7520	154	Q	6240	116		40-120	28		30
C14-BZ#66	1660E	3390	6360	139	Q	5340	108		40-120	25		30
C15-BZ#101	1750E	3390	6820	150	Q	5560	112		40-120	29		30
C15-BZ#105	299	3390	4350	120		3830	104		40-120	14		30
C15-BZ#118	1370E	3390	5990	136	Q	5000	107		40-120	24		30
C16-BZ#128	250	3390	4130	115		3580	98		40-120	16		30
C16-BZ#138	989E	3390	5220	125	Q	4410	101		40-120	21		30
C16-BZ#153	846E	3390	5970	151	Q	4630	111		40-120	31	Q	30
C17-BZ#180	206	3390	4420	124	Q	3630	101		40-120	20		30
C17-BZ#187	ND	3390	4410	126	Q	3690	104		40-120	19		30
C19-BZ#206	ND	3390	4040	119		3490	103		40-120	14		30
C10-BZ#209	ND	3390	4170	123	Q	3490	103		40-120	18		30

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
BZ 198	0	QQ	0	QQ	50-125
DBOB	0	QQ	0	QQ	50-125



Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 Batch: WG381060-2 WG381060-3								
C12-BZ#8	64		75		40-120	16		30
C13-BZ#28	74		90		40-120	20		30
C14-BZ#44	76		86		40-120	12		30
C14-BZ#52	76		88		40-120	15		30
C14-BZ#66	77		87		40-120	12		30
C15-BZ#101	80		90		40-120	12		30
C15-BZ#105	80		87		40-120	8		30
C15-BZ#118	85		96		40-120	12		30
C16-BZ#128	86		94		40-120	9		30
C16-BZ#138	87		96		40-120	10		30
C16-BZ#153	82		93		40-120	13		30
C17-BZ#170	86		91		40-120	6		30
C17-BZ#180	87		94		40-120	8		30
C17-BZ#187	84		95		40-120	12		30
C18-BZ#195	83		89		40-120	7		30
C19-BZ#206	95		103		40-120	8		30
C110-BZ#209	88		94		40-120	7		30



Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 04-06 Batch: WG381060-2 WG381060-3								

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
DBOB	67		74		50-125
BZ 198	89		88		50-125



INORGANICS & MISCELLANEOUS

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Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-01
Client ID: S-09S-T001-00
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/10/09 11:45
Date Received: 09/11/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	32.7		%	0.100	1	-	09/14/09 14:10	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-02
 Client ID: S-09S-T002-00
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 09/10/09 13:15
 Date Received: 09/11/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	29.6		%	0.100	1	-	09/14/09 14:10	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-03
Client ID: S-09S-T003-00
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/10/09 14:15
Date Received: 09/11/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	40.6		%	0.100	1	-	09/14/09 14:10	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-04
Client ID: S-09S-T001-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/10/09 11:45
Date Received: 09/11/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	7.35		%	0.010	1	-	09/30/09 13:00	1,9060	NR
Total Organic Carbon (Rep2)	8.83		%	0.010	1	-	09/30/09 13:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	1.60		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	5.30		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	6.40		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	6.40		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	8.30		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	17.1		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	36.3		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	17.9		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	94.1		%	0.100	1	-	09/18/09 11:42	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-05
Client ID: S-09S-T002-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/10/09 13:15
Date Received: 09/11/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	5.17		%	0.010	1	-	09/30/09 13:00	1,9060	NR
Total Organic Carbon (Rep2)	5.17		%	0.010	1	-	09/30/09 13:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	ND		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	0.300		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	0.700		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	1.00		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	0.800		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	10.0		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	48.9		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	38.3		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	94.8		%	0.100	1	-	09/18/09 11:42	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0912754-06
Client ID: S-09S-T003-00 AD
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 09/10/09 14:15
Date Received: 09/11/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	3.79		%	0.010	1	-	09/30/09 13:00	1,9060	NR
Total Organic Carbon (Rep2)	3.70		%	0.010	1	-	09/30/09 13:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.100		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	0.700		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	2.20		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	2.60		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	2.10		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	15.8		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	58.1		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	18.4		%	0.100	1	-	09/29/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	95.4		%	0.100	1	-	09/18/09 11:42	30,2540G	KB



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0912754**Project Number:** TO-0010**Report Date:** 02/05/10

**Method Blank Analysis
Batch Quality Control**

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 04-06 Batch: WG382301-1									
Total Organic Carbon (Rep1)	ND		%	0.010	1	-	09/30/09 13:00	1.9060	NR
Total Organic Carbon (Rep2)	ND		%	0.010	1	-	09/30/09 13:00	1.9060	NR



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0912754
Report Date: 02/05/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG379611-1 QC Sample: L0912754-01 Client ID: S-09S-T001-00						
Solids, Total	32.7	33.2	%	2		20
General Chemistry - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG380363-1 QC Sample: L0912754-04 Client ID: S-09S-T001-00 AD						
Solids, Total	94.1	94.0	%	0		20



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG382301-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	118		75-125
Total Organic Carbon (Rep2)	119		75-125



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0912754-01A	Glass 500ml unpreserved	A	N/A	2.4	Y	Absent	A2-TS(7)
L0912754-02A	Glass 500ml unpreserved	A	N/A	2.4	Y	Absent	A2-TS(7)
L0912754-03A	Glass 1000ml unpreserved	A	N/A	2.4	Y	Absent	A2-TS(7)
L0912754-04A	Glass 250ml unpreserved split	A	N/A	2.4	Y	Absent	A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#140(W)(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-HYDRO-CLAY(W)(),A2-HYDRO-VFSAND(W)(),A2-HYDRO-SILT(W)(),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#20(W)(7),A2-SIEVE_#60(7),A2-HYDRO-FSAND(W)(),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-HYDRO-CSAND(W)(),A2-HYDRO-GRAVEL(W)(),A2-HYDRO-MSAND(W)(),A2-HYDRO-VCSAND(W)(),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#60(W)(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7)
L0912754-05A	Glass 250ml unpreserved split	A	N/A	2.4	Y	Absent	A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#140(W)(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-HYDRO-CLAY(W)(),A2-HYDRO-VFSAND(W)(),A2-HYDRO-SILT(W)(),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#20(W)(7),A2-SIEVE_#60(7),A2-HYDRO-FSAND(W)(),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-HYDRO-CSAND(W)(),A2-HYDRO-GRAVEL(W)(),A2-HYDRO-MSAND(W)(),A2-HYDRO-VCSAND(W)(),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#60(W)(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7)

*Hold days indicated by values in parentheses



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal
L0912754-06A	Glass 250ml unpreserved split	A	N/A	2.4	Y	Absent

Analysis

A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#140(W)(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-HYDRO-CLAY(W)(7),A2-HYDRO-VFSAND(W)(7),A2-HYDRO-SILT(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#20(W)(7),A2-SIEVE_#60(7),A2-HYDRO-FSAND(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-HYDRO-CSAND(W)(7),A2-HYDRO-GRAVEL(W)(7),A2-HYDRO-MSAND(W)(7),A2-HYDRO-VCSAND(W)(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#60(W)(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7)

Container Comments

L0912754-05A USED ENTIRE SAMPLE



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	- Not detected at the reported detection limit for the sample.
NI	- Not Ignitable.
RDL	- Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L0912754
Report Date: 02/05/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 12 Annual Book of ASTM Standards. American Society for Testing and Materials.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

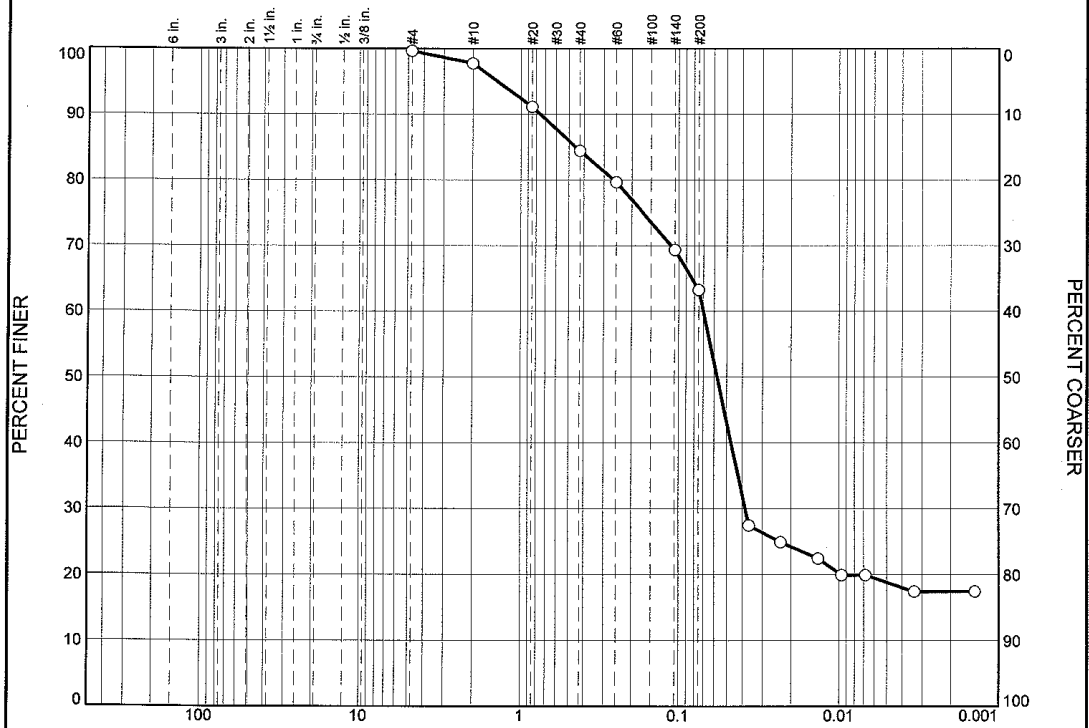
Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Wet Sieve Hydrometer ASTM D422

Particle Size Distribution Report



GRAIN SIZE - mm.

% Boulders	% Cobbles	% Pebbles	% Gravel	% Sand					% Silt			% Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine		V. Fine
			1.6	5.3	6.4	6.4	8.3	17.1	27.6	3.5	3.2	2.0	17.9
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u				
		0.4511	0.0702	0.0574	0.0383								

Material Description	USCS	AASHTO

<p>Project No. L0912754- Client: Woods Hole Group</p> <p>Project: NBH WATER QUALITY MONITORING</p> <p>Source of Sample: S-09S-T001-00 Sample Number: L0912754-04</p> <p style="text-align: center;">Alpha Analytical Mansfield, MA</p>	<p>Remarks:</p> <p style="text-align: center;">Figure</p>
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GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

Client: Woods Hole Group
 Project: NBH WATER QUALITY MONITORING
 Project Number: L0912754-WHG
 Location: S-09S-T001-00
 Sample Number: L0912754-04
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 23.11
 Tare Wt. = 4.14
 Minus #200 from wash = 53.1%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
40.44	0.00	#4	521.15	521.00	99.6	0.4
		#10	482.91	482.15	97.7	2.3
		#20	413.96	411.29	91.1	8.9
		#40	380.66	377.94	84.4	15.6
		#60	371.96	370.03	79.6	20.4
		#140	351.44	347.27	69.3	30.7
		#200	349.06	346.59	63.2	36.8

Hydrometer Test Data

Hydrometer test uses material passing #200
 Percent passing #200 based upon complete sample = 63.2
 Weight of hydrometer sample = 40.44
 Automatic temperature correction
 Composite correction (fluid density and meniscus height) at 20 deg. C = -0.04
 Meniscus correction only = -3.0
 Specific gravity of solids = 2.65
 Hydrometer type = 151H
 Hydrometer effective depth equation: $L = 16.294964 - 0.2645 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
2.00	20.0	1.0110	1.0109	0.0136	8.0	14.2	0.0363	27.5	72.5
5.00	20.0	1.0100	1.0099	0.0136	7.0	14.4	0.0232	24.9	75.1
15.00	20.0	1.0090	1.0089	0.0136	6.0	14.7	0.0135	22.4	77.6
30.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0096	19.9	80.1
60.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0068	19.9	80.1
250.00	20.0	1.0070	1.0069	0.0136	4.0	15.2	0.0034	17.4	82.6
1440.00	20.0	1.0070	1.0069	0.0136	4.0	15.2	0.0014	17.4	82.6

Fractional Components

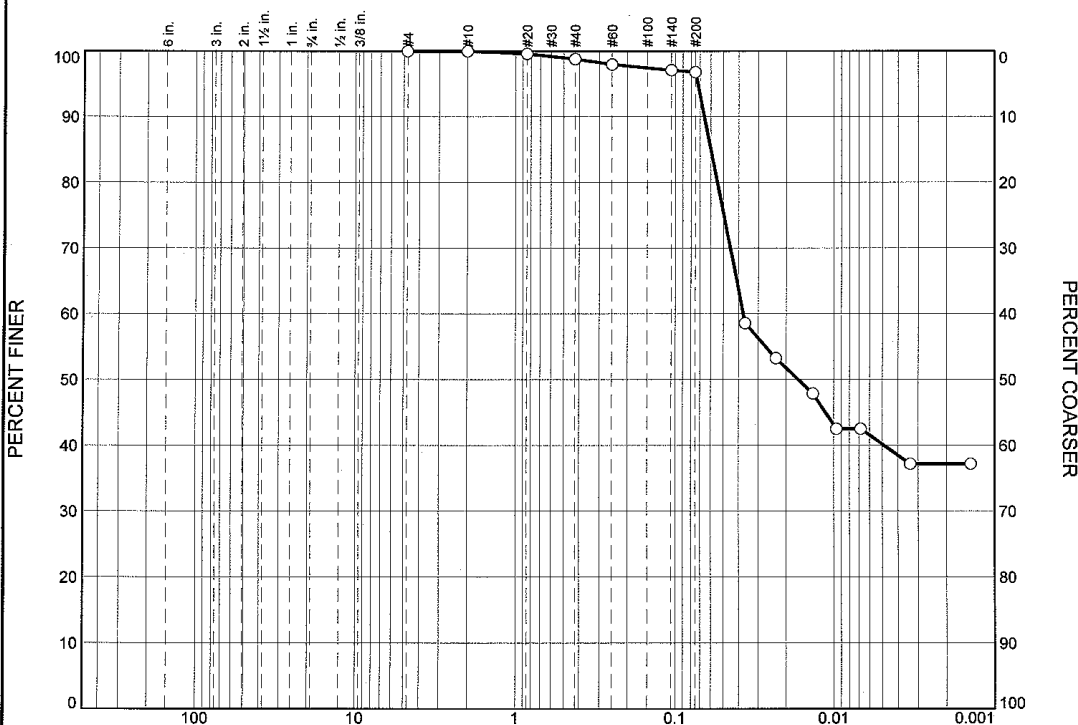
Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total	
			1.6	5.3	6.4	6.4	8.3	17.1	43.5	27.6	3.5	3.2	2.0	36.3	17.9

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
		0.0097	0.0383	0.0574	0.0702	0.2600	0.4511	0.7552	1.4004

Fineness Modulus
0.66

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.

% Boulders	% Cobbles	% Pebbles	% Granules	% Sand					% Silt				% Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine	V. Fine	
0.0	0.0	0.0	0.0	0.3	0.7	1.0	0.8	10.0	30.5	7.4	6.8	4.2	38.3

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
		0.0600	0.0373	0.0168					

Material Description	USCS	AASHTO

Project No. L0912754- Client: Woods Hole Group Project: NBH WATER QUALITY MONITORING <input type="radio"/> Source of Sample: S-09S-T002-00 Sample Number: L0912754-05	Remarks: <p style="text-align: right;">Figure</p>
Alpha Analytical Mansfield, MA	

GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

Client: Woods Hole Group
 Project: NBH WATER QUALITY MONITORING
 Project Number: L0912754-WHG
 Location: S-09S-T002-00
 Sample Number: L0912754-05
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 5.58
 Tare Wt. = 4.08
 Minus #200 from wash = 94.8%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
29.02	0.00	#4	521.90	521.90	100.0	0.0
		#10	484.83	484.83	100.0	0.0
		#20	405.68	405.56	99.6	0.4
		#40	359.47	359.24	98.8	1.2
		#60	366.43	366.19	98.0	2.0
		#140	343.19	342.93	97.1	2.9
		#200	345.41	345.33	96.8	3.2

Hydrometer Test Data

Hydrometer test uses material passing #200
 Percent passing #200 based upon complete sample = 96.8
 Weight of hydrometer sample = 29.02
 Automatic temperature correction
 Composite correction (fluid density and meniscus height) at 20 deg. C = -0.04
 Meniscus correction only = -3.0
 Specific gravity of solids = 2.65
 Hydrometer type = 151H
 Hydrometer effective depth equation: $L = 16.294964 - 0.2645 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
2.00	20.0	1.0110	1.0109	0.0136	8.0	14.2	0.0363	58.6	41.4
5.00	20.0	1.0100	1.0099	0.0136	7.0	14.4	0.0232	53.2	46.8
15.00	20.0	1.0090	1.0089	0.0136	6.0	14.7	0.0135	47.9	52.1
30.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0096	42.5	57.5
60.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0068	42.5	57.5
250.00	20.0	1.0070	1.0069	0.0136	4.0	15.2	0.0034	37.1	62.9
1440.00	20.0	1.0070	1.0069	0.0136	4.0	15.2	0.0014	37.1	62.9

Fractional Components

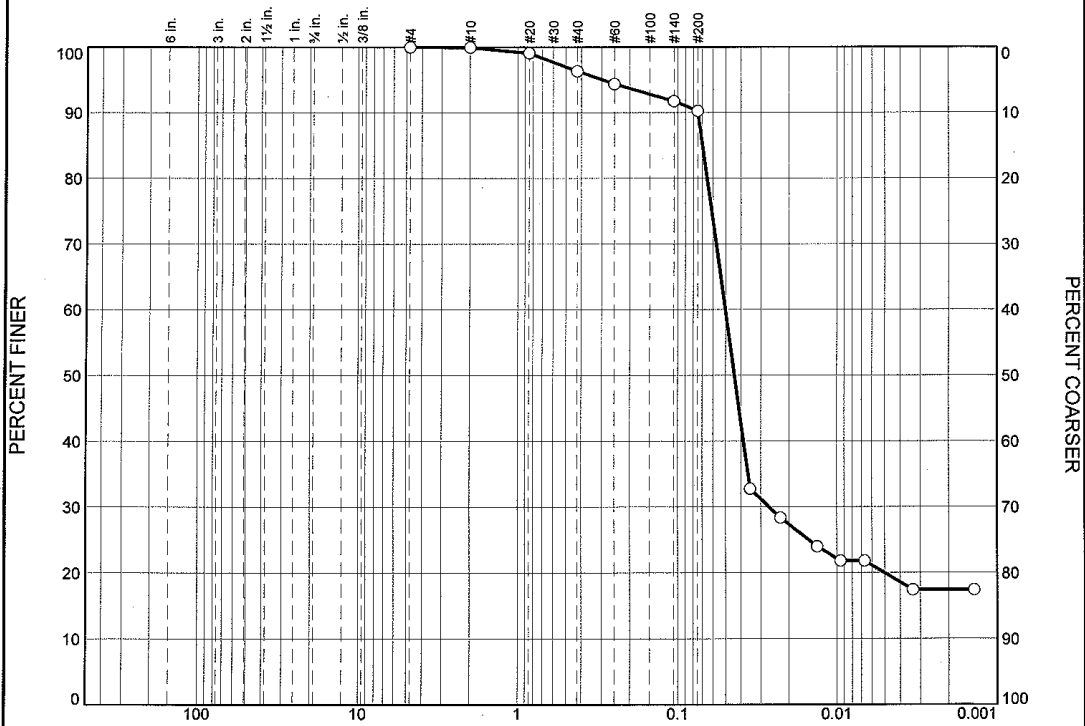
Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total	
0.0	0.0	0.0	0.0	0.3	0.7	1.0	0.8	10.0	12.8	30.5	7.4	6.8	4.2	48.9	38.3

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.0168	0.0373	0.0545	0.0600	0.0659	0.0725

Fineness Modulus
0.05

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.

% Boulders	% Cobbles	% Pebbles	% Gravels	% Sand					% Silt				% Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine	V. Fine	
0.0	0.0	0.0	0.1	0.7	2.2	2.6	2.1	15.8	44.9	6.3	3.5	3.4	18.4

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
		0.0699	0.0502	0.0439	0.0265				

Material Description	USCS	AASHTO

Project No. L0912754- Client: Woods Hole Group Project: NBH WATER QUALITY MONITORING ○ Source of Sample: S-09S-T003-00 Sample Number: L0912754-06	Remarks: <p style="text-align: center;">Figure</p>
Alpha Analytical Mansfield, MA	

GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

Client: Woods Hole Group
 Project: NBH WATER QUALITY MONITORING
 Project Number: L0912754-WHG
 Location: S-09S-T003-00
 Sample Number: L0912754-06
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 13.17
 Tare Wt. = 4.16
 Minus #200 from wash = 86.4%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
66.05	0.00	#4	521.00	521.00	100.0	0.0
		#10	482.19	482.15	99.9	0.1
		#20	411.87	411.29	99.1	0.9
		#40	379.74	377.94	96.3	3.7
		#60	371.33	370.03	94.4	5.6
		#140	349.00	347.27	91.7	8.3
		#200	347.58	346.59	90.2	9.8

Hydrometer Test Data

Hydrometer test uses material passing #200
 Percent passing #200 based upon complete sample = 90.2
 Weight of hydrometer sample = 66.05
 Automatic temperature correction
 Composite correction (fluid density and meniscus height) at 20 deg. C = -0.04
 Meniscus correction only = -3.0
 Specific gravity of solids = 2.65
 Hydrometer type = 151H
 Hydrometer effective depth equation: $L = 16.294964 - 0.2645 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
2.00	20.0	1.0150	1.0149	0.0136	12.0	13.1	0.0350	32.8	67.2
5.00	20.0	1.0130	1.0129	0.0136	10.0	13.6	0.0225	28.4	71.6
15.00	20.0	1.0110	1.0109	0.0136	8.0	14.2	0.0133	24.0	76.0
30.00	20.0	1.0100	1.0099	0.0136	7.0	14.4	0.0095	21.8	78.2
60.00	20.0	1.0100	1.0099	0.0136	7.0	14.4	0.0067	21.8	78.2
250.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0033	17.4	82.6
1440.00	20.0	1.0080	1.0079	0.0136	5.0	15.0	0.0014	17.4	82.6

Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
0.0	0.0	0.0	0.1	0.7	2.2	2.6	2.1	15.8	23.4	44.9	6.3	3.5	3.4	58.1	18.4

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
		0.0050	0.0265	0.0439	0.0502	0.0655	0.0699	0.0748	0.2964

Fineness Modulus
0.15

Alpha Analytical

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.



ANALYTICAL REPORT

Lab Number:	L0914754
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Project Name:	TO-0010 NBH TASK 4.0 SED TRAP
Project Number:	NBH TASK 4.0 ST
Report Date:	02/11/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0914754-01	S-090-G001-0-0	NEW BEDFORD HARBOR	10/14/09 08:13
L0914754-02	S-090-G002-0-0	NEW BEDFORD HARBOR	10/14/09 10:41
L0914754-03	S-090-G002-0-0 REP	NEW BEDFORD HARBOR	10/14/09 10:42
L0914754-04	S-090-G003-0-0	NEW BEDFORD HARBOR	10/14/09 11:51



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the original report issued on November 11, 2009. The report was amended to include revised Grain Size data.

PCB Congeners by 8082

The surrogate recoveries for all samples are below the acceptance criteria for dbob(0%),bz 198(0%) due to the dilutions required to quantitate the sample. Re-extraction is not required; therefore, the results of the original

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

Case Narrative (continued)

analysis are reported.

All samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample. The samples were also re-analyzed on further dilution in order to quantitate the sample within the calibration range.

The WG385678-4/-5/-6/-7 MS/MSD recoveries are outside the acceptance criteria for several congeners. The matrix spikes were diluted out due to high concentrations detected in the native sample.

TOC

The WG385841-1 Method Blank, associated with L0914754-01-04, has a concentration above the reporting limit. Since the associated sample concentrations are greater than 5x the blank concentration for this analyte, no qualification of the results was performed.

Grain Size

The WG385839-1 Laboratory Duplicate RPD associated with L0914754-01,L0914754-02,L0914754-03,L0914754-04 is outside the acceptance criteria for sieve, Gravel(52%). The elevated RPD has been attributed to the non-homogenous nature of the sample utilized for the laboratory duplicate.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/11/10

ORGANICS



PCBS



02111019:26

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-01
Client ID: S-090-G001-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/05/09 20:56
Analyst: JR
Percent Solids: 96%

Date Collected: 10/14/09 08:13
Date Received: 10/14/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#28	8350		ug/kg	1370	1000



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Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-01
Client ID: S-090-G001-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/05/09 20:56
Analyst: JR
Percent Solids: 96%

Date Collected: 10/14/09 08:13
Date Received: 10/14/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#18	5730		ug/kg	1370	1000
C14-BZ#52	9630		ug/kg	1370	1000



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-01
 Client ID: S-090-G001-0-0
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/06/09 06:24
 Analyst: JR
 Percent Solids: 96%

Date Collected: 10/14/09 08:13
 Date Received: 10/14/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1460		ug/kg	137	100
Cl4-BZ#66	2000		ug/kg	137	100
Cl5-BZ#101	1940		ug/kg	137	100
Cl5-BZ#118	1030		ug/kg	137	100
Cl6-BZ#128	208		ug/kg	137	100
Cl7-BZ#170	167		ug/kg	137	100
Cl7-BZ#180	221		ug/kg	137	100
Cl8-BZ#195	ND		ug/kg	137	100
Cl9-BZ#206-Cal/RTW	ND		ug/kg	137	100
Cl10-BZ#209-Cal/RTW	ND		ug/kg	137	100

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-01
 Client ID: S-090-G001-0-0
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/06/09 06:24
 Analyst: JR
 Percent Solids: 96%

Date Collected: 10/14/09 08:13
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 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#44	1950		ug/kg	137	100
C15-BZ#105	238		ug/kg	137	100
C16-BZ#138	537		ug/kg	137	100
C16-BZ#153	1260		ug/kg	137	100
C17-BZ#187	292		ug/kg	137	100

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Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-02
Client ID: S-090-G002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/05/09 21:36
Analyst: JR
Percent Solids: 95%

Date Collected: 10/14/09 10:41
Date Received: 10/14/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	11900		ug/kg	1380	1000
Cl5-BZ#101	7760		ug/kg	1380	1000
Cl6-BZ#153	5590		ug/kg	1380	1000



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Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-02
Client ID: S-090-G002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/05/09 21:36
Analyst: JR
Percent Solids: 95%

Date Collected: 10/14/09 10:41
Date Received: 10/14/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#44	12000		ug/kg	1380	1000
C14-BZ#66	9680		ug/kg	1380	1000



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-02
 Client ID: S-090-G002-0-0
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/06/09 07:04
 Analyst: JR
 Percent Solids: 95%

Date Collected: 10/14/09 10:41
 Date Received: 10/14/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl5-BZ#118	1810		ug/kg	138	100
Cl6-BZ#128	444		ug/kg	138	100
Cl7-BZ#170	456		ug/kg	138	100
Cl7-BZ#180	638		ug/kg	138	100
Cl7-BZ#187	937		ug/kg	138	100
Cl8-BZ#195	ND		ug/kg	138	100
Cl9-BZ#206-Cal/RTW	ND		ug/kg	138	100
Cl10-BZ#209-Cal/RTW	ND		ug/kg	138	100



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Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-02
Client ID: S-090-G002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/06/09 07:04
Analyst: JR
Percent Solids: 95%

Date Collected: 10/14/09 10:41
Date Received: 10/14/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C15-BZ#105	390		ug/kg	138	100
C16-BZ#138	1020		ug/kg	138	100



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Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-02
Client ID: S-090-G002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/09/09 20:46
Analyst: JR
Percent Solids: 95%

Date Collected: 10/14/09 10:41
Date Received: 10/14/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#28	40700		ug/kg	2760	2000



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Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-02
Client ID: S-090-G002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/09/09 20:46
Analyst: JR
Percent Solids: 95%

Date Collected: 10/14/09 10:41
Date Received: 10/14/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#18	39500		ug/kg	2760	2000
C14-BZ#52	50900		ug/kg	2760	2000



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Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-03
Client ID: S-090-G002-0-0 REP
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/05/09 22:17
Analyst: JR
Percent Solids: 95%

Date Collected: 10/14/09 10:42
Date Received: 10/14/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	13500		ug/kg	1380	1000
C14-BZ#66	9520		ug/kg	1380	1000
C15-BZ#101	7940		ug/kg	1380	1000



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Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-03
Client ID: S-090-G002-0-0 REP
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/05/09 22:17
Analyst: JR
Percent Solids: 95%

Date Collected: 10/14/09 10:42
Date Received: 10/14/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#44	12200		ug/kg	1380	1000
C16-BZ#138	1790		ug/kg	1380	1000
C16-BZ#153	5930		ug/kg	1380	1000



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-03
 Client ID: S-090-G002-0-0 REP
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/06/09 07:45
 Analyst: JR
 Percent Solids: 95%

Date Collected: 10/14/09 10:42
 Date Received: 10/14/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl5-BZ#118	2260		ug/kg	138	100
Cl6-BZ#128	537		ug/kg	138	100
Cl7-BZ#170	557		ug/kg	138	100
Cl7-BZ#180	771		ug/kg	138	100
Cl7-BZ#187	1100		ug/kg	138	100
Cl8-BZ#195	ND		ug/kg	138	100
Cl9-BZ#206-Cal/RTW	186		ug/kg	138	100
Cl10-BZ#209-Cal/RTW	ND		ug/kg	138	100



02111019:26

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-03
Client ID: S-090-G002-0-0 REP
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/06/09 07:45
Analyst: JR
Percent Solids: 95%

Date Collected: 10/14/09 10:42
Date Received: 10/14/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C15-BZ#105	470		ug/kg	138	100



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-03
 Client ID: S-090-G002-0-0 REP
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/09/09 21:27
 Analyst: JR
 Percent Solids: 95%

Date Collected: 10/14/09 10:42
 Date Received: 10/14/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#18	34900		ug/kg	2760	2000
C13-BZ#28	43200		ug/kg	2760	2000
C14-BZ#52	53500		ug/kg	2760	2000



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-04
 Client ID: S-090-G003-0-0
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/06/09 08:25
 Analyst: JR
 Percent Solids: 97%

Date Collected: 10/14/09 11:51
 Date Received: 10/14/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	262		ug/kg	135	100
C13-BZ#28	1880		ug/kg	135	100
C14-BZ#52	1760		ug/kg	135	100
C14-BZ#66	1390		ug/kg	135	100
C15-BZ#101	1520		ug/kg	135	100
C15-BZ#118	1180		ug/kg	135	100
C16-BZ#128	237		ug/kg	135	100
C17-BZ#170	156		ug/kg	135	100
C17-BZ#180	199		ug/kg	135	100
C18-BZ#195	ND		ug/kg	135	100
C19-BZ#206-Cal/RTW	ND		ug/kg	135	100
C110-BZ#209-Cal/RTW	ND		ug/kg	135	100

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-04
 Client ID: S-090-G003-0-0
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/06/09 08:25
 Analyst: JR
 Percent Solids: 97%

Date Collected: 10/14/09 11:51
 Date Received: 10/14/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#18	631		ug/kg	135	100
C14-BZ#44	738		ug/kg	135	100
C15-BZ#105	309		ug/kg	135	100
C16-BZ#138	600		ug/kg	135	100
C16-BZ#153	951		ug/kg	135	100
C17-BZ#187	197		ug/kg	135	100

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8082
Analytical Date: 11/05/09 16:52
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-04 Batch: WG385678-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206-Cal/RTW	ND		ug/kg	1.33
Cl10-BZ#209-Cal/RTW	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	70		50-125
BZ 198	83		50-125

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 11/05/09 16:52
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-04 Batch: WG385678-1				
Cl6-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	70		50-125
BZ 198	83		50-125



Matrix Spike Analysis
Batch Quality Control

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385678-4 WG385678-5 QC Sample: L0914754-02 Client ID: S-090-G002-0-0												
C12-BZ#8	11900	1720	14600	848	Q	13200	725	Q	40-120	16		30
C13-BZ#18	39500	1720	29700	0	Q	34900	0	Q	40-120	NC		30
C13-BZ#18	39500	1720	44200	273	Q	47300	428	Q	40-120	44	Q	30
C13-BZ#28	40700	1720	35100	0	Q	34100	0	Q	40-120	NC		30
C13-BZ#28	40700	1720	41500	47		44600	214	Q	40-120	129	Q	30
C14-BZ#44	12000	1720	12900	52		13300	71		40-120	31	Q	30
C14-BZ#52	ND	1720	43200	0	Q	41100	0	Q	40-120	NC		30
C15-BZ#101	7760	1720	9670	562	Q	8520	468	Q	40-120	18		30
C15-BZ#105	390	1720	2540	125	Q	2860	136	Q	40-120	8		30
C15-BZ#118	ND	1720	4650	270	Q	5040	277	Q	40-120	3		30
C16-BZ#128	444	1720	2550	148	Q	2740	150	Q	40-120	1		30
C16-BZ#138	1020	1720	3710	156	Q	3940	160	Q	40-120	3		30
C16-BZ#153	ND	1720	6950	404	Q	6930	380	Q	40-120	6		30
C17-BZ#170	456	1720	2620	152	Q	2820	155	Q	40-120	2		30
C17-BZ#187	ND	1720	3370	196	Q	3520	193	Q	40-120	2		30
C18-BZ#195	ND	1720	2270	132	Q	2480	136	Q	40-120	3		30
C19-BZ#206	ND	1720	2410	140	Q	2580	142	Q	40-120	1		30
C10-BZ#209	ND	1720	2120	123	Q	2300	126	Q	40-120	2		30

Matrix Spike Analysis
Batch Quality Control

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385678-4 WG385678-5 QC Sample: L0914754-02 Client ID: S-090-G002-0-0												
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385678-6 WG385678-7 QC Sample: L0914850-03 Client ID: MS Sample												
C12-BZ#8	329	1780	2270	109		2560	127	Q	40-120	15		30
C13-BZ#18	ND	1780	3300	154	Q	3760	182	Q	40-120	17		30
C13-BZ#28	2260	1780	5390	176	Q	5290	173	Q	40-120	2		30
C14-BZ#44	917	1780	3030	119		3520	149	Q	40-120	22		30
C14-BZ#66	1790	1780	3960	122	Q	4380	148	Q	40-120	19		30
C15-BZ#101	1880	1780	4300	136	Q	4850	170	Q	40-120	22		30
C16-BZ#128	317	1780	2370	115		2660	134	Q	40-120	15		30
C16-BZ#138	ND	1780	3350	121	Q	3760	146	Q	40-120	19		30
C16-BZ#153	1170	1780	3520	132	Q	4310	179	Q	40-120	30		30
C17-BZ#170	199	1780	2280	117		2540	134	Q	40-120	14		30
C17-BZ#187	230	1780	2300	116		2700	141	Q	40-120	19		30
C18-BZ#195	ND	1780	2210	124	Q	2460	141	Q	40-120	13		30
C19-BZ#206	ND	1780	2400	135	Q	2620	150	Q	40-120	11		30
C110-BZ#209	ND	1780	2200	124	Q	2390	137	Q	40-120	10		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TO-0010 NBH TASK 4.0 SED TRAP

Lab Number: L0914754

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 Batch: WG385678-2 WG385678-3								
Cl5-BZ#118	76		76		40-120	0		30
Cl7-BZ#170	79		80		40-120	1		30
Cl8-BZ#195	79		83		40-120	5		30
Cl9-BZ#206	88		91		40-120	3		30
Cl10-BZ#209	81		85		40-120	5		30

DBOB	64	53	50-125
BZ 198	79	80	50-125



Lab Control Sample Analysis

Batch Quality Control

Project Name: TO-0010 NBH TASK 4.0 SED TRAP

Lab Number: L0914754

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 Batch: WG385678-2 WG385678-3								
Cl2-BZ#8	63		51		40-120	21		30
Cl3-BZ#18	74		60		40-120	21		30
Cl3-BZ#28	80		64		40-120	22		30
Cl4-BZ#44	74		68		40-120	8		30
Cl4-BZ#52	79		69		40-120	14		30
Cl4-BZ#66	72		69		40-120	4		30
Cl5-BZ#101	76		73		40-120	4		30
Cl5-BZ#105	75		73		40-120	3		30
Cl6-BZ#128	79		81		40-120	3		30
Cl6-BZ#138	82		79		40-120	4		30
Cl6-BZ#153	80		77		40-120	4		30
Cl7-BZ#180	80		81		40-120	1		30
Cl7-BZ#187	78		78		40-120	0		30

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
DBOB	64		53		50-125
BZ 198	79		80		50-125

INORGANICS & MISCELLANEOUS



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-01
Client ID: S-090-G001-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/14/09 08:13
Date Received: 10/14/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	2.33		%	0.010	1	-	11/04/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	2.11		%	0.010	1	-	11/04/09 06:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.600		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	8.80		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	8.80		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	14.3		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	16.0		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	50.2		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	96.0		%	0.100	1	-	10/19/09 08:26	30,2540G	KB



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-02
Client ID: S-090-G002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/14/09 10:41
Date Received: 10/14/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	4.05		%	0.010	1	-	11/04/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	4.24		%	0.010	1	-	11/04/09 06:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	1.70		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	15.9		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	16.0		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	13.0		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	12.2		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	40.8		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	95.2		%	0.100	1	-	10/19/09 08:26	30,2540G	KB



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-03
Client ID: S-090-G002-0-0 REP
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/14/09 10:42
Date Received: 10/14/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	3.71		%	0.010	1	-	11/04/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	3.22		%	0.010	1	-	11/04/09 06:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.900		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	15.1		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	15.1		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	13.4		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	12.9		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	41.7		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	95.1		%	0.100	1	-	10/19/09 08:26	30,2540G	KB



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0914754-04
Client ID: S-090-G003-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/14/09 11:51
Date Received: 10/14/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	3.52		%	0.010	1	-	11/04/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	3.35		%	0.010	1	-	11/04/09 06:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.200		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	3.90		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	4.00		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	16.2		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	20.0		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	53.8		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	10/23/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	96.8		%	0.100	1	-	10/19/09 08:26	30,2540G	KB



Project Name: TO-0010 NBH TASK 4.0 SED TRAP**Lab Number:** L0914754**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/11/10

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01-04 Batch: WG385841-1									
Total Organic Carbon (Rep1)	0.010		%	0.010	1	-	11/04/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	ND		%	0.010	1	-	11/04/09 06:00	1,9060	NR



Matrix Spike Analysis
Batch Quality Control

Project Name: TO-0010 NBH TASK 4.0 SED TRAP

Lab Number: L0914754

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385841-4 QC Sample: L0914754-02 Client ID: S-090-G002-0-0												
Total Organic Carbon (Rep1)	4.05	2.65	6.54	94		-	-		75-125	-		25
Total Organic Carbon (Rep2)	4.24	3.81	7.79	98		-	-		75-125	-		25



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0914754
Report Date: 02/11/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG384841-1 QC Sample: L0914754-01 Client ID: S-090-G001-0-0						
Solids, Total	96	96.2	%	0		20
Grain Size (Wentworth Method) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385839-1 QC Sample: L0914754-02 Client ID: S-090-G002-0-0						
Gravel (>2.00mm)	1.7	1.00	%	52	Q	20
Very Coarse Sand (1.00-2.00 mm)	15.9	15.1	%	5		20
Coarse Sand (0.50-1.00 mm)	16.0	15.1	%	6		20
Medium Sand (0.25-0.50 mm)	13.0	13.0	%	0		20
Fine Sand (0.125-0.25 mm)	12.2	12.4	%	2		20
Very Fine Sand (0.063-0.125 mm)	ND	ND	%	NC		20
Silt - (1.95-62.5 um)	40.8	41.9	%	3		20
Clay - (<1.95 um)	ND	ND	%	NC		20
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG385841-3 QC Sample: L0914754-02 Client ID: S-090-G002-0-0						
Total Organic Carbon (Rep1)	4.05	4.10	%	1		25
Total Organic Carbon (Rep2)	4.24	4.41	%	4		25

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG385841-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	102		75-125
Total Organic Carbon (Rep2)	106		75-125

Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0914754-01A	Glass 250ml unpreserved	A	N/A	5.6	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0914754-01B	Glass 100ml unpreserved	A	N/A	5.6	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0914754-01C	Bag	A	N/A	5.6	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0914754-02A	Glass 250ml unpreserved	A	N/A	5.6	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0914754-02B	Glass 100ml unpreserved	A	N/A	5.6	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0914754-02C	Bag	A	N/A	5.6	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0914754-02D	Glass 250ml unpreserved	A	N/A	5.6	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0914754-03A	Glass 250ml unpreserved	A	N/A	5.6	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0914754-03B	Glass 100ml unpreserved	A	N/A	5.6	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0914754-03C	Bag	A	N/A	5.6	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0914754-04A	Glass 250ml unpreserved	A	N/A	5.6	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0914754-04B	Glass 100ml unpreserved	A	N/A	5.6	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0914754-04C	Bag	A	N/A	5.6	Y	Absent	A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)

*Hold days indicated by values in parentheses



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	- Not detected at the reported detection limit for the sample.
NI	- Not Ignitable.
RDL	- Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: TO-0010 NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914754
Report Date: 02/11/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 12 Annual Book of ASTM Standards. American Society for Testing and Materials.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

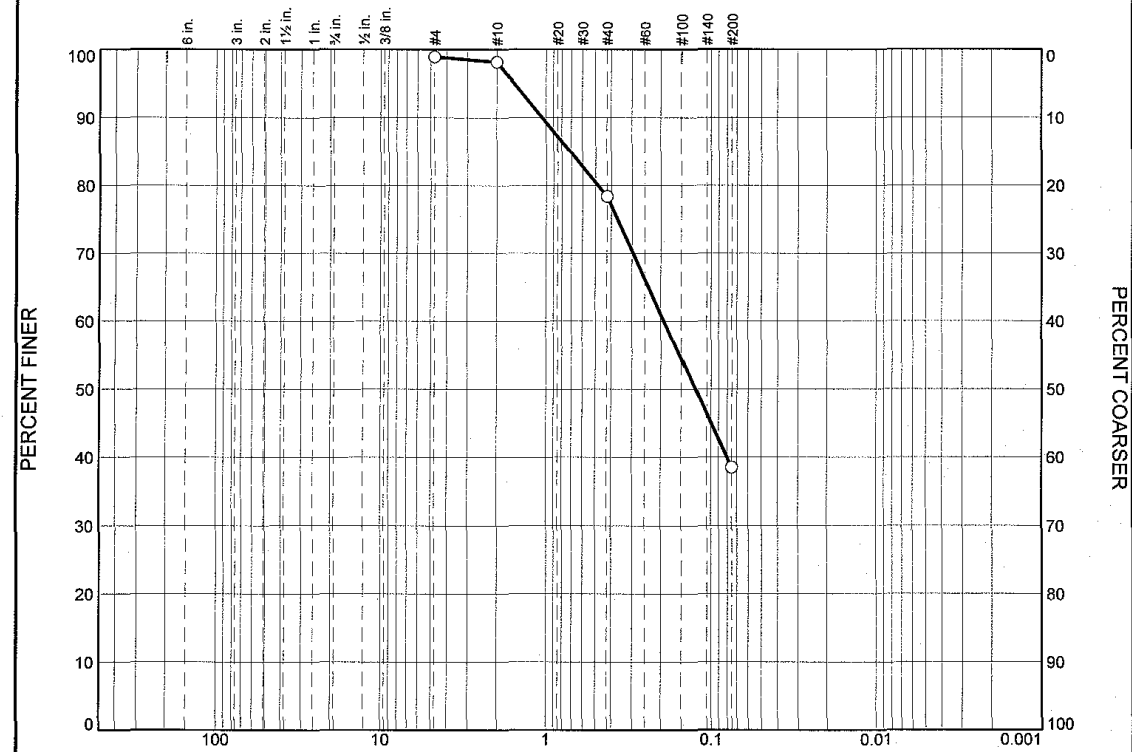
Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



ASTM 422D Bulk Sediment

Particle Size Distribution Report



GRAIN SIZE - mm.													
% Boulders	% Cobbles	% Pebbles	% Gravel	% Sand				% Silt				% Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine		V. Fine
0	0	0	0.6	8.8	8.8	14.3	16.0	0	0	0	0	50.2	0

LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
0	0	0.7130	0.1909	0.1237					

Material Description		USCS	AASHTO
Project No. L0914754 Client: Woods Hole Group Project: NBH Water Quality Monitoring Source of Sample: S-090-G001-0-0 Sample Number: L0914754-01		Remarks:	
Alpha Analytical Mansfield, MA		Figure	

GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

Client: Woods Hole Group
 Project: NBH Water Quality Monitoring
 Project Number: L0914754
 Location: S-090-G001-0-0
 Sample Number: L0914754-01
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
74.84	4.57	#4	522.46	521.68	98.9	1.1
		#10	485.23	484.70	98.1	1.9
		#40	377.63	363.77	78.4	21.6
		#200	373.22	345.17	38.5	61.5

Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			0.6	8.8	8.8	14.3	16.0								

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.1237	0.1909	0.4814	0.7130	1.0558	1.5635

Fineness Modulus
1.04

Alpha Analytical

GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

Client: Woods Hole Group
 Project: NBH Water Quality Monitoring
 Project Number: L0914754
 Location: S-090-G002-0-0
 Sample Number: L0914754-02
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
67.20	4.64	#4	520.80	520.80	100.0	0.0
		#10	483.32	482.02	97.9	2.1
		#40	400.19	377.90	62.3	37.7
		#200	365.58	346.54	31.9	68.1

Fractional Components

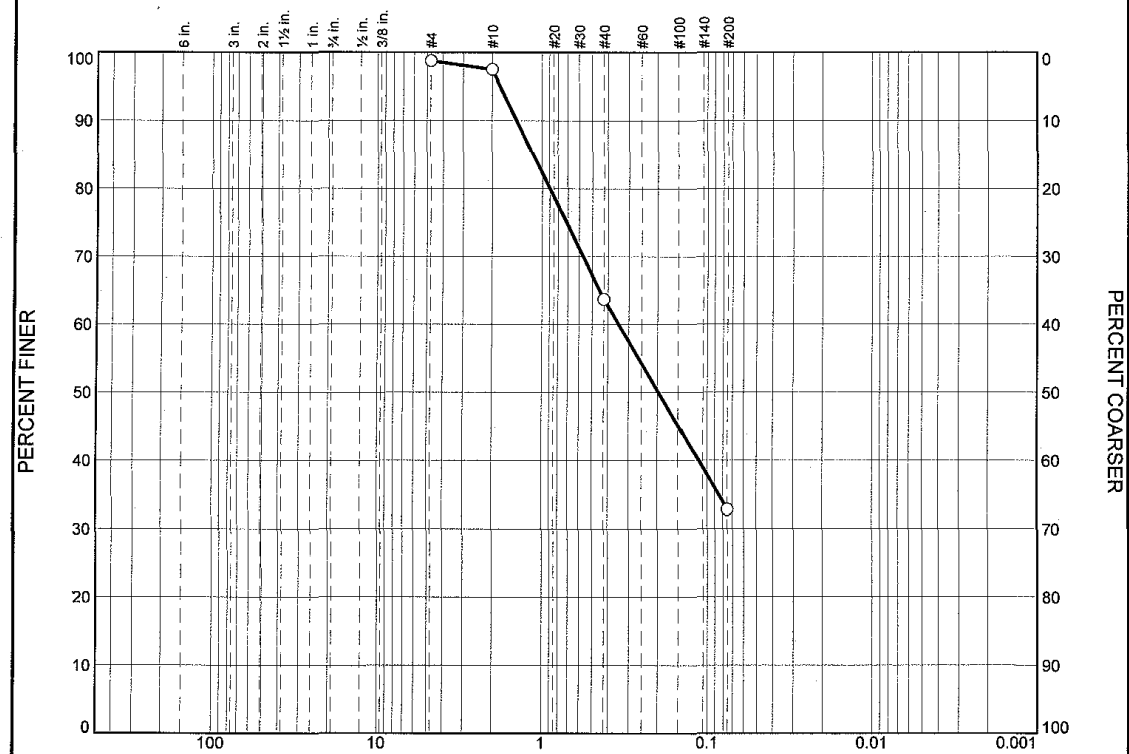
Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
0.0	0.0	0.4	1.7	15.9	16.0	13.0	12.2								

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.2109	0.3730	0.9177	1.1405	1.4173	1.7614

Fineness Modulus
1.45

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.												
% Boulders	% Cobbles	% Pebbles	% Sand					% Silt				% Clay
			% Granules	V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine	
			1.0	15.1	15.1	13.0	12.4	41.9				
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu			
		1.1286	0.3450	0.1967								
Material Description								USCS	AASHTO			

Project No. L0914754 **Client:** Woods Hole Group
Project: NBH Water Quality Monitoring
 ○ **Source of Sample:** S-090-G002-0-0 **Sample Number:** WG385839-1

Alpha Analytical
Mansfield, MA

Remarks:
 Figure

GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

Client: Woods Hole Group
 Project: NBH Water Quality Monitoring
 Project Number: L0914754
 Location: S-090-G002-0-0
 Sample Number: WG385839-1
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
70.24	4.60	#4	522.51	521.68	98.7	1.3
		#10	485.53	484.70	97.5	2.5
		#40	385.93	363.77	63.7	36.3
		#200	365.44	345.17	32.8	67.2

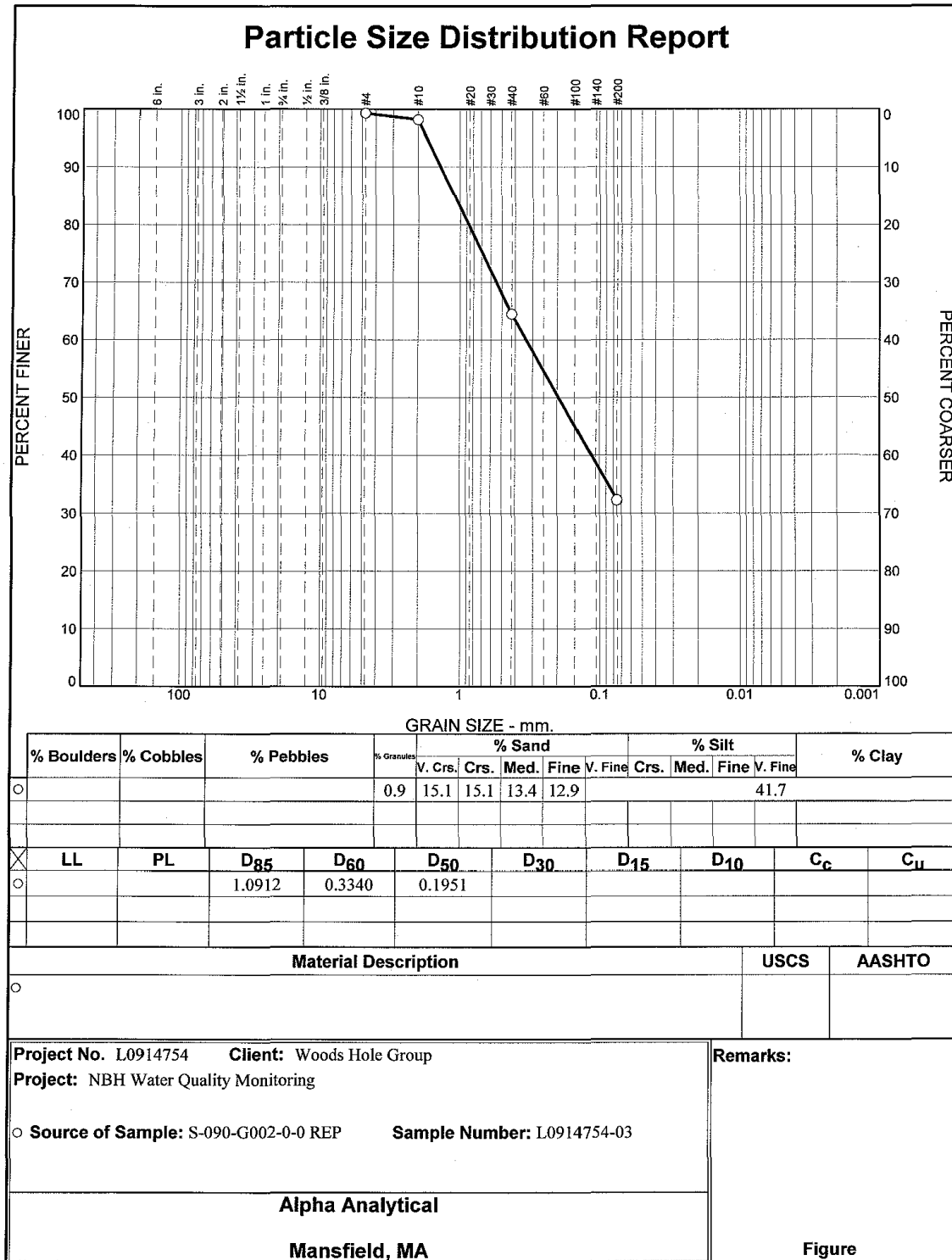
Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			1.0	15.1	15.1	13.0	12.4								

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.1967	0.3450	0.8973	1.1286	1.4196	1.7856

Fineness Modulus
1.44

Alpha Analytical



GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

Client: Woods Hole Group
 Project: NBH Water Quality Monitoring
 Project Number: L0914754
 Location: S-090-G002-0-0 REP
 Sample Number: L0914754-03
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
77.91	4.65	#4	521.31	520.80	99.3	0.7
		#10	482.84	482.02	98.2	1.8
		#40	402.59	377.90	64.5	35.5
		#200	370.18	346.54	32.2	67.8

Fractional Components

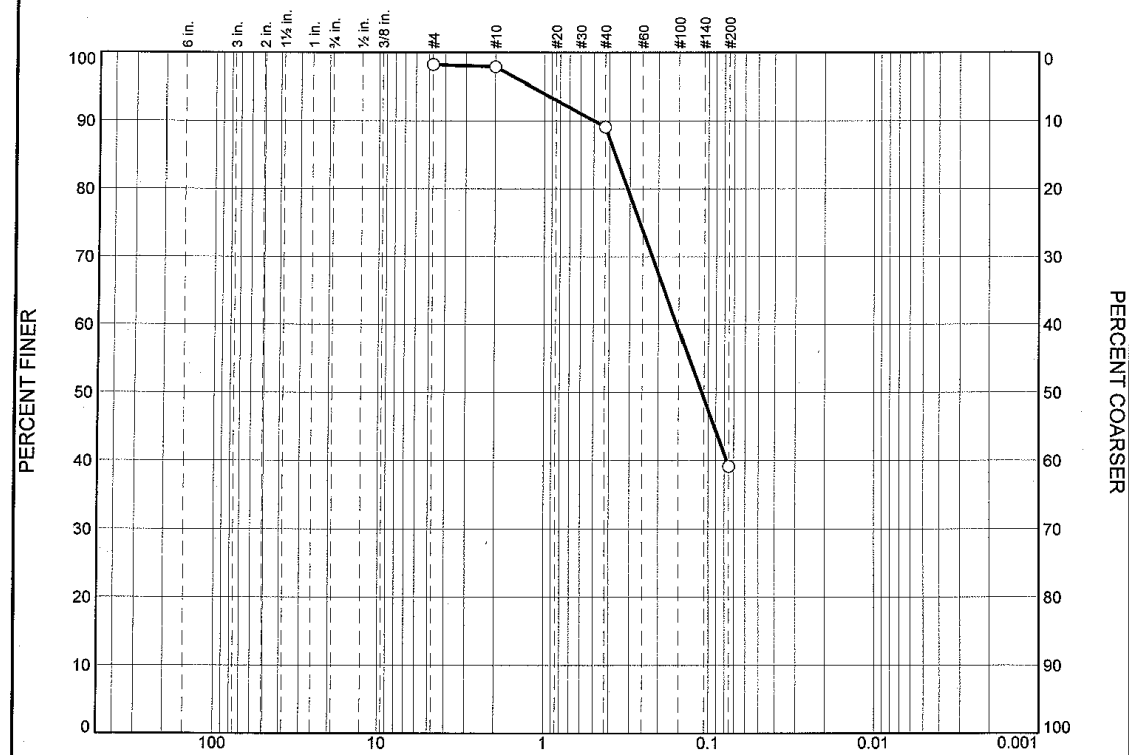
Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			0.9	15.1	15.1	13.4	12.9								

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.1951	0.3340	0.8671	1.0912	1.3730	1.7277

Fineness Modulus
1.40

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.

% Boulders	% Cobbles	% Pebbles	% Gravel	% Sand					% Silt				% Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine	V. Fine		
			0.2	3.9	4.0	16.2	20.0							53.8

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
		0.3685	0.1548	0.1094					

Material Description	USCS	AASHTO

Project No. L0914754 Client: Woods Hole Group Project: NBH Water Quality Monitoring Source of Sample: S-090-G003-0-0 Sample Number: L0914754-04	Remarks: <p style="text-align: center;">Figure</p>
Alpha Analytical Mansfield, MA	

GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

Client: Woods Hole Group
 Project: NBH Water Quality Monitoring
 Project Number: L0914754
 Location: S-090-G003-0-0
 Sample Number: L0914754-04
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
97.61	4.64	#4	523.35	521.68	98.2	1.8
		#10	485.00	484.70	97.9	2.1
		#40	371.92	363.77	89.1	10.9
		#200	391.65	345.17	39.1	60.9

Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			0.2	3.9	4.0	16.2	20.0								

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.1094	0.1548	0.3098	0.3685	0.4970	1.2022

Fineness Modulus
0.80

Alpha Analytical

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A, 3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D, 9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3051, 6020, 747A, 7474, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.

02111019:26



CHAIN OF CUSTODY

PAGE 1 OF 2

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: 40914754

Project Information

Project Name: NBH Water Quality Monitoring

Project Location: New Bedford Harbor

Project #: TO-000 NBH Task 40 Sed Trap

Project Manager: Dave Walsh

ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: Woods Hole Group

Address: 81 Technology Park Drive
E. Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: dwalsh@whgrp.com

These samples have been previously analyzed by Alpha

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: Time:

Regulatory Requirements/Report Limits

State / Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS	PCB congeners 10/14/18	TOC	Grain Size	SAMPLE HANDLING		TOTAL # BOTTLES
				Filtration	Preservation	
				<input type="checkbox"/> Done	<input checked="" type="checkbox"/> Not needed	
				<input type="checkbox"/> Lab to do	<input type="checkbox"/> Lab to do	
Sample Specific Comments						

Other Project Specific Requirements/Comments/Detection Limits:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS	PCB congeners 10/14/18	TOC	Grain Size	SAMPLE HANDLING	TOTAL # BOTTLES
		Date	Time								
-1	S-090-G001-0-0	10/14/09	08:13	SED	DSB	X				ST-001	1
	S-090-G001-0-0	10/14/09	08:14	SED	DSB	X				ST-001	1
	S-090-G001-0-0	10/14/09	08:12	SED	DSB		X			ST-001	1
2	S-090-G002-0-0	10/14/09	10:41	SED	DSB	X				ST-002	1
	S-090-G002-0-0	10/14/09	10:45	SED	DSB	X				ST-002	1
	S-090-G002-0-0	10/14/09	10:39	SED	DSB		X			ST-002	1
-3	S-090-G002-0-0 Rep	10/14/09	10:42	SED	DSB	X				ST-002 Rep	1
	S-090-G002-0-0 Rep	10/14/09	10:44	SED	DSB	X				ST-002 Rep	1
	S-090-G002-0-0 Rep	10/14/09	10:40	SED	DSB		X			ST-002 Rep	1
-2	S-090-G002-0-0 ^{MSMSD} Rep	10/14/09	10:43	SED	DSB	X				ST-002 MSMSD	1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type: A A O
Preservative: A A A

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By: *[Signature]* Date/Time: 10/14/09 - 13:36
Received By: *[Signature]* Date/Time: 10/14/09 13:36

FORM NO: 01-01 (rev. 30-JUL-07)

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Delivery Order-0010
June 2010

C-269

Sediment Trap Study Summary Report
W912WJ-09-D-0001

02111019:26



CHAIN OF CUSTODY

PAGE 2 OF 2

WESTBORO, MA TEL: 508-898-9220
MANSFIELD, MA TEL: 508-822-9300
FAX: 508-898-9193 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: 20914754

Project Information

Project Name: NBH Water Quality Monitoring

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Drive
E. Falmouth, Ma 02536

Project Location: New Bedford Harbor

Project #: TO-0010 NBH Task 40 Sed Traps

Project Manager: Dave Walsh

ALPHA Quote #:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: Time:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS	TOTAL # BOTTLES
RB CONCENTRATIONS TOC Grain Size	SAMPLE HANDLING Filtration <input type="checkbox"/> Done <input checked="" type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)
Sample Specific Comments	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	X	X	X	Sample Specific Comments	TOTAL # BOTTLES
		Date	Time							
-4	S-090-G003-0-0	10/14/09	11:51	SED	DSB	X			ST-003	1
	S-090-G003-0-0	10/14/09	11:52	SED	DSB	X			ST-003	1
4	S-090-G003-0-0	10/14/09	11:50	SED	DSB		X		ST-003	1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type: A A O
Preservative: A A A

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	10/14/09 13:36	<i>[Signature]</i>	10/14/09 13:36
	10/14/09 15:45		10/14/09 15:45

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORMNO:01-01 (rev. 30-JUL-07)



ANALYTICAL REPORT

Lab Number:	L0914850
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Bob Hamilton
Project Name:	T0-0010-NBH TASK 4.0 SED TRAP
Project Number:	NBH TASK 4.0 ST
Report Date:	02/05/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0914850-01	S-090-001-0-0	NEW BEDFORD HARBOR	10/15/09 13:00
L0914850-02	S-090-002-0-0	NEW BEDFORD HARBOR	10/15/09 14:15
L0914850-03	S-090-003-0-0	NEW BEDFORD HARBOR	10/15/09 15:25



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the original report issued on November 11, 2009. The report was ammended to include revised Grain Size data.

LOGIN NARRATIVE

All samples were frozen upon receipt.

PCB Congeners by 8082

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

Case Narrative (continued)

The WG385678-4/-5/-6/-7 MS/MSD recoveries are outside the acceptance criteria for several congeners. The matrix spikes were diluted out due to high concentrations detected in the native sample.

All samples were diluted due to high concentrations of target analytes. In most instances further dilutions were also performed in order to be able to quantitate the compounds within the calibration range. Surrogates were diluted out of the samples.

Total Organic Carbon

The matrix spike associated with sample S-090-003-0-004 (L0914850-03MS) run #2 had a recovery of 133 %, above the 125% QC acceptance limit, possibly due to the sample matrix. The associated Laboratory Control Spike had an acceptable recovery indicating the sample batch was in control, and all sample results were accepted.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/05/10

ORGANICS



PCBS



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

02051017:57
Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-01
Client ID: S-090-001-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/05/09 23:38
Analyst: JR
Percent Solids: 93%

Date Collected: 10/15/09 13:00
Date Received: 10/16/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	6940		ug/kg	1430	1000



02051017:57

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-01
Client ID: S-090-001-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/05/09 23:38
Analyst: JR
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Date Collected: 10/15/09 13:00
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Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	5530		ug/kg	1430	1000
Cl4-BZ#52	8640		ug/kg	1430	1000



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-01
 Client ID: S-090-001-0-0
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/06/09 09:06
 Analyst: JR
 Percent Solids: 93%

Date Collected: 10/15/09 13:00
 Date Received: 10/16/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	1360		ug/kg	143	100
C14-BZ#66	1790		ug/kg	143	100
C15-BZ#101	1540		ug/kg	143	100
C15-BZ#105	ND		ug/kg	143	100
C16-BZ#128	ND		ug/kg	143	100
C17-BZ#170	154		ug/kg	143	100
C17-BZ#180	195		ug/kg	143	100
C18-BZ#195	ND		ug/kg	143	100
C19-BZ#206-Cal/RTW	ND		ug/kg	143	100
C10-BZ#209-Cal/RTW	ND		ug/kg	143	100

02051017:57

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-01
Client ID: S-090-001-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/06/09 09:06
Analyst: JR
Percent Solids: 93%

Date Collected: 10/15/09 13:00
Date Received: 10/16/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	1910		ug/kg	143	100
Cl5-BZ#118	796		ug/kg	143	100
Cl6-BZ#138	430		ug/kg	143	100
Cl6-BZ#153	1120		ug/kg	143	100
Cl7-BZ#187	292		ug/kg	143	100



02051017:57

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-02
Client ID: S-090-002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/06/09 00:19
Analyst: JR
Percent Solids: 82%

Date Collected: 10/15/09 14:15
Date Received: 10/16/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	25000		ug/kg	1610	1000
Cl4-BZ#52	26200		ug/kg	1610	1000
Cl5-BZ#101	7870		ug/kg	1610	1000



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-02
 Client ID: S-090-002-0-0
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/06/09 00:19
 Analyst: JR
 Percent Solids: 82%

Date Collected: 10/15/09 14:15
 Date Received: 10/16/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	5460		ug/kg	1610	1000
C13-BZ#18	14500		ug/kg	1610	1000
C14-BZ#44	8680		ug/kg	1610	1000
C14-BZ#66	8250		ug/kg	1610	1000
C16-BZ#153	5410		ug/kg	1610	1000

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-02
 Client ID: S-090-002-0-0
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/06/09 09:46
 Analyst: JR
 Percent Solids: 82%

Date Collected: 10/15/09 14:15
 Date Received: 10/16/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C15-BZ#118	2640		ug/kg	161	100
C16-BZ#128	522		ug/kg	161	100
C17-BZ#170	459		ug/kg	161	100
C17-BZ#180	628		ug/kg	161	100
C17-BZ#187	751		ug/kg	161	100
C18-BZ#195	ND		ug/kg	161	100
C19-BZ#206-Cal/RTW	ND		ug/kg	161	100
C110-BZ#209-Cal/RTW	ND		ug/kg	161	100

02051017:57

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-02
Client ID: S-090-002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/06/09 09:46
Analyst: JR
Percent Solids: 82%

Date Collected: 10/15/09 14:15
Date Received: 10/16/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl5-BZ#105	512		ug/kg	161	100
Cl6-BZ#138	1180		ug/kg	161	100



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-03
 Client ID: S-090-003-0-0
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 11/06/09 10:27
 Analyst: JR
 Percent Solids: 93%

Date Collected: 10/15/09 15:25
 Date Received: 10/16/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C12-BZ#8	329		ug/kg	142	100
C13-BZ#18	725		ug/kg	142	100
C13-BZ#28	2260		ug/kg	142	100
C14-BZ#52	2130		ug/kg	142	100
C14-BZ#66	1790		ug/kg	142	100
C15-BZ#101	1880		ug/kg	142	100
C15-BZ#118	1590		ug/kg	142	100
C16-BZ#128	317		ug/kg	142	100
C17-BZ#170	199		ug/kg	142	100
C17-BZ#180	262		ug/kg	142	100
C18-BZ#195	ND		ug/kg	142	100
C19-BZ#206-Cal/RTW	ND		ug/kg	142	100
C110-BZ#209-Cal/RTW	ND		ug/kg	142	100

02051017:57

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-03
Client ID: S-090-003-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 11/06/09 10:27
Analyst: JR
Percent Solids: 93%

Date Collected: 10/15/09 15:25
Date Received: 10/16/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 10/23/09 09:29
Cleanup Method1: EPA 3630
Cleanup Date1: 10/26/09
Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	917		ug/kg	142	100
Cl5-BZ#105	384		ug/kg	142	100
Cl6-BZ#138	783		ug/kg	142	100
Cl6-BZ#153	1170		ug/kg	142	100
Cl7-BZ#187	230		ug/kg	142	100



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 11/05/09 16:52
 Analyst: JR

Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG385678-1				
C12-BZ#8	ND		ug/kg	1.33
C13-BZ#18	ND		ug/kg	1.33
C13-BZ#28	ND		ug/kg	1.33
C14-BZ#44	ND		ug/kg	1.33
C14-BZ#52	ND		ug/kg	1.33
C14-BZ#66	ND		ug/kg	1.33
C15-BZ#101	ND		ug/kg	1.33
C15-BZ#105	ND		ug/kg	1.33
C15-BZ#118	ND		ug/kg	1.33
C16-BZ#128	ND		ug/kg	1.33
C16-BZ#138	ND		ug/kg	1.33
C17-BZ#170	ND		ug/kg	1.33
C17-BZ#180	ND		ug/kg	1.33
C17-BZ#187	ND		ug/kg	1.33
C18-BZ#195	ND		ug/kg	1.33
C19-BZ#206-Cal/RTW	ND		ug/kg	1.33
C10-BZ#209-Cal/RTW	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	70		50-125
BZ 198	83		50-125

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 11/05/09 16:52
 Analyst: JR

Extraction Method: EPA 3540C
 Extraction Date: 10/23/09 09:29
 Cleanup Method1: EPA 3630
 Cleanup Date1: 10/26/09
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG385678-1				
Cl6-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	70		50-125
BZ 198	83		50-125

Matrix Spike Analysis**Batch Quality Control**

Project Name: T0-0010-NBH TASK 4.0 SED TRAP

Lab Number: L0914850

Project Number: NBH TASK 4.0 ST

Report Date: 02/05/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG385678-4 WG385678-5 QC Sample: L0914754-02 Client ID: MS Sample												
Cl2-BZ#8	11900	1720	14600	848	Q	13200	725	Q	40-120	16		30
Cl3-BZ#18	39500	1720	44200	273	Q	47300	428	Q	40-120	44	Q	30
Cl3-BZ#18	39500	1720	29700	0	Q	34900	0	Q	40-120	NC		30
Cl3-BZ#28	40700	1720	35100	0	Q	34100	0	Q	40-120	NC		30
Cl3-BZ#28	40700	1720	41500	47		44600	214	Q	40-120	129	Q	30
Cl4-BZ#44	12000	1720	12900	52		13300	71		40-120	31	Q	30
Cl4-BZ#52	ND	1720	43200	0	Q	41100	0	Q	40-120	NC		30
Cl5-BZ#101	7760	1720	9670	562	Q	8520	468	Q	40-120	18		30
Cl5-BZ#105	390	1720	2540	125	Q	2860	136	Q	40-120	8		30
Cl5-BZ#118	ND	1720	4650	270	Q	5040	277	Q	40-120	3		30
Cl6-BZ#128	444	1720	2550	148	Q	2740	150	Q	40-120	1		30
Cl6-BZ#138	1020	1720	3710	156	Q	3940	160	Q	40-120	3		30
Cl6-BZ#153	ND	1720	6950	404	Q	6930	380	Q	40-120	6		30
Cl7-BZ#170	456	1720	2620	152	Q	2820	155	Q	40-120	2		30
Cl7-BZ#187	ND	1720	3370	196	Q	3520	193	Q	40-120	2		30
Cl8-BZ#195	ND	1720	2270	132	Q	2480	136	Q	40-120	3		30
Cl9-BZ#206	ND	1720	2410	140	Q	2580	142	Q	40-120	1		30
Cl10-BZ#209	ND	1720	2120	123	Q	2300	126	Q	40-120	2		30

Matrix Spike Analysis**Batch Quality Control**

Project Name: T0-0010-NBH TASK 4.0 SED TRAP

Lab Number: L0914850

Project Number: NBH TASK 4.0 ST

Report Date: 02/05/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG385678-4 WG385678-5 QC Sample: L0914754-02 Client ID: MS Sample												
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG385678-6 WG385678-7 QC Sample: L0914850-03 Client ID: S-090-003-0-0												
C12-BZ#8	329	1780	2270	109		2560	127	Q	40-120	15		30
C13-BZ#18	ND	1780	3300	154	Q	3760	182	Q	40-120	17		30
C13-BZ#28	2260	1780	5390	176	Q	5290	173	Q	40-120	2		30
C14-BZ#44	917	1780	3030	119		3520	149	Q	40-120	22		30
C14-BZ#66	1790	1780	3960	122	Q	4380	148	Q	40-120	19		30
C15-BZ#101	1880	1780	4300	136	Q	4850	170	Q	40-120	22		30
C16-BZ#128	317	1780	2370	115		2660	134	Q	40-120	15		30
C16-BZ#138	ND	1780	3350	121	Q	3760	146	Q	40-120	19		30
C16-BZ#153	1170	1780	3520	132	Q	4310	179	Q	40-120	30		30
C17-BZ#170	199	1780	2280	117		2540	134	Q	40-120	14		30
C17-BZ#187	230	1780	2300	116		2700	141	Q	40-120	19		30
C18-BZ#195	ND	1780	2210	124	Q	2460	141	Q	40-120	13		30
C19-BZ#206	ND	1780	2400	135	Q	2620	150	Q	40-120	11		30
C110-BZ#209	ND	1780	2200	124	Q	2390	137	Q	40-120	10		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG385678-2 WG385678-3								
Cl5-BZ#118	76		76		40-120	0		30
Cl7-BZ#170	79		80		40-120	1		30
Cl8-BZ#195	79		83		40-120	5		30
Cl9-BZ#206	88		91		40-120	3		30
Cl10-BZ#209	81		85		40-120	5		30

DBOB	64	53	50-125
BZ 198	79	80	50-125

Lab Control Sample Analysis

Batch Quality Control

Project Name: T0-0010-NBH TASK 4.0 SED TRAP

Lab Number: L0914850

Project Number: NBH TASK 4.0 ST

Report Date: 02/05/10

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG385678-2 WG385678-3								
Cl2-BZ#8	63		51		40-120	21		30
Cl3-BZ#18	74		60		40-120	21		30
Cl3-BZ#28	80		64		40-120	22		30
Cl4-BZ#44	74		68		40-120	8		30
Cl4-BZ#52	79		69		40-120	14		30
Cl4-BZ#66	72		69		40-120	4		30
Cl5-BZ#101	76		73		40-120	4		30
Cl5-BZ#105	75		73		40-120	3		30
Cl6-BZ#128	79		81		40-120	3		30
Cl6-BZ#138	82		79		40-120	4		30
Cl6-BZ#153	80		77		40-120	4		30
Cl7-BZ#180	80		81		40-120	1		30
Cl7-BZ#187	78		78		40-120	0		30

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
DBOB	64		53		50-125
BZ 198	79		80		50-125



INORGANICS & MISCELLANEOUS



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-01
 Client ID: S-090-001-0-0
 Sample Location: NEW BEDFORD HARBOR
 Matrix: Sediment

Date Collected: 10/15/09 13:00
 Date Received: 10/16/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	6.40		%	0.010	1	-	11/03/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	5.36		%	0.010	1	-	11/03/09 06:00	1,9060	NR
General Chemistry - Mansfield Lab									
Solids, Total	92.7		%	0.100	1	-	10/22/09 10:50	30,2540G	KB



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-02
Client ID: S-090-002-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/15/09 14:15
Date Received: 10/16/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	3.64		%	0.010	1	-	11/03/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	4.04		%	0.010	1	-	11/03/09 06:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	ND		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	0.100		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	0.500		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	1.70		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	0.800		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	10.8		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	47.7		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	38.4		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	82.1		%	0.100	1	-	10/22/09 10:50	30,2540G	KB



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

SAMPLE RESULTS

Lab ID: L0914850-03
Client ID: S-090-003-0-0
Sample Location: NEW BEDFORD HARBOR
Matrix: Sediment

Date Collected: 10/15/09 15:25
Date Received: 10/16/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	2.01		%	0.010	1	-	11/03/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	2.21		%	0.010	1	-	11/03/09 06:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	ND		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	1.90		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	4.90		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	5.00		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	3.20		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	14.9		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	48.9		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	21.2		%	0.100	1	-	11/02/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	93.1		%	0.100	1	-	10/22/09 10:50	30,2540G	KB



Project Name: T0-0010-NBH TASK 4.0 SED TRAP**Lab Number:** L0914850**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/05/10

Method Blank Analysis
Batch Quality Control

Parameter	Result Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01-03 Batch: WG386456-1								
Total Organic Carbon (Rep1)	ND	%	0.010	1	-	11/03/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	ND	%	0.010	1	-	11/03/09 06:00	1,9060	NR



Matrix Spike Analysis
Batch Quality Control

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG386456-4 QC Sample: L0914850-03 Client ID: S-090-003-0-0												
Total Organic Carbon (Rep1)	2.01	4	6.51	112		-	-		75-125	-		25
Total Organic Carbon (Rep2)	2.21	2	4.74	133	Q	-	-		75-125	-		25

Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0914850
Report Date: 02/05/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG385468-1 QC Sample: L0914850-03 Client ID: S-090-003-0-0						
Solids, Total	93.1	93.0	%	0		20
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG386456-3 QC Sample: L0914850-03 Client ID: S-090-003-0-0						
Total Organic Carbon (Rep1)	2.01	2.60	%	13		25
Total Organic Carbon (Rep2)	2.21	2.26	%	2		25



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG386456-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	102		75-125
Total Organic Carbon (Rep2)	104		75-125

Project Name: T0-0010-NBH TASK 4.0 SED TRAP

Lab Number: L0914850

Project Number: NBH TASK 4.0 ST

Report Date: 02/05/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0914850-01A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0914850-02A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#140(W)(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-HYDRO-CLAY(W)(7),A2-HYDRO-VFSAND(W)(7),A2-HYDRO-SILT(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#20(W)(7),A2-SIEVE_#60(7),A2-HYDRO-FSAND(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-HYDRO-CSAND(W)(7),A2-HYDRO-GRAVEL(W)(7),A2-HYDRO-MSAND(W)(7),A2-HYDRO-VCSAND(W)(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#60(W)(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7)
L0914850-03A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-SIEVE_#140(W)(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-HYDRO-CLAY(W)(7),A2-HYDRO-VFSAND(W)(7),A2-HYDRO-SILT(W)(7),A2-SIEVE_#40(W)(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#20(W)(7),A2-SIEVE_#60(7),A2-HYDRO-FSAND(W)(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-HYDRO-CSAND(W)(7),A2-HYDRO-GRAVEL(W)(7),A2-HYDRO-MSAND(W)(7),A2-HYDRO-VCSAND(W)(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#60(W)(7),A2-TOC-9060-2REPS(28),A2-SIEVE_#4(W)(7)

Container Comments

L0914850-01A ORIGINALLY FROZEN 10/16/09 BY NSA

*Hold days indicated by values in parentheses



Project Name: T0-0010-NBH TASK 4.0 SED TRAP

Lab Number: L0914850

Project Number: NBH TASK 4.0 ST

Report Date: 02/05/10

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
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Container Comments

L0914850-02A ORIGINALLY FROZEN 10/16/09 BY NSA

L0914850-03A ORIGINALLY FROZEN 10/16/09 BY NSA

*Hold days indicated by values in parentheses



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	- Not detected at the reported detection limit for the sample.
NI	- Not Ignitable.
RDL	- Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: T0-0010-NBH TASK 4.0 SED TRAP
Project Number: NBH TASK 4.0 ST

Lab Number: L0914850
Report Date: 02/05/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 12 Annual Book of ASTM Standards. American Society for Testing and Materials.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

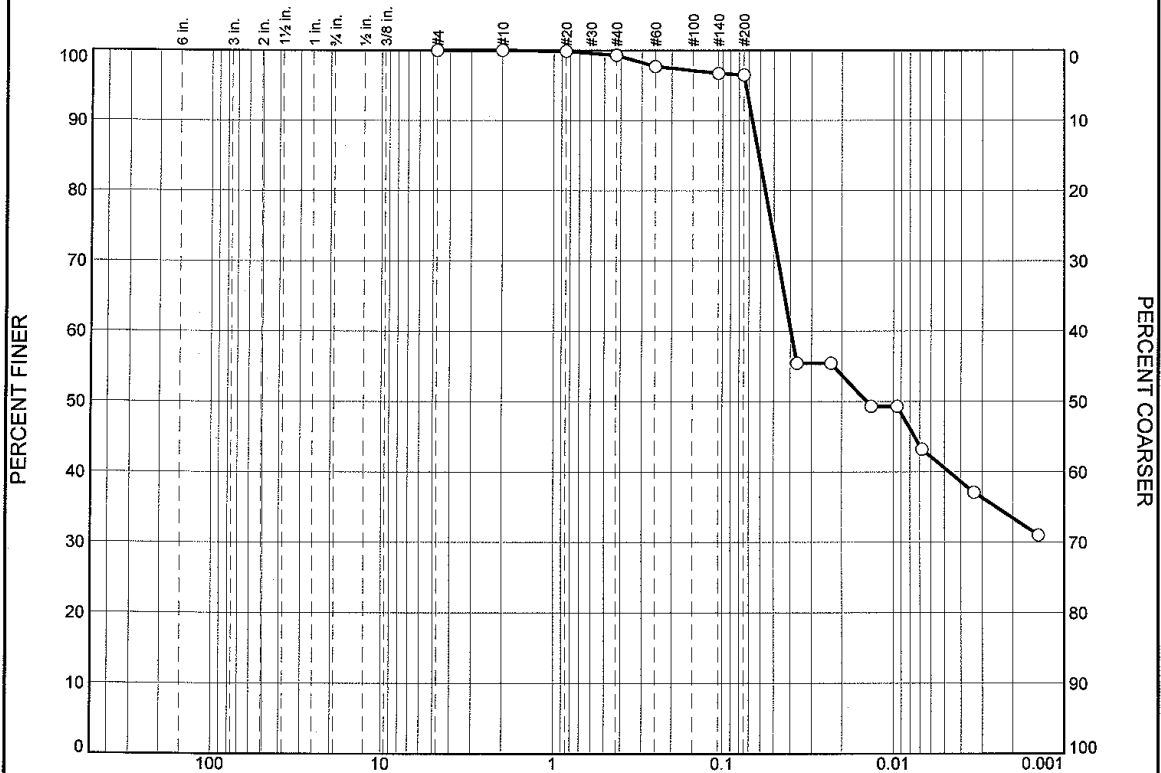
Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Wet Sieve Hydrometer ASTM D422

Particle Size Distribution Report



GRAIN SIZE - mm.

% Boulders	% Cobbles	% Pebbles	% Granules	% Sand				% Silt				% Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine		V. Fine
0.0	0.0	0.0	0.0	0.1	0.5	1.7	0.8	10.8	30.7	4.4	5.3	7.3	38.4
LL	PL	D₈₅	D₆₀	D₅₀	D₃₀	D₁₅	D₁₀	C_c	C_u				
		0.0613	0.0396	0.0143									
Material Description										USCS	AASHTO		

Project No. L0914850 Client: Woods Hole Group Project: NBH Water Quality Monitoring ○ Source of Sample: S-090-002-0-0 Sample Number: L0914850-02	Remarks:
Alpha Analytical Mansfield, MA	Figure

GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

Client: Woods Hole Group
 Project: NBH Water Quality Monitoring
 Project Number: L0914850
 Location: S-090-002-0-0
 Sample Number: L0914850-02
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
25.35	0.00	#4	521.68	521.68	100.0	0.0
		#10	484.66	484.66	100.0	0.0
		#20	405.42	405.39	99.9	0.1
		#40	361.51	361.36	99.3	0.7
		#60	366.56	366.16	97.7	2.3
		#140	343.07	342.82	96.7	3.3
		#200	345.19	345.13	96.5	3.5

Hydrometer Test Data

Hydrometer test uses material passing #200
 Percent passing #200 based upon complete sample = 96.5
 Weight of hydrometer sample = 25.35
 Automatic temperature correction
 Composite correction (fluid density and meniscus height) at 20 deg. C = -.04
 Meniscus correction only = -3.0
 Specific gravity of solids = 2.65
 Hydrometer type = 151H
 Hydrometer effective depth equation: $L = 16.294964 - 0.2645 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
2.00	21.0	1.0090	1.0091	0.0135	6.0	14.7	0.0365	55.4	44.6
5.00	21.0	1.0090	1.0091	0.0135	6.0	14.7	0.0231	55.4	44.6
15.00	21.0	1.0080	1.0081	0.0135	5.0	15.0	0.0135	49.3	50.7
30.00	21.0	1.0080	1.0081	0.0135	5.0	15.0	0.0095	49.3	50.7
60.00	21.0	1.0070	1.0071	0.0135	4.0	15.2	0.0068	43.2	56.8
250.00	21.0	1.0060	1.0061	0.0135	3.0	15.5	0.0034	37.1	62.9
1440.00	21.0	1.0050	1.0051	0.0135	2.0	15.8	0.0014	31.0	69.0

Fractional Components

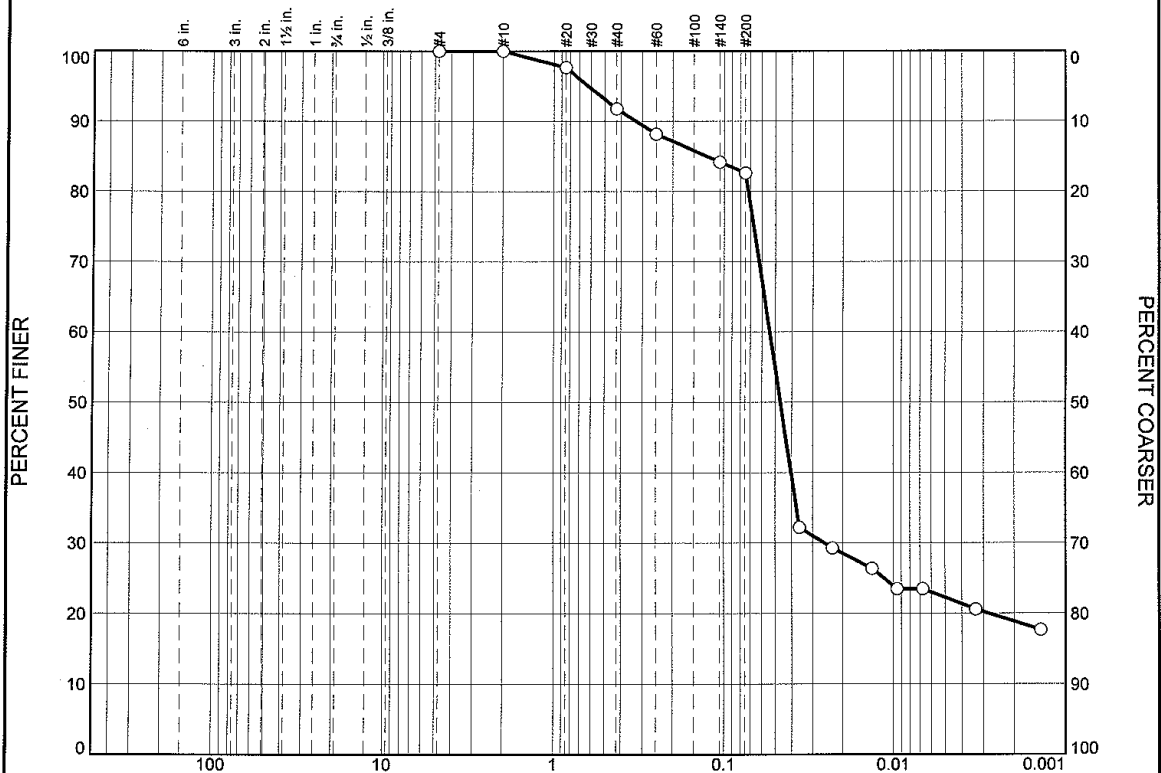
Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total	
0.0	0.0	0.0	0.0	0.1	0.5	1.7	0.8	10.8	13.9	30.7	4.4	5.3	7.3	47.7	38.4

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.0143	0.0396	0.0562	0.0613	0.0669	0.0731

Fineness Modulus
0.05

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.

% Boulders	% Cobbles	% Pebbles	% Granules	% Sand					% Silt				% Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine	V. Fine	
0.0	0.0	0.0	0.0	1.9	4.9	5.0	3.2	14.9	38.8	4.1	3.7	2.3	21.2
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu				
0		0.1263	0.0539	0.0466	0.0255								

Material Description	USCS	AASHTO
0		

<p>Project No. L0914850 Client: Woods Hole Group</p> <p>Project: NBH Water Quality Monitoring</p> <p>○ Source of Sample: S-090-003-0-0 Sample Number: L0914850-03</p>	<p>Remarks:</p>
<p>Alpha Analytical</p> <p>Mansfield, MA</p>	<p>Figure</p>

GRAIN SIZE DISTRIBUTION TEST DATA

2/4/2010

Client: Woods Hole Group
 Project: NBH Water Quality Monitoring
 Project Number: L0914850
 Location: S-090-003-0-0
 Sample Number: L0914850-03
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
45.59	0.00	#4	520.73	520.73	100.0	0.0
		#10	482.00	482.00	100.0	0.0
		#20	412.03	410.96	97.7	2.3
		#40	380.45	377.77	91.8	8.2
		#60	371.46	369.82	88.2	11.8
		#140	348.99	347.17	84.2	15.8
		#200	347.18	346.46	82.6	17.4

Hydrometer Test Data

Hydrometer test uses material passing #200
 Percent passing #200 based upon complete sample = 82.6
 Weight of hydrometer sample = 45.59
 Automatic temperature correction
 Composite correction (fluid density and meniscus height) at 20 deg. C = -.04
 Meniscus correction only = -3.0
 Specific gravity of solids = 2.65
 Hydrometer type = 151H
 Hydrometer effective depth equation: $L = 16.294964 - 0.2645 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer	Percent Retained
2.00	21.0	1.0110	1.0111	0.0135	8.0	14.2	0.0359	32.2	67.8
5.00	21.0	1.0100	1.0101	0.0135	7.0	14.4	0.0229	29.3	70.7
15.00	21.0	1.0090	1.0091	0.0135	6.0	14.7	0.0133	26.4	73.6
30.00	21.0	1.0080	1.0081	0.0135	5.0	15.0	0.0095	23.5	76.5
60.00	21.0	1.0080	1.0081	0.0135	5.0	15.0	0.0067	23.5	76.5
250.00	21.0	1.0070	1.0071	0.0135	4.0	15.2	0.0033	20.6	79.4
1440.00	21.0	1.0060	1.0061	0.0135	3.0	15.5	0.0014	17.7	82.3

Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total	
0.0	0.0	0.0	0.0	1.9	4.9	5.0	3.2	14.9	29.9	38.8	4.1	3.7	2.3	48.9	21.2

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
		0.0028	0.0255	0.0466	0.0539	0.0722	0.1263	0.3271	0.6217

Fineness Modulus
0.32

Alpha Analytical

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 *Organic Parameters:* EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. *Organic Parameters:* SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 *Organic Parameters:* SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. *Organic Parameters:* EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. *Organic Parameters:* EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. *Organic Parameters:* EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A, 3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D, 9040. *Organic Parameters:* EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3051, 6020, 747A, 7474, 9045C, 9060, SM 2540G, ASTM D422-63. *Organic Parameters:* EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

02051017:57



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
 TEL: 508-898-9220
 FAX: 508-898-9193

MANSFIELD, MA
 TEL: 508-822-9300
 FAX: 508-822-3288

Client Information
 Client: Woods Hole Group
 Address: 81 Technology Park Drive
E. Falmouth, MA 02536
 Phone: 508-540-8080
 Fax: 508-540-1001
 Email: dwalsn@whgrp.com

Project Information

Project Name: NBH water Quality Monitoring
 Project Location: New Bedford Harbor
 Project #: T0-0010-NBH Task 46
 Project Manager: Dave Walsn
 ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)
 Date Due: _____ Time: _____

Other Project Specific Requirements/Comments/Detection Limits:
 ** ESI has processed sed. traps to provide composite samples to Alpha.
 ** Level III data report & project specific EDD

Date Rec'd in Lab:

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Regulatory Requirements/Report Limits

State / Fed Program _____ Criteria _____

ALPHA Job #: L0914850

Billing Information

Same as Client info PO #:

MA MCP PRESUMPTIVE CERTAINTY -- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS	SAMPLE HANDLING			TOTAL # BOTTLES
	Grain Size	TOC	PCB Congeners	
✓	✓	✓	✓	1
✓	✓	✓	✓	1
✓	✓	✓	✓	1

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Date	Time	Sample Specific Comments
		Date	Time					
L0914850-1	S-090-001-0-0	10/15/09	1300	SED	JL			
-2	S-090-002-0-0	↓	1415	SED	JL			
-3	S-090-003-0-0	↓	1525	SED	JL			

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT
 MA MCP or CT RCP?

Container Type G G G
 Preservative A A A

Relinquished By: [Signature] Date/Time: 10/16/09 1315
 Received By: [Signature] Date/Time: 10/14/09 1345

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORMNO: 01-01 (rev. 30-JUL-07)

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Delivery Order-0010
 June 2010

C-312

Sediment Trap Study Summary Report
 W912WJ-09-D-0001



ANALYTICAL REPORT

Lab Number:	L0916608
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Project Name:	NEW BEDFORD HARBOR
Project Number:	NBH TASK 4.0 ST
Report Date:	02/11/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0916608-01	S-09N-G001-0-0	Not Specified	11/18/09 09:31
L0916608-02	S-09N-G002-0-0	Not Specified	11/18/09 10:28
L0916608-03	S-09N-G002-0-0 REP	Not Specified	11/18/09 10:29
L0916608-04	S-09N-G003-0-0	Not Specified	11/18/09 11:45



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the original report issued on February 04, 2010. The report was amended to include revised PCB Congener data and Grain Size data.

NOAA Congeners 8082

L0916608-01 through -04 have elevated detection limits due to the dilution required by the sample matrix and levels of target compounds. The surrogates were diluted out due to the dilutions required to quantitate the

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

Case Narrative (continued)

samples.

The WG391496-4 MS/MSD recoveries are outside the acceptance criteria for several compounds; however, the associated LCS recoveries are within criteria. No further action was required. The matrix spike samples were analyzed at one dilution only. Several compounds were not reported for these spike samples due to the fact they were over calibration in the native sample.

Total Organic Carbon 9060

The WG390001-1 Method Blank, associated with L0916608, has a concentration above the reporting limit for Total Organic Carbon. Since the associated sample concentrations are greater than 5x the blank concentration for this analyte, no qualification of the results was performed.

The matrix spike associated with sample S-09N-G002-0-0(L0916608-02MS) run #1 and #2 were both below the 75% acceptance limit, possibly due to matrix. The associated SRM had an acceptable recovery indicating the sample batch control, and all sample results were acceptable.

Grain Size

The WG391329-1 Laboratory Duplicate RPD associated with L0916608-01,L0916608-02,L0916608-03,L0916608-04 is outside the acceptance criteria for Gravel (32%), % Very Coarse Sand (37%),% Coarse Sand (39%). The elevated RPD has been attributed to the non-homogenous nature of the sample utilized for the laboratory duplicate.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/11/10

ORGANICS



PCBS



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-01
 Client ID: S-09N-G001-0-0
 Sample Location: Not Specified
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 10:22
 Analyst: JR
 Percent Solids: 79%

Date Collected: 11/18/09 09:31
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#18	4580		ug/kg	417	100
C15-BZ#101	3670		ug/kg	417	100
C15-BZ#105	ND		ug/kg	417	100
C15-BZ#118	1760		ug/kg	417	100
C16-BZ#128	ND		ug/kg	417	100
C16-BZ#138	1620		ug/kg	417	100
C17-BZ#170	ND		ug/kg	417	100
C17-BZ#180	ND		ug/kg	417	100
C17-BZ#187	465		ug/kg	417	100
C18-BZ#195	ND		ug/kg	417	100
C19-BZ#206-Cal/RTW	ND		ug/kg	417	100
C110-BZ#209-Cal/RTW	ND		ug/kg	417	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

02111019:10
Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-01
Client ID: S-09N-G001-0-0
Sample Location: Not Specified
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 10:22
Analyst: JR
Percent Solids: 79%

Date Collected: 11/18/09 09:31
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2630		ug/kg	417	100
Cl4-BZ#44	3350		ug/kg	417	100
Cl4-BZ#66	4740		ug/kg	417	100
Cl6-BZ#153	2000		ug/kg	417	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

02111019:10
Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-01 D
Client ID: S-09N-G001-0-0
Sample Location: Not Specified
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 01:29
Analyst: JR
Percent Solids: 79%

Date Collected: 11/18/09 09:31
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#28	13000		ug/kg	4170	1000
C14-BZ#52	17300		ug/kg	4170	1000



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-02
 Client ID: S-09N-G002-0-0
 Sample Location: Not Specified
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 11:02
 Analyst: JR
 Percent Solids: 79%

Date Collected: 11/18/09 10:28
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl5-BZ#101	5530		ug/kg	419	100
Cl5-BZ#105	ND		ug/kg	419	100
Cl5-BZ#118	2570		ug/kg	419	100
Cl6-BZ#128	ND		ug/kg	419	100
Cl6-BZ#138	3340		ug/kg	419	100
Cl7-BZ#170	587		ug/kg	419	100
Cl7-BZ#180	792		ug/kg	419	100
Cl7-BZ#187	1250		ug/kg	419	100
Cl8-BZ#195	ND		ug/kg	419	100
Cl9-BZ#206-Cal/RTW	ND		ug/kg	419	100
Cl10-BZ#209-Cal/RTW	ND		ug/kg	419	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

02111019:10
Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-02
 Client ID: S-09N-G002-0-0
 Sample Location: Not Specified
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 11:02
 Analyst: JR
 Percent Solids: 79%

Date Collected: 11/18/09 10:28
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C16-BZ#153	4320		ug/kg	419	100
DBOB	0	Q	50-125		
BZ 198	0	Q	50-125		



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

02111019:10
Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-02 D
Client ID: S-09N-G002-0-0
Sample Location: Not Specified
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 02:10
Analyst: JR
Percent Solids: 79%

Date Collected: 11/18/09 10:28
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	17600		ug/kg	4190	1000
Cl3-BZ#28	56900		ug/kg	4190	1000
Cl4-BZ#52	57000		ug/kg	4190	1000
Cl4-BZ#66	13700		ug/kg	4190	1000



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

02111019:10
Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-02 D
Client ID: S-09N-G002-0-0
Sample Location: Not Specified
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 02:10
Analyst: JR
Percent Solids: 79%

Date Collected: 11/18/09 10:28
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#18	39200		ug/kg	4190	1000
C14-BZ#44	14500		ug/kg	4190	1000



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-03
 Client ID: S-09N-G002-0-0 REP
 Sample Location: Not Specified
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 11:43
 Analyst: JR
 Percent Solids: 83%

Date Collected: 11/18/09 10:29
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C15-BZ#101	5280		ug/kg	393	100
C15-BZ#105	ND		ug/kg	393	100
C15-BZ#118	2560		ug/kg	393	100
C16-BZ#128	ND		ug/kg	393	100
C16-BZ#138	3290		ug/kg	393	100
C17-BZ#170	592		ug/kg	393	100
C17-BZ#180	834		ug/kg	393	100
C17-BZ#187	1230		ug/kg	393	100
C18-BZ#195	ND		ug/kg	393	100
C19-BZ#206-Cal/RTW	ND		ug/kg	393	100
C110-BZ#209-Cal/RTW	ND		ug/kg	393	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

02111019:10
Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-03
Client ID: S-09N-G002-0-0 REP
Sample Location: Not Specified
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 11:43
Analyst: JR
Percent Solids: 83%

Date Collected: 11/18/09 10:29
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#66	7680		ug/kg	393	100
C16-BZ#153	4240		ug/kg	393	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

02111019:10
Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-03 D
Client ID: S-09N-G002-0-0 REP
Sample Location: Not Specified
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 04:13
Analyst: JR
Percent Solids: 83%

Date Collected: 11/18/09 10:29
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	16300		ug/kg	3930	1000
Cl3-BZ#18	39900		ug/kg	3930	1000
Cl3-BZ#28	52400		ug/kg	3930	1000
Cl4-BZ#52	53900		ug/kg	3930	1000



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

02111019:10
Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-03 D
Client ID: S-09N-G002-0-0 REP
Sample Location: Not Specified
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 04:13
Analyst: JR
Percent Solids: 83%

Date Collected: 11/18/09 10:29
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#44	14000		ug/kg	3930	1000



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-04
 Client ID: S-09N-G003-0-0
 Sample Location: Not Specified
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/22/09 00:04
 Analyst: JR
 Percent Solids: 91%

Date Collected: 11/18/09 11:45
 Date Received: 11/18/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	196		ug/kg	35.5	10
Cl3-BZ#18	436		ug/kg	35.5	10
Cl4-BZ#44	481		ug/kg	35.5	10
Cl5-BZ#105	225		ug/kg	35.5	10
Cl6-BZ#128	189		ug/kg	35.5	10
Cl6-BZ#138	669		ug/kg	35.5	10
Cl7-BZ#170	106		ug/kg	35.5	10
Cl7-BZ#180	142		ug/kg	35.5	10
Cl7-BZ#187	120		ug/kg	35.5	10
Cl8-BZ#195	ND		ug/kg	35.5	10
Cl9-BZ#206-Cal/RTW	ND		ug/kg	35.5	10
Cl10-BZ#209-Cal/RTW	ND		ug/kg	35.5	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

02111019:10
Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-04 D
Client ID: S-09N-G003-0-0
Sample Location: Not Specified
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 12:24
Analyst: JR
Percent Solids: 91%

Date Collected: 11/18/09 11:45
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#28	2010		ug/kg	355	100
C14-BZ#52	2040		ug/kg	355	100
C15-BZ#101	1760		ug/kg	355	100
C15-BZ#118	1420		ug/kg	355	100



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

02111019:10
Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-04 D
Client ID: S-09N-G003-0-0
Sample Location: Not Specified
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 12:24
Analyst: JR
Percent Solids: 91%

Date Collected: 11/18/09 11:45
Date Received: 11/18/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C14-BZ#66	1760		ug/kg	355	100
C16-BZ#153	1000		ug/kg	355	100



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 12/16/09 11:48
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-04 Batch: WG391496-1				
CI2-BZ#8	ND		ug/kg	1.33
CI3-BZ#18	ND		ug/kg	1.33
CI3-BZ#28	ND		ug/kg	1.33
CI4-BZ#44	ND		ug/kg	1.33
CI4-BZ#52	ND		ug/kg	1.33
CI4-BZ#66	ND		ug/kg	1.33
CI5-BZ#101	ND		ug/kg	1.33
CI5-BZ#105	ND		ug/kg	1.33
CI5-BZ#118	ND		ug/kg	1.33
CI6-BZ#128	ND		ug/kg	1.33
CI6-BZ#138	ND		ug/kg	1.33
CI7-BZ#170	ND		ug/kg	1.33
CI7-BZ#180	ND		ug/kg	1.33
CI7-BZ#187	ND		ug/kg	1.33
CI8-BZ#195	ND		ug/kg	1.33
CI9-BZ#206-Cal/RTW	ND		ug/kg	1.33
CI10-BZ#209-Cal/RTW	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	110		50-125
BZ 198	104		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 12/16/09 11:48
 Analyst: JR

Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-04 Batch: WG391496-1				
Cl6-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	110		50-125
BZ 198	104		50-125

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG391496-4 WG391496-5 QC Sample: L0916608-02 Client ID: S-09N-G002-0-0												
C15-BZ#101	5530	2080	7130	77		7580	99		40-120	26		30
C15-BZ#105	ND	2080	2530	121	Q	3050	148	Q	40-120	20		30
C15-BZ#118	2570	2080	4620	98		5450	139	Q	40-120	34	Q	30
C16-BZ#128	ND	2080	2450	118		2890	140	Q	40-120	17		30
C16-BZ#138	3340	2080	4750	68		5530	106		40-120	44	Q	30
C16-BZ#153	4320	2080	5260	45		6390	100		40-120	76	Q	30
C17-BZ#170	587	2080	2350	85		2790	107		40-120	23		30
C17-BZ#180	792	2080	2490	82		2950	105		40-120	25		30
C18-BZ#195	ND	2080	1960	94		2310	112		40-120	17		30
C19-BZ#206	ND	2080	2110	101		2490	121	Q	40-120	18		30
C110-BZ#209	ND	2080	1830	88		2160	105		40-120	18		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 Batch: WG391496-2 WG391496-3								
Cl2-BZ#8	115		94		40-120	10		30
Cl3-BZ#18	103		92		40-120	11		30
Cl3-BZ#28	102		101		40-120	8		30
Cl4-BZ#52	98		99		40-120	2		30
Cl4-BZ#66	104		100		40-120	4		30
Cl5-BZ#101	101		99		40-120	4		30
Cl5-BZ#118	106		106		40-120	3		30
Cl6-BZ#128	107		105		40-120	3		30
Cl6-BZ#138	110		108		40-120	2		30
Cl7-BZ#170	104		105		40-120	3		30
Cl7-BZ#180	103		104		40-120	3		30
Cl7-BZ#187	104		101		40-120	3		30
Cl8-BZ#195	101		103		40-120	4		30
Cl9-BZ#206	112		112		40-120	3		30
Cl10-BZ#209	103		104		40-120	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	106		102		50-125
BZ 198	102		104		50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-04 Batch: WG391496-2 WG391496-3								
Cl4-BZ#44	96		95		40-120	1		30
Cl5-BZ#105	109		96		40-120	13		30
Cl6-BZ#153	102		96		40-120	4		30

DBOB	106	102	50-125
BZ 198	102	104	50-125

INORGANICS & MISCELLANEOUS



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-01
Client ID: S-09N-G001-0-0
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 11/18/09 09:31
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	5.62		%	0.010	1	-	12/16/09 08:00	1,9060	NR
Total Organic Carbon (Rep2)	6.09		%	0.010	1	-	12/16/09 08:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	1.30		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	3.80		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	3.80		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	9.90		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	11.8		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	68.9		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	78.7		%	0.100	1	-	12/02/09 17:34	30,2540G	KJ



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-02
Client ID: S-09N-G002-0-0
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 11/18/09 10:28
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	2.62		%	0.010	1	-	12/16/09 08:00	1,9060	NR
Total Organic Carbon (Rep2)	2.56		%	0.010	1	-	12/16/09 08:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	1.10		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	3.10		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	3.10		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	3.70		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	3.80		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	84.6		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	78.6		%	0.100	1	-	12/02/09 17:34	30,2540G	KJ



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-03
 Client ID: S-09N-G002-0-0 REP
 Sample Location: Not Specified
 Matrix: Sediment

Date Collected: 11/18/09 10:29
 Date Received: 11/18/09
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	4.22		%	0.010	1	-	12/16/09 08:00	1,9060	NR
Total Organic Carbon (Rep2)	3.28		%	0.010	1	-	12/16/09 08:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.900		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	2.70		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	2.60		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	3.10		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	3.20		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	85.4		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	83.2		%	0.100	1	-	12/02/09 17:34	30,2540G	KJ



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0916608-04
Client ID: S-09N-G003-0-0
Sample Location: Not Specified
Matrix: Sediment

Date Collected: 11/18/09 11:45
Date Received: 11/18/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	2.72		%	0.010	1	-	12/16/09 08:00	1,9060	NR
Total Organic Carbon (Rep2)	2.52		%	0.010	1	-	12/16/09 08:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	1.30		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	1.60		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	1.50		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	10.1		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	12.7		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	69.5		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	12/01/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	91.1		%	0.100	1	-	12/02/09 17:34	30,2540G	KJ



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0916608**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/11/10

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01-04 Batch: WG390001-1									
Total Organic Carbon (Rep1)	0.010		%	0.010	1	-	12/16/09 08:00	1,9060	NR
Total Organic Carbon (Rep2)	0.029		%	0.010	1	-	12/16/09 08:00	1,9060	NR



Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG390001-4 QC Sample: L0916608-02 Client ID: S-09N-G002-0-0												
Total Organic Carbon (Rep1)	2.62	1.62	3.64	63	Q	-	-		75-125	-		25
Total Organic Carbon (Rep2)	2.56	1.97	4.03	72		-	-		75-125	-		25

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0916608
Report Date: 02/11/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG390001-3 QC Sample: L0916608-02 Client ID: S-09N-G002-0-0						
Total Organic Carbon (Rep1)	2.62	2.46	%	6		25
Total Organic Carbon (Rep2)	2.56	2.66	%	4		25
Grain Size (Wentworth Method) - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG391329-1 QC Sample: L0916608-02 Client ID: S-09N-G002-0-0						
Gravel (>2.00mm)	1.1	0.800	%	32	Q	20
Very Coarse Sand (1.00-2.00 mm)	3.1	4.50	%	37	Q	20
Coarse Sand (0.50-1.00 mm)	3.1	4.60	%	39	Q	20
Medium Sand (0.25-0.50 mm)	3.7	4.10	%	10		20
Fine Sand (0.125-0.25 mm)	3.8	4.00	%	5		20
Very Fine Sand (0.063-0.125 mm)	ND	ND	%	NC		20
Silt - (1.95-62.5 um)	84.6	80.7	%	5		20
Clay - (<1.95 um)	ND	ND	%	NC		20
General Chemistry - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG391527-1 QC Sample: L0916922-03 Client ID: DUP Sample						
Solids, Total	95.1	95.4	%	0		20

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG390001-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	104		75-125
Total Organic Carbon (Rep2)	105		75-125

Project Name: NEW BEDFORD HARBOR

Lab Number: L0916608

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0916608-01A	Glass 250ml unpreserved	A	N/A	4	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0916608-01B	Glass 100ml unpreserved	A	N/A	4	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0916608-01C	Glass 500ml unpreserved	A	N/A	4	Y	Absent	A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0916608-02A	Glass 250ml unpreserved	A	N/A	4	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0916608-02B	Glass 100ml unpreserved	A	N/A	4	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0916608-02C	Glass 500ml unpreserved	A	N/A	4	Y	Absent	A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0916608-02X	Glass 250ml unpreserved	A	N/A	4	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0916608-03A	Glass 250ml unpreserved	A	N/A	4	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0916608-03B	Glass 100ml unpreserved	A	N/A	4	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0916608-03C	Glass 500ml unpreserved	A	N/A	4	Y	Absent	A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0916608-04A	Glass 250ml unpreserved	A	N/A	4	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0916608-04B	Glass 100ml unpreserved	A	N/A	4	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)

*Hold days indicated by values in parentheses



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal
L0916608-04C	Glass 500ml unpreserved	A	N/A	4	Y	Absent

Analysis

A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)

*Hold days indicated by values in parentheses



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	- Not detected at the reported detection limit for the sample.
NI	- Not Ignitable.
RDL	- Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916608
Report Date: 02/11/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 12 Annual Book of ASTM Standards. American Society for Testing and Materials.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Wet Sieve Hydrometer ASTM D422

GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

Client: Woods Hole Group
 Project: New Bedford Harbor
 Project Number: L0916608
 Location: S-09N-G001-0-0
 Sample Number: L0916608-01
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 39.28
 Tare Wt. = 4.29
 Minus #200 from wash = 55.8%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
83.37	4.14	#4	528.48	528.29	99.8	0.2
		#10	495.46	494.23	98.2	1.8
		#40	381.84	375.14	89.8	10.2
		#200	363.61	340.23	60.2	39.8

Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			1.3	3.8	3.8	9.9	11.8								

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
						0.2396	0.3214	0.4448	1.1114

Fineness Modulus
0.59

Alpha Analytical

GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

Client: Woods Hole Group
 Project: New Bedford Harbor
 Project Number: L0916608
 Location: S-09N-G002-0-0
 Sample Number: L0916608-02
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 23.83
 Tare Wt. = 4.46
 Minus #200 from wash = 80.5%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
103.25	4.09	#4	528.65	528.29	99.6	0.4
		#10	495.57	494.23	98.3	1.7
		#40	381.99	375.14	91.4	8.6
		#200	349.74	340.23	81.8	18.2

Fractional Components

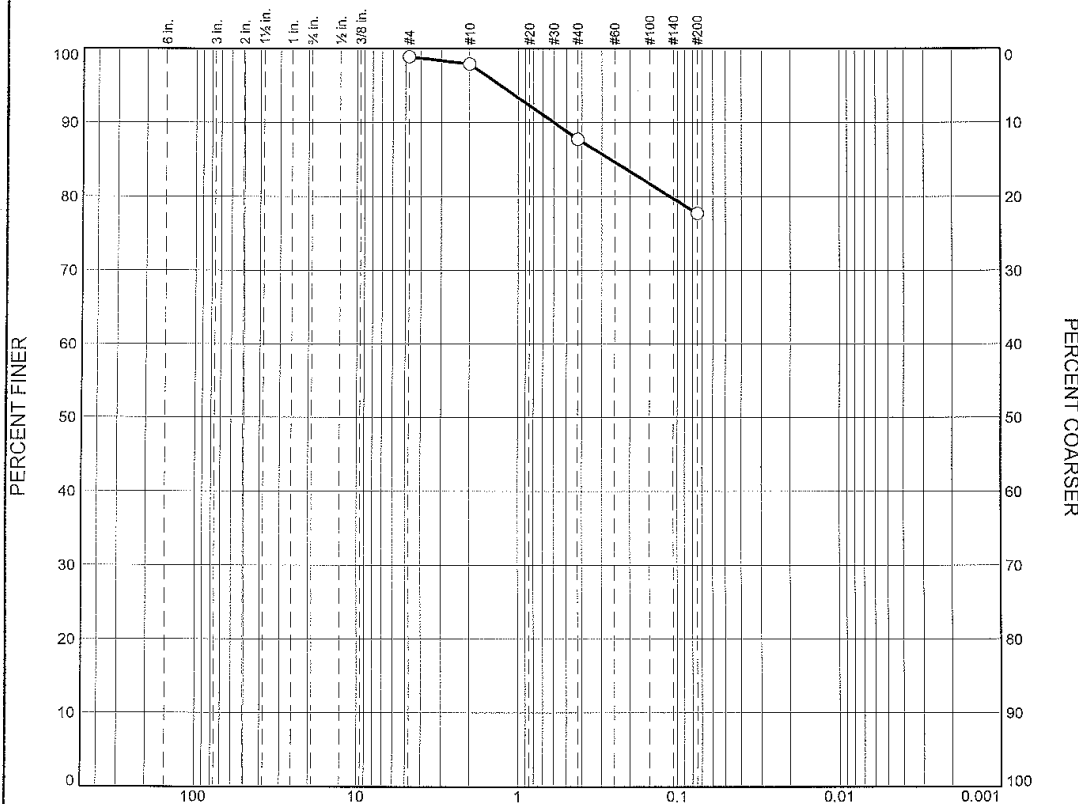
Boulders	Cobbles	Pebbles	Granules	Sand					Silt					Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			1.1	3.1	3.1	3.7	3.8								

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
							0.1341	0.3313	0.9574

Fineness Modulus
0.38

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.													
% Boulders	% Cobbles	% Pebbles	% Gravel	% Sand					% Silt			% Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine		V. Fine
0			0.8	4.5	4.6	4.1	4.0					80.7	

Colloids	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
			0.2646							

Material Description	USCS	AASHTO

Project No. L0916608 Client: Woods Hole Group Project: New Bedford Harbor Source of Sample: S-09N-G002-0-0 Sample Number: WG391329-1 Date: ○	Remarks:
Alpha Analytical Mansfield, MA	Project

GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

Client: Woods Hole Group
 Project: New Bedford Harbor
 Project Number: L0916608
 Location: S-09N-G002-0-0
 Sample Number: WG391329-1
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare =24.32
 Tare Wt. = 4.07
 Minus #200 from wash = 75.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
84.98	4.01	#4	529.87	528.99	98.9	1.1
		#10	494.84	494.04	97.9	2.1
		#40	385.22	376.97	87.7	12.3
		#200	346.27	338.16	77.7	22.3

Fractional Components

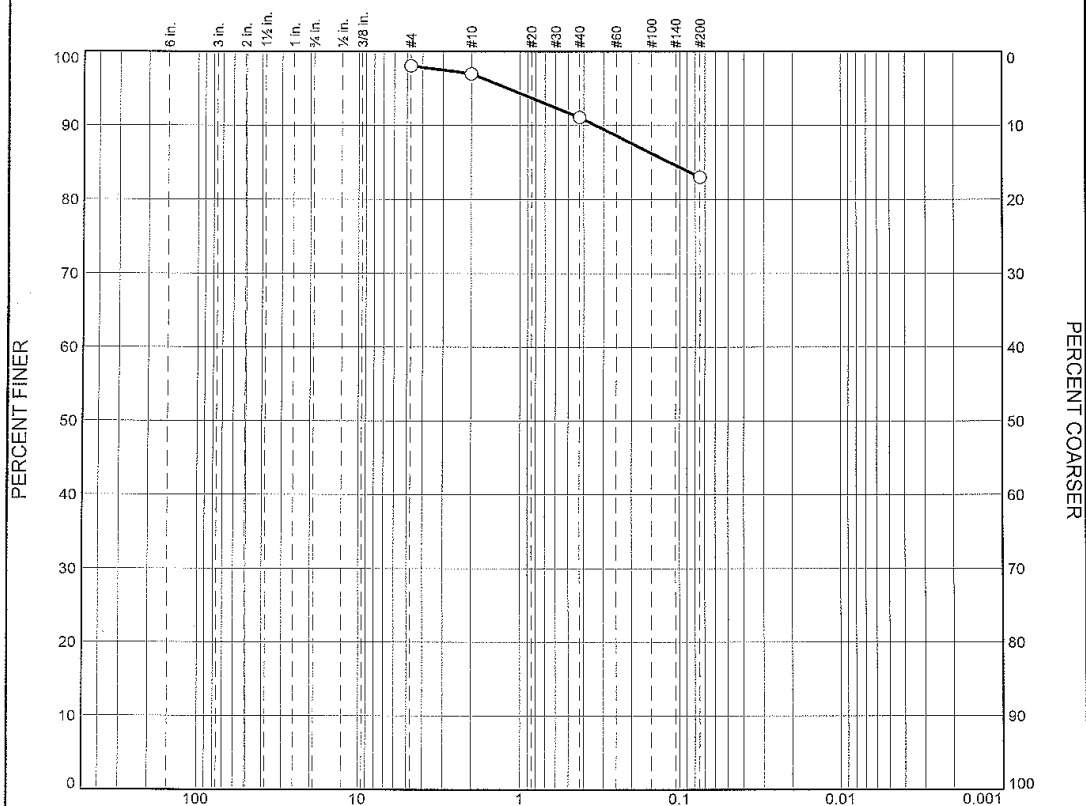
Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			0.8	4.5	4.6	4.1	4.0								

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
						0.1113	0.2646	0.5996	1.2821

Fineness Modulus
0.51

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.												
% Boulders	% Cobbles	% Pebbles	% Sand					% Silt			% Clay	
			% Gravel	V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.		Fine
			0.9	2.7	2.6	3.1	3.2				85.4	

Colloids	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
			0.1155							

Material Description	USCS	AASHTO

Project No. L0916608 Client: Woods Hole Group Project: New Bedford Harbor Source of Sample: S-09N-G002-0-0 REP Sample Number: L0916608-03 Date: ○	Remarks:
Alpha Analytical Mansfield, MA	Project

GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

Client: Woods Hole Group
 Project: New Bedford Harbor
 Project Number: L0916608
 Location: S-09N-G002-0-0 REP
 Sample Number: L0916608-03
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare =23.45
 Tare Wt. = 4.40
 Minus #200 from wash =81.9%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
109.12	4.01	#4	531.00	528.99	98.1	1.9
		#10	495.20	494.04	97.0	3.0
		#40	383.19	376.97	91.1	8.9
		#200	346.65	338.16	83.0	17.0

Fractional Components

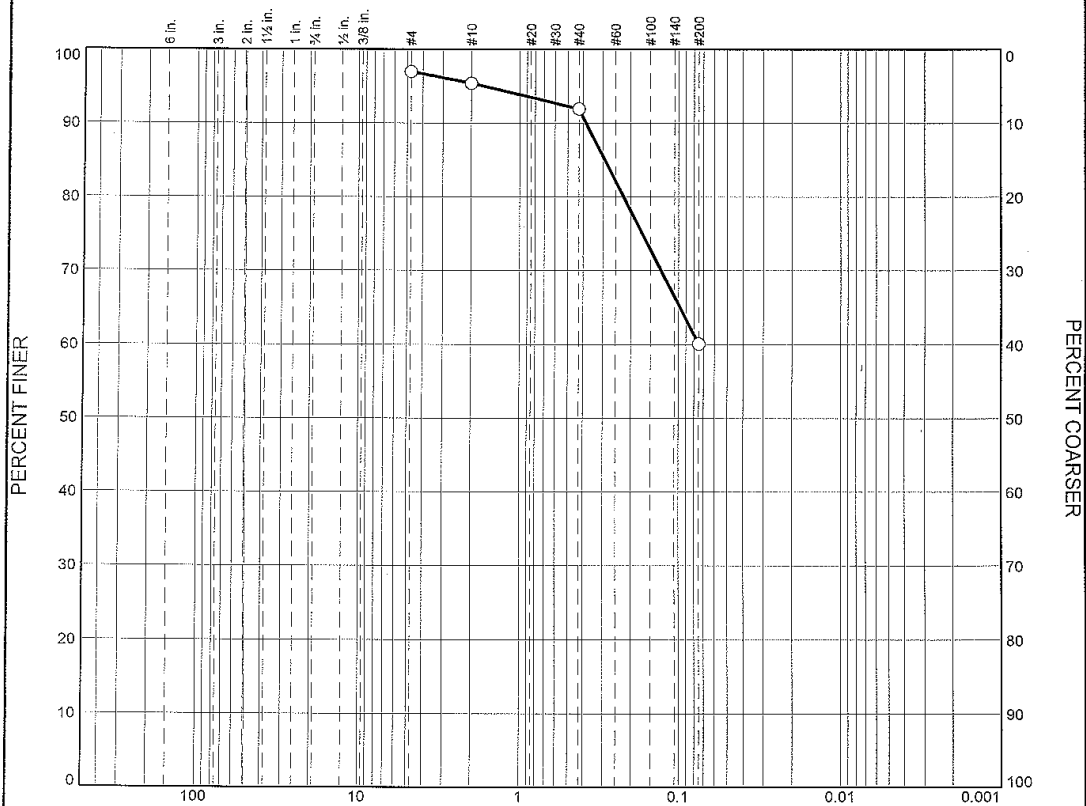
Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			0.9	2.7	2.6	3.1	3.2								

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
							0.1155	0.3380	1.1899

Fineness Modulus
0.42

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.											
% Boulders	% Cobbles	% Pebbles	% Gravels	% Sand				% Silt			% Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	
			1.3	1.6	1.5	10.1	12.7				69.5
<input checked="" type="checkbox"/>	Colloids	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
				0.2915							

Material Description	USCS	AASHTO

Project No. L0916608 Client: Woods Hole Group Project: New Bedford Harbor Source of Sample: S-09N-G003-0-0 Sample Number: L0916608-04 Date: ○	Remarks: Project
Alpha Analytical Mansfield, MA	

GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2010

Client: Woods Hole Group
 Project: New Bedford Harbor
 Project Number: L0916608
 Location: S-09N-G003-0-0
 Sample Number: L0916608-04
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 51.57
 Tare Wt. = 4.33
 Minus #200 from wash = 58.8%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
118.79	4.13	#4	531.74	528.29	97.0	3.0
		#10	496.06	494.23	95.4	4.6
		#40	379.13	375.14	91.9	8.1
		#200	376.70	340.23	60.1	39.9

Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			1.3	1.6	1.5	10.1	12.7								

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
						0.2219	0.2915	0.3828	1.6775

Fineness Modulus
0.62

Alpha Analytical

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.



ANALYTICAL REPORT

Lab Number:	L0916922
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Project Name:	NEW BEDFORD HARBOR
Project Number:	NBH TASK 4.0 ST
Report Date:	02/09/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0916922-01	S-09N-T001-0-0	NEW BEDFORD, MA	11/19/09 13:20
L0916922-02	S-09N-T002-0-0	NEW BEDFORD, MA	11/19/09 14:05
L0916922-03	S-09N-T003-0-0	NEW BEDFORD, MA	11/19/09 14:45



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the one issued on December 22, 2009. The report was amended to include revised PCB Congener data.

NOAA Congeners 8082

The WG391496-4 MS/MSD recoveries are outside the acceptance criteria for several congeners: however the

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

Case Narrative (continued)

associated LCS recoveries are within criteria. No further action was required.

All field samples were diluted due to matrix and elevated levels of target compounds. The surrogates were diluted out.

Grain Size

Due to insufficient sample volume, grain size analysis could not be performed on these samples. The client was notified of this issue.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/09/10

ORGANICS



PCBS



Project Name: NEW BEDFORD HARBOR**Lab Number:** L0916922**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/09/10**SAMPLE RESULTS**

Lab ID: L0916922-01
Client ID: S-09N-T001-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 12/12/09 13:05
Analyst: JR
Percent Solids: 96%

Date Collected: 11/19/09 13:20
Date Received: 11/20/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2410		ug/kg	340	100
Cl3-BZ#18	6340		ug/kg	340	100
Cl4-BZ#66	3970		ug/kg	340	100
Cl5-BZ#101	2440		ug/kg	340	100
Cl5-BZ#105	ND		ug/kg	340	100
Cl5-BZ#118	1650		ug/kg	340	100
Cl6-BZ#128	ND		ug/kg	340	100
Cl6-BZ#138	1660		ug/kg	340	100
Cl7-BZ#170	ND		ug/kg	340	100
Cl7-BZ#180	376		ug/kg	340	100
Cl7-BZ#187	558		ug/kg	340	100
Cl8-BZ#195	ND		ug/kg	340	100
Cl9-BZ#206-Cal/RTW	ND		ug/kg	340	100
Cl10-BZ#209-Cal/RTW	ND		ug/kg	340	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

SAMPLE RESULTS

Lab ID: L0916922-01
 Client ID: S-09N-T001-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 13:05
 Analyst: JR
 Percent Solids: 96%

Date Collected: 11/19/09 13:20
 Date Received: 11/20/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	3800		ug/kg	340	100
Cl6-BZ#153	2100		ug/kg	340	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0916922**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/09/10**SAMPLE RESULTS**

Lab ID: L0916922-01 D
 Client ID: S-09N-T001-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 05:35
 Analyst: JR
 Percent Solids: 96%

Date Collected: 11/19/09 13:20
 Date Received: 11/20/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
C13-BZ#28	18800		ug/kg	3400	1000
C14-BZ#52	22500		ug/kg	3400	1000

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

SAMPLE RESULTS

Lab ID: L0916922-02
 Client ID: S-09N-T002-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 13:46
 Analyst: JR
 Percent Solids: 94%

Date Collected: 11/19/09 14:05
 Date Received: 11/20/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2730		ug/kg	351	100
Cl4-BZ#66	6720		ug/kg	351	100
Cl5-BZ#101	4970		ug/kg	351	100
Cl5-BZ#118	3000		ug/kg	351	100
Cl6-BZ#128	ND		ug/kg	351	100
Cl6-BZ#138	2800		ug/kg	351	100
Cl7-BZ#170	486		ug/kg	351	100
Cl7-BZ#180	665		ug/kg	351	100
Cl7-BZ#187	888		ug/kg	351	100
Cl8-BZ#195	ND		ug/kg	351	100
Cl9-BZ#206-Cal/RTW	ND		ug/kg	351	100
Cl10-BZ#209-Cal/RTW	ND		ug/kg	351	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

SAMPLE RESULTS

Lab ID: L0916922-02
 Client ID: S-09N-T002-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 13:46
 Analyst: JR
 Percent Solids: 94%

Date Collected: 11/19/09 14:05
 Date Received: 11/20/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#44	5680		ug/kg	351	100
Cl5-BZ#105	563		ug/kg	351	100
Cl6-BZ#153	3530		ug/kg	351	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR**Lab Number:** L0916922**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/09/10**SAMPLE RESULTS**

Lab ID: L0916922-02 D
 Client ID: S-09N-T002-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 06:16
 Analyst: JR
 Percent Solids: 94%

Date Collected: 11/19/09 14:05
 Date Received: 11/20/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	13800		ug/kg	3510	1000
Cl3-BZ#28	20300		ug/kg	3510	1000
Cl4-BZ#52	29600		ug/kg	3510	1000

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

SAMPLE RESULTS

Lab ID: L0916922-03
 Client ID: S-09N-T003-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/22/09 00:45
 Analyst: JR
 Percent Solids: 95%

Date Collected: 11/19/09 14:45
 Date Received: 11/20/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	248		ug/kg	34.7	10
Cl3-BZ#18	526		ug/kg	34.7	10
Cl4-BZ#44	594		ug/kg	34.7	10
Cl5-BZ#105	330		ug/kg	34.7	10
Cl6-BZ#128	257		ug/kg	34.7	10
Cl7-BZ#170	146		ug/kg	34.7	10
Cl7-BZ#180	194		ug/kg	34.7	10
Cl7-BZ#187	167		ug/kg	34.7	10
Cl8-BZ#195	ND		ug/kg	34.7	10
Cl9-BZ#206-Cal/RTW	ND		ug/kg	34.7	10
Cl10-BZ#209-Cal/RTW	ND		ug/kg	34.7	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

SAMPLE RESULTS

Lab ID: L0916922-03 D
 Client ID: S-09N-T003-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 14:27
 Analyst: JR
 Percent Solids: 95%

Date Collected: 11/19/09 14:45
 Date Received: 11/20/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	3360		ug/kg	347	100
Cl4-BZ#52	3010		ug/kg	347	100
Cl4-BZ#66	2480		ug/kg	347	100
Cl5-BZ#101	2530		ug/kg	347	100
Cl5-BZ#118	1970		ug/kg	347	100
Cl6-BZ#138	1490		ug/kg	347	100

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

SAMPLE RESULTS

Lab ID: L0916922-03 D
 Client ID: S-09N-T003-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 12/12/09 14:27
 Analyst: JR
 Percent Solids: 95%

Date Collected: 11/19/09 14:45
 Date Received: 11/20/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 12/02/09 15:26
 Cleanup Method1: EPA 3630
 Cleanup Date1: 12/07/09
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl6-BZ#153	1450		ug/kg	347	100

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 12/16/09 11:48
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG391496-1				
Cl2-BZ#8	ND		ug/kg	1.33
Cl3-BZ#18	ND		ug/kg	1.33
Cl3-BZ#28	ND		ug/kg	1.33
Cl4-BZ#44	ND		ug/kg	1.33
Cl4-BZ#52	ND		ug/kg	1.33
Cl4-BZ#66	ND		ug/kg	1.33
Cl5-BZ#101	ND		ug/kg	1.33
Cl5-BZ#105	ND		ug/kg	1.33
Cl5-BZ#118	ND		ug/kg	1.33
Cl6-BZ#128	ND		ug/kg	1.33
Cl6-BZ#138	ND		ug/kg	1.33
Cl7-BZ#170	ND		ug/kg	1.33
Cl7-BZ#180	ND		ug/kg	1.33
Cl7-BZ#187	ND		ug/kg	1.33
Cl8-BZ#195	ND		ug/kg	1.33
Cl9-BZ#206-Cal/RTW	ND		ug/kg	1.33
Cl10-BZ#209-Cal/RTW	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	110		50-125
BZ 198	104		50-125

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 12/16/09 11:48
Analyst: JR

Extraction Method: EPA 3540C
Extraction Date: 12/02/09 15:26
Cleanup Method1: EPA 3630
Cleanup Date1: 12/07/09
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG391496-1				
Cl6-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	110		50-125
BZ 198	104		50-125

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG391496-4 WG391496-5 QC Sample: L0916608-02 Client ID: MS Sample												
C15-BZ#101	5530	2080	7130	77		7580	99		40-120	26		30
C15-BZ#105	ND	2080	2530	121	Q	3050	148	Q	40-120	20		30
C15-BZ#118	2570	2080	4620	98		5450	139	Q	40-120	34	Q	30
C16-BZ#128	ND	2080	2450	118		2890	140	Q	40-120	17		30
C16-BZ#138	3340	2080	4750	68		5530	106		40-120	44	Q	30
C16-BZ#153	4320	2080	5260	45		6390	100		40-120	76	Q	30
C17-BZ#170	587	2080	2350	85		2790	107		40-120	23		30
C17-BZ#180	792	2080	2490	82		2950	105		40-120	25		30
C18-BZ#195	ND	2080	1960	94		2310	112		40-120	17		30
C19-BZ#206	ND	2080	2110	101		2490	121	Q	40-120	18		30
C110-BZ#209	ND	2080	1830	88		2160	105		40-120	18		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG391496-2 WG391496-3								
Cl2-BZ#8	115		94		40-120	10		30
Cl3-BZ#18	103		92		40-120	11		30
Cl3-BZ#28	102		101		40-120	8		30
Cl4-BZ#52	98		99		40-120	2		30
Cl4-BZ#66	104		100		40-120	4		30
Cl5-BZ#101	101		99		40-120	4		30
Cl5-BZ#118	106		106		40-120	3		30
Cl6-BZ#128	107		105		40-120	3		30
Cl6-BZ#138	110		108		40-120	2		30
Cl7-BZ#170	104		105		40-120	3		30
Cl7-BZ#180	103		104		40-120	3		30
Cl7-BZ#187	104		101		40-120	3		30
Cl8-BZ#195	101		103		40-120	4		30
Cl9-BZ#206	112		112		40-120	3		30
Cl10-BZ#209	103		104		40-120	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	106		102		50-125
BZ 198	102		104		50-125



Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG391496-2 WG391496-3								
Cl4-BZ#44	96		95		40-120	1		30
Cl5-BZ#105	109		96		40-120	13		30
Cl6-BZ#153	102		96		40-120	4		30

DBOB	106	102	50-125
BZ 198	102	104	50-125



INORGANICS & MISCELLANEOUS



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

SAMPLE RESULTS

Lab ID: L0916922-01
Client ID: S-09N-T001-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/19/09 13:20
Date Received: 11/20/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	4.18		%	0.010	1	-	12/22/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	4.06		%	0.010	1	-	12/22/09 06:00	1,9060	NR
General Chemistry - Mansfield Lab									
Solids, Total	96.1		%	0.100	1	-	12/02/09 17:34	30,2540G	KJ



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

SAMPLE RESULTS

Lab ID: L0916922-02
Client ID: S-09N-T002-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/19/09 14:05
Date Received: 11/20/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	4.17		%	0.010	1	-	12/22/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	4.17		%	0.010	1	-	12/22/09 06:00	1,9060	NR
General Chemistry - Mansfield Lab									
Solids, Total	94.1		%	0.100	1	-	12/02/09 17:34	30,2540G	KJ



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

SAMPLE RESULTS

Lab ID: L0916922-03
Client ID: S-09N-T003-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 11/19/09 14:45
Date Received: 11/20/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	3.82		%	0.010	1	-	12/22/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	3.96		%	0.010	1	-	12/22/09 06:00	1,9060	NR
General Chemistry - Mansfield Lab									
Solids, Total	95.1		%	0.100	1	-	12/02/09 17:34	30,2540G	KJ



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01-03 Batch: WG394400-1									
Total Organic Carbon (Rep1)	ND		%	0.010	1	-	12/22/09 06:00	1,9060	NR
Total Organic Carbon (Rep2)	0.010		%	0.010	1	-	12/22/09 06:00	1,9060	NR



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0916922
Report Date: 02/09/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG391527-1 QC Sample: L0916922-03 Client ID: S-09N-T003-0-0						
Solids, Total	95.1	95.4	%	0		20



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG394400-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	112		75-125
Total Organic Carbon (Rep2)	106		75-125

Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0916922-01A	Glass 500ml unpreserved	A	N/A	2	Y	Absent	A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28)
L0916922-02A	Glass 500ml unpreserved	A	N/A	2	Y	Absent	A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28)
L0916922-03A	Glass 1000ml unpreserved	A	N/A	2	Y	Absent	A2-HYDROMETER(),A2-PCBCONG-8082-NOAA(),A2-SIEVE_#10(7),A2-TS(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-TOC-9060-2REPS(28)

*Hold days indicated by values in parentheses



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

GLOSSARY

Acronyms

- EPA - Environmental Protection Agency.
- LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCS D - Laboratory Control Sample Duplicate: Refer to LCS.
- MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MSD - Matrix Spike Sample Duplicate: Refer to MS.
- NA - Not Applicable.
- NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- ND - Not detected at the reported detection limit for the sample.
- NI - Not Ignitable.
- RDL - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: NBH TASK 4.0 ST

Lab Number: L0916922
Report Date: 02/09/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 *Organic Parameters:* EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. *Organic Parameters:* SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 *Organic Parameters:* SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. *Organic Parameters:* EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. *Organic Parameters:* EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. *Organic Parameters:* EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A, 3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D, 9040. *Organic Parameters:* EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 3051, 6020, 747A, 7474, 9045C, 9060, SM 2540G, ASTM D422-63. *Organic Parameters:* EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

02091021:50



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 1 OF 1

NBH water Quality Monitoring

Date Rec'd in Lab:

ALPHA Job #: 20916922

Project Information

Project Name: New Bedford Harbor

Project Location: New Bedford Harbor

Project #: T0-0010-NBH Task 4.0

Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: _____ Time: _____

Client Information

Client: Dave Walsh Group

Address: 81 Technology Park Drive
E. Falmouth, MA 02536

Phone: 508-546-8080

Fax: 508-546-1001

Email: DWALSH@WHGRP.COM

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:
 ** ESI has processed Sediment Traps to provide composite samples to Alpha
 ** Level 111 data report & project specific EDD

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State / Fed Program _____ Criteria _____

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS	Grain Size	TOC	PCB Congeners	SAMPLE HANDLING		TOTAL # BOTTLES
				Filtration	Preservation	
				<input type="checkbox"/> Done	<input type="checkbox"/> Lab to do	
				<input type="checkbox"/> Not needed	<input type="checkbox"/> Lab to do	
				<input type="checkbox"/> Lab to do	<input type="checkbox"/> Lab to do	
				(Please specify below)		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS			Sample Specific Comments
		Date	Time			Grain Size	TOC	PCB Congeners	
20916922-01	S-09N-T001-0-0	11/19/09	1320	SE	JL	X	X	X	Composite of ST-001
-02	S-09N-T002-0-0	11/19/09	1405	SE	JL	X	X	X	Composite of ST-002
-03	S-09N-T003-0-0	11/19/09	1445	SE	JL	X	X	X	Composite of ST-003

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Container Type	G	G	G
Preservative	A	A	A

Released By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	11/20/09 11:35	<i>[Signature]</i>	11/20/09 11:35
<i>[Signature]</i>	11/20/09	<i>[Signature]</i>	11/20/09 2:05

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORM NO: 01-01 (rev. 30-JUL-07)



ANALYTICAL REPORT

Lab Number: L0918724

Client: Woods Hole Group
81 Technology Park Drive
East Falmouth, MA 02536

ATTN: Dave Walsh

Project Name: NBH TASK 4.0 ST

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0918724-01	S-09D-G001-0-0	NEW BEDFORD, MA	12/28/09 09:10
L0918724-02	S-09D-G001-0-0 DUP	NEW BEDFORD, MA	12/28/09 09:10
L0918724-03	S-09D-G003-0-0	NEW BEDFORD, MA	12/28/09 10:55

Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the original report issued on January 27, 2010. The report was amended to include revised Grain Size data and amended surrogate reporting for PCB Congeners at the client's request.

PCB Congeners by 8082

Samples L0918724-01,-02 and -03 have the surrogates diluted out.

Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

Case Narrative (continued)

Samples L0918724-01,-02 and -03 have elevated detection limits due to the dilution required by the sample matrix and by the elevated concentrations of target compounds in the sample. The dilutions were determined by screening data.

The WG396463-4/-5 MS/MSD recoveries are outside the acceptance criteria for cl3-bz#18(33.4%)/(2.78%),cl4-bz#52(2.79%)/(142%). The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in the sample utilized for the MS/MSD. In addition the RPDs are above the acceptance criteria for cl3-bz#28(65%),cl4-bz#44(37%),cl5-bz#101(32%),cl6-bz#153(32%),cl3-bz#18(169%),cl4-bz#52(176%),cl4-bz#66(45%). The results of the associated samples are reported.

TOC by 9060

The WG395207-1 Method Blank, associated with L0918724, has a concentration above the reporting limit for Total Organic Carbon. Since the associated sample concentrations are greater than 5x the blank concentration for this analyte, no qualification of the results was performed.

Grain Size

The WG395210-1 Laboratory Duplicate RPD associated with L0918724-01,L0918724-02,L0918724-03 is outside the acceptance criteria for % Very Coarse Sand (58%), % Coarse Sand (52%). The elevated RPD has been attributed to the non-homogenous nature of the sample utilized for the laboratory duplicate.

Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

Case Narrative (continued)

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 02/11/10

ORGANICS



PCBS



Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0918724-01
 Client ID: S-09D-G001-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/27/10 09:48
 Analyst: JS
 Percent Solids: 92%

Date Collected: 12/28/09 09:10
 Date Received: 12/28/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/13/10 09:31
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/14/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	5000		ug/kg	1440	200
CI3-BZ#18	11700		ug/kg	1440	200
CI4-BZ#52	21400		ug/kg	1440	200
CI4-BZ#66	7410		ug/kg	1440	200
CI5-BZ#105	ND		ug/kg	1440	200
CI5-BZ#118	3670		ug/kg	1440	200
CI6-BZ#128	ND		ug/kg	1440	200
CI7-BZ#170	ND		ug/kg	1440	200
CI7-BZ#180	ND		ug/kg	1440	200
CI7-BZ#187	ND		ug/kg	1440	200
CI8-BZ#195	ND		ug/kg	1440	200
CI9-BZ#206-Cal/RTW	ND		ug/kg	1440	200
CI10-BZ#209-Cal/RTW	ND		ug/kg	1440	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NBH TASK 4.0 ST**Lab Number:** L0918724**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/11/10**SAMPLE RESULTS**

Lab ID: L0918724-01
 Client ID: S-09D-G001-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/27/10 09:48
 Analyst: JS
 Percent Solids: 92%

Date Collected: 12/28/09 09:10
 Date Received: 12/28/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/13/10 09:31
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/14/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	14100		ug/kg	1440	200
Cl4-BZ#44	6150		ug/kg	1440	200
Cl5-BZ#101	5480		ug/kg	1440	200
Cl6-BZ#138	2000		ug/kg	1440	200
Cl6-BZ#153	4390		ug/kg	1440	200

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0918724-02
 Client ID: S-09D-G001-0-0 DUP
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/26/10 18:54
 Analyst: JS
 Percent Solids: 73%

Date Collected: 12/28/09 09:10
 Date Received: 12/28/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/13/10 09:31
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/14/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	3980		ug/kg	910	100
Cl3-BZ#18	8410		ug/kg	910	100
Cl4-BZ#44	4900		ug/kg	910	100
Cl4-BZ#52	17500		ug/kg	910	100
Cl4-BZ#66	6360		ug/kg	910	100
Cl5-BZ#105	ND		ug/kg	910	100
Cl5-BZ#118	3180		ug/kg	910	100
Cl6-BZ#128	ND		ug/kg	910	100
Cl7-BZ#170	ND		ug/kg	910	100
Cl7-BZ#180	ND		ug/kg	910	100
Cl7-BZ#187	ND		ug/kg	910	100
Cl8-BZ#195	ND		ug/kg	910	100
Cl9-BZ#206-Cal/RTW	ND		ug/kg	910	100
Cl10-BZ#209-Cal/RTW	ND		ug/kg	910	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NBH TASK 4.0 ST**Lab Number:** L0918724**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/11/10**SAMPLE RESULTS**

Lab ID: L0918724-02
Client ID: S-09D-G001-0-0 DUP
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/26/10 18:54
Analyst: JS
Percent Solids: 73%

Date Collected: 12/28/09 09:10
Date Received: 12/28/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/13/10 09:31
Cleanup Method1: EPA 3630
Cleanup Date1: 01/14/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	10900		ug/kg	910	100
Cl5-BZ#101	4310		ug/kg	910	100
Cl6-BZ#138	1470		ug/kg	910	100
Cl6-BZ#153	3540		ug/kg	910	100

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0918724-03
 Client ID: S-09D-G003-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/27/10 11:51
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/28/09 10:55
 Date Received: 12/28/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/13/10 09:31
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/14/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	700		ug/kg	284	40
Cl3-BZ#18	1800		ug/kg	284	40
Cl4-BZ#52	4600		ug/kg	284	40
Cl4-BZ#66	3590		ug/kg	284	40
Cl5-BZ#118	2710		ug/kg	284	40
Cl7-BZ#170	349		ug/kg	284	40
Cl7-BZ#180	434		ug/kg	284	40
Cl8-BZ#195	ND		ug/kg	284	40
Cl9-BZ#206-Cal/RTW	ND		ug/kg	284	40
CH10-BZ#209-Cal/RTW	ND		ug/kg	284	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NBH TASK 4.0 ST**Lab Number:** L0918724**Project Number:** NBH TASK 4.0 ST**Report Date:** 02/11/10**SAMPLE RESULTS**

Lab ID: L0918724-03
 Client ID: S-09D-G003-0-0
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/27/10 11:51
 Analyst: JS
 Percent Solids: 93%

Date Collected: 12/28/09 10:55
 Date Received: 12/28/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/13/10 09:31
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/14/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	3430		ug/kg	284	40
Cl4-BZ#44	1780		ug/kg	284	40
Cl5-BZ#101	2700		ug/kg	284	40
Cl5-BZ#105	749		ug/kg	284	40
Cl6-BZ#128	395		ug/kg	284	40
Cl6-BZ#138	1430		ug/kg	284	40
Cl6-BZ#153	2210		ug/kg	284	40
Cl7-BZ#187	427		ug/kg	284	40

DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 01/22/10 13:52
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 01/13/10 09:31
Cleanup Method1: EPA 3630
Cleanup Date1: 01/14/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG396463-1				
CI2-BZ#8	ND		ug/kg	1.33
CI3-BZ#18	ND		ug/kg	1.33
CI3-BZ#28	ND		ug/kg	1.33
CI4-BZ#44	ND		ug/kg	1.33
CI4-BZ#52	ND		ug/kg	1.33
CI4-BZ#66	ND		ug/kg	1.33
CI5-BZ#101	ND		ug/kg	1.33
CI5-BZ#105	ND		ug/kg	1.33
CI5-BZ#118	ND		ug/kg	1.33
CI6-BZ#128	ND		ug/kg	1.33
CI6-BZ#138	ND		ug/kg	1.33
CI7-BZ#170	ND		ug/kg	1.33
CI7-BZ#180	ND		ug/kg	1.33
CI7-BZ#187	ND		ug/kg	1.33
CI8-BZ#195	ND		ug/kg	1.33
CI9-BZ#206-Cal/RTW	ND		ug/kg	1.33
CI10-BZ#209-Cal/RTW	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	88		50-125
BZ 198	91		50-125



Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 01/22/10 13:52
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 01/13/10 09:31
Cleanup Method1: EPA 3630
Cleanup Date1: 01/14/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-03 Batch: WG396463-1				
Cl6-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	88		50-125
BZ 198	91		50-125

Matrix Spike Analysis
Batch Quality Control

Project Name: NBH TASK 4.0 ST

Lab Number: L0918724

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG396463-4 WG396463-5 QC Sample: L0918724-01 Client ID: S-09D-G001-0-0												
Cl2-BZ#8	5000	3590	6960	55		7430	68		40-120	21		30
Cl3-BZ#18	11700	3590	12900	33	Q	11800	3	Q	40-120	169	Q	30
Cl3-BZ#28	14100	3590	16700	72		19200	142	Q	40-120	65	Q	30
Cl4-BZ#44	6150	3590	8300	60		9270	87		40-120	37	Q	30
Cl4-BZ#52	21400	3590	21500	3	Q	23000	45		40-120	176	Q	30
Cl4-BZ#66	7410	3590	9550	60		10800	94		40-120	45	Q	30
Cl5-BZ#101	5480	3590	7840	66		8730	90		40-120	32	Q	30
Cl5-BZ#105	ND	3590	3740	104		4210	117		40-120	12		30
Cl5-BZ#118	3670	3590	6150	69		6870	89		40-120	25		30
Cl6-BZ#128	ND	3590	3800	106		4230	118		40-120	11		30
Cl6-BZ#138	2000	3590	4820	79		5480	97		40-120	21		30
Cl6-BZ#153	4390	3590	6800	67		7720	93		40-120	32	Q	30
Cl7-BZ#170	ND	3590	3540	99		3960	110		40-120	11		30
Cl7-BZ#180	ND	3590	3550	99		3890	108		40-120	9		30
Cl7-BZ#187	ND	3590	3710	103		4110	114		40-120	10		30
Cl8-BZ#195	ND	3590	3140	88		3470	97		40-120	10		30
Cl9-BZ#206	ND	3590	3290	92		3600	100		40-120	9		30
Cl10-BZ#209	ND	3590	3090	86		3430	95		40-120	10		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NBH TASK 4.0 ST

Lab Number: L0918724

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
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PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG396463-4 WG396463-5 QC Sample: L0918724-01 Client ID: S-09D-G001-0-0

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
BZ 198	0	Q	0	Q	50-125
DBOB	0	Q	0	Q	50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: NBH TASK 4.0 ST

Lab Number: L0918724

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG396463-2 WG396463-3								
Cl2-BZ#8	89		88		40-120	1		30
Cl5-BZ#101	93		93		40-120	0		30
Cl5-BZ#105	99		96		40-120	3		30
Cl5-BZ#118	103		100		40-120	3		30
Cl6-BZ#128	94		92		40-120	2		30
Cl6-BZ#138	97		95		40-120	2		30
Cl7-BZ#170	92		90		40-120	2		30
Cl7-BZ#180	94		92		40-120	2		30
Cl7-BZ#187	92		90		40-120	2		30
Cl8-BZ#195	88		89		40-120	1		30
Cl9-BZ#206	101		99		40-120	2		30
Cl10-BZ#209	94		92		40-120	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	95		91		50-125
BZ 198	94		91		50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: NBH TASK 4.0 ST

Lab Number: L0918724

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-03 Batch: WG396463-2 WG396463-3								
C13-BZ#28	93		95		40-120	2		30
C16-BZ#153	91		91		40-120	0		30

DBOB	95	91	50-125
BZ 198	94	91	50-125

INORGANICS & MISCELLANEOUS

Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0918724-01
Client ID: S-09D-G001-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/28/09 09:10
Date Received: 12/28/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	5.01		%	0.010	1	-	12/31/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	6.31		%	0.010	1	-	12/31/09 09:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.400		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	3.30		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	3.40		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	8.50		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	10.0		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	74.2		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	92.2		%	0.100	1	-	01/13/09 13:15	30,2540G	KB



Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0918724-02
Client ID: S-09D-G001-0-0 DUP
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/28/09 09:10
Date Received: 12/28/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	5.80		%	0.010	1	-	12/31/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	5.77		%	0.010	1	-	12/31/09 09:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.400		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	3.10		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	3.20		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	8.30		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	10.0		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	74.5		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	72.8		%	0.100	1	-	01/13/09 13:15	30,2540G	KB



Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

SAMPLE RESULTS

Lab ID: L0918724-03
Client ID: S-09D-G003-0-0
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/28/09 10:55
Date Received: 12/28/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	2.45		%	0.010	1	-	12/31/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	2.34		%	0.010	1	-	12/31/09 09:00	1,9060	NR
Grain Size (Wentworth Method) - Mansfield Lab									
Gravel (>2.00mm)	0.600		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Very Coarse Sand (1.00-2.00 mm)	4.00		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Coarse Sand (0.50-1.00 mm)	3.90		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Medium Sand (0.25-0.50 mm)	13.1		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Fine Sand (0.125-0.25 mm)	15.9		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Very Fine Sand (0.063-0.125 mm)	ND		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Silt - (1.95-62.5 um)	62.4		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
Clay - (<1.95 um)	ND		%	0.100	1	-	12/31/09 00:00	12,D422(M)	SE
General Chemistry - Mansfield Lab									
Solids, Total	93.2		%	0.100	1	-	01/13/09 13:15	30,2540G	KB



Project Name: NBH TASK 4.0 ST

Lab Number: L0918724

Project Number: NBH TASK 4.0 ST

Report Date: 02/11/10

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01-03 Batch: WG395207-1									
Total Organic Carbon (Rep1)	0.010		%	0.010	1	-	12/31/09 09:00	1,9060	NR
Total Organic Carbon (Rep2)	ND		%	0.010	1	-	12/31/09 09:00	1,9060	NR



Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L0918724
Report Date: 02/11/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Grain Size (Wentworth Method) - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG395210-1 QC Sample: L0918724-03 Client ID: S-09D-G003-0-0						
Gravel (>2.00mm)	0.6	0.700	%	15		20
Very Coarse Sand (1.00-2.00 mm)	4.0	2.20	%	58	Q	20
Coarse Sand (0.50-1.00 mm)	3.9	2.30	%	52	Q	20
Medium Sand (0.25-0.50 mm)	13.1	12.2	%	7		20
Fine Sand (0.125-0.25 mm)	15.9	15.2	%	5		20
Very Fine Sand (0.063-0.125 mm)	ND	ND	%	NC		20
Silt - (1.95-62.5 um)	62.4	67.2	%	1		20
Clay - (<1.95 um)	ND	ND	%	NC		20
General Chemistry - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG396521-1 QC Sample: L0918724-01 Client ID: S-09D-G001-0-0						
Solids, Total	92.2	92.4	%	0		20

Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG395207-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	111		75-125
Total Organic Carbon (Rep2)	107		75-125

Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler **Custody Seal**
A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0918724-01A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0918724-01B	Glass 100ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0918724-01C	Glass 500ml unpreserved	A	N/A	2	Y	Absent	A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0918724-01D	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0918724-01E	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0918724-02A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0918724-02B	Glass 100ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0918724-02C	Glass 500ml unpreserved	A	N/A	2	Y	Absent	A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0918724-03A	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0918724-03B	Glass 100ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L0918724-03C	Glass 500ml unpreserved	A	N/A	2	Y	Absent	A2-HYDROMETER(),A2-SIEVE_#10(7),A2-SIEVE_#200(W)(7),A2-SIEVE_#10(W)(7),A2-SIEVE_#40(W)(7),A2-SIEVE_#140(7),A2-SIEVE_#60(7),A2-SIEVE_#4(7),A2-SIEVE_#40(7),A2-SIEVE_#20(7),A2-SIEVE_#200(7),A2-SIEVE_#4(W)(7)
L0918724-03D	Glass 250ml unpreserved	A	N/A	2	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)

*Hold days indicated by values in parentheses



Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

GLOSSARY

Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCS D	- Laboratory Control Sample Duplicate: Refer to LCS.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MS D	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
ND	- Not detected at the reported detection limit for the sample.
NI	- Not Ignitable.
RDL	- Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: NBH TASK 4.0 ST
Project Number: NBH TASK 4.0 ST

Lab Number: L0918724
Report Date: 02/11/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 12 Annual Book of ASTM Standards. American Society for Testing and Materials.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



ASTM 422D Bulk Sediment

GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

Client: Woods Hole Group Inc.

Project: NBH TASK 4.0 ST

Project Number: L0918724

Location: S-09D-G001-0-0

Sample Number: L0918724-01

Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 31.34

Tare Wt. = 3.98

Minus #200 from wash = 64.2%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
80.48	4.02	#4	528.24	528.20	99.9	0.1
		#10	494.43	494.04	99.4	0.6
		#40	380.77	375.00	91.9	8.1
		#200	359.30	340.16	66.9	33.1

Fractional Components

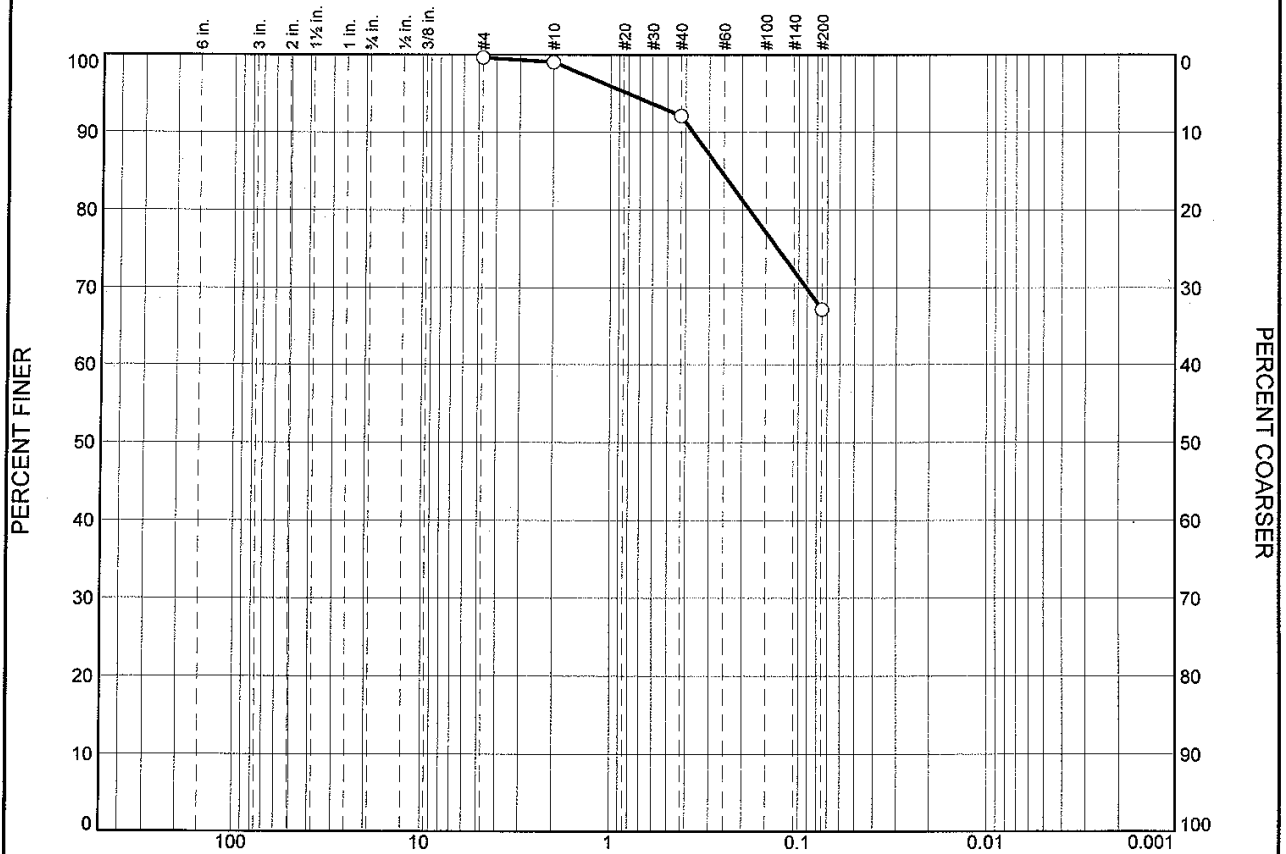
Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total	
			0.4	3.3	3.4	8.5	10.0								

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
						0.1864	0.2636	0.3728	0.8044

Fineness Modulus
0.46

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.													
% Boulders	% Cobbles	% Pebbles	% Granules	% Sand					% Silt			% Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine		V. Fine
			0.4	3.1	3.2	8.3	10.0	74.5					
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu				
		0.2590											

Material Description	USCS	AASHTO

Project No. L0918724 **Client:** Woods Hole Group Inc.
Project: NBH TASK 4.0 ST
Source of Sample: S-09D-G001-0-0 DUP **Sample Number:** L0918724-02

Remarks:

Alpha Analytical
Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

Client: Woods Hole Group Inc.
 Project: NBH TASK 4.0 ST
 Project Number: L0918724
 Location: S-09D-G001-0-0 DUP
 Sample Number: L0918724-02
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 30.79
 Tare Wt. = 3.95
 Minus #200 from wash = 65.3%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
81.30	4.01	#4	529.16	528.86	99.6	0.4
		#10	494.26	493.83	99.1	0.9
		#40	382.15	376.79	92.1	7.9
		#200	357.29	338.02	67.2	32.8

Fractional Components

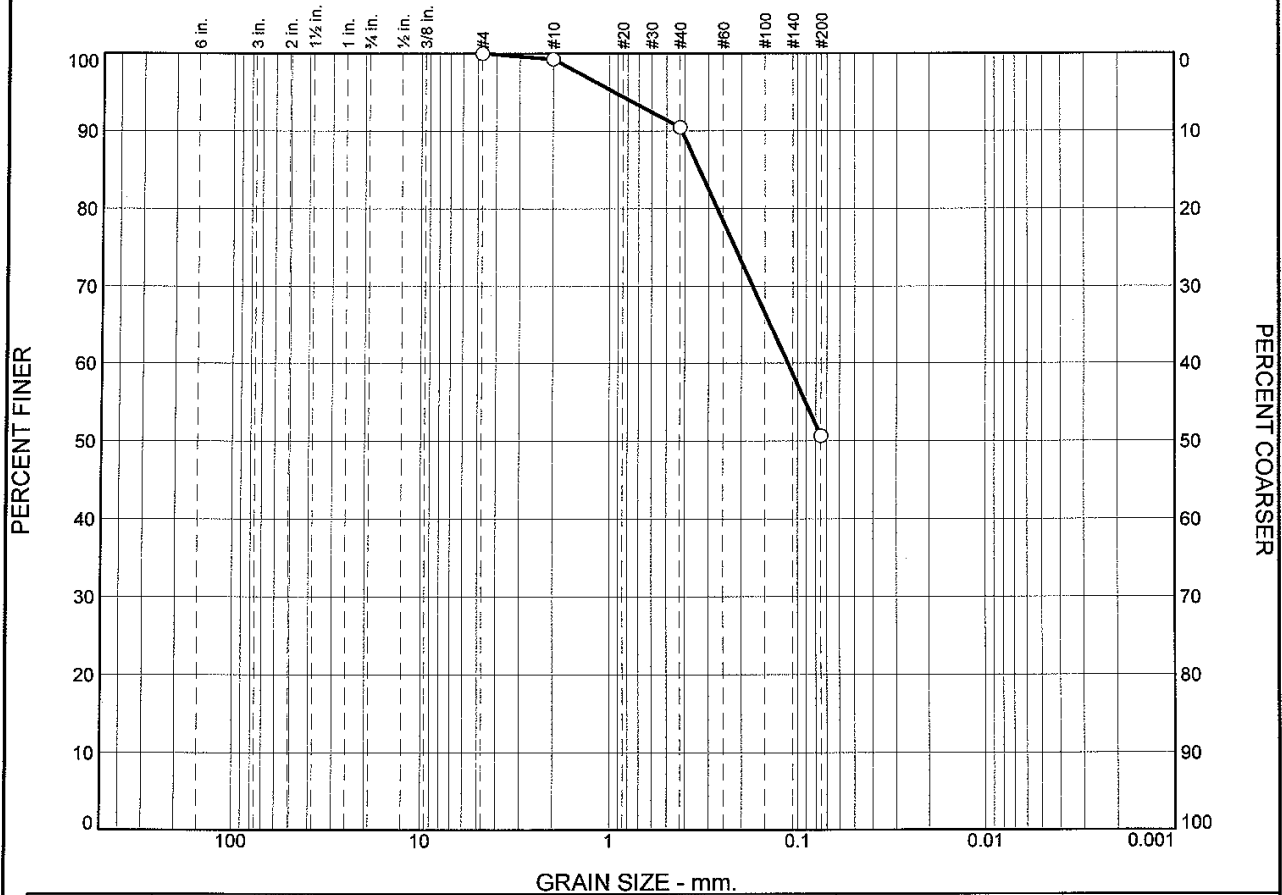
Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
			0.4	3.1	3.2	8.3	10.0								

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
						0.1829	0.2590	0.3667	0.8085

Fineness Modulus
0.47

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.																
%	Boulders	%	Cobbles	%	Pebbles	%	Granules	% Sand				% Silt				% Clay
								V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine	
○	0.0	0.0	0.1	0.6	4.0	3.9	13.1	15.9					62.4			
⊗	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu						
○			0.3347	0.1127												

Material Description	USCS	AASHTO
○		

<p>Project No. L0918724 Client: Woods Hole Group Inc.</p> <p>Project: NBH TASK 4.0 ST</p> <p>○ Source of Sample: S-09D-G003-0-0 Sample Number: L0918724-03</p>	<p>Remarks:</p>
<p>Alpha Analytical</p> <p>Mansfield, MA</p>	<p>Figure</p>

GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

Client: Woods Hole Group Inc.
 Project: NBH TASK 4.0 ST
 Project Number: L0918724
 Location: S-09D-G003-0-0
 Sample Number: L0918724-03
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 47.43
 Tare Wt. = 4.02
 Minus #200 from wash = 49.5%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
90.04	4.03	#4	528.20	528.20	100.0	0.0
		#10	494.67	494.04	99.3	0.7
		#40	382.55	375.00	90.5	9.5
		#200	374.44	340.16	50.6	49.4

Fractional Components

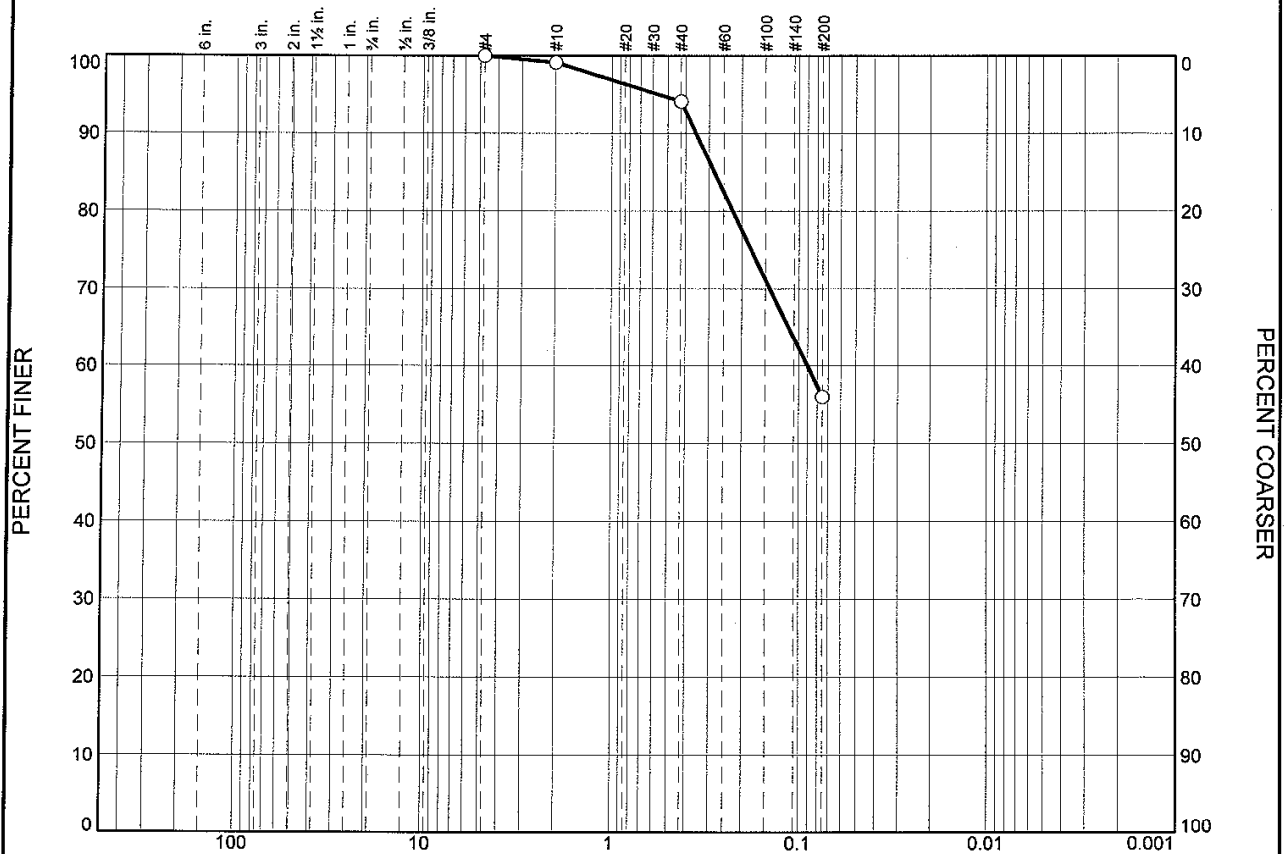
Boulders	Cobbles	Pebbles	Granules	Sand						Silt				Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine		Total
0.0	0.0	0.1	0.6	4.0	3.9	13.1	15.9								

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
					0.1127	0.2692	0.3347	0.4160	0.9419

Fineness Modulus
0.63

Alpha Analytical

Particle Size Distribution Report



GRAIN SIZE - mm.

	% Boulders	% Cobbles	% Pebbles	% Granules	% Sand				% Silt				% Clay
					V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Med.	Fine	
○	0.0	0.0	0.2	0.7	2.2	2.3	12.2	15.2					67.2
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u			
○			0.2808	0.0900									

Material Description	USCS	AASHTO
○		

Project No. L0918724 **Client:** Woods Hole Group Inc.
Project: NBH TASK 4.0 ST
 ○ **Source of Sample:** S-09D-G003-0-0 **Sample Number:** WG395210-1

Remarks:

Alpha Analytical
Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

1/29/2010

Client: Woods Hole Group Inc.
 Project: NBH TASK 4.0 ST
 Project Number: L0918724
 Location: S-09D-G003-0-0
 Sample Number: WG395210-1
 Sieve opening list: BS Bulk Sieve

Sieve Test Data

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 42.73
 Tare Wt. = 3.99
 Minus #200 from wash = 55.2%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer	Percent Retained
90.53	3.97	#4	528.86	528.86	100.0	0.0
		#10	494.60	493.83	99.1	0.9
		#40	381.12	376.79	94.1	5.9
		#200	371.01	338.02	56.0	44.0

Fractional Components

Boulders	Cobbles	Pebbles	Granules	Sand						Silt					Clay	
				V. Crs.	Crs.	Med.	Fine	V. Fine	Total	Crs.	Med.	Fine	V. Fine	Total		
0.0	0.0	0.2	0.7	2.2	2.3	12.2	15.2									

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
					0.0900	0.2236	0.2808	0.3525	0.5602

Fineness Modulus
0.50

Alpha Analytical

Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.



ANALYTICAL REPORT

Lab Number:	L1000004
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Project Name:	Not Specified
Project Number:	NBH TASK 4.0 ST
Report Date:	01/27/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1000004-01	S-09D-T001	NEW BEDFORD, MA	12/29/09 11:40
L1000004-02	S-09D-T003	NEW BEDFORD, MA	12/29/09 12:45



Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

PCB Congeners

Samples L1000004-01 and -02 have the surrogates diluted out.

Samples L1000004-01 and -02 have elevated detection limits due to the dilution required by the sample matrix and by the elevated concentrations of target compounds in the sample. The dilutions were determined by results of screening data.

The WG396463-4 MS recoveries are outside the acceptance criteria for c13-bz#18(33.4%), c14-bz#52(2.79%).

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

Case Narrative (continued)

The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in the sample utilized for the MS/MSD.

The WG396463-5 MSD recoveries are outside the acceptance criteria for cl3-bz#28(142%), cl3-bz#18(2.78%) . The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in the sample utilized for the MS/MSD.

The WG396463-5 MS/MSD RPDs are above the acceptance criteria for cl3-bz#28(65%),cl4-bz#44(37%),cl5-bz#101(32%),cl6-bz#153(32%), cl3-bz#18(169%),cl4-bz#52(176%),cl4-bz#66(45%). The results of the associated samples are reported.'

TOC by 9060

The WG397074-1 Method Blank, associated with L1000004, has a concentration above the reporting limit for Total Organic Carbon. Since the associated sample concentrations are greater than 5x the blank concentration for this analyte, no qualification of the results was performed.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 01/27/10

ORGANICS



PCBS

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

SAMPLE RESULTS

Lab ID: L1000004-01
Client ID: S-09D-T001
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 01/26/10 19:35
Analyst: JS
Percent Solids: 97%

Date Collected: 12/29/09 11:40
Date Received: 12/31/09
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 01/13/10 09:31
Cleanup Method1: EPA 3630
Cleanup Date1: 01/14/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	646		ug/kg	341	50
CI3-BZ#18	1510		ug/kg	341	50
CI4-BZ#44	1640		ug/kg	341	50
CI4-BZ#52	4500		ug/kg	341	50
CI4-BZ#66	3680		ug/kg	341	50
CI5-BZ#118	3020		ug/kg	341	50
CI7-BZ#170	ND		ug/kg	341	50
CI7-BZ#180	476		ug/kg	341	50
CI7-BZ#187	458		ug/kg	341	50
CI8-BZ#195	ND		ug/kg	341	50
CI9-BZ#206-Cal/RTW	ND		ug/kg	341	50
CI10-BZ#209-Cal/RTW	ND		ug/kg	341	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125
DBOB	0	Q	50-125
BZ 198	0	Q	50-125

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

SAMPLE RESULTS

Lab ID: L1000004-01
 Client ID: S-09D-T001
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/26/10 19:35
 Analyst: JS
 Percent Solids: 97%

Date Collected: 12/29/09 11:40
 Date Received: 12/31/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/13/10 09:31
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/14/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	2620		ug/kg	341	50
Cl5-BZ#101	2500		ug/kg	341	50
Cl5-BZ#105	746		ug/kg	341	50
Cl6-BZ#128	384		ug/kg	341	50
Cl6-BZ#138	1430		ug/kg	341	50
Cl6-BZ#153	2200		ug/kg	341	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

SAMPLE RESULTS

Lab ID: L1000004-02
 Client ID: S-09D-T003
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/26/10 20:16
 Analyst: JS
 Percent Solids: 95%

Date Collected: 12/29/09 12:45
 Date Received: 12/31/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/13/10 09:31
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/14/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	2590		ug/kg	696	100
Cl3-BZ#18	8800		ug/kg	696	100
Cl4-BZ#52	13900		ug/kg	696	100
Cl4-BZ#66	4240		ug/kg	696	100
Cl5-BZ#105	ND		ug/kg	696	100
Cl5-BZ#118	1860		ug/kg	696	100
Cl6-BZ#128	ND		ug/kg	696	100
Cl7-BZ#170	ND		ug/kg	696	100
Cl7-BZ#180	ND		ug/kg	696	100
Cl7-BZ#187	ND		ug/kg	696	100
Cl8-BZ#195	ND		ug/kg	696	100
Cl9-BZ#206-Cal/RTW	ND		ug/kg	696	100
Cl10-BZ#209-Cal/RTW	ND		ug/kg	696	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

SAMPLE RESULTS

Lab ID: L1000004-02
 Client ID: S-09D-T003
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 01/26/10 20:16
 Analyst: JS
 Percent Solids: 95%

Date Collected: 12/29/09 12:45
 Date Received: 12/31/09
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 01/13/10 09:31
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/14/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	7250		ug/kg	696	100
Cl4-BZ#44	3350		ug/kg	696	100
Cl5-BZ#101	2510		ug/kg	696	100
Cl6-BZ#138	923		ug/kg	696	100
Cl6-BZ#153	2350		ug/kg	696	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	0	Q	50-125
BZ 198	0	Q	50-125
DBOB	0	Q	50-125
BZ 198	0	Q	50-125



Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 01/22/10 13:52
 Analyst: JS

Extraction Method: EPA 3540C
 Extraction Date: 01/13/10 09:31
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/14/10
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-02 Batch: WG396463-1				
CI2-BZ#8	ND		ug/kg	1.33
CI3-BZ#18	ND		ug/kg	1.33
CI3-BZ#28	ND		ug/kg	1.33
CI4-BZ#44	ND		ug/kg	1.33
CI4-BZ#52	ND		ug/kg	1.33
CI4-BZ#66	ND		ug/kg	1.33
CI5-BZ#101	ND		ug/kg	1.33
CI5-BZ#105	ND		ug/kg	1.33
CI5-BZ#118	ND		ug/kg	1.33
CI6-BZ#128	ND		ug/kg	1.33
CI6-BZ#138	ND		ug/kg	1.33
CI7-BZ#170	ND		ug/kg	1.33
CI7-BZ#180	ND		ug/kg	1.33
CI7-BZ#187	ND		ug/kg	1.33
CI8-BZ#195	ND		ug/kg	1.33
CI9-BZ#206-Cal/RTW	ND		ug/kg	1.33
CI10-BZ#209-Cal/RTW	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	88		50-125
BZ 198	91		50-125
DBOB	78		50-125
BZ 198	85		50-125

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 01/22/10 13:52
 Analyst: JS

Extraction Method: EPA 3540C
 Extraction Date: 01/13/10 09:31
 Cleanup Method1: EPA 3630
 Cleanup Date1: 01/14/10
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-02 Batch: WG396463-1				
Cl6-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	88		50-125
BZ 198	91		50-125
DBOB	78		50-125
BZ 198	85		50-125

Matrix Spike Analysis Batch Quality Control

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG396463-4 WG396463-5 QC Sample: L0918724-01 Client ID: MS Sample												
Cl2-BZ#8	5000	3590	6960	55		7430	68		40-120	21		30
Cl3-BZ#18	11700	3590	12900	33	Q	11800	3	Q	40-120	169	Q	30
Cl3-BZ#28	14100	3590	16700	72		19200	142	Q	40-120	65	Q	30
Cl4-BZ#44	6150	3590	8300	60		9270	87		40-120	37	Q	30
Cl4-BZ#52	21400	3590	21500	3	Q	23000	45		40-120	176	Q	30
Cl4-BZ#66	7410	3590	9550	60		10800	94		40-120	45	Q	30
Cl5-BZ#101	5480	3590	7840	66		8730	90		40-120	32	Q	30
Cl5-BZ#105	ND	3590	3740	104		4210	117		40-120	12		30
Cl5-BZ#118	3670	3590	6150	69		6870	89		40-120	25		30
Cl6-BZ#128	ND	3590	3800	106		4230	118		40-120	11		30
Cl6-BZ#138	2000	3590	4820	79		5480	97		40-120	21		30
Cl6-BZ#153	4390	3590	6800	67		7720	93		40-120	32	Q	30
Cl7-BZ#170	ND	3590	3540	99		3960	110		40-120	11		30
Cl7-BZ#180	ND	3590	3550	99		3890	108		40-120	9		30
Cl7-BZ#187	ND	3590	3710	103		4110	114		40-120	10		30
Cl8-BZ#195	ND	3590	3140	88		3470	97		40-120	10		30
Cl9-BZ#206	ND	3590	3290	92		3600	100		40-120	9		30
Cl10-BZ#209	ND	3590	3090	86		3430	95		40-120	10		30

Matrix Spike Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
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PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG396463-4 WG396463-5 QC Sample: L0918724-01 Client ID: MS Sample

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
BZ 198	0	Q	0	Q	50-125
DBOB	0	Q	0	Q	50-125
BZ 198	0	Q	0	Q	50-125
DBOB	0	Q	0	Q	50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02 Batch: WG396463-2 WG396463-3								
CI2-BZ#8	89		88		40-120	1		30
CI5-BZ#101	93		93		40-120	0		30
CI5-BZ#105	99		96		40-120	3		30
CI5-BZ#118	103		100		40-120	3		30
CI6-BZ#128	94		92		40-120	2		30
CI6-BZ#138	97		95		40-120	2		30
CI7-BZ#170	92		90		40-120	2		30
CI7-BZ#180	94		92		40-120	2		30
CI7-BZ#187	92		90		40-120	2		30
CI8-BZ#195	88		89		40-120	1		30
CI9-BZ#206	101		99		40-120	2		30
CI10-BZ#209	94		92		40-120	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	95		91		50-125
BZ 198	94		91		50-125
DBOB	85		87		50-125
BZ 198	88		85		50-125

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02 Batch: WG396463-2 WG396463-3								
Cl3-BZ#28	93		95		40-120	2		30
Cl6-BZ#153	91		91		40-120	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	95		91		50-125
BZ 198	94		91		50-125
DBOB	85		87		50-125
BZ 198	88		85		50-125

INORGANICS & MISCELLANEOUS

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

SAMPLE RESULTS

Lab ID: L1000004-01
Client ID: S-09D-T001
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/29/09 11:40
Date Received: 12/31/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	4.94		%	0.010	1	-	01/18/10 09:00	1,9060	NR
Total Organic Carbon (Rep2)	4.99		%	0.010	1	-	01/18/10 09:00	1,9060	NR
General Chemistry - Mansfield Lab									
Solids, Total	97.2		%	0.100	1	-	01/13/09 13:15	30,2540G	KB



Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

SAMPLE RESULTS

Lab ID: L1000004-02
Client ID: S-09D-T003
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 12/29/09 12:45
Date Received: 12/31/09
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab									
Total Organic Carbon (Rep1)	9.17		%	0.010	1	-	01/18/10 09:00	1,9060	NR
Total Organic Carbon (Rep2)	8.42		%	0.010	1	-	01/18/10 09:00	1,9060	NR
General Chemistry - Mansfield Lab									
Solids, Total	95.4		%	0.100	1	-	01/13/09 13:15	30,2540G	KB



Project Name:**Lab Number:** L1000004**Project Number:** NBH TASK 4.0 ST**Report Date:** 01/27/10

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01-02 Batch: WG397074-1									
Total Organic Carbon (Rep1)	0.010		%	0.010	1	-	01/18/10 09:00	1,9060	NR
Total Organic Carbon (Rep2)	0.013		%	0.010	1	-	01/18/10 09:00	1,9060	NR



Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L1000004
Report Date: 01/27/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG395735-1 QC Sample: L1000004-01 Client ID: S-09D-T001						
Solids, Total	97.2	97.2	%	0		20

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG397074-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	105		75-125
Total Organic Carbon (Rep2)	114		75-125

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L1000004-01A	Glass 500ml unpreserved	A	N/A	1.5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)
L1000004-02A	Glass 500ml unpreserved	A	N/A	1.5	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TOC-9060-2REPS(28)

Container Comments

L1000004-01A	FROZEN UPON RECEIPT 12/31/09 @ 1640 NSA
L1000004-02A	FROZEN UPON RECEIPT 12/31/09 @ 1640 NSA

*Hold days indicated by values in parentheses

Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

GLOSSARY

Acronyms

- EPA** -Environmental Protection Agency.
- LCS** -Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCSD** -Laboratory Control Sample Duplicate: Refer to LCS.
- MS** -Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MSD** -Matrix Spike Sample Duplicate: Refer to MS.
- NA** -Not Applicable.
- NC** -Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- ND** -Not detected at the reported detection limit for the sample.
- NI** -Not Ignitable.
- RDL** -Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD** -Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** -Spectra identified as "Aldol Condensation Product".
- B** -The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** -Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** -Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- H** -The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- P** -The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** -The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- R** -Analytical results are from sample re-analysis.
- RE** -Analytical results are from sample re-extraction.
- J** -Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Report Format: Data Usability Report



Project Name: Not Specified
Project Number: NBH TASK 4.0 ST

Lab Number: L1000004
Report Date: 01/27/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. NELAP Accredited.

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. NELAP Accredited.

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LA000299. NELAP Accredited via LA-DEQ.

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. NELAP Accredited.

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers**Department of Defense Certificate/Lab ID: L2217.01.**

Non-Potable Water (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.

**APPENDIX D: ENVIROSYSTEMS, INC. REPORTS AND ANALYTICAL
DATA**

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ESI

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Dave Walsh
Woods Hole Group
81 Technology Park Drive
East Falmouth, MA 02536

PO Number: None
Report Number: 18841
Date Received: 08/07/09
Date Reported: 08/12/09

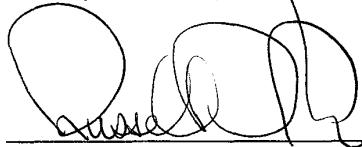
Project: NBH-Task 4 Sed Traps

Attached please find results for analyses performed on samples received on 08/07/09 at 1300.

Samples were received in acceptable condition and under chain of custody.

Instruments used in analysis were calibrated with the appropriate frequency and to the specifications of the referenced methods.

EnviroSystems, Incorporated



Authorized
Signature

Date 8/12/09

Attachment
Report

Report No: 18841
Project: NBH-Task 4 Sed Traps

SDG:

Sample ID: S-09G-T001-0-0COMP
Matrix: Solid
Sampled: 08/07/09 1030

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	18841-007	375.7	0.1	g	08/07/09	08/07/09	KAJ/ESI SOP 1379

Notes:

Report No: 18841
Project: NBH-Task 4 Sed Traps

SDG:

Sample ID: S-09G-T002-0-0COMP
Matrix: Solid
Sampled: 08/07/09 1220

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	18841-008	730.1	0.1	g	08/07/09	08/07/09	KAJ/ESI SOP 1379

Notes:

Report No: 18841 SDG:
Project: NBH-Task 4 Sed Traps

Sample ID: S-09G-T003-0-0COMP
Matrix: Solid
Sampled: 08/07/09 1300

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	18841-009	986.7	0.1	g	08/07/09	08/07/09	KAJ/ESI SOP 1379

Notes:

Sediment Trap Composite Documentation

Project:	NBH-Task 4 Sed Traps	
Composite Identifier:	S-09G-T001-0-0COMP	
Composite Lab ID:	18841-007	
Composite Matrix:	Solid	
Composite Prepared Date:	08/07/09	Final Wet Mass Determination: 375.7g
Composite Prepared Time:	10:30	Composite Container(s): 16oz. Glass
Composite Prepared By:	KAJ	
Protocol Procedure:	ESI SOP 1379	

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded (%)	Amount Added	Notes
ST-001A	18841-001	Solid	>99	N/A	1 Gallon	
ST-001B	18841-002	Solid	>99	N/A	1 Gallon	

Composite Notes:

1 Gallon Sampling containers were partially filled.

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 08/07/09.

Sediment Trap Composite Documentation

Project:	NBH-Task 4 Sed Traps	
Composite Identifier:	S-09G-T002-0-0COMP	
Composite Lab ID:	18841-008	
Composite Matrix:	Solid	
Composite Prepared Date:	08/07/09	Final Wet Mass Determination: 730.1
Composite Prepared Time:	12:20	Composite Container(s): 32oz. Glass
Composite Prepared By:	KAJ	
Protocol Procedure:	ESI SOP 1379	

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
ST-002A	18841-003	Solid	>99	All Visible Invertebrates	1 Gallon	
ST-002B	18841-004	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

1 Gallon Sampling containers were partially filled.
 Solids excluded contained approximately 100 Molluscs (1-2cm. in size)

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 08/07/09.

Sediment Trap Composite Documentation

Project:	NBH-Task 4 Sed Traps	
Composite Identifier:	S-09G-T003-0-0COMP	
Composite Lab ID:	18841-009	
Composite Matrix:	Solid	
Composite Prepared Date:	08/07/09	Final Wet Mass Determination: 986.7
Composite Prepared Time:	13:00	Composite Container(s): 32oz. Glass
Composite Prepared By:	KAJ	
Protocol Procedure:	ESI SOP 1379	

Preparation Protocol:
 This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
ST-003A	18841-005	Solid	>99	All Visible Invertebrates	1 Gallon	
ST-003B	18841-006	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:
 1 Gallon Sampling containers were partially filled.
 Solids excluded contained approximately 30 Crustaceans (2-5cm. in size)

Subsamples removed:
 Sample sent to Alpha Analytical for chemical analysis on 08/07/09.

SAMPLE RECEIPT AND CONDITION DOCUMENTATION

STUDY NO: 18841
 SDG No:
 Project: NBH-Task 4 Sed Traps
 Delivered via: Client
 Date and Time Received: 08/05/09 1715 Date and Time Logged into Lab: 08/06/09 1200
 Recieved By: RDF Logged into Lab by: LCD *LCB*
 Air bill / Way bill: No Air bill included in folder if received? NA
 Cooler on ice/packs: Yes Custody Seals present? NA
 Cooler Blank Temp (C) at arrival: 4 Custody Seals intact? NA
 Number of COC Pages: 1
 COC Serial Number(s): NA
 COC Complete: Does the info on the COC match the samples? No
 Sampled Date: Yes Were samples received within holding time? Yes
 Field ID complete: Yes Were all samples properly labeled? Yes
 Sampled Time: Yes Were proper sample containers used? Yes
 Analysis request: Yes Were samples received intact? (none broken or leaking) Yes
 COC Signed and dated: Yes Were sample volumes sufficient for requested analysis? Yes
 Were all samples received? Yes Were VOC vials free of headspace? NA
 Client notification/authorization: Not required

Field ID	Lab ID	Mx	Analysis Requested	Bottle	Req'd Pres'n	Verified Pres'n
ST-001A	18841-001	S	STP: S-09G-T001-0-0COMP	1 Gal P	4C	Yes
ST-001B	18841-002	S	STP: S-09G-T001-0-0COMP	1 Gal P	4C	Yes
ST-002A	18841-003	S	STP: S-09G-T002-0-0COMP	1 Gal P	4C	Yes
ST-002B	18841-004	S	STP: S-09G-T002-0-0COMP	1 Gal P	4C	Yes
ST-003A	18841-005	S	STP: S-09G-T003-0-0COMP	1 Gal P	4C	Yes
ST-003B	18841-006	S	STP: S-09G-T003-0-0COMP	1 Gal P	4C	Yes

Notes and qualifications:

Field ID's on containers did not match Field ID's on CoC. Six samples with unique ID's were received, whereas only three Field ID's were listed on the CoC. Each sample container with a unique Field ID was given a separate ESI lab number.

8 of 9

CHAIN OF CUSTODY RECORD

18841

ENVIROSYSTEMS, INCORPORATED (ESI) ESI Study Number:

P.O. Box 778, Hampton, New Hampshire 03842 Customer Services: Phone # (603) 926-3345
Fax # (603) 926-3521 PAGE 1 OF 1

CLIENT: **Woods Hole Group** CONTACT: **Dave Walsh (dwalsh@whgrp.com)** PROJECT NAME: **NBH-Task 4 Sed Traps** P.O. #

REPORT TO: **Dave Walsh, Maura Surprenant (AAL)** ADDRESS: **81 Technology Park Dr., E. Falmouth, MA 02536** PHONE: **508-540-8080**

INVOICE TO: **Woods Hole Group c/o Cathy Morey** ADDRESS: **81 Technology Park Dr., E. Falmouth, MA 02536** SAMPLED BY: **KGM**

Program Requirements: NPDES RCRA USACE EPA OTHER

**ESI to process sed trap samples and provide sediment sample to Alpha Analytical Lab for chemistry analysis. There are 1 or 2 sediment trap vessels per sample ID. If there are 2 vessels (identically labeled) for a given sample ID, the vessels will be composited into one container. Upon receipt of the samples, the sed trap vessels should be decanted of excess water, composited (if required), centrifuged to consolidate the sediment sample, decanted of overlaying water, and transferred into a single sample container for later analysis at Alpha. Before shipment a wet mass of the consolidated sediment should be recorded. Alpha will send a courier to retrieve samples. POC at Alpha is Maura Surprenant (508-822-9300 or 774-994-1262).

SAMPLE #	YOUR FIELD IDENTIFICATION (MUST AGREE WITH CONTAINER)	DATE SAMPLED	TIME SAMPLED	COMPOSITE/Grab	E-EFFLUENT D-DILUENT O-OTHER	CONTAINER #VOL/TYPE	FIELD PRESERVED	ANALYSIS REQUESTED (SPECIAL INSTRUCTIONS, CAUTIONS, ETC.)
S-09G-T001-0-0	ST-001A/B	08/05/2009	A: 0925 B: 0917	NA	O	1 Gallon Plastic	NO	2 Sample Containers
S-09G-T002-0-0	ST-002A/B	08/05/2009	A: 1122 B: 1112	NA	O	1 Gallon Plastic	NO	2 Sample Containers
S-09G-T003-0-0	ST-003A/B	08/05/2009	A: 1243 B: 1241	NA	O	1 Gallon Plastic	NO	2 Sample Containers

RELINQUISHED BY: *Jennifer Fudge* DATE: 8/5 TIME: 17:15 RECEIVED BY: *[Signature]* DATE: 8/5/2009 TIME: 1715

Settlement Trap Study Summary Report W912WJ-09-D-0001

D-11

Delivery Order-0010 June 2010

ESI

EnviroSystems, Inc.
One Lafayette Road
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Hampton, N.H. 03843-0778
p 603 926 3345 - f 603 926 3521
envirosystems.com

Dave Walsh
Woods Hole Group
81 Technology Park Drive
East Falmouth, MA 02536

PO Number: None
Report Number: 18957
Date Received: 09/10/09
Date Reported: 11/09/09

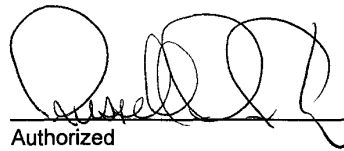
Project: NBH-Task 4 Sed Traps

Attached please find results for analyses performed on samples received on 09/10/09 at 1415.

Samples were received in acceptable condition and under chain of custody.

Instruments used in analysis were calibrated with the appropriate frequency and to the specifications of the referenced methods.

EnviroSystems, Incorporated



Authorized
Signature

Date 11/09/09

Attachment
Report

Report No: 18957
Project: NBH-Task 4 Sed Traps

SDG:

Sample ID: S-09S-T001-0-0
Matrix: Solid
Sampled: 09/10/09 1145

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	18957-007	523.8	0.1	g	09/10/09	09/10/09	KAJ/ESI SOP 1379

Notes:

Report No: 18957
Project: NBH-Task 4 Sed Traps

SDG:

Sample ID: S-09S-T002-0-0
Matrix: Solid
Sampled: 09/10/09 1315

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	18957-008	348	0.1	g	09/10/09	09/10/09	KAJ/ESI SOP 1379

Notes:

Report No: 18957
Project: NBH-Task 4 Sed Traps

SDG:

Sample ID: S-09S-T003-0-0
Matrix: Solid
Sampled: 09/10/09 1415

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	18957-009	678.1	0.1	g	09/10/09	09/10/09	KAJ/ESI SOP 1379

Notes:

Sediment Trap Composite Documentation

Project:

NBH-Task 4 Sed Traps

Composite Identifier:

S-09S-T001-0-0

Composite Lab ID:

18957-007

Composite Matrix:

Solid

Composite Prepared Date:

09/10/09

Final Wet Mass Determination:

523.8

Composite Prepared Time:

11:45

Composite Container(s):

16oz. Glass

Composite Prepared By:

JL/KAJ

Protocol Procedure:

ESI SOP 1379

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded (%)	Amount Added	Notes
ST-001A	18957-001	Solid	>99	All Visible Invertebrates	1 Gallon	
ST-001B	18957-002	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

1 Gallon Sampling containers were partially filled.

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 09/11/09.

Sediment Trap Composite Documentation

Project:	NBH-Task 4 Sed Traps	
Composite Identifier:	S-09S-T002-0-0	
Composite Lab ID:	18957-008	
Composite Matrix:	Solid	
Composite Prepared Date:	09/10/09	Final Wet Mass Determination: 348
Composite Prepared Time:	13:15	Composite Container(s): 32oz. Glass
Composite Prepared By:	KAJ	
Protocol Procedure:	ESI SOP 1379	
Preparation Protocol:		

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
ST-002A	18957-003	Solid	>99	All Visible Invertebrates	1 Gallon	
ST-002B	18957-004	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

1 Gallon Sampling containers were partially filled.

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 09/11/09.

SAMPLE RECEIPT AND CONDITION DOCUMENTATION

STUDY NO: 18957
 SDG No:
 Project: NBH-Task 4 Sed Traps
 Delivered via: Client
 Date and Time Received: 09/09/09 2033 Date and Time Logged into Lab: 09/10/09 1000
 Recieved By: KAS Logged into Lab by: LCD *LCD*
 Air bill / Way bill: No Air bill included in folder if received? NA
 Cooler on ice/packs: Yes Custody Seals present? NA
 Cooler Blank Temp (C) at arrival: 4 Custody Seals intact? NA
 Number of COC Pages: 1
 COC Serial Number(s): NA
 COC Complete: Does the info on the COC match the samples? Yes
 Sampled Date: Yes Were samples received within holding time? Yes
 Field ID complete: Yes Were all samples properly labeled? Yes
 Sampled Time: Yes Were proper sample containers used? Yes
 Analysis request: Yes Were samples received intact? (none broken or leaking) Yes
 COC Signed and dated: Yes Were sample volumes sufficient for requested analysis? Yes
 Were all samples received? Yes Were VOC vials free of headspace? NA
 Client notification/authorization: Not required

Field ID	Lab ID	Mx	Analysis Requested	Bottle	Req'd Pres'n	Verified Pres'n
ST-001A	18957-001	S	STP: S-09S-T001-0-0	1 Gal P	4C	LCD
ST-001B	18957-002	S	STP: S-09S-T001-0-0	1 Gal P	4C	LCD
ST-002A	18957-003	S	STP: S-09S-T002-0-0	1 Gal P	4C	LCD
ST-002B	18957-004	S	STP: S-09S-T002-0-0	1 Gal P	4C	LCD
ST-003A	18957-005	S	STP: S-09S-T003-0-0	1 Gal P	4C	LCD
ST-003B	18957-006	S	STP: S-09S-T003-0-0	1 Gal P	4C	LCD

Notes and qualifications:

809



EnviroSystems, Inc.
1 Lafayette Road
P.O. Box 778
Hampton, N.H. 03843

Voice: 603-926-3345
FAX: 603-926-3521

ESI Job No: 18957

CHAIN OF CUSTODY DOCUMENTATION

Client: WOODS HOLE GROUP, INC	Contact: DAVE WALSH	Project Name: NBH TASK 4 SED TRAPS	Page 1 of 1
Report to: DAVE WALSH, MAIRA SURPRENANT (ALPHA ANALYTICAL)	Address: 8 TECHNOLOGY PARK DR. E. PALMOUTH, MA 02536	Project Number: TO-0010-004	
Invoice to: WOODS HOLE GROUP, c/o Cathy Morey	Address: SAME AS ABOVE	Project Manager: DAVE WALSH	
Voice: 508-540-8080	Fax: 508-540-1001	email: DWALSH@WHGRP.COM	P.O. No: Quote No:

Protocol:		RCRA	SDWA	NPDES	USCOE	Other						Analyses Requested: ESI TO PROCESS THESE INTO A CONSOLIDATED SEDTRAP SAMPLE FOR ANALYSIS @ Alpha Analytical. At each station, 2 containers will be composited in to one sample.
Lab Number (assigned by lab)	Your Field ID: (must agree with container)	Date Sampled	Time Sampled	Sampled By	Grab or compos (G/C)	Container Size (lit)	Container Type (P/G/T)	Field Preservation	Matrix S=Solid W=Water	Filter N=Not needed F=Done in field L=Lab to do	Special Instructions:	
-001	ST-001A	9/9/09	1008	DPW	NA	1 Gall.	P	NA	NA	NA	TO CREATE SAMPLE ID: S-095-T001-0-0	
-002	ST-001B	↓	1010	↓	↓	↓	↓	↓	↓	↓	COMPOSITE w/ FIELD ID: ST-001A TO CREATE SAMPLE ID: S-095-T001-0-0	
-003	ST-002A	↓	1137	↓	↓	↓	↓	↓	↓	↓	COMPOSITE w/ FIELD ID: ST-002B TO CREATE SAMPLE ID: S-095-T002-0-0	
-004	ST-002B	↓	1137	↓	↓	↓	↓	↓	↓	↓	COMPOSITE w/ FIELD ID: ST-002A TO CREATE SAMPLE ID: S-095-T002-0-0	
-005	ST-003A	↓	1309	↓	↓	↓	↓	↓	↓	↓	COMPOSITE w/ FIELD ID: ST-003B TO CREATE SAMPLE ID: S-095-T003-0-0	
-006	ST-003B	↓	1309	↓	↓	↓	↓	↓	↓	↓	COMPOSITE w/ FIELD ID: ST-003A TO CREATE SAMPLE ID: S-095-T003-0-0	
											* THE THREE COMPOSITED SED SAMPLE SHOULD BE READY FOR PICKUP BY ALPHA ANALYTICAL LABS COURIER.	

Relinquished By: Mitchell Bull	Date: 9/9/09	Time: 20:33	Received By: [Signature]	Date: 09/09/09	Time: 2033
Relinquished By:	Date:	Time:	Received at Lab By:	Date:	Time:
Comments:					

W912WJ-09-D-0001
 Sediment Trap Study Summary Report
 D-20
 Delivery Order-0010
 June 2010

ESI

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Dave Walsh
Woods Hole Group
81 Technology Park Drive
East Falmouth, MA 02536

PO Number: None
Report Number: 19081
Date Received: 10/15/09
Date Reported: 11/09/09

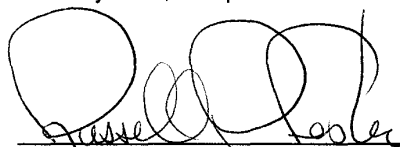
Project: NBH Water Quality Monitoring

Attached please find results for analyses performed on samples received on 10/15/09 at 1525.

Samples were received in acceptable condition and under chain of custody.

Instruments used in analysis were calibrated with the appropriate frequency and to the specifications of the referenced methods.

EnviroSystems, Incorporated



Authorized
Signature

Date

11/09/09

Attachment
Report

Report No: 19081
Project: NBH Water Quality Monitoring

SDG:

Sample ID: S-09O-T001-0-0
Matrix: Solid
Sampled: 10/15/09 1300

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	19081-007	201.3	0.1	g	10/15/09	10/15/09	JL /ESI SOP 1379

Notes:

Report No: 19081 SDG:
Project: NBH Water Quality Monitoring

Sample ID: S-09O-T002-0-0
Matrix: Solid
Sampled: 10/15/09 1415

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	19081-008	239.3	0.1	g	10/15/09	10/15/09	JL /ESI SOP 1379

Notes:

Report No: 19081 SDG:
Project: NBH Water Quality Monitoring

Sample ID: S-09O-T003-0-0
Matrix: Solid
Sampled: 10/15/09 1525

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	19081-009	425.6	0.1	g	10/15/09	10/15/09	JL /ESI SOP 1379

Notes:

Sediment Trap Composite Documentation

Project:	NBH-Task 4 Sed Traps	
Composite Identifier:	S-09O-T001-0-0	
Composite Lab ID:	19081-007	
Composite Matrix:	Solid	
Composite Prepared Date:	10/15/09	Final Wet Mass Determination: 201.3
Composite Prepared Time:	13:00	Composite Container(s): 16oz. Glass
Composite Prepared By:	JL/KAJ	
Protocol Procedure:	ESI SOP 1379	

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
S-09O-T001-0-0 1 of 2	19081-001	Solid	>99	All Visible Invertebrates	1 Gallon	
S-09O-T001-0-0 2 of 2	19081-002	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

1 Gallon Sampling containers were partially filled.
Solids excluded contained approximately 10 shrimp (2-3cm in size) and crab fragments.

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 10/16/09.

Sediment Trap Composite Documentation

Project:	NBH-Task 4 Sed Traps		
Composite Identifier:	S-09O-T002-0-0		
Composite Lab ID:	19081-008		
Composite Matrix:	Solid		
Composite Prepared Date:	10/15/09	Final Wet Mass Determination:	239.3
Composite Prepared Time:	14:15	Composite Container(s):	16oz. Glass
Composite Prepared By:	JL/KAJ		
Protocol Procedure:	ESI SOP 1379		

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
S-09O-T002-0-0 1 of 2	19081-003	Solid	>99	All Visible Invertebrates	1 Gallon	
S-09O-T002-0-0 2 of 2	19081-004	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

1 Gallon Sampling containers were partially filled.
 Solids excluded contained approximately 30 shrimp (2-3cm in size) and 5 crabs varying in size.

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 10/16/09.

Sediment Trap Composite Documentation

Project:	NBH-Task 4 Sed Traps	
Composite Identifier:	S-09O-T003-0-0	
Composite Lab ID:	19081-009	
Composite Matrix:	Solid	
Composite Prepared Date:	10/15/09	Final Wet Mass Determination: 425.6
Composite Prepared Time:	15:25	Composite Container(s): 16oz. Glass
Composite Prepared By:	JL/KAJ	
Protocol Procedure:	ESI SOP 1379	

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
S-09O-T003-0-0 1 of 2	19081-005	Solid	>99	All Visible Invertebrates	1 Gallon	
S-09O-T003-0-0 2 of 2	19081-006	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

1 Gallon Sampling containers were partially filled.
Solids excluded contained 2 fragmented crabs, a fish (5cm.) and 2 Molluscs (<2cm.).

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 10/16/09.

SAMPLE RECEIPT AND CONDITION DOCUMENTATION

STUDY NO: 19081
 SDG No:
 Project: NBH Water Quality Monitoring
 Delivered via: Client
 Date and Time Received: 10/14/09 1737 Date and Time Logged into Lab: 10/15/09 1000
 Received By: KAJ Logged into Lab by: LCB *LOS*
 Air bill / Way bill: No Air bill included in folder if received? NA
 Cooler on ice/packs: Yes Custody Seals present? NA
 Cooler Blank Temp (C) at arrival: 4 Custody Seals intact? NA
 Number of COC Pages: 1
 COC Serial Number(s): NA
 COC Complete: Does the info on the COC match the samples? Yes
 Sampled Date: Yes Were samples received within holding time? Yes
 Field ID complete: Yes Were all samples properly labeled? Yes
 Sampled Time: Yes Were proper sample containers used? Yes
 Analysis request: Yes Were samples received intact? (none broken or leaking) Yes
 COC Signed and dated: Yes Were sample volumes sufficient for requested analysis? Yes
 Were all samples received? Yes Were VOC vials free of headspace? NA
 Client notification/authorization: Not required

Field ID	Lab ID	Mx	Analysis Requested	Bottle	Req'd Pres'n	Verified Pres'n
S-090-T001-0-0 1 of 2	19081-001	S	STP: S-090-T001-0-0	1 Gal P	4C	LCB
S-090-T001-0-0 2 of 2	19081-002	S	STP: S-090-T001-0-0	1 Gal P	4C	LCB
S-090-T002-0-0 1 of 2	19081-003	S	STP: S-090-T002-0-0	1 Gal P	4C	LCB
S-090-T002-0-0 2 of 2	19081-004	S	STP: S-090-T002-0-0	1 Gal P	4C	LCB
S-090-T003-0-0 1 of 2	19081-005	S	STP: S-090-T003-0-0	1 Gal P	4C	LCB
S-090-T003-0-0 2 of 2	19081-006	S	STP: S-090-T003-0-0	1 Gal P	4C	LCB

Notes and qualifications:



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1 Lafayette Road
P.O. Box 778
Hampton, N.H. 03843

Voice: 603-926-3345
FAX: 603-926-3521

ESI Job No: 19081

CHAIN OF CUSTODY DOCUMENTATION

Settlement Trap Study Summary Report W912WJ-09-D-0001

Client: Woods Hole Group	Contact: Dave Walsh	Project Name: NBH Water Quality Monitoring	Page 1 of 1
Report to: Client	Address: 81 Technology Park Drive	Project Number: TO-0010 NBH Tsk	40 Sed Traps
Invoice to: Client	Address:	Project Manager: Dave Walsh	
Voice: 508-540-8080	Fax: 508-540-1001	email: dwalsh@whgrp.com	P.O. No: Quote No:

Protocol:		RCRA	SDWA	NPDES	USCOE		Other					Analyses Requested/ Special Instructions:	
Lab Number (assigned by lab)	Your Field ID: (must agree with container)			Date Sampled	Time Sampled	Sampled By	Grab or composit (G/C)	Container Size (ml.)	Container Type (P/G/T)	Field Preservation	Matrix S=Solid W=Water		Filter N=Not needed F=Done in field L=Lab to do
-001	S-090-T001-0-0 1 of 2			10/14/09	08:40	DSB		1gal.	HDPE	N/A	S/W	N	Composite with S-090-T001-0-0 2 of 2
-002	S-090-T001-0-0 2 of 2				08:40				HDPE				Composite with S-090-T001-0-0 1 of 2
-003	S-090-T002-0-0 1 of 2				09:30				HDPE				Composite with S-090-T002-0-0 2 of 2
-004	S-090-T002-0-0 2 of 2				09:30				HDPE				Composite with S-090-T002-0-0 1 of 2
-005	S-090-T003-0-0 1 of 2				11:06				HDPE				Composite with S-090-T003-0-0 2 of 2
-006	S-090-T003-0-0 2 of 2				11:06				HDPE				Composite with S-090-T003-0-0 1 of 2

D-29

9-17-09

Delivery Order-0010 June 2010

Relinquished By: <i>[Signature]</i>	Date: 10/14/09	Time: 13:37	Received By: <i>[Signature]</i>	Date: 10/14/09	Time: 13:37
Relinquished By: <i>[Signature]</i>	Date: 10/14/09	Time: 17:37	Received at Lab By: <i>[Signature]</i>	Date: 10/14/09	Time: 17:37
Comments:					

ESI

EnviroSystems, Inc.
One Lafayette Road
P.O. Box 778
Hampton, N.H. 03843-0778
p 603 926 3345 · f 603 926 3521
envirosystems.com

Dave Walsh
Woods Hole Group
81 Technology Park Drive
East Falmouth, MA 02536

PO Number: None
Report Number: 19198
Date Received: 11/18/09
Date Reported: 11/19/09

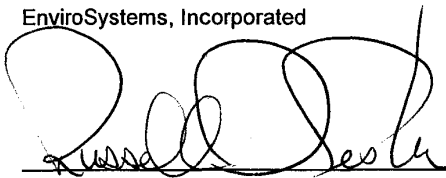
Project: New Bedford Harbor

Attached please find results for analyses performed on samples received on 11/19/09 at 1445.

Samples were received in acceptable condition and under chain of custody.

Instruments used in analysis were calibrated with the appropriate frequency and to the specifications of the referenced methods.

EnviroSystems, Incorporated



Authorized
Signature

Date 11/19/09

Attachment
Report

Report No: 19198
Project: New Bedford Harbor

SDG:

Sample ID: S-09N-T001-0-0
Matrix: Solid
Sampled: 11/19/09 1320

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	19198-007	176.1	0.1	g	11/19/09	11/19/09	JL /ESI SOP 1379

Notes:

Report No: 19198
Project: New Bedford Harbor

SDG:

Sample ID: S-09N-T002-0-0
Matrix: Solid
Sampled: 11/19/09 1405

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	19198-008	270.1	0.1	g	11/19/09	11/19/09	JL /ESI SOP 1379

Notes:

Report No: 19198
Project: New Bedford Harbor

SDG:

Sample ID: S-09N-T003-0-0
Matrix: Solid
Sampled: 11/19/09 1445

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	19198-009	592.8	0.1	g	11/19/09	11/19/09	JL /ESI SOP 1379

Notes:

Sediment Trap Composite Documentation

Project:

New Bedford Harbor

Composite Identifier:

S-09N-T001-0-0

Composite Lab ID:

19198-007

Composite Matrix:

Solid

Composite Prepared Date:

11/19/09

Final Wet Mass Determination:

176.1

Composite Prepared Time:

13:20

Composite Container(s):

16oz. Glass

Composite Prepared By:

JL

Protocol Procedure:

ESI SOP 1379

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
ST-001 1 of 2	19198-001	Solid	>99	All Visible Invertebrates	1 Gallon	
ST-001 2 of 2	19198-002	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

Excluded samples contained about 120 Shrimp (approximately 2-3cm long) and 1 crab (approximately 3cm).
1 Gallon Sampling containers were partially filled.

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 11/20/09.

Sediment Trap Composite Documentation

Project:	New Bedford Harbor	
Composite Identifier:	S-09N-T002-0-0	
Composite Lab ID:	19198-008	
Composite Matrix:	Solid	
Composite Prepared Date:	11/19/09	Final Wet Mass Determination: 270.1
Composite Prepared Time:	14:05	Composite Container(s): 16oz. Glass
Composite Prepared By:	JL	
Protocol Procedure:	ESI SOP 1379	

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
ST-002 1of 2	19198-003	Solid	>99	All Visible Invertebrates	1 Gallon	
ST-002 2of 2	19198-004	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

Solids excluded contained approximately 50 shrimp (2-3cm in size), 30 periwinkles (approximate 1cm in size), and 2 crabs(approximately 2cm in size). 1 Gallon Sampling containers were partially filled.

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 11/20/09.

Sediment Trap Composite Documentation

Project:	New Bedford Harbor	
Composite Identifier:	S-09N-T003-0-0	
Composite Lab ID:	19198-009	
Composite Matrix:	Solid	
Composite Prepared Date:	11/19/09	Final Wet Mass Determination: 592.8
Composite Prepared Time:	14:45	Composite Container(s): 32oz. Glass
Composite Prepared By:	JL	
Protocol Procedure:	ESI SOP 1379	

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
ST-003 1 of 2	19198-005	Solid	>99	All Visible Invertebrates	1 Gallon	
ST-003 2 of 2	19198-006	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

1 Gallon Sampling containers were partially filled.
 Solids excluded contained 2 crabs (approximately 1cm), a fish (6cm.) and 6 shrimp (approximately 1cm in size).

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 11/20/09.

SAMPLE RECEIPT AND CONDITION DOCUMENTATION

STUDY NO: 19198
 SDG No:
 Project: New Bedford Harbor
 Delivered via: Client
 Date and Time Received: 11/18/09 1600 Date and Time Logged into Lab: 11/18/09 1600
 Recieved By: LCB Logged into Lab by: LCB *LCB*

Air bill / Way bill: No Air bill included in folder if received? NA
 Cooler on ice/packs: Yes Custody Seals present? NA
 Cooler Blank Temp (C) at arrival: 2 Custody Seals intact? NA
 Number of COC Pages: 1
 COC Serial Number(s): NA
 COC Complete: Does the info on the COC match the samples? Yes
 Sampled Date: Yes Were samples received within holding time? Yes
 Field ID complete: Yes Were all samples properly labeled? Yes
 Sampled Time: Yes Were proper sample containers used? Yes
 Analysis request: Yes Were samples received intact? (none broken or leaking) Yes
 COC Signed and dated: Yes Were sample volumes sufficient for requested analysis? Yes
 Were all samples received? Yes Were VOC vials free of headspace? NA
 Client notification/authorization: Not required

Field ID	Lab ID	Mx	Analysis Requested	Bottle	Req'd Pres'n	Verified Pres'n
ST-001 1 of 2	19198-001	S	STP: S-09N-T001-0-0	1Gal P	4 C	Yes
ST-001 2 of 2	19198-002	S	STP: S-09N-T001-0-0	1Gal P	4 C	Yes
ST-002 1 of 2	19198-003	S	STP: S-09N-T002-0-0	1Gal P	4 C	Yes
ST-002 2 of 2	19198-004	S	STP: S-09N-T002-0-0	1Gal P	4 C	Yes
ST-003 1 of 2	19198-005	S	STP: S-09N-T003-0-0	1Gal P	4 C	Yes
ST-003 2 of 2	19198-006	S	STP: S-09N-T003-0-0	1Gal P	4 C	Yes

Notes and qualifications:



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Hampton, N.H. 03843

Voice: 603-926-3345
FAX: 603-926-3521

ESI Job No: 19198

CHAIN OF CUSTODY DOCUMENTATION

Client: Woods Hole Group	Contact: Dave Walsh	Project Name: New Bedford Harbor	Page 1 of 1
Report to: Dave Walsh	Address: 81 Technology Park Dr.	Project Number:	
Invoice to:	Address: E. Falmouth MA, 02536	Project Manager: Dave Walsh	
Voice: 508-540-8080	Fax: 508-540-1001	email: DWALSH@WHGRP.COM	P.O. No: Quote No:

Protocol:		RCRA	SDWA	NPDES	USCOE	Other						Analyses Requested/ Special Instructions:	
Lab Number (assigned by lab)	Your Field ID: (must agree with container)			Date Sampled	Time Sampled	Sampled By	Grab or composite (G/C)	Container Size (ml.)	Container Type (P/G/T)	Field Preservation	Matrix S=Solid W=Water		Filter N=Not needed F=Done in field L=Lab to do
-001	ST-001 1 of 2			11/18/09	08:59	MW		1 gal.	P	None	S/W	N	Centrifuge and composite with ST-001 2 of 2
-002	ST-001 2 of 2				08:59	MW		1 gal.	P		S/W	N	Centrifuge and composite with ST-001 1 of 2
-003	ST-002 1 of 2				1009	MW		1 gal.	P		S/W	N	Centrifuge and composite with ST-002 2 of 2
-004	ST-002 2 of 2				1009	MW		1 gal.	P		S/W	N	Centrifuge and composite with ST-002 1 of 2
-005	ST-003 1 of 2				1058	MW		1 gal.	P		S/W	N	Centrifuge and composite with ST-003 2 of 2
-006	ST-003 2 of 2			↓	1058	MW		1 gal.	P	↓	S/W	N	Centrifuge and composite with ST-003 1 of 2
9669													

Relinquished By: David Bailey	Date: 11/18/09	Time: 13:23	Received By: [Signature]	Date: 11/18/09	Time: 13:23
Relinquished By: [Signature]	Date: 11/18/09	Time: 16:00	Received at Lab By: [Signature]	Date: 11/18/09	Time: 16:00
Comments:					

W912WJ-09-D-0001
 Sediment Trap Study Summary Report
 D-38
 Delivery Order-0010
 June 2010

EnviroSystems, Inc.
One Lafayette Road
P.O. Box 778
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p 603 926 3345 · f 603 926 3521
envirosystems.com

Dave Walsh
Woods Hole Group
81 Technology Park Drive
East Falmouth, MA 02536

PO Number: None
Report Number: 19304
Date Received: 12/28/09
Date Reported: 01/05/10

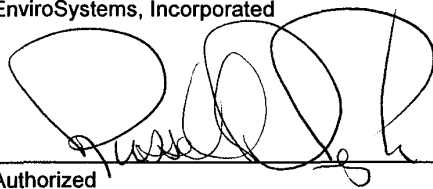
Project: New Bedford Sediment Traps

Attached please find results for analyses performed on samples received on 12/28/09 at 1615.

Samples were received in acceptable condition and under chain of custody.

Instruments used in analysis were calibrated with the appropriate frequency and to the specifications of the referenced methods.

EnviroSystems, Incorporated



Authorized
Signature

Date 1/6/10

Attachment
Report

Report No: 19304
Project: New Bedford Sediment Traps

SDG:

Sample ID: S-09D-T001
Matrix: Solid
Sampled: 12/29/09 1140

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	19304-005	253.7	0.1	g	12/29/09	12/29/09	JL /ESI SOP 1379

Notes:

Report No: 19304 SDG:
Project: New Bedford Sediment Traps

Sample ID: S-09D-T003
Matrix: Solid
Sampled: 12/29/09 1245

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Total Wet Mass Recovered	19304-006	336.1	0.1	g	12/29/09	12/29/09	JL /ESI SOP 1379

Notes:

Sediment Trap Composite Documentation

Project:	New Bedford Sediment Traps	
Composite Identifier:	S-09D-T001	
Composite Lab ID:	19304-005	
Composite Matrix:	Solid	
Composite Prepared Date:	12/29/09	Final Wet Mass Determination: 253.7
Composite Prepared Time:	11:40	Composite Container(s): 16oz. Glass
Composite Prepared By:	JL	
Protocol Procedure:	ESI SOP 1379	

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
S-09D-T001 1 of 2	19304-001	Solid	>99	All Visible Invertebrates	1 Gallon	
S-09D-T001 2 of 2	19304-002	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

Excluded samples contained 18 shrimp approximately 2-4cm in size.
 1 Gallon Sampling containers were partially filled.

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 12/31/09.

Sediment Trap Composite Documentation

Project:

New Bedford Sediment Traps

Composite Identifier:

S-09D-T003

Composite Lab ID:

19304-006

Composite Matrix:

Solid

Composite Prepared Date:

12/29/09

Final Wet Mass Determination:

336.1

Composite Prepared Time:

12:45

Composite Container(s):

16oz. Glass

Composite Prepared By:

JL

Protocol Procedure:

ESI SOP 1379

This composite was prepared according to protocols cited using the samples and amounts listed below.

Field ID	ESI Lab ID	Matrix	Liquids Excluded (%)	Solids Excluded	Amount Added	Notes
S-09D-T003 1 of 2	19304-003	Solid	>99	All Visible Invertebrates	1 Gallon	
S-09D-T003 2 of 2	19304-004	Solid	>99	All Visible Invertebrates	1 Gallon	

Composite Notes:

Excluded samples contained about 8 crabs and 24 shrimp all approximately 2-4cm in size.
1 Gallon Sampling containers were partially filled.

Subsamples removed:

Sample sent to Alpha Analytical for chemical analysis on 12/31/09.

SAMPLE RECEIPT AND CONDITION DOCUMENTATION

STUDY NO: 19304
 SDG No:
 Project: New Bedford Sediment Traps
 Delivered via: Client
 Date and Time Received: 12/28/09 1615 Date and Time Logged into Lab: 12/28/09 1655
 Received By: MES Logged into Lab by: KAJ *(Signature)*
 Air bill / Way bill: No Air bill included in folder if received? NA
 Cooler on ice/packs: Yes Custody Seals present? NA
 Cooler Blank Temp (C) at arrival: 2 Custody Seals intact? NA
 Number of COC Pages: 1
 COC Serial Number(s): NA
 COC Complete: Does the info on the COC match the samples? Yes
 Sampled Date: Yes Were samples received within holding time? Yes
 Field ID complete: Yes Were all samples properly labeled? Yes
 Sampled Time: Yes Were proper sample containers used? Yes
 Analysis request: Yes Were samples received intact? (none broken or leaking) Yes
 COC Signed and dated: Yes Were sample volumes sufficient for requested analysis? Yes
 Were all samples received? Yes Were VOC vials free of headspace? NA
 Client notification/authorization: Not required

Field ID	Lab ID	Mx	Analysis Requested	Bottle	Req'd Pres'n	Verified Pres'n
S-09D-T001 1 of 2	19304-001	S	STP: S-09D-T001	1Gal P	4 C	Yes
S-09D-T001 2 of 2	19304-002	S	STP: S-09D-T001	1Gal P	4 C	Yes
S-09D-T003 1 of 2	19304-003	S	STP: S-09D-T003	1Gal P	4 C	Yes
S-09D-T003 2 of 2	19304-004	S	STP: S-09D-T003	1Gal P	4 C	Yes

Notes and qualifications:

6 of 7



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Voice: 603-926-3345
FAX: 603-926-3521

ESI Job No: 19304

CHAIN OF CUSTODY DOCUMENTATION

W912WJ-09-D-0001 Sediment Trap Study Summary Report

Client: <i>Woods Hole Group</i>	Contact: <i>Dave Walsh</i>	Project Name: <i>New Bedford Sediment Traps</i>	Page <i>1</i> of <i>1</i>
Report to: <i>Dave Walsh</i>	Address: <i>81 Technology Park Dr</i>	Project Number: <i>TD-0010</i>	
Invoice to: <i>Cathy Morey</i>	Address: <i>E. Falmouth, MA 02536</i>	Project Manager: <i>Dave Walsh</i>	
Voice:	Fax: <i>508-540-1001</i>	email: <i>dwalsh@whgrp.com</i>	RO. No: Quote No:

Lab Number (assigned by lab)	Your Field ID: (must agree with container)	RCRA		SDWA		NPDES		USCOE		Other		Analyses Requested/ Special Instructions:		
		Date Sampled	Time Sampled	Date Sampled	Time Sampled	Date Sampled	Time Sampled	Grab or composit (G/C)	Container Size (ml.)	Container Type (P/G/T)	Field Preservation		Matrix S=Solid W=Water	Filter N=Not needed F=Done in field L=Lab to do
001	S-09D-T001 1 of 2	12/28/09	08:45					K6M	C	1L	P	ice	W	<i>dewater, centrifuge and combine w/ sample ID</i> <i>Send sediment to Alpha as sam ID</i> <div style="text-align: center;">↓</div>
002	S-09D-T001 2 of 2	12/28/09	08:45					K6M	C	1L	P	ice	W	
003	S-09D-T003 1 of 2	12/28/09	10:55					K6M	C	1L	P	ice	W	
004	S-09D-T003 2 of 2	12/28/09	10:55					K6M	C	1L	P	ice	W	

Relinquished By: <i>Sandra Mccan</i>	Date: <i>12/28/09</i> Time: <i>16:15</i>	Received By: <i>Mr Satt</i>	Date: <i>12/28/09</i> Time: <i>16:15</i>
Relinquished By:	Date: Time:	Received at Lab By:	Date: Time:
Comments:			

D-45

Delivery Order-0010
June 2010

EnviroSystems, Inc.

P.O Box 778
 Hampton, NH 03843-0778
 (603) 926-3345
 (603) 926-3521 Fax
 www.envirosystems.com

Invoice

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4	SEDIMENT TRAP PREPARATION	350.00	1,400.00
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**US Army Corps
of Engineers**
New England District

FINAL

**NORTH OF WOOD STREET POST-REMEDIATION
MONITORING**

APRIL 2010 MONITORING EVENT

NEW BEDFORD HARBOR SUPERFUND SITE, OU #1

Contract No. W912WJ-09-D-0001-0010



Prepared For:
United States Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Prepared By:
Woods Hole Group, Inc.
81 Technology Park Drive
East Falmouth, MA 02536

June 2010

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EXECUTIVE SUMMARY

Environmental sampling and analysis was performed for the area north of the Wood Street Bridge (NWS) in April 2010 in support of remedial dredging activities at the New Bedford Harbor Superfund Site. In 2002–2003, as part of a site remediation, approximately 15,000 cubic yards of contaminated material was removed from the NWS area. The primary contaminants of concern in the NWS area are polychlorinated biphenyls (PCBs). The NWS area was remediated using a dry excavation method to eliminate the potential for sediment resuspension and recontamination. Annual investigations have been conducted since 2004 to assess the effectiveness of prior remediation and potential recontamination of this area due to sediment transport from unremediated areas. Post-remediation sampling conducted in 2004 identified a shoreline area in Acushnet that should have been included in the 2002–2003 clean-up but was inadvertently neglected; this area was remediated in 2005.

Twenty-one stations in the NWS area were sampled in April 2010, including twelve river sediment locations and nine marsh soil locations along the eastern and western shores of the Acushnet River. These stations were sampled at the direction of the USACE and have been sampled throughout the eight year history of the post-remediation monitoring program. River sediments were generally comprised of a layer of fine black silt and organic detritus underlain by sand, clay or silt. River sediments located closer to the shore and farther upstream were comprised of brown organic sand and silt underlain by gravel and/or sand. Shoreline soils were generally comprised of brown organic silt and sand underlain by sand or gravel, silt and sand.

The April 2010 sampling event took place after the New Bedford region and Acushnet River watershed experienced a series of extreme precipitation events in late March 2010. The combination of these storms caused historic flooding and record stages in regional rivers. Although hydrological measurements were not collected, it is likely that the Acushnet River experienced similar conditions. Multiple fallen trees, branches, and other debris were observed in the river channel during the sediment sample collection.

In 2010, analysis of total PCB concentrations in river sediment samples ranged from 0.23 milligrams per kilograms (mg/kg) to 21.23 mg/kg dry weight. These values are significantly lower than the concentrations observed during previous years of monitoring. The highest concentrations of total PCB (>10 mg/kg) were measured in sediment at stations in close proximity to the Wood Street Bridge, and towards the center of the river channel just south of a Combined Sewer Overflow (CSO). Total PCB concentrations in shoreline soil samples were all below the applicable recreational cleanup criteria (25 mg/kg) at all shoreline locations in 2010.

Sediment data from the 2003–2010 monitoring period reveal that total PCB concentrations in river sediment at the NWS area are spatially and temporally variable. The heterogeneous distribution of the PCB concentrations reflects the differences in bulk sediment characteristics and the highly dynamic nature of the system. Total PCB concentrations in 2003 were among the lowest measured during the 2003–2010 monitoring period; these concentrations are comparable to those observed in 2010.

However, this has not been the historical trend since total PCB concentrations were observed to increase during the five years following the remediation of the NWS area in the winter of 2002-2003. Although no analysis has been performed to support this hypothesis, the decrease in concentration of PCBs in both river and shoreline sediment samples collected in April 2010 may be attributed to a natural “flushing” of the NWS area by the high flow conditions experienced in the Acushnet River during late March 2010.

The fluctuation of PCB measurements between the nine sampling events is thought to be caused by the result of natural tidal processes transporting contaminated sediment from the upper harbor source area, countered by high spring river flows flushing contaminants down stream. Although the resuspension and transport of sediments is natural and unavoidable (e.g., tide and storms), the resuspension of contaminated sediment due to the New Bedford Superfund Site remediation activities is controllable. To that end, remediation dredging is performed using methods of minimal disturbance (e.g., hydraulic dredging), and a water quality monitoring program is used to ensure that excessive resuspension of sediment during remediation activities does not occur, or is limited. Annual sediment monitoring will continue at the NWS area as needed to assess the potential for recontamination from the unremediated harbor areas via natural and anthropogenic processes.

1.0 INTRODUCTION

1.1 NEW BEDFORD HARBOR SUPERFUND SITE

The New Bedford Harbor Superfund Site, located in Bristol County, Massachusetts, extends from the shallow northern reaches of the Acushnet River estuary south through the commercial harbors of New Bedford and Fairhaven and into 17,000 adjacent acres of Buzzards Bay (Figure 1). The City of New Bedford, located along the western shore of the Site, is approximately 55 miles south of Boston. New Bedford is currently home port to a large offshore fishing fleet and is a densely populated manufacturing and commercial center. By comparison, the eastern shore of New Bedford Harbor is predominantly residential, light commercial or salt marsh.

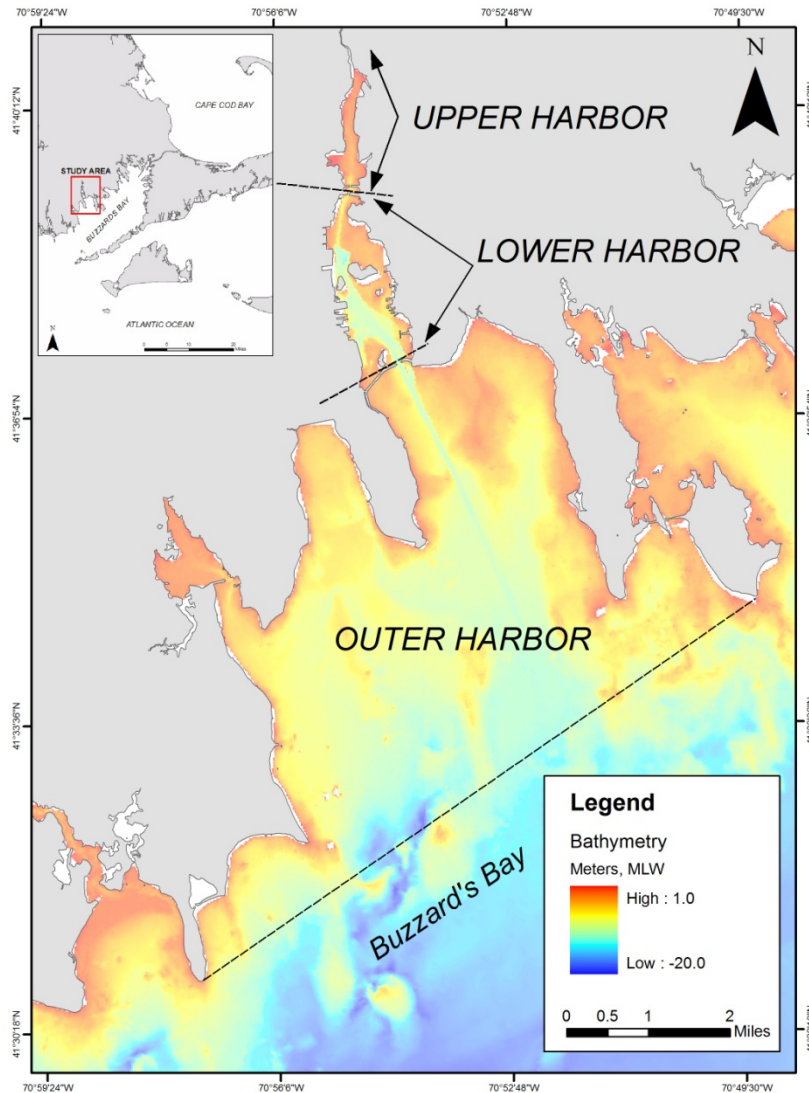


Figure 1. Basemap of New Bedford Harbor Superfund Site in Southeastern, MA

The Acushnet River's 16.5 square mile drainage basin discharges to New Bedford Harbor in the northern reaches of the Site, contributing relatively minor volumes of fresh water to the tidally influenced harbor (VHB, 1996). Numerous storm drains, combined sewer overflows (CSOs), industrial discharges, as well as smaller brooks and creeks also discharge directly to the Site. The upper and lower harbors are believed to be areas of net groundwater discharge. The estuary can be characterized as a shallow, well-mixed system.

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. Contaminant gradients within harbor sediments decrease from north to south. The source of the contamination has been attributed to two electrical capacitor manufacturing facilities that used PCBs between the 1940s and the 1970s. One facility, Aerovox Corporation, is located near the northern boundary of the Site, and the other, Cornell-Dubilier Electronics, Inc. is located just south of the New Bedford Harbor hurricane barrier. The two facilities are known to have discharged PCB-laden wastes either directly into the harbor or indirectly via discharges to the City's sewerage system.

Based on human health concerns and ecological risk assessments, the United States 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 United States Army Corps of Engineers, New England District (USACE NAE), the USACE is responsible for carrying out the design and implementation of remedial measures at the Site.

The Site has been divided into three geographic areas: the upper, lower and outer harbors, consistent with geographic features, basin morphology (Figure 1) and gradients of contamination. The Site is also defined by three state-sanctioned fishing closure areas extending approximately 6.8 miles north to south and encompassing approximately 18,000 acres in total. The upper harbor comprises approximately 187 acres, with current sediment PCB levels ranging from below detection to approximately 4,000 parts per million (ppm). Prior to the removal of the most contaminated hot spot sediments in 1994 and 1995, as part of EPA's first cleanup phase, sediment PCB levels were reported higher than 100,000 ppm in the upper harbor. The boundary between the upper and lower harbor is the Coggeshall Street Bridge; at this point the harbor is constricted to a width of approximately 100 feet. The lower harbor comprises approximately 750 acres, with current sediment PCB levels ranging from below detection to over 100 ppm. The boundary between the lower and outer harbor is the 150 foot wide opening of the New Bedford hurricane barrier. The hurricane barrier was constructed in the mid-1960s. Sediment PCB levels in the outer harbor are generally low, with only localized areas of PCBs in the 50 – 100 ppm range near the Cornell-Dubilier plant and the New Bedford sewage treatment plant's outfall pipes (the most contaminated sediments in the outer harbor were capped in 2005). The southern extent of the outer harbor is a line mapped from Rock Point (the southern tip of West Island in Fairhaven), southwesterly to Negro Ledge, and then southwesterly to Mishaum Point in Dartmouth (Figure 1).

The remediation of the Site involves the excavation and dredging of approximately 900,000 cubic yards of PCB-contaminated sediment. The majority of the contaminated material is being removed by a hydraulic dredge that pumps a spoils-slurry to the project's Sawyer Street facility where it is mechanically processed to remove all sand, gravel, and debris. The remaining silt and clay slurry is then pumped to the Area D Dewatering Facility located on Herman Melville Boulevard where it is mechanically dewatered and transported off-site for disposal.

1.2 NORTH OF WOOD STREET AREA

Located at the far northern end of the Upper Harbor is the North of Wood Street (NWS) area. This location was prioritized for restoration activities based on the high levels of PCB contamination (especially in intertidal and shoreline areas) and the proximity to shoreline residential and recreational land use areas. The NWS area includes in-river sediments and marsh soils on the eastern and western shores of the river. The NWS study area extends from approximately 250-ft south of the Wood Street bridge to approximately 0.25 miles north of the bridge.

Sediments and marsh soils at the NWS area previously had PCB concentrations as high as 46,000 mg/kg. The 1998 ROD clean-up criteria that apply to the NWS area are: 1 mg/kg for residential shoreline areas, 10 mg/kg for sub-tidal sediments and mudflats, 25 mg/kg for the top foot of recreational land use shoreline soils and 50 mg/kg for shoreline soils deeper than the top foot in residential and recreational land use areas.

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 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 2005 to remove the remaining contamination. Samples collected before and after this effort showed an improvement in shoreline PCB concentrations (ENSR, 2006). Additional sampling was conducted in 2006, 2007, and 2008.

1.3 PROJECT OBJECTIVES AND SCOPE

Sampling occurs on an annual, or as needed basis as part of an environmental monitoring program coordinated with the New Bedford Harbor Superfund Site. The objective of the NWS monitoring program is to assess the potential recontamination of this previously remediated area due to sediment transport from unremediated areas or from areas undergoing active remedial dredging. Twenty-one (21) locations have historically been sampled in the NWS area, including 12 sediment stations in the river, 6 soil locations in

the remediated marsh area on the east side of the river south of River View Park, and 3 shoreline stations on the lumber yard site on the west side of the river (Figure 2). These 21 stations were sampled in April 2010 as part of the 2009 Environmental Monitoring, Sampling, and Analysis of the New Bedford Superfund Site performed by Woods Hole Group under contract to the USACE.



Figure 2. Basemap of the North of Wood Street Area and April 2010 sample locations

2.0 METHODS

Methods used to collect and analyze sediment samples are summarized below and described in detail in the project Field Sampling Plan (Woods Hole Group 2009A) and Quality Assurance Project Plan (Woods Hole Group 2009B). Twenty-one (21) locations were sampled in 2010, including 12 sediment stations in the river and 9 soil stations located at recreational land use shoreline soil areas along the east and west side of the river (Figure 2). To allow accurate comparisons over time, station locations were chosen based on locations sampled previously in 2006, 2007, and 2008.

2.1 SEDIMENT CORE COLLECTION

All locations for the collection of sediment cores were approved by the USACE and USEPA. Locations were provided in Massachusetts State Plane Mainland coordinates, and were converted into latitude and longitude using the program Corpscon 6. The WHG navigation system required all waypoints to be entered in geographic coordinates. Actual samples locations were recorded in geographic coordinates on the sediment sampling field logs and reentered into Corpscon 6 to convert the actual coordinates back into Massachusetts State Plane Mainland coordinates.

2.1.1 River Sediments

Sediment cores were collected with a push-core sampling device and a 2 5/8 inch inner diameter clear polycarbonate core barrel. A piston assembly inside the core barrel was used to create suction, thereby preventing excessive compaction during penetration and loss of sediment from the bottom of the barrel during recovery. In all cases, a one foot core was targeted.

The piston assembly was positioned just inside the leading end of the core liner and the piston line was held loosely on deck. The coring assembly was lowered into the water until the leading end of the core bore barrel was positioned at the sediment-water interface. At this point, the piston attachment line was then tied off securely on the deck, fixing the elevation of the piston assembly and creating a suction point at the sediment-water interface. During core barrel retrieval the piston line was held tight to maintain suction in the barrel and to overcome the suction holding the penetrated core barrel in place. Upon recovery of the core onto the survey vessel, the bottom end of the barrel was capped with a plastic end cap. After a gross decontamination of the coring device using site water, the core liner was removed from the socket, the piston was removed from the core liner, and the top of the core liner was fitted with a plastic end cap.

2.1.2 Shoreline Soils

Shoreline soil samples were collected in a 2 5/8 inch inner diameter clear polycarbonate core barrel inserted into a soil auger. When sampling with the soil auger, the auger head was pushed and rotated into the sediment until the depth of auger barrel was reached, approximately 6 inches. The collected sediment was removed from the auger by placing a core liner at the top of the auger barrel. The auger was then inverted, placing the sediment into the capped core liner. If necessary, a cleaned spoon was used to push the soil into the liner. This process was repeated until the required core depth was reached, at

least one foot. Both ends of the core barrel were capped and the core was stored vertically for transport to the lab trailer.

2.2 SEDIMENT CORE PROCESSING

Sample collection data, including collection date and time, station coordinates, and sample ID, were documented on Sediment Sampling Log forms (Appendix A). Acceptable cores were brought back to the field laboratory at the Sawyer Street facility for documentation, internal inspection, and subsampling. The internal inspection process included: 1) the splitting open of the core barrel, 2) archival photography, and 3) a geological description of the core, where the transitions between each type of sediment were recorded on a log sheet.

To begin internal inspection, each core barrel was placed into a clean 4 inch gutter and split by cutting along the entire length of the polycarbonate barrel with power shears. Cuts were made on opposite sides of the core barrel, 180 degrees apart. A clean piece of stainless steel wire (18 gauge) was used to slice through the middle of the barrel, using the two cuts in the barrel as guidelines. Care was used to prevent the wire from pulling obstructions (shells, rocks) down the core barrel and potentially mixing sediment layers. After splitting, the cores were rolled 90 degrees and separated. Following separation, the core was photographed (Appendix A). Each photograph contains the following elements in the frame:

- The sediment core;
- A tape measure or equivalent marked in decimal feet parallel to length of the core;
- A whiteboard or equivalent was placed next to the core with the following written information:
 - Sample ID – an alpha numeric code that identifies sample matrix, sampling year, station location, and depth interval sampled
 - Sample Date
 - Length of core

After photo documentation was complete, the core was geologically described by a trained sedimentologist (codes for types/colors). Textural descriptions were performed. Color descriptions followed the Munsell color classification. Material type, color, consistency, particle size, and odor, was documented on the Sediment Sampling Log forms (Appendix A). Each core was then subsampled for chemical analysis. Two 6-inch composite subsamples were taken from each core, homogenized, and placed into sample containers. The sample from the 0.0 – 0.5 foot interval was submitted for PCB analysis. The sample from the 0.5 – 1.0 foot interval was archived until further notice by the USACE. Samples were collected into pre-cleaned, 8-oz glass jars with Teflon lined lids. All samples were held on ice while in the field and then sent to Alpha Analytical Laboratories for PCB congener (NOAA 18) analysis or archiving.

2.3 POLYCHLORINATED BIPHENYL ANALYSES

The methods used by the laboratory have been summarized below and more detail can be found in detail in Alpha Analytical Laboratories SOP O-012 and the USEPA's SOP EIA-FLDPCB2 in the Quality Assurance Project Plan (Woods Hole Group 2009B).

Upon sample preparation an aliquot of a well mixed, homogeneous sediment sample is accurately measured for sample preparation. Generally, 5 grams of sediment is extracted from a 30 g field sample. The New Bedford Harbor QAPP requires 30 g of field sample sediment for extraction by Method 3540C Soxhlet Extraction, which is air dried to a minimum of >50% solids and generally >90% solids. The sample is spiked with surrogate compounds and then extracted using methylene chloride. The extract is dried and exchanged to hexane during sample concentration. After extraction, clean-up techniques are applied as necessary. The extract may be treated with Florisil (3620B) or GPC (3640A) for hydrocarbon and lipid removal, and copper (3660B) for sulfur removal. The extract is exchanged into hexane and concentrated to the appropriate volume, generally 10mL, and transferred for analysis. Prior to analysis, the extract is cleaned with sulfuric acid (3665A). Alternatively, this method can be employed for lower detection limits by decreasing the final volume to 1-5mL.

After clean-up and re-concentration, the extracts are analyzed on a gas chromatograph (GC) which is fitted with two capillary columns of differing polarities each employing separate detectors. This process follows a modified USEPA Method 8082 (WHG 2009B). The extracts of PCB Congeners are spiked with internal standards (IS) prior to analysis. The target analytes are resolved on each column and detected using an electron capture detector (ECD). Analytes are introduced into the GC/ECD by injecting a known volume of the calibration standards, quality control samples, and sample extracts into the GC which is temperature and flow programmed to separate the analytes. Identification of the target analytes is accomplished by confirming a target hit on two dissimilar columns using Retention Time (RT) and Pattern Recognition (PR). Concentrations are calculated from the ECD response using internal standard techniques. Sample results were reported in micrograms per kilogram ($\mu\text{g}/\text{kg}$) for the individual congeners.

For each batch of 20 or fewer samples, a laboratory method blank, LCS/LCSD, MS and MSD was processed and analyzed with the field samples.

PCB congener results are reported in mg/kg dry weight and to two significant figures in this report. Concentrations of total PCB were calculated using the congener results. Total PCB was calculated as the sum of the 18 NOAA congeners multiplied by the project-specific regression factor of 2.6. A value of zero (0) was used in the summation for non-detects.

2.4 QUALITY ASSURANCE/QUALITY CONTROL

2.4.1 Decontamination

All of the sampling equipment was decontaminated prior to use in the field and between stations to prevent cross-contamination. The decontamination procedure specified in

EPA Region II, CERCLA Quality Assurance Manual from October 1989, Revision 1 (WHG 2009B) was implemented prior to each station for sampling equipment that came into direct contact with the media to be sampled (e.g., PONAR grab sampler, stainless steel bowls, spoons, etc.). The EPA Region II procedures used for decontamination are summarized below (solvents used during decontamination activities were collected and stored for disposal at the laboratory):

- 1) Rinse with tap water or site water for gross decontamination
- 2) Clean with non-phosphate soap (Liquinox) and tap water
- 3) Rinse with Milli-Q or deionized water
- 4) Rinse with Acetone^a
- 5) Let air-dry

^a Used if oily contamination is apparent and only on metal/stainless steel surfaces.

2.4.2 Field-Based Quality Control Samples

One replicate or field duplicate sediment sample was collected during the April 2010 sampling event. The replicate sample was collected adjacent to the field sample collected at Station 033 (within ~4 feet). The purpose of this sample was to ensure that field procedures did not affect the quality of the data. Field duplicate samples are used to evaluate the sampling procedure and analytical precision. The sample was collected using the same techniques, and were handled, containerized, preserved, stored and transported in the same manner as field samples. An equipment blank sample was also collected. This sample was collected by pouring laboratory quality deionized water through the cleaned auger between two sample collections. Analyzing this sample verified that decontamination methods were adequate. All field-based QC samples were analyzed by the same laboratory.

2.4.3 Laboratory-Based Quality Control Samples

A routine suite of laboratory-based quality control (QC) samples were prepared with each set of field samples to evaluate data quality in terms of accuracy and precision. Quality control samples for PCB analysis included one procedural blank (also called a method blank or procedural method blank), one laboratory control sample (LCS), one matrix spike (MS) and one matrix spike duplicate (MSD) for each batch of 20 or fewer samples. In addition, a QA split sample was sent to ESS laboratory in Rhode Island for comparison to the AAL analyzed field sample at Station 039. The QA split sample from Station 039 was analyzed and reported in the same manner as all AAL analyzed samples. The QA split sample result from the ESS Laboratory was reported to the USACE Project Chemist, Mark Koenig.

3.0 RESULTS

Results from the 2009-2010 NWS sediment monitoring activities are described below. Complete field data collection and description logs, and digital photographs of the split cores are provided in Appendix A. Analytical reports from AAL are provided in Appendix B.

3.1 SEDIMENT AND SHORELINE SAMPLE COLLECTION

Twenty one (21) locations were sampled from the NWS area in April, 2010 (Figure 3). A total of 13 surface sediment samples (12 field samples + 1 field duplicate) were collected from the Acushnet River (Figure 3). A total of nine shoreline soil samples were also collected; six samples were collected from the eastern shoreline and three from the western shoreline (Figure 3). Sample collection data, including station ID, sample IDs, sample type, and station coordinates are summarized in Table 1. All samples were collected on April 6, 2010 and split open for internal description and subsampling on April 7, 2010.

No major issues were encountered during samples collection. Some difficulties arose sampling select in-river stations due to debris or rock (large gravel and cobbles) fouling sediment core penetration, therefore target locations had to be adjusted slightly in order to collect an acceptable core sample. Multiple fallen limbs and branches were observed in the river channel, likely a result of the storm events that affected the New Bedford area in the weeks before the NWS sampling effort. Many of the in-river push core samples contained a surface layer of fresh organic debris, mainly composed of leafy vegetation material, which may have been transported and deposited as a result of extreme precipitation events in March 2010.

3.2 PHYSICAL CHARACTERISTICS

River sediments and shoreline soils were visually characterized and physical characteristics, including material type, color, consistency, particle size, and odor, are documented on the Sediment Sampling Log forms provided in Appendix A. Digital photographs of the cores are also provided in Appendix A.

3.2.1 River Sediments

The physical characteristics of surface sediments collected at most river stations were similar, and were characterized by a thin layer of fine black silt with organic debris underlain by sand, clay or silt. The physical characteristics of sediment located closer to the shoreline and farther upstream were different compared to in-river sediment locations. For example, Stations 010 and 016, located at the northern boundary of the NWS area, were comprised of fine to coarse, grey-brown sand and gravel.

3.2.2 Shoreline Soils

Soils located along the western shore were generally comprised of firm brown organic material with sand and gravel. Soils located along the eastern shore were generally comprised of fine to coarse, brown organic silt and sand underlain by gravel, silt and sand. Shoreline soils at stations NWS-33, NWS-34, and NWS-37 had a more uniform composition within the top one foot.

Table 1. Summary of Samples Collected at NWS Area in April 2010

Station	Sample ID	Sample Type	Easting (NAD83 MA ft)	Northing (NAD83 MA ft)
C009-010	S-10A-C001-0-0.5	river sediment	2709125.372	815354.614
	S-10A-C001-0.5-0.9			
C009-016	S-10A-C002-0-0.5	river sediment	2708937.417	815401.429
	S-10A-C002-0.5-0.9			
C009-023	S-10A-C003-0-0.5	river sediment	2708816.017	815411.365
	S-10A-C003-0.5-1.0			
C009-028	S-10A-C004-0-0.5	river sediment	2708706.639	815403.006
	S-10A-C004-0.5-1.0			
C009-030E	S-10A-C005-0-0.5	shoreline soil	2708683.000	815498.784
	S-10A-C005-0.5-1.0			
C009-030W	S-10A-C006-0-0.5	shoreline soil	2708651.701	815362.403
	S-10A-C006-0.5-1.0			
C009-033	S-10A-C007-0-0.5	river sediment	2708615.604	815412.735
	S-10A-C007-0.5-1.0			
C009-033 REP	S-10A-C007-0-0.5REP	river sediment	2708615.636	815417.287
	S-10A-C007-0.5-1.0REP			
C009-038	S-10A-C008-0-0.5	river sediment	2708518.217	815381.528
	S-10A-C008-0.5-1.0			
C009-039	S-10A-C009-0-0.5	river sediment	2708512.331	815408.887
	S-10A-C009-0.5-1.0			
C009-040	S-10A-C010-0-0.5	river sediment	2708512.673	815458.970
	S-10A-C010-0.5-0.9			
C009-048	S-10A-C011-0-0.5	river sediment	2708390.900	815414.270
	S-10A-C011-0.5-1.0			
C009-049	S-10A-C012-0-0.5	river sediment	2708403.388	815464.270
	S-10A-C012-0.5-1.0			
C009-055	S-10A-C013-0-0.5	river sediment	2708263.707	815465.225
	S-10A-C013-0.5-1.0			
C009-062	S-10A-C014-0-0.5	river sediment	2708167.222	815566.056
	S-10A-C014-0.5-1.0			
09-NWS-33	S-10A-C015-0-0.5	shoreline soil	2709040.193	815332.431
	S-10A-C011-0.5-1.0			
09-NWS-34	S-10A-C016-0-0.5	shoreline soil	2708924.835	815337.772
	S-10A-C016-0.5-1.0			
09-NWS-35	S-10A-C017-0-0.5	shoreline soil	2708755.939	815507.391
	S-10A-C017-0.5-1.0			
09-NWS-36	S-10A-C018-0-0.5	shoreline soil	2708762.075	815516.455
	S-10A-C018-0.5-1.0			
09-NWS-37	S-10A-C019-0-0.5	shoreline soil	2708683.249	815535.207
	S-10A-C019-0.5-1.0			
09-NWS-38	S-10A-C020-0-0.5	shoreline soil	2708816.639	815502.423
	S-10A-C020-0.5-1.0			
09-NWS-39	S-10A-C021-0-0.5	shoreline soil	2708822.743	815506.934
	S-10A-C021-0.5-1.0			

3.3 POLYCHLORINATED BIPHENYLS

All NWS core samples were analyzed for the NOAA 18 PCB congeners. Determination of the total PCB congener concentration was calculated as the sum of the NOAA 18 congeners, multiplied by the site-specific regression factor of 2.6. A value of zero (0) was used in the case of non-detects. Total PCB concentrations are summarized in Table 2 and displayed in Figure 3. Complete laboratory analytical data are provided in Appendix B.

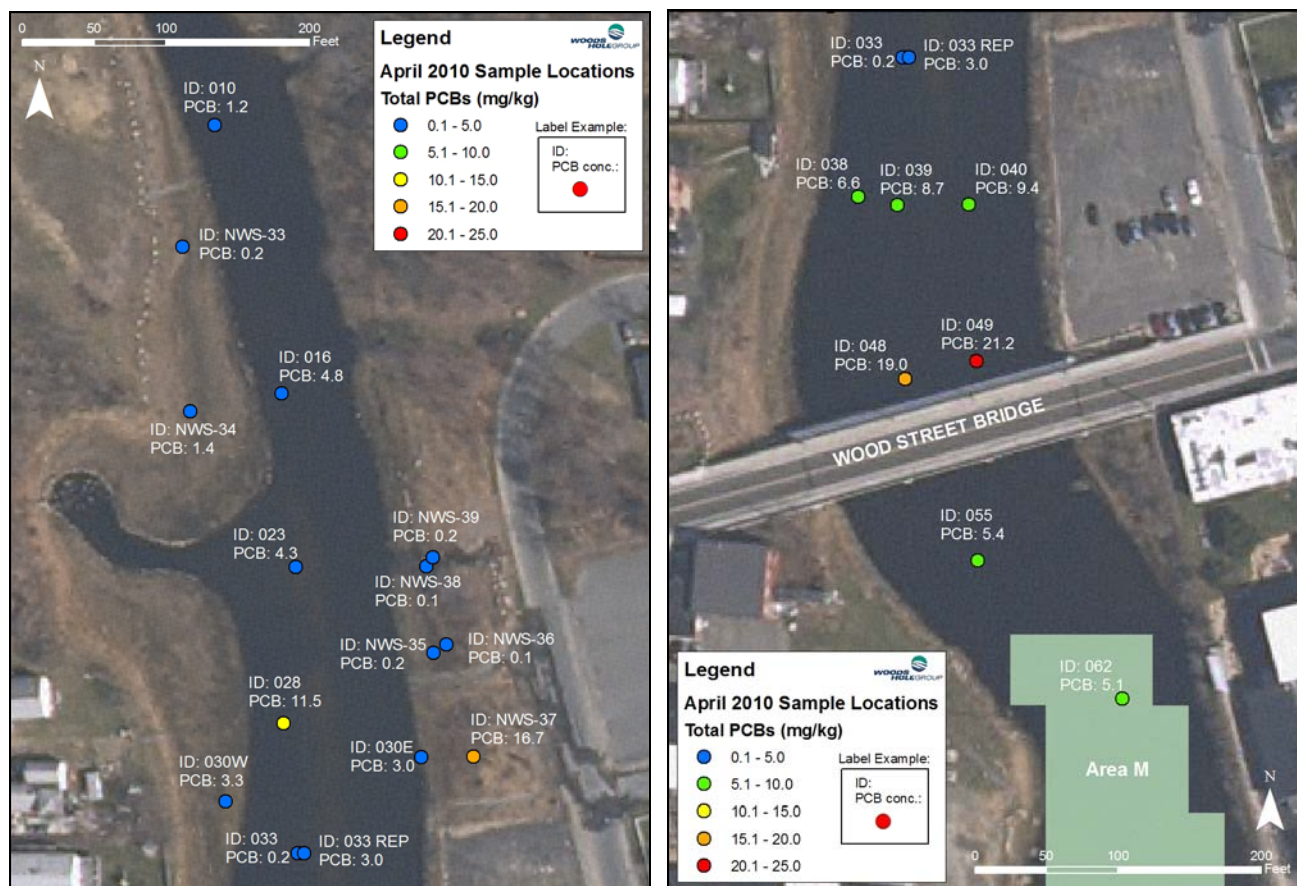


Figure 3. Total PCBs in Core Samples from NWS Area in April 2010 (left-hand image shows northern stations, right-hand, southern)

3.3.1 River Sediments

Total PCB concentrations in river sediment samples ranged from 0.23 mg/kg to 21.13 mg/kg. The highest concentrations of total PCBs (>10 mg/kg) were measured in surface sediment samples from Stations 048, 049 and 028, located towards the center of the river channel. Lower concentrations of total PCBs were measured in sediment samples collected closest to the shoreline and farthest upstream (Figure 3). Low concentrations of PCBs were also measured in sediment collected from the 2009 Dredge Area M, at station 062.

Table 2. Total PCBs in Core Samples from NWS Area in April 2010

River Sediment			Shoreline Soil		
Station ID	Sample ID	Total PCBs (mg/kg)	Station ID	Sample ID	Total PCBs (mg/kg)
C009-010	S-10A-C001-0-0.5	1.20	C009-030E	S-10A-C005-0-0.5	2.98
C009-016	S-10A-C002-0-0.5	4.80	C009-030W	S-10A-C006-0-0.5	3.30
C009-023	S-10A-C003-0-0.5	4.29	09-NWS-33	S-10A-C015-0-0.5	0.18
C009-028	S-10A-C004-0-0.5	11.52	09-NWS-34	S-10A-C016-0-0.5	1.36
C009-033	S-10A-C007-0-0.5	0.23	09-NWS-35	S-10A-C017-0-0.5	0.15
C009-033 REP	S-10A-C007-0-0.5REP	3.01	09-NWS-36	S-10A-C018-0-0.5	0.10
C009-038	S-10A-C008-0-0.5	6.64	09-NWS-37	S-10A-C019-0-0.5	16.72
C009-039	S-10A-C009-0-0.5	8.66	09-NWS-38	S-10A-C020-0-0.5	0.06
C009-040	S-10A-C0010-0-0.5	9.35	09-NWS-39	S-10A-C021-0-0.5	0.16
C009-048	S-10A-C011-0-0.5	18.97			
C009-049	S-10A-C012-0-0.5	21.23			
C009-055	S-10A-C013-0-0.5	5.43			
C009-062	S-10A-C014-0-0.5	5.11			

3.3.2 Shoreline Soils

Total PCB concentrations in the shoreline soils ranged from 0.06 mg/kg to 16.72 mg/kg. The highest concentration of total PCBs was measured in the soil from Station NWS-37, located on the eastern shore (Figure 3). This station also had higher than average concentrations of total PCBs in 2008 (4.5 mg/kg). The other shoreline samples contained less than 4 ppm total PCBs, and all shoreline soils were well within the 25 ppm PCB concentration limit for recreational areas.

3.4 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

3.4.1 Field Based Quality Control Samples

Quality assurance/quality control samples were collected in the field to ensure that field methods did not affect the quality of the data. The field replicate sample was analyzed to evaluate the sampling procedure and analytical precision. The replicate sample had a higher concentration of total PCBs than the field sample: 3.01 mg/kg in the replicate (033-REP) compared to 0.23 mg/kg in the field sample (033). This discrepancy is likely based on the spatial heterogeneity of the harbor sediments. The replicate core sample was collected approximately 10 feet from the field sample core. The equipment blank sample collected from the auger after decontamination between sample collections was analyzed containing 0.00 µg/L of the NOAA 18 PCB congeners.

3.4.2 Laboratory Based Quality Control Samples

Laboratory-based QC results are reported with the sample data in Appendix B of this report. Results from the analysis of laboratory-based QC samples for PCBs were evaluated against the project measurement quality objectives for accuracy and precision, as defined in the project QAPP (WHG 2009B). The evaluation is summarized in the QA/QC narrative of the AAL reports (Appendix B). Overall, results from the laboratory-

based QC samples for all tests parameters indicate that the laboratory methods were in control and the data is usable.

4.0 DISCUSSION

Several investigations have been conducted as part of the NWS monitoring program to characterize PCB contamination in the area since remediation activities were conducted in 2002-2003 (TTFW, 2004). A confirmatory sampling event was conducted by Tetra Tech FW, Inc. immediately following the remediation in February 2003. 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 and other remediation activities. The ENSR sampling events occurred in August 2004, May 2005, September 2005, and January 2006. Additionally, Battelle conducted sampling events in November 2006, November/December 2007, and November/December 2008 to further assess potential recontamination of the NWS area. The NWS sample collection that occurred in April 2010 was the ninth event since remediation.

Long-term monitoring data indicate that total PCB concentrations are spatially and temporally variable in river sediments, whereas shoreline soil concentrations are not.

4.1 RIVER SEDIMENTS

Total PCB concentrations measured in river sediments at the NWS area between 2003 and 2010 are summarized in Table 3. Station-specific concentrations and system-wide averages of total PCBs between 2003 and 2010 (if applicable) are plotted in Figures 4 and 5, respectively. The system-wide average concentration was calculated as the average Total PCB concentration across all stations within a given sampling event. Sediment data from the 2003–2010 monitoring period show that total PCB concentrations in river sediment at the NWS area are spatially and temporally variable (Figures 4 and 5), which makes it difficult to discern clear trends in the data.

The lowest concentrations of total PCB in river sediment were measured in 2003, immediately following the remediation of the NWS area in the winter of 2002-2003. A post-remediation increase in total PCB concentrations was observed in 2004. Post-remediation levels in 2010 have decreased at most stations and are similar to the initial post-remediation analytical results from 2003. The increase between 2003 and 2007 was small (13-17 mg/kg) at some stations (C007-016, 023, 040, 049, 062) and larger (42-269 mg/kg) at other stations (C007-028, 033, 038, 039, 048, and 055). Post-remediation, the system-wide average concentrations of total PCBs in sediment at the NWS area have ranged between 3.7 mg/kg in 2003, to 63.9 mg/kg in 2007.

Table 3. Total PCBs in river sediments at NWS area

Station ID	Total PCBs (mg/kg)								
	Jan/Feb 2003	Aug 2004	May 2005	Sept 2005	Jan 2006	Nov 2006	Nov/Dec 2007	Nov/Dec 2008	Apr 2010
C009-010	6.1 (D)	20	-	81	0.99	2.4	4.5	2.3	1.20
C009-016	4.6 (D)	13	-	18	16	15	29/30	29	4.80
C009-023	8.3 (D)	22	3.8	2	6.6	8.5	23	44/51 ^b	4.29
C009-028	0.49 (DU)	63	9.8	0.22	11	18	78	76	11.52
C009-030E	-	-	-	0.7	88	0.72	0.44	1.1	2.98
C009-030W	-	-	-	0.4	5.2	0.16	0.4	0.98	3.30
C009-033	0.39 (DU)	64	22	1.1	17	93	120	74	0.23/3.01 ^a
C009-038	0.45 (DU)	36	-	4.7	8.6	1.8	68	33	6.64
C009-039	0.54 (DU)	64	4.6	-	-	13	270	140	8.66
C009-040	2.9 (D)	72	79	73	190	47	20	24	9.35
C009-048	0.43 (DU)	23	9	-	-	100	43	46	18.97
C009-049	12 (D)	160	36	5.9	3.9	12	25	23/26 ^b	21.13
C009-055	0.42 (DU)	61	-	7	20	9.6	190	180/150 ^a	5.43
C009-062	7.4 (D)	19	-	0.87	1.3	40	23	58	5.11

D: result from dilution analysis; U: non detects = detection limit reported (ENSR)

a – result for field replicate sample

b – total PCB result based on homologue analysis

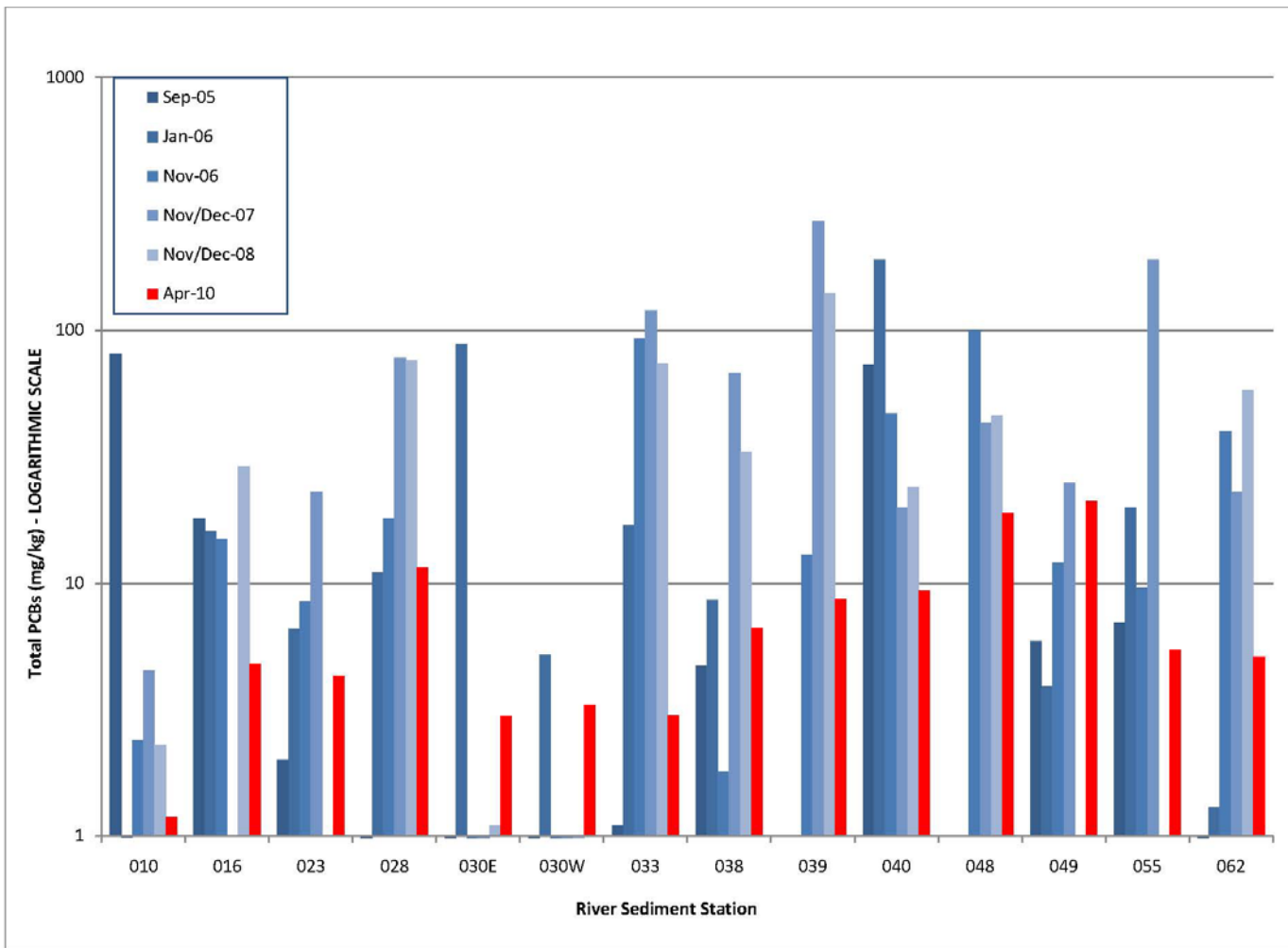


Figure 4. Station specific trends in total PCBs for river sediments in NWS area

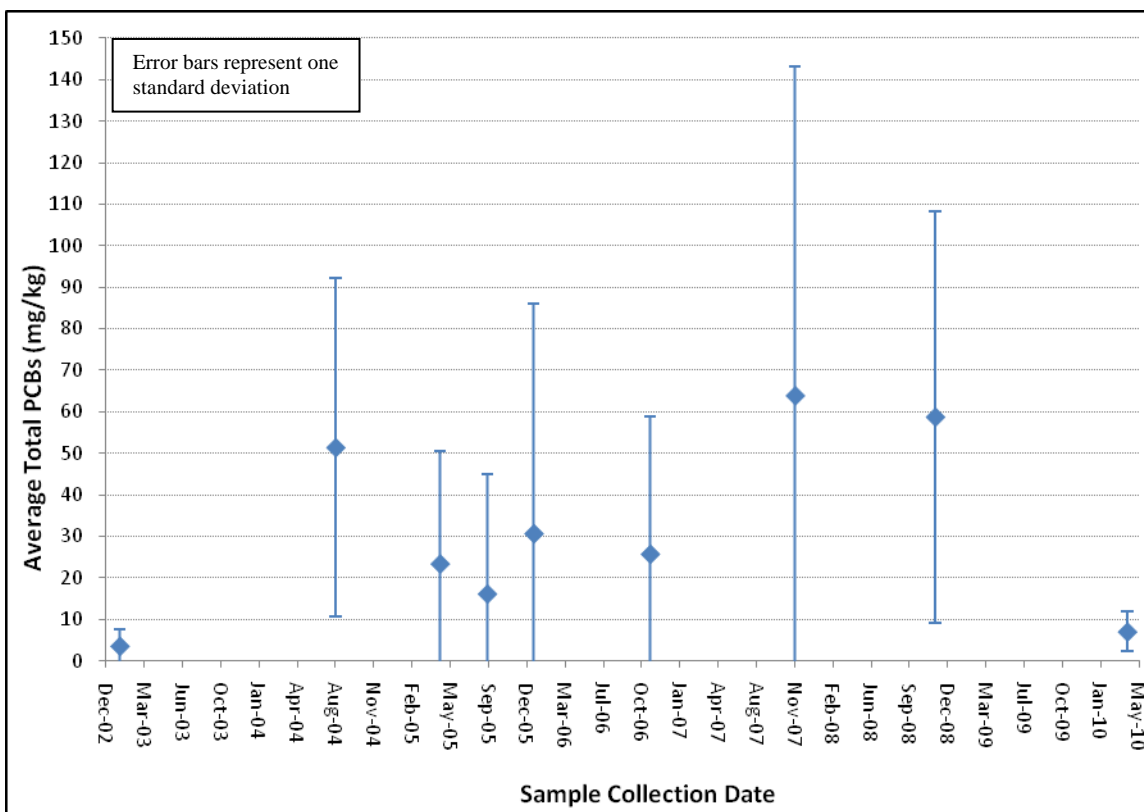


Figure 5. System-wide trends in the average Total PCB concentration for river stations in NWS area

The February 2003 confirmatory sampling dataset serves as the post-remediation baseline for PCB contamination levels in subsequent sampling events to be compared against. Statistical analysis of variance (ANOVA) indicates that post-remediation monitoring data from all sampling events, except September 2005 and April 2010, are significantly higher than the concentrations observed immediately following remediation in February 2003. The post-remediation increase could have resulted from contaminant transport from the upper harbor during dredging activities (or from transport during non-dredging times). However, remediation activities during the 2009 season were in closest proximity to the NWS area and the 2010 data indicate that Total PCB concentrations in river sediments decreased significantly from 2008. Although no analysis has been performed to support this hypothesis, the decrease in concentration of total PCBs in both river and shoreline sediment samples collected in April 2010 may be attributed to a natural “flushing” of the NWS area by the extremely high flow conditions experienced in the Acushnet River during late March 2010. The high flow conditions in the river were caused by extreme rainfall totals in the Acushnet River watershed over the course of 2–3 days. For example, the cumulative rainfall totals between 14:00 Sunday March 28, and 08:00 Wednesday March 31 (66 hours), were 5.27, 6.05, and 7.12 inches at New Bedford, Acushnet, and Taunton, respectively (NOAA, 2010). Despite the significant decrease in Total PCB concentration, a sediment trap study conducted during the 2009 dredge season indicated

that PCBs are actively transported and deposited in the NWS area during the active dredge season, and during periods of inactivity.

Independent of the processes controlling contaminant distribution, the 2010 dataset indicates that the NWS area presently contains Total PCB concentrations comparable to those observed following the remediation of the area in 2003.

4.2 SHORELINE SOILS

Total PCB concentrations in shoreline soils are summarized in Table 4 and plotted in Figure 6. Analytical results of PCB concentrations from post-remediation sampling conducted in 2006, 2007, 2008 and 2010 suggest that the remediation was effective, and has been maintained. Total PCB concentrations, at all sampling stations, have consistently measured below the 1998 ROD criteria of 25 mg/kg for recreational shoreline land use in the soil north of Wood Street.

Table 4. Total PCBs in Shoreline Soils at NWS Area

Station ID	Total PCBs (mg/kg)			
	Nov 2006	Nov 2007	Nov 2008	Apr 2010
Western Shoreline				
09-NWS-33	0.014	0.089	0.19	0.18
09-NWS-34	3.4	7.4	0.2	1.36
Eastern Shoreline				
09-NWS-35	0.27	0.19	0.67	0.15
09-NWS-36	0.14	0.31	0.18	0.10
09-NWS-37	0.35	4.5	0.13	16.72
09-NWS-38	0.15	0.26	0.076	0.06
09-NWS-39	0.082	0.035/0.06 ^a	0.14	0.16

a – result for field replicate sample

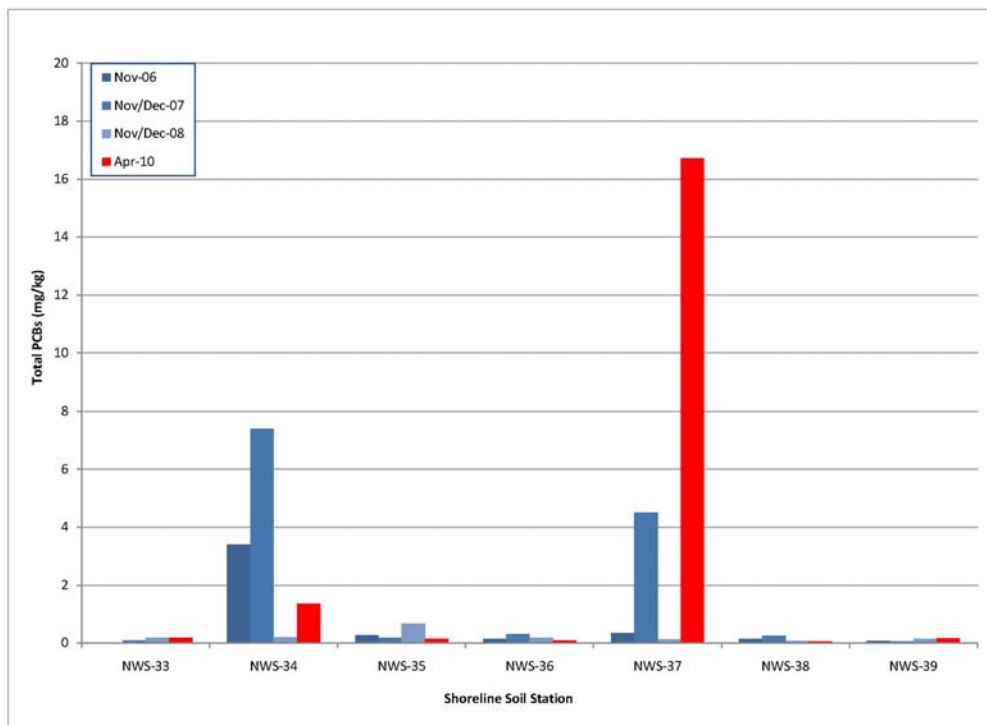


Figure 6. Station-Specific Trends in Total PCBs for Shoreline Soils in NWS Area

Substantive changes in shoreline PCB concentrations between 2006 and 2010 were not observed, except at station NWS-34, and at station NWS-37 where the concentration increased by an order of magnitude in 2010 compared to 2008 and 2006 results. The monitoring data indicate that concentrations of total PCBs in shoreline soils have been uniformly low both spatially and temporally, except at stations NWS-34 and NWS-37.

Annual sediment monitoring will continue at the NWS area as needed to assess the potential for recontamination from the unremediated harbor areas via anthropogenic disturbances and natural sediment transport processes.

5.0 REFERENCES

ENSR Corporation. 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. March.

NOAA. 2010. <http://www.hpc.noaa.gov/discussions/nfdsccl.html>. Storm Summary Message. The Hydrometeorological Prediction Center. Camp Springs, MD.

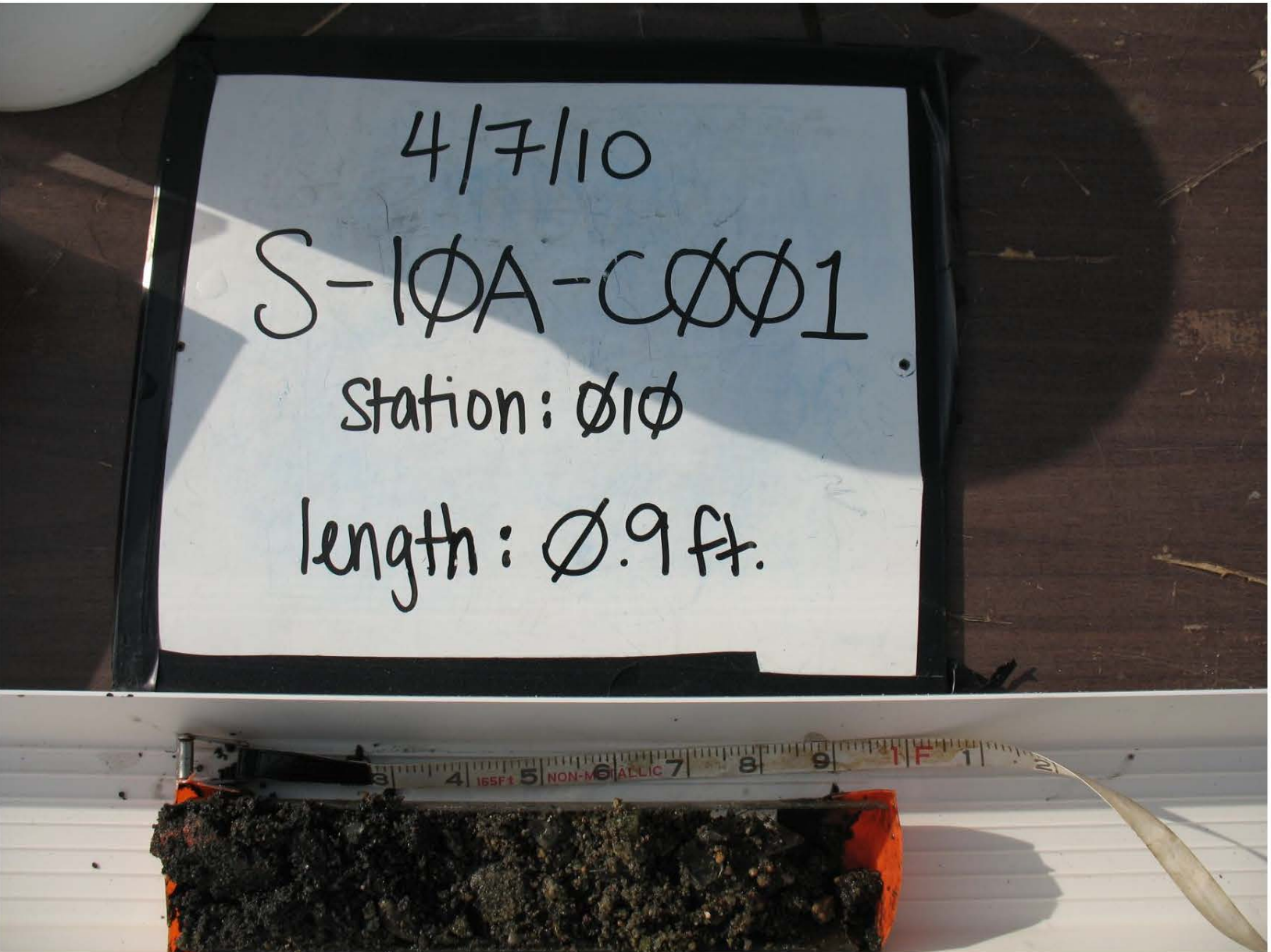
Tetra Tech FW, Inc. 2004. North of Wood Street Confirmatory Sampling Report, New Bedford Harbor Superfund Site. August.

Woods Hole Group. 2009A. Environmental Monitoring, Sampling and Analysis Water Quality Monitoring Field Sampling Plan. New Bedford Harbor Superfund Site, New Bedford, MA. Prepared under Contract W912WJ-09-D-0001 Task Order No 0010 for the U.S. Army Corps of Engineers New England District, Concord, MA.

Woods Hole Group. 2009B. Environmental Monitoring, Sampling and Analysis Quality Assurance Project Plan Addendum. New Bedford Harbor Superfund Site, New Bedford, Massachusetts. Prepared under Contract W912WJ-09-D-0001 Task Order No 0010 for the U.S. Army Corps of Engineers New England District, Concord, MA.

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**APPENDIX A. NORTH OF WOOD STREET CORE
PHOTOGRAPHS AND FIELD LOGS**





Project Name: New Bedford Harbor Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Date: 4/6/10 Station ID: Ø16 All Measurements are ± 0.1 feet

Logged By: DB Core Sample ID: S-1ØA-CØØ2 Water Depth (A): /

Collection Mechanism: POPC Latitude: 41°40.796 Length of Push Core Assembly (B): /

Time on Station: 12:53 Longitude: 70°55.026 Water Surface to Top of Handle (C): /

Time of Collection: 12:57 GPS Accuracy: _____ Length of Core (from bottom) (D): Ø.9

Time Depart Station: 13:00 Tide Elevation (from tide board) (G): _____

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NGVD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

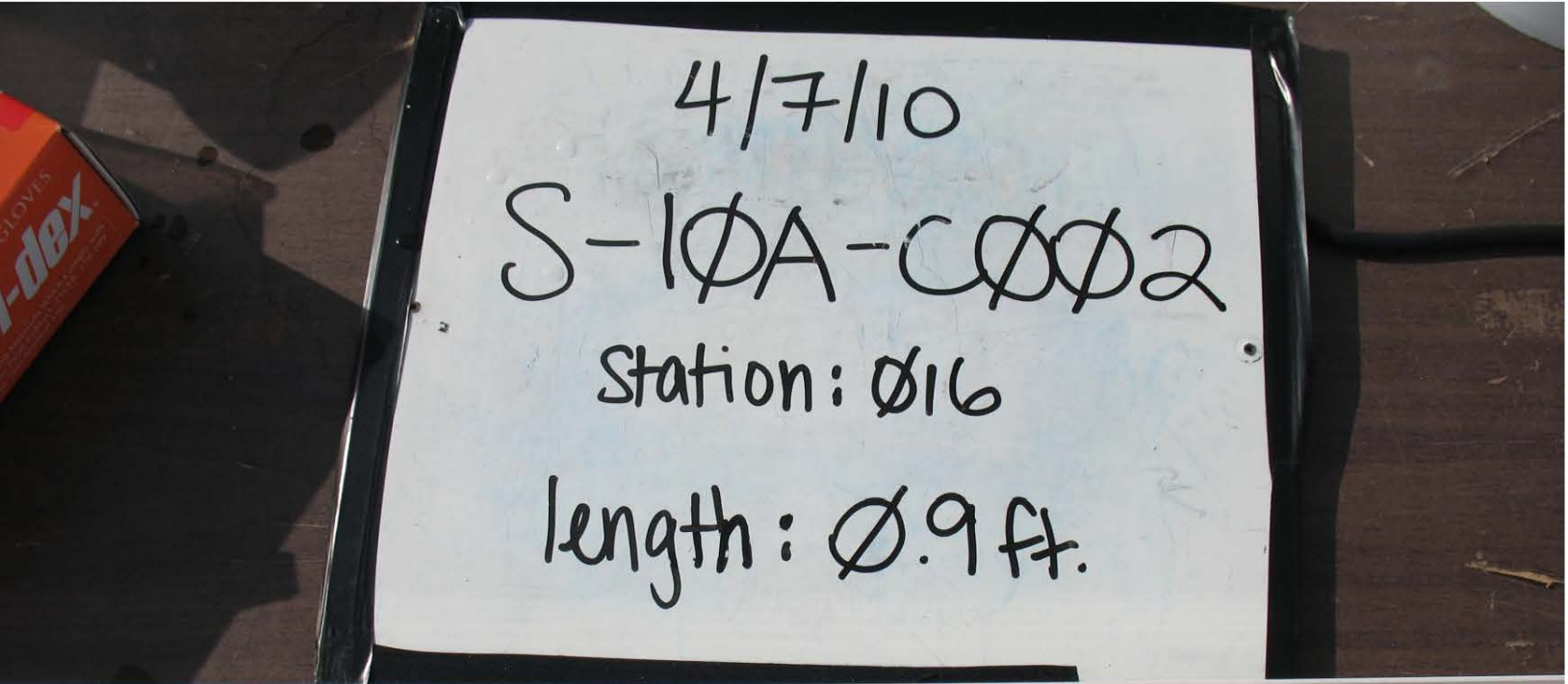
(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if $I \neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (see Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
0.0	well sorted medium sand	(2.5y 3/3)	dark brown	loose	medium	H ₂ S when split	S-1ØA- CØØ2- 0-0.5
0.3	clayey sand, well sorted	medium grain	(2.5y 3/1)	firm	1cm gravel	none	
0.55	clay w/ sand & gravel	(2.5y 2.5Ø/1)	black	firm	2cm gravel	H ₂ S when split	S-1ØA- CØØ2- 0.5-0.9
0.9							

Comments: sampled to refusal: < 1 ft, rocky bottom
 split open and sampled on 4/7/10



Project Name: New Bedford Harbor Environmental Monitoring Project #: W912WJ-09-D-0001, Task Order No. 0010
 Location: New Bedford, MA Vessel:
 Client: USACE NAE Chief Scientist:

Date: 4/6/10 Station ID: Ø23 All Measurements are ± 0.1 feet
 Logged By: DB Core Sample ID: KM S-10A-CØØ3 Water Depth (A): ~~_____~~
 Collection Mechanism: PC Latitude: 41° 40.776' Length of Push Core Assembly (B): ~~_____~~
 Time on Station: 18:10 Longitude: 70° 55.024' length of core 1.Ø ft.
 Time of Collection: 13:20 GPS Accuracy: _____ Length of Core (from bottom) (D): ~~_____~~
 Time Depart Station: 13:22 Tide Elevation (from tide board) (G): ~~_____~~

Calculations for Determination of Z* Elevation
 (G) Elevation of Water Surface (NGVD) (as read from tide board): _____
 (H) Elevation of the bottom of the core (NGVD): G - (B - C) _____
 (Z*) Elevation of visual transition (NGVD): H + (distance to visual transition) _____
 (I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): H + D _____
 (I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): G - A _____

(Note if I ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) to Bottom - B	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
Ø.Ø 0.25	organic silty detritus, w/ green poorly sorted w/ gravel	medium sand	black (2.5y 2.5/1)	loose	medium 1.5Øm	none	S-10A-CØØ3-Ø-Ø.5
	clay w/ minimal organic detritus		(2.5y 3/2) dark brown/grey	firm	very fine	KM H ₂ S when sampled	S-10A-CØØ3-Ø.5-1.Ø
0.85 0.95 1.Ø	layer of woody material						

Comments
 split open and sampled on 4/7/10



Project Name: New Bedford Harbor Environmental Monitoring		Project #: W912WJ-09-D-0001, Task Order No. 0010	
Location: New Bedford, MA		Vessel:	
Client: USACE NAE		Chief Scientist:	
Date: <u>4/6/10</u>	Station ID: <u>Ø28</u>	All Measurements are ± 0.1 feet	
Logged By: <u>KM</u>	Core Sample ID: <u>S-1ØA-CØØ4</u>	Water Depth (A)	
Collection Mechanism: <u>PC</u>	Latitude: <u>41°40.758'</u>	Length of Push Core Assembly (B)	
Time on Station: <u>13:25</u>	Longitude: <u>70°55.026'</u>	Water Surface to Top of Handle (C)	
Time of Collection: <u>13:30</u>	GPS Accuracy: _____	Length of Core (from bottom) (D)	
Time Depart Station: <u>13:32</u>		Tide Elevation (from tide board) (G)	
Calculations for Determination of Z* Elevation			
(G) Elevation of Water Surface (NGVD) (as read from tide board):		_____	
(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$		_____	
(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$		_____	
(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$		_____	
(I ₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$		_____	
(Note if $I \neq I_2$ within + 1.0 feet, discard and resample)			

Elevation (NGVD) (± Bottom)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
Ø.Ø	organic detritus w/ fine sand, silt, clay		black 2.5y 2.5/1	loose	fine		S-1ØA- CØØ4- Ø-Ø.5
Ø.2	clay		2.5y 3/2	firm	very fine	H ₂ S	
1.2							S-1ØA- CØØ4- Ø.5-1.Ø
1.3	sand w/ clay & gravel				medium		

Comments
split open and sampled on 4/7/10





Project Name: New Bedford Harbor Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Date: 4/6/10 Station ID: Ø3Ø-E All Measurements are ± 0.1 feet

Logged By: KM Core Sample ID: S-1ØA-CØØS Water Depth (A): ~~X~~

Collection Mechanism: ag Latitude: 41°40.754' Length of Push Core Assembly (B): ~~X~~

Time on Station: 10:06 Longitude: 70°55.005' Water Surface to Top of Handle (C): ~~X~~

Time of Collection: 10:10 GPS Accuracy: _____ Length of Core (from bottom) (D): 1.4

Time Depart Station: 10:15 Tide Elevation (from tide board) (G): ~~X~~

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NGVD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (no. Bottom = H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
Ø.Ø	fine sandy silt w/ fibrous detritus, gradually less detritus w/ increasing depth	fibrous	2.5 3/2 dark brown	firm	gravel ~ 2cm	unique w/ odor, fine diff. to describe	S-1ØA-CØØS-Ø.Ø-Ø.5 S-1ØA-CØØS-Ø.5-1.Ø

1.4

Comments: Split open and sampled on 4/7/10





Project Name: New Bedford Harbor Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Date: 4/6/10 Station ID: Φ3ΦW All Measurements are ± 0.1 feet

Logged By: KM Core Sample ID: S-1ΦA-CΦΦ6 Water Depth (A): X

Collection Mechanism: Aug Latitude: 41°40.7491 Length of Push Core Assembly (B): X

Time on Station: 11:05 Longitude: 70°55.035' Water Surface to Top of Handle (C): X

Time of Collection: 11:07 GPS Accuracy: _____ Length of Core (from bottom) (D): 1.5ft

Time Depart Station: 11:15 Tide Elevation (from tide board) (G): X

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NGVD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(Z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(J) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I ≠ J, within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
0.0	fine sandy silt w/ organic detritus, small gravel throughout	fibrous	2.5y 3/2	firm	1cm gravel	unique odor, soft of sweet	S-1ΦA- CΦΦ6- Φ-Φ.5
1.5	gradually less detritus w/ increasing depth		dark brown				S-1ΦA- CΦΦ6- Φ.5-1.0

Comments: split open and sampled on 4/7/10



Project Name: New Bedford Harbor Environmental Monitoring		Project #: W912WJ-09-D-0001, Task Order No. 0010	
Location: New Bedford, MA		Vessel:	
Client: USACE NAE		Chief Scientist:	
Date: <u>4/6/10</u>	Station ID: <u>033</u>	All Measurements are \pm 0.1 feet	
Logged By: <u>KM</u>	Core Sample ID: <u>S-1A-C007</u>	Water Depth (A) X	
Collection Mechanism: <u>PC</u>	Latitude: <u>41° 40.743'</u>	Length of Push Core Assembly (B) X	
Time on Station: <u>13:35</u>	Longitude: <u>70° 55.024'</u>	Water Surface to Top of Handle (C) X	
Time of Collection: <u>13:38</u>	GPS Accuracy: _____	Length of Core (from bottom) (D) <u>1.35</u>	
Time Depart Station: <u>13:52</u>		Tide Elevation (from tide board) (G) X	
Calculations for Determination of Z* Elevation			
(G) Elevation of Water Surface (NGVD) (as read from tide board):		_____	
(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$		_____	
(Z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$		_____	
(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$		_____	
(I ₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$		_____	
(Note if I \neq I ₂ within + 1.0 feet, discard and resample)			

Elevation (NGVD) (i.e. Bottom = H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
0.0	coarse poorly sorted sand w/ gravel		2.5y 3/3	loose	4cm gravel	none	S-1A- C007- 0-0.5
0.4	medium to fine well sorted sand		2.5y 3/2	firm	<1cm	none	S-1A- C007- 0.5-1.0
0.9	fine sandy clay w/ gravel		2.5y 3/1	firm	3cm	none (slight H ₂ S)	
1.35							

Comments
split open: sampled on 4/7/10



Project Name: New Bedford Harbor Environmental Monitoring Project #: W912WJ-09-D-0001, Task Order No. 0010
 Location: New Bedford, MA Vessel:
 Client: USACE NAE Chief Scientist:

Date: 04/06/10 Station ID: 033 DUP. All Measurements are \pm 0.1 feet
 Logged By: DB Core Sample ID: S-1ΦA-CΦΦ7 REP Water Depth (A) _____
 Collection Mechanism: PC Latitude: 41° 40.743' Length of Push Core Assembly (B) _____
 Time on Station: 13:35 Longitude: 70° 55.023' Water Surface to Top of Handle (C) _____
 Time of Collection: 13:43 GPS Accuracy _____ Length of Core (from bottom) (D) 1.2
 Time Depart Station: 13:52 Tide Elevation (from tide board) (G) X

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NGVD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I \neq I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
0.0	very coarse sand w/ gravel, organic debris in top 0.1 ft.		2.5Y 3/3	loose	3cm	none	S-1ΦA- CΦΦ7- Φ-Φ.5 REP
0.4	fine grain sand, well sorted, some gravel		2.5Y 3/2	firm	1cm	none	S-1ΦA- CΦΦ7- Φ.5-1.Φ REP
1.1 1.2	clay w/ sand w/ gravel		2.5Y 3/1	firm	3cm	none	

Comments
 Split open; sampled on 4/7/10



Project Name: New Bedford Harbor Environmental Monitoring Project #: W912WJ-09-D-0001, Task Order No. 0010
 Location: New Bedford, MA Vessel:
 Client: USACE NAE Chief Scientist:

Date: 4/6/10 Station ID: Φ38 All Measurements are ± 0.1 feet
 Logged By: KM Core Sample ID: S-1ΦA-CΦΦ8 Water Depth (A) ~~_____~~
 Collection Mechanism: PC Latitude: 41°40.727' Length of Push: Core Assembly (B) ~~_____~~
 Time on Station: 13:55 Longitude: 70°55.031' Water Surface to Top of Handle (C) ~~_____~~
 Time of Collection: 13:55 ^{KM} 14:25 GPS Accuracy: _____ Length of Core (from bottom) (D) 1.4
 Time Depart Station: 14:29 Tide Elevation (from tide board) (G) ~~_____~~

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NGVD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B \cdot C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
0.0	Silt,		black 2.5y 2.5/1	loose	fine		S-1ΦA- CΦΦ8-
0.1	sandy clay w/ lots of shell hash, organic detritus (chucks of wood) poorly sorted fine to coarse sand		2.5y 3/1	firm	1cm		Φ-Φ.5 S-1ΦA- CΦΦ8- Φ.5-
1.3							
1.4	lots of oyster shell hash		2.5y 3/2				

Comments: took 3 unsuccessful cores - lost sed. @ bottom, bent core barrel due to hard bottom. kept 4th core: needed use of fingers split open & sampled on 4/7/10



Project Name: New Bedford Harbor Environmental Monitoring Project #: W912WJ-09-D-0001, Task Order No. 0010
 Location: New Bedford, MA Vessel:
 Client: USACE NAE Chief Scientist:

Date: 4/7/10 Station ID: 039 All Measurements are ± 0.1 feet
 Logged By: KM Core Sample ID: S-10A-C009 Water Depth (A) ~~_____~~
 Collection Mechanism: PC Latitude: 41° 40.726' Length of Push Core Assembly (B) ~~_____~~
 Time on Station: 14:30 Longitude: 70° 55.025' Water Surface to Top of Handle (C) ~~_____~~
 Time of Collection: 14:32 GPS Accuracy: _____ Length of Core (from bottom) (D): 1.2
 Time Depart Station: 14:35 Tide Elevation (from tide board) (G): ~~_____~~

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NVGD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I ≠ I₂ within + 1.0 feet, discard and resample)

	Elevation (NGVD) (i.e. Bottom - H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs	
0.0									
0.1		silt, organic detritus		black 2.5y 2.5y/1	loose fine			S-10A-C009- 0-0.5	S-10A-C009- 0-0.5 QA
0.4		silty sand, fine to coarse poorly sorted		2.5y 2.5/1	firm	1cm	none		
1.2		clayey sandy clay w/ lots of shell hash (oyster shell)		2.5y 3/1	firm	fine	none	S-10A-C009- 0.5-1.0	

Comments

Split open; sampled on 4/7/10
 QA SPLIT on top 1/2 ft.



Project Name: New Bedford Harbor Environmental Monitoring Project #: W912WJ-09-D-0001, Task Order No. 0010
 Location: New Bedford, MA Vessel:
 Client: USACE NAE Chief Scientist:

Date 4/6/10 Station ID 040 All Measurements are ± 0.1 feet
 Logged By KM Core Sample ID S-10A-C010 Water Depth (A) ~~X~~
 Collection Mechanism PC Latitude 41° 40.726' Length of Push Core Assembly (B) ~~X~~
 Time on Station 14:39 Longitude 70° 55.014' Water Surface to Top of Handle (C) ~~X~~
 Time of Collection 14:55 GPS Accuracy _____ Length of Core (from bottom) (D) 0.85
 Time Depart Station 15:05 Tide Elevation (from tide board) (G) ~~X~~

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NGVD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

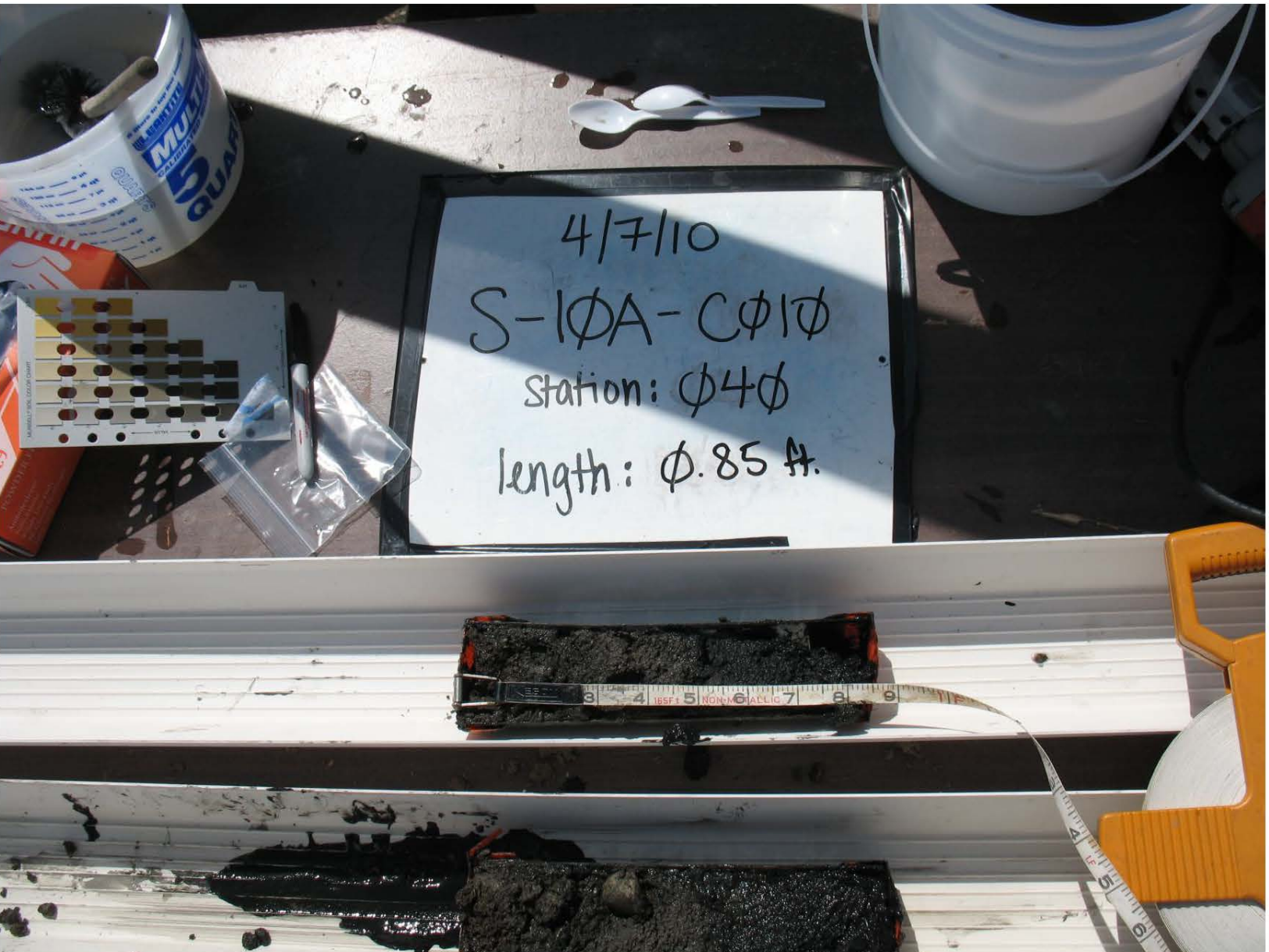
(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I \neq I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
<u>0.0</u>	<u>silt w/ organic debris, very fine sand</u>		<u>2.5y 2.5/1</u>	<u>loose</u>	<u>fine</u>		<u>S-10A- C010- 0-0.5</u>
<u>0.35</u>	<u>silty sand, poorly sorted fine sand to gravel</u>		<u>2.5y 3/3</u>	<u>firm</u>	<u>2-3 cm</u>		<u>S-10A- C010- 0.5-0.85</u> <u>0.9</u>
<u>0.85</u>							

Comments

2 unsuccessful grabs, hard bottom > 0.5 ft deep bent core barrel, reached refusal, kept 3rd core sample, used fingers, ~ 10 inches Split's sampled on 4/7/10



Project Name: New Bedford Harbor Environmental Monitoring		Project #: W912WJ-09-D-0001, Task Order No. 0010	
Location: New Bedford, MA		Vessel:	
Client: USACE NAE		Chief Scientist:	
Date: <u>4/6/10</u>	Station ID: <u>048</u>	All Measurements are ± 0.1 feet	
Logged By: <u>KM</u>	Core Sample ID: <u>S-10A-C011</u>	Water Depth (A): _____	
Collection Mechanism: <u>PC</u>	Latitude: <u>41°40.706'</u>	Length of Push Core Assembly (B): _____	
Time on Station: <u>15:19</u>	Longitude: <u>70°55.024'</u>	Water Surface to Top of Handle (C): _____	
Time of Collection: <u>15:21</u>	GPS Accuracy: _____	Length of Core (from bottom) (D): <u>1.5</u>	
Time Depart Station: <u>15:25</u>		Tide Elevation (from tide board) (G): _____	
Calculations for Determination of Z* Elevation			
(G) Elevation of Water Surface (NGVD) (as read from tide board):		_____	
(H) Elevation of the bottom of the core (NGVD): G - (B - C)		_____	
(z*) Elevation of visual transition (NGVD): H + (distance to visual transition)		_____	
(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): H + D		_____	
(I ₂) Elevation of the sediment-water interface as measured from water depth (NGVD): G - A		_____	
(Note if I ≠ I ₂ within + 1.0 feet, discard and resample)			

Elevation (NGVD) (i.e. Bottom - H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
0.0	silty organic detritus (leafy)		2.5y 2.5/1 black	loose	fine		S-10A-C011- 0-0.5
0.4	clay		2.5y 3/1	firm	fine	H ₂ S	
0.9	sandy clay w/ large gravel		2.5y 3/1	firm	5cm	H ₂ S	S-10A-C011- 0.5-1.0
1.2	medium to coarse well sorted sand		2.5y 5/3	loose	1cm		
1.45 1.5	sandy clay, coarse sand		2.5y 3/1	firm	1cm	H ₂ S	

Comments: Split and sampled on 4/7/10



Project Name: New Bedford Harbor Environmental Monitoring Project #: W912WJ-09-D-0001, Task Order No. 0010
 Location: New Bedford, MA Vessel:
 Client: USACE NAE Chief Scientist:

Date: 4/6/10 Station ID: Φ49 All Measurements are ± 0.1 feet
 Logged By: KM Core Sample ID: S-1ΦA-CΦ12 Water Depth (A): ~~_____~~
 Collection Mechanism: PC Latitude: 41°40.708' Length of Push: Core Assembly (B): ~~_____~~
 Time on Station: 15:06 Longitude: 70°55.013' Water Surface to Top of Handle (C): ~~_____~~
 Time of Collection: 15:10 GPS Accuracy: _____ Length of Core (from bottom) (D): 1.Φ
 Time Depart Station: 15:13 Tide Elevation (from tide board) (G): ~~_____~~

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NGVD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if $I \neq I_2$ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = 0)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
Φ.Φ	silt w/ organic detritus		2.5y 2.5/1	loose	fine		S-1ΦA- CΦ12- Φ-Φ.5
0.2	clay		2.5y 4/1	firm	fine		S-1ΦA- CΦ12- Φ.5-1.Φ
0.6	medium to fine well sorted sand		2.5y 4/4	firm	medium		
1.Φ							

Comments: retusal @ ~10 inches
split and sampled on 4/7/10



Project Name: New Bedford Harbor Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Date: 4/6/10 Station ID: Φ55 All Measurements are ± 0.1 feet

Logged By: KM Core Sample ID: S-1ΦA-CΦ13 Water Depth (A)

Collection Mechanism: PC Latitude: 41°40.685' Length of Push Core Assembly (B)

Time on Station: 15:27 Longitude: 70°55.013' Water Surface to Top of Handle (C)

Time of Collection: 15:31 GPS Accuracy: Length of Core (from bottom) (D): 1.Φ5

Time Depart Station: 15:35 Tide Elevation (from tide board) (G)

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NVGD) (as read from tide board):

(H) Elevation of the bottom of the core (NGVD): $G - (B + C)$

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$


(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$

(Note if I ≠ I₂, within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
Φ.Φ 0.1	<u>silty organic detritus</u>		<u>2.5Y 2.5/1</u>	<u>loose</u>	<u>fine</u>		<u>S-1ΦA- CΦ13- Φ-Φ.5</u>
	<u>Clayey sand, fine to coarse sand, poorly sorted</u>		<u>2.5Y 3/1</u>	<u>firm</u>	<u>1cm</u>		<u>S-1ΦA- CΦ13- Φ.5-1.Φ</u>

Comments: Split & sampled on 4/7/10




Project Name: New Bedford Harbor Environmental Monitoring **Project #:** W912WJ-09-D-0001, Task Order No. 0010
Location: New Bedford, MA **Vessel:**
Client: USACE NAE **Chief Scientist:**

Date: 4/6/10 **Station ID:** $\phi 62$ All Measurements are ± 0.1 feet
Logged By: KM **Core Sample ID:** S-1 ϕ A-C ϕ 14 Water Depth (A):
Collection Mechanism: PC **Latitude:** 41° 40.669' Length of Push Core Assembly (B):
Time on Station: 15:40 **Longitude:** 70° 55.54.991' Water Surface to Top of Handle (C):
Time of Collection: 15:44 **GPS Accuracy:** 16 ft. Length of Core (from bottom) (D): 1.2
Time Depart Station: 15:48 Tide Elevation (from tide board) (G): X

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NVGD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I \neq I₂, within + 1.0 feet, discard and resample)


$\phi. \phi$

Elevation (NGVD) (i.e. Bottom = H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
	Sandy silty clay stratified layers of fine to coarse, poorly sorted sand throughout, chuck of degraded wood at 0.4 and 0.8 ft.		2.5y 3/1	firm	1cm	none	S-1 ϕ A- C ϕ 14- ϕ - $\phi.5$
							S-1 ϕ A- C ϕ 14- $\phi.5$ -1. ϕ

1.2

Comments
 Split open and sampled on 4/7/10




 Project Name: New Bedford Harbor Environmental Monitoring Project #: W912WJ-09-D-0001, Task Order No. 0010
 Location: New Bedford, MA Vessel:
 Client: USACE NAE Chief Scientist:

Date: 4/6/10 Station ID: ^{KM} ~~NWS33~~ NWS-33 All Measurements are ± 0.1 feet
 Logged By: KM Core Sample ID: S-1ΦA-CΦ15 Water Depth (A): ~~_____~~
 Collection Mechanism: aug Latitude: 41° 40.813' Length of Push Core Assembly (B): ~~_____~~
 Time on Station: 10:44 Longitude: 70° 55.041' Water Surface to Top of Handle (C): ~~_____~~
 Time of Collection: 10:45 GPS Accuracy: _____ Length of Core (from bottom) (D): 1.3
 Time Depart Station: 10:47 Tide Elevation (from tide board) (G): ~~_____~~

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NGVD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I ≠ I₂ within + 1.0 feet, discard and resample)

Φ.Φ

Elevation (NGVD) (i.e. Bottom - H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
							S-1ΦA-CΦ15-Φ-Φ.5
							S-1ΦA-CΦ15-Φ.5

S-1ΦA-CΦ15-Φ-Φ.5 MSMST

1.3

Comments

split open and sampled on 4/7/10

QC sample collected





Project Name: New Bedford Harbor Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Date: 4/6/10 Station ID: NWS-34 All Measurements are ± 0.1 feet
 Logged By: KM Core Sample ID: S-1 ϕ A-C ϕ 16 Water Depth (A): ~~_____~~
 Collection Mechanism: aug Latitude: 41 $^{\circ}$ 40.794' Length of Push Core Assembly (B): ~~_____~~
 Time on Station: 10:50 Longitude: 70 $^{\circ}$ 55.040' Water Surface to Top of Handle (C): ~~_____~~
 Time of Collection: 10:52 GPS Accuracy: _____ Length of Core (from bottom) (D): 1.3
 Time Depart Station: 1 ϕ :55 Tide Elevation (from tide board) (G): ~~_____~~

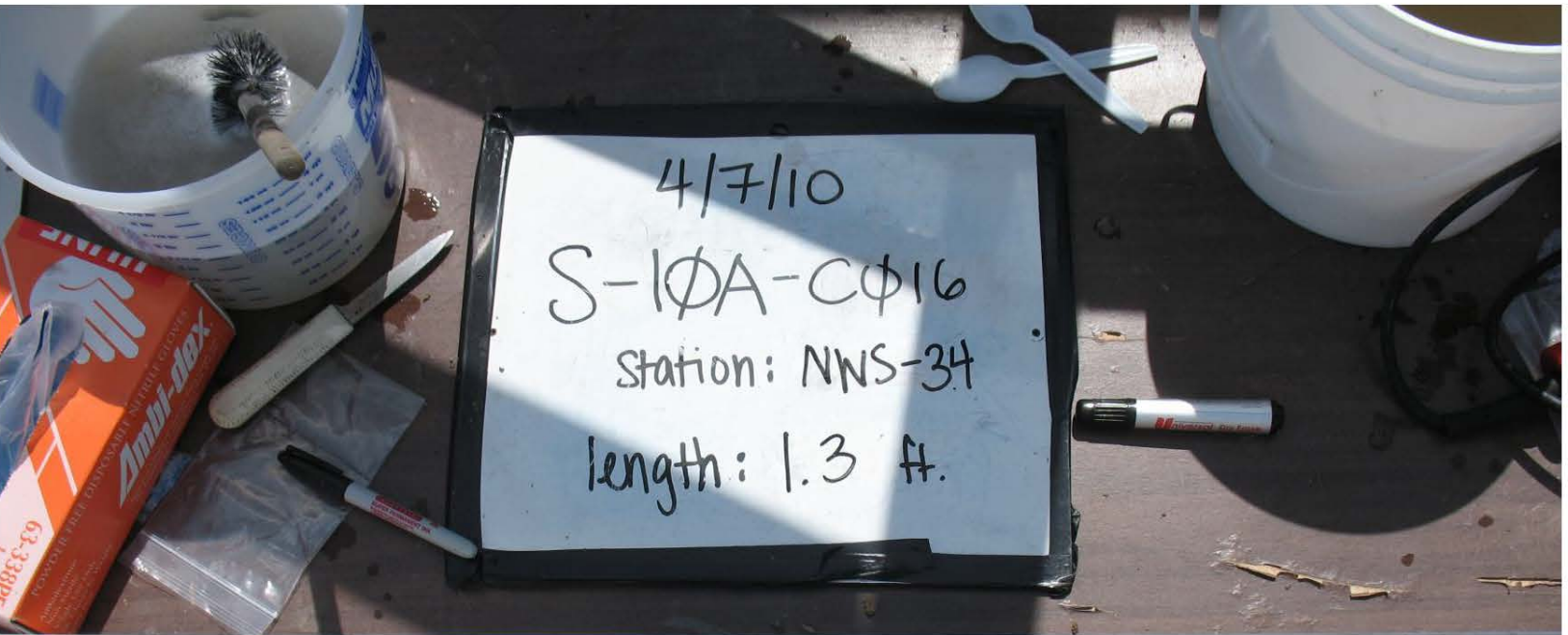
Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NVGD) (as read from tide board): _____
 (H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____
 (z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____
 (I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____
 (I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I \neq I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom - H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
$\phi - \phi$	Silty sand, organic debris (decreasing amount w/ increasing depth), some gravel throughout		2.5y	firm	2cm		S-1 ϕ A- C ϕ 16- $\phi - \phi.5$
			3/3				S-1 ϕ A- C ϕ 16- $\phi.5 - 1.\phi$
1.3							

Comments: Split open and sampled on 4/7/10





Project Name: New Bedford Harbor Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Date: 4/6/10 Station ID: NWS-35 All Measurements are ± 0.1 feet

Logged By: DB Core Sample ID: S-1ΦA-CΦ17 Water Depth (A): ~~_____~~

Collection Mechanism: ag Latitude: 41°40.766 Length of Push Core Assembly (B): ~~_____~~

Time on Station: 09:18 Longitude: 70°55.003 Water Surface to Top of Handle (C): ~~_____~~

Time of Collection: 09:23 GPS Accuracy: _____ Length of Core (from bottom) (D): 1.4

Time Depart Station: 09:25 Tide Elevation (from tide board) (G): ~~_____~~

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NGVD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

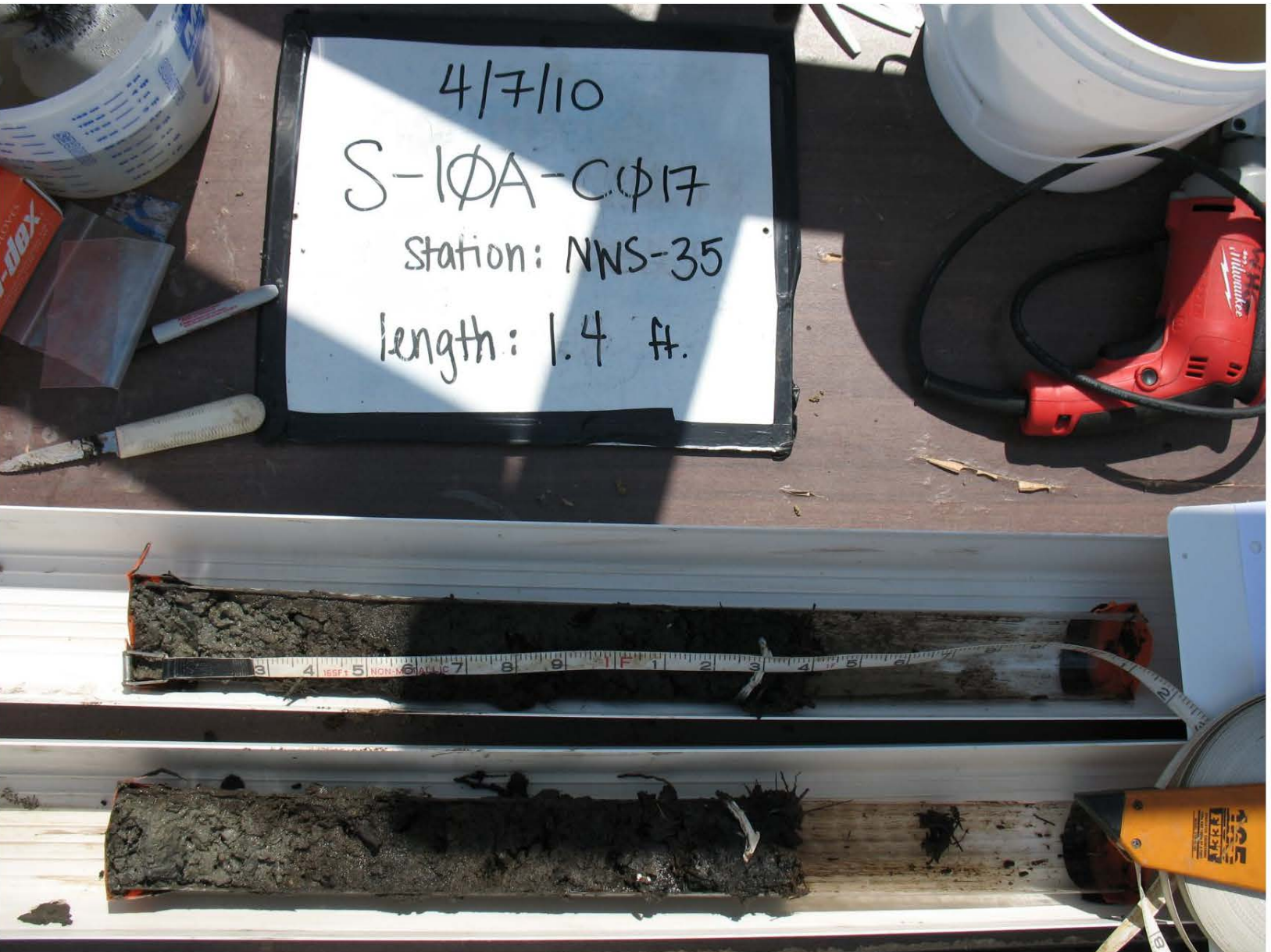
(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I ≠ I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom = H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
0.0			2.5y 3/2	firm	<1cm		S-1ΦA - CΦ17 - Φ - Φ.5 MSMSI
0.6			2.5y 3/2	firm	1cm		S-1ΦA - CΦ17 - Φ.5 - 1.0
1.1			2.5y 4/1	firm	2cm		

Comments: Split open and sampled on 4/7/10





Project Name: New Bedford Harbor Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Date: 04/06/10 Station ID: NWS-36 All Measurements are ± 0.1 feet

Logged By: DB Core Sample ID: S-1ΦA-CΦ18 Water Depth (A): ~~_____~~

Collection Mechanism: AG Latitude: 41° 40.767 Length of Push Core Assembly (B): ~~_____~~

Time on Station: 09:31 Longitude: 70° 55.001 Water Surface to Top of Handle (C): ~~_____~~

Time of Collection: 09:37 GPS Accuracy: _____ Length of Core (from bottom) (D): 1.2

Time Depart Station: 09:41 Tide Elevation (from tide board) (G): ~~_____~~

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NVGD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

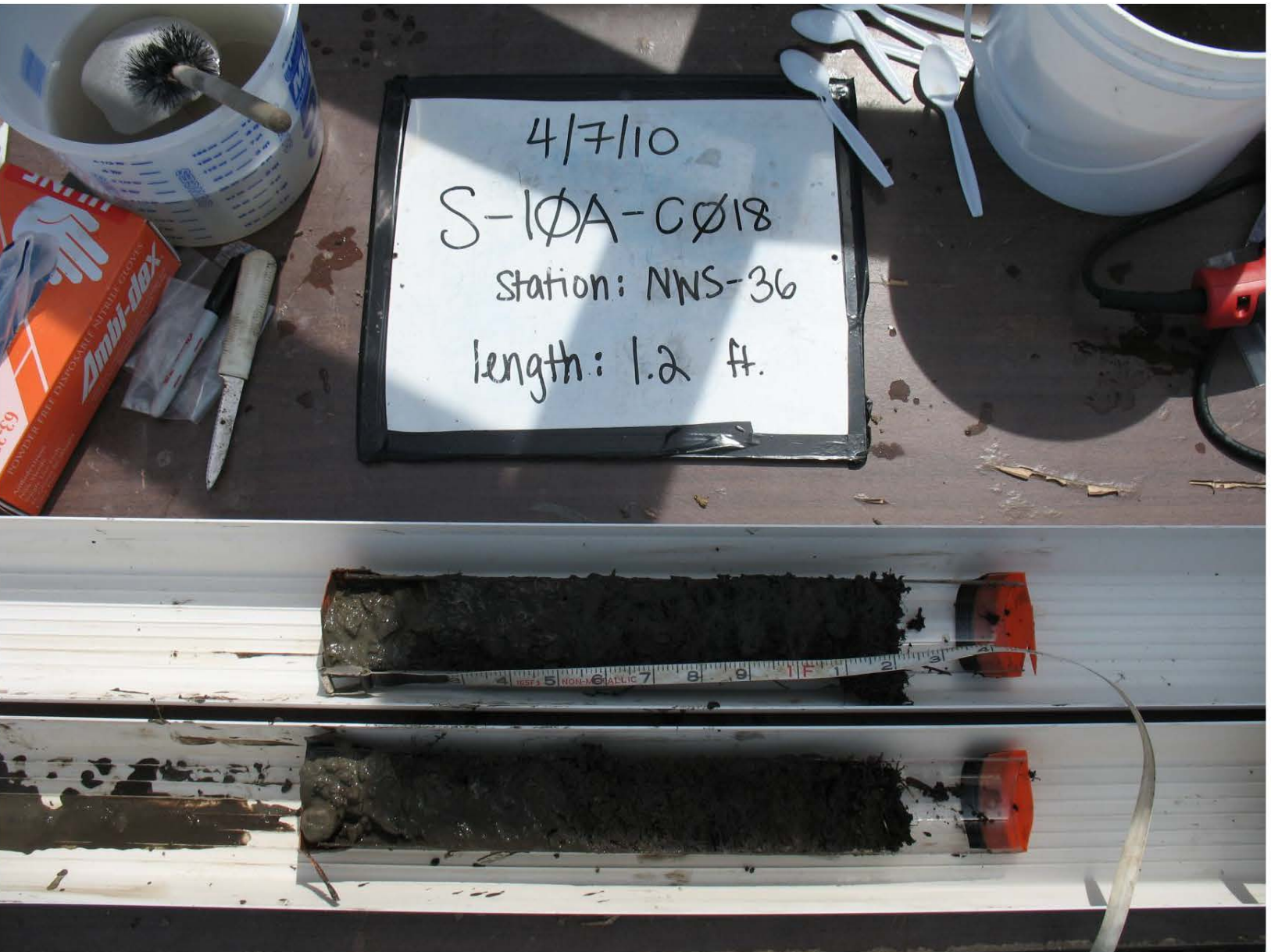
(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I \neq I₂, within + 1.0 feet, discard and resample)

Elevation (NGVD) (to Bottom - H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
0.0	Silt w/ gravel and lots of organic detritus		2.5y 3/3	firm	1cm		S-1ΦA- CΦ18- Φ-Φ.5
0.7	(fine to gravel sand) silty sand with gravel, some organic detritus		2.5y 4/2	firm	3cm		S-1ΦA- CΦ18- Φ.5-1.Φ
1.2							

Comments: split open and sampled on 4/7/10

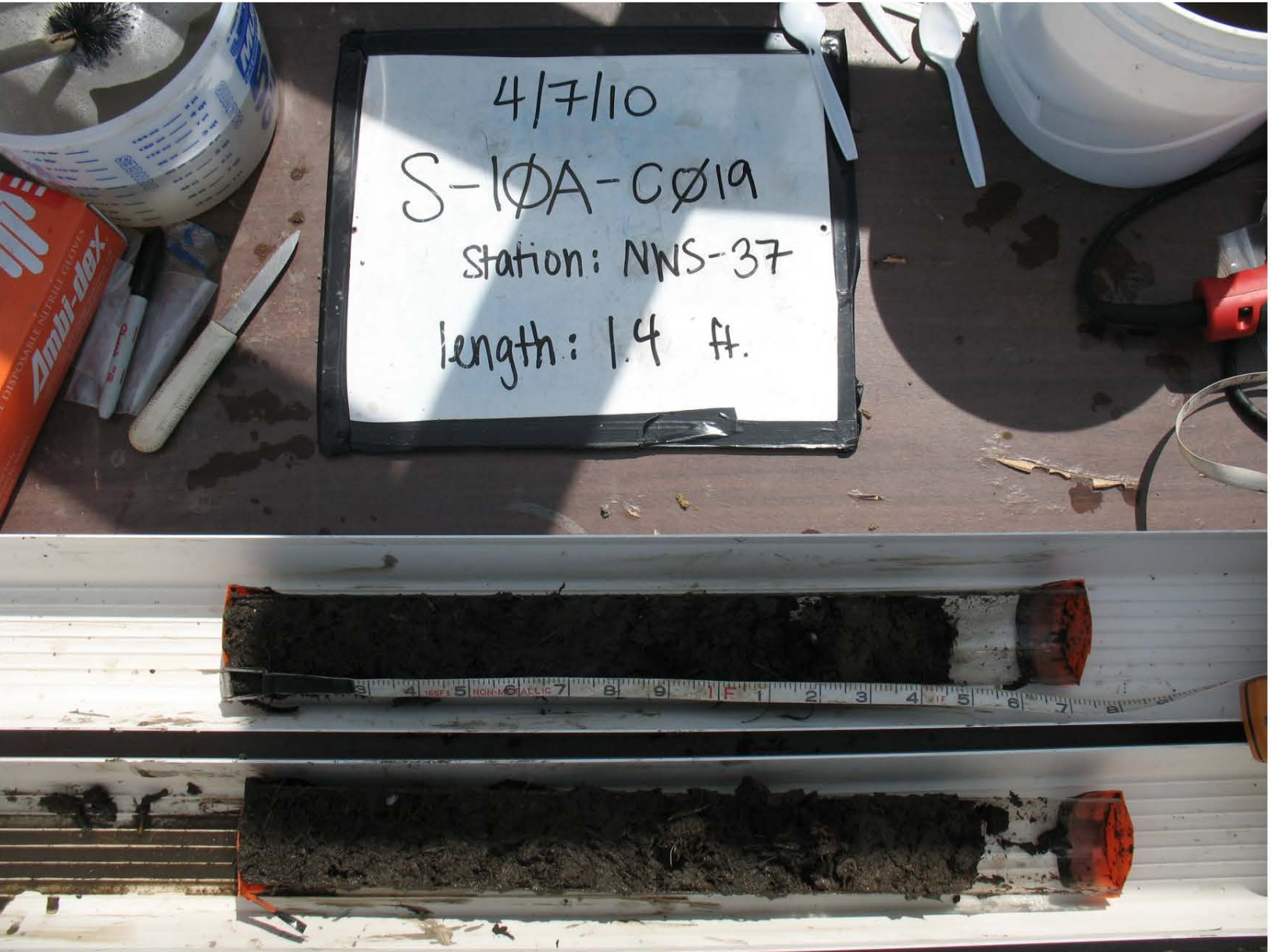


		Project Name: New Bedford Harbor Environmental Monitoring Location: New Bedford, MA Client: USACE NAE	Project #: W912WJ-09-D-0001, Task Order No. 0010 Vessel: Chief Scientist:
Date: <u>04/06/10</u>	Station ID: <u>NUS-37</u>	All Measurements are ± 0.1 feet	
Logged By: <u>DB</u>	Core Sample ID: <u>S-1ΦA-CΦ19</u>	Water Depth (A): _____	
Collection Mechanism: <u>AG</u>	Latitude: <u>41° 40.754</u>	Length of Push Core Assembly (B): _____	
Time on Station: <u>08:52</u>	Longitude: <u>70° 54.997</u>	Water Surface to Top of Handle (C): _____	
Time of Collection: <u>09:08</u>	GPS Accuracy: <u>12</u>	Length of Core (from bottom) (D): <u>1.4</u>	
Time Depart Station: <u>09:10</u>		Tide Elevation (from tide board) (G): _____	
Calculations for Determination of Z* Elevation			
(G) Elevation of Water Surface (NGVD) (as read from tide board):		_____	
(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$		_____	
(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$		_____	
(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$		_____	
(I ₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$		_____	
(Note if I ≠ I ₂ within + 1.0 feet, discard and resample)			

	Elevation (NGVD) to Bottom - H₁	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
Φ.Φ		Sandy silt with lots of organic detritus fine to coarse, poorly sorted sand		2.5y 3/3	firm	1cm	none	S-1ΦA-CΦ19-Φ-Φ.5
								S-1ΦA-CΦ19-Φ.5-1-Φ

1.4

Comments: split open and sampled on 4/7/10





Project Name: New Bedford Harbor Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Date: 4/6/10 Station ID: NWS-38 All Measurements are ± 0.1 feet

Logged By: KM Core Sample ID: S-1ΦA-CΦ2Φ Water Depth (A):

Collection Mechanism: ag Latitude: 41°40.776' Length of Push Core Assembly (B):

Time on Station: 09:45 Longitude: 70°55.ΦΦ4' Water Surface to Top of Handle (C):

Time of Collection: 09:47 GPS Accuracy: Length of Core (from bottom) (D): 1.4

Time Depart Station: 09:50 Tide Elevation (from tide board) (G):

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NGVD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if $I \neq I_2$ within + 1.0 feet, discard and resample)

	Elevation (NGVD) (z Bottom = H)	Lithology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
0.Φ		sandy silt w/ organic debris		2.5y 3/2	firm	fine	none	S-1ΦA- CΦ2Φ- Φ-Φ.5
0.4		sandy silt w/ very large gravel throughout		2.5y 3/2	firm	4cm	none	S-1ΦA- CΦ20- Φ.5-1.Φ
1.4								

Comments
 split open and sampled on 4/7/10





Project Name: New Bedford Harbor Environmental Monitoring
 Location: New Bedford, MA
 Client: USACE NAE

Project #: W912WJ-09-D-0001, Task Order No. 0010
 Vessel:
 Chief Scientist:

Date: 4/6/10 Station ID: NWS-39 All Measurements are ± 0.1 feet

Logged By: KM Core Sample ID: S-1ΦA-CΦ21 Water Depth (A): ~~_____~~

Collection Mechanism: ag Latitude: 41°40.777' Length of Push Core Assembly (B): ~~_____~~

Time on Station: 10:00 Longitude: 70°55.003' Water Surface to Top of Handle (C): ~~_____~~

Time of Collection: 10:03 GPS Accuracy: _____ Length of Core (from bottom) (D): 1.4

Time Depart Station: 10:05 Tide Elevation (from tide board) (G): ~~_____~~

Calculations for Determination of Z* Elevation

(G) Elevation of Water Surface (NVGD) (as read from tide board): _____

(H) Elevation of the bottom of the core (NGVD): $G - (B - C)$ _____

(z*) Elevation of visual transition (NGVD): $H + (\text{distance to visual transition})$ _____

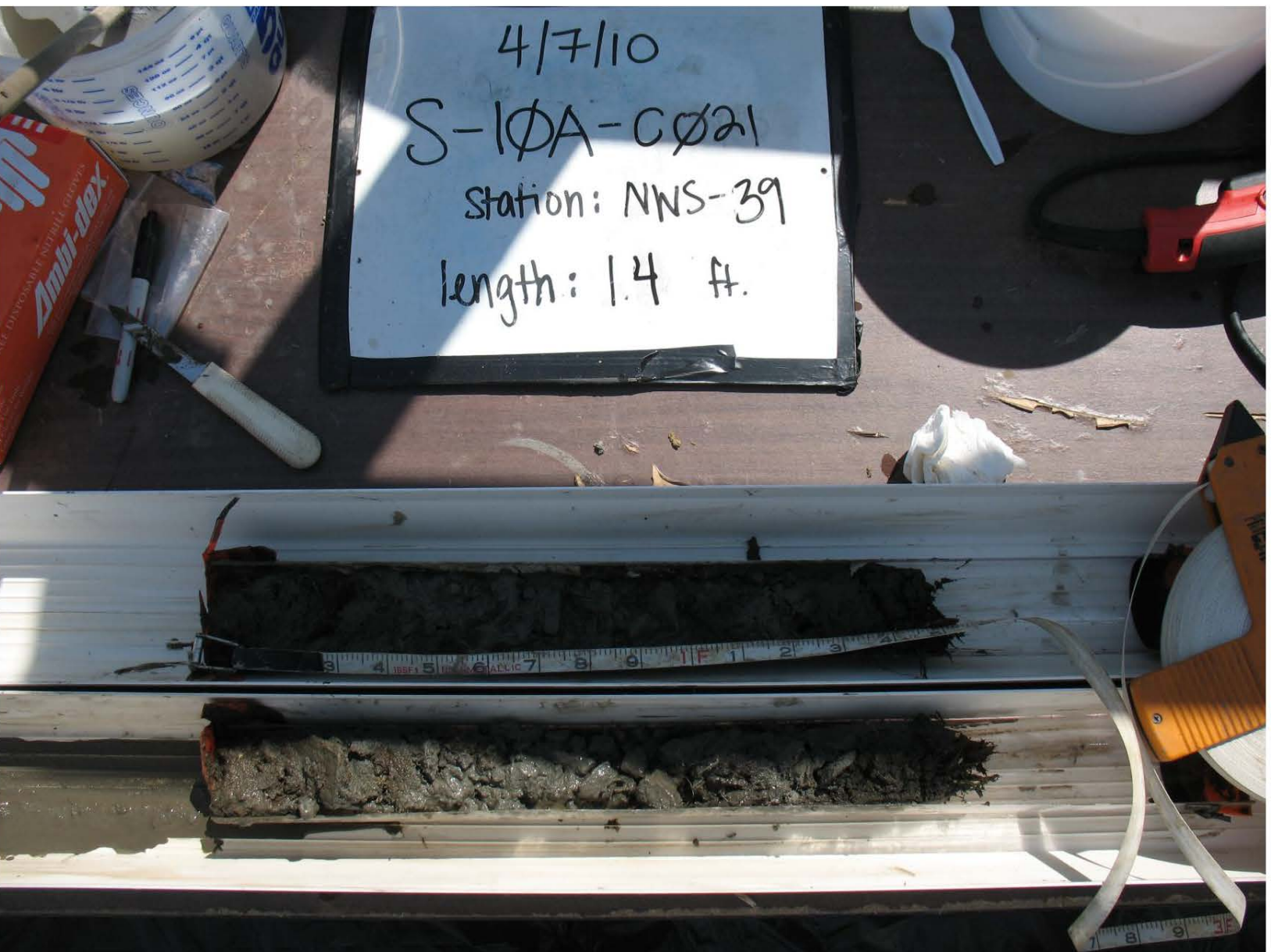
(I) Elevation of the sediment-water interface as measured from bottom of core (NGVD): $H + D$ _____

(I₂) Elevation of the sediment-water interface as measured from water depth (NGVD): $G - A$ _____

(Note if I \neq I₂ within + 1.0 feet, discard and resample)

Elevation (NGVD) (i.e. Bottom - H)	Litology - Include USCS Code	Type	Color	Consistency	Maximum Particle Size	Odor	Sample IDs
$\phi-\phi$	sandy silt w/ organic detritus	_____	2.5y	firm	fine	_____	S-1ΦA- CΦ21- Φ-Φ.5
0.3			3/3				
1.4	sandy silt w/ some organic detritus and large gravel	_____	2.5y	firm	4cm	_____	S-1ΦA- CΦ21- Φ.5-1.Φ

Comments: split open and sampled on 4/7/10



**APPENDIX B: ALPHA ANALYTICAL LABORATORIES REPORTS AND
ANALYTICAL DATA**

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ANALYTICAL REPORT

Lab Number:	L1005022
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD HARBOR
Project Number:	TO-0010
Report Date:	04/23/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1005022-01	EB-040610-01	NEW BEDFORD, MA	04/06/10 16:15
L1005022-02	S-10A-C001-0-0.5	NEW BEDFORD, MA	04/07/10 08:50
L1005022-03	S-10A-C001-0.5-0.9	NEW BEDFORD, MA	04/07/10 08:50
L1005022-04	S-10A-C002-0-0.5	NEW BEDFORD, MA	04/07/10 09:05
L1005022-05	S-10A-C002-0.5-0.9	NEW BEDFORD, MA	04/07/10 09:05
L1005022-06	S-10A-C003-0-0.5	NEW BEDFORD, MA	04/07/10 09:20
L1005022-07	S-10A-C003-0.5-1.0	NEW BEDFORD, MA	04/07/10 09:20
L1005022-08	S-10A-C004-0-0.5	NEW BEDFORD, MA	04/07/10 09:30
L1005022-09	S-10A-C004-0.5-1.0	NEW BEDFORD, MA	04/07/10 09:30
L1005022-10	S-10A-C005-0-0.5	NEW BEDFORD, MA	04/07/10 09:45
L1005022-11	S-10A-C005-0.5-1.0	NEW BEDFORD, MA	04/07/10 09:45
L1005022-12	S-10A-C006-0-0.5	NEW BEDFORD, MA	04/07/10 10:05
L1005022-13	S-10A-C006-0.5-1.0	NEW BEDFORD, MA	04/07/10 10:05
L1005022-14	S-10A-C007-0-0.5	NEW BEDFORD, MA	04/07/10 10:25
L1005022-15	S-10A-C007-0.5-1.0	NEW BEDFORD, MA	04/07/10 10:25
L1005022-16	S-10A-C008-0-0.5	NEW BEDFORD, MA	04/07/10 10:50
L1005022-17	S-10A-C008-0.5-1.0	NEW BEDFORD, MA	04/07/10 10:50
L1005022-18	S-10A-C009-0-0.5	NEW BEDFORD, MA	04/07/10 11:10
L1005022-19	S-10A-C009-0.5-1.0	NEW BEDFORD, MA	04/07/10 11:10
L1005022-20	S-10A-C007-0-0.5REP	NEW BEDFORD, MA	04/07/10 10:40
L1005022-21	S-10A-C007-0.5-1.0REP	NEW BEDFORD, MA	04/07/10 10:40
L1005022-22	S-10A-C010-0-0.5	NEW BEDFORD, MA	04/07/10 11:25
L1005022-23	S-10A-C010-0.5-0.9	NEW BEDFORD, MA	04/07/10 11:25
L1005022-24	S-10A-C011-0-0.5	NEW BEDFORD, MA	04/07/10 11:35
L1005022-25	S-10A-C011-0.5-1.0	NEW BEDFORD, MA	04/07/10 11:35
L1005022-26	S-10A-C012-0-0.5	NEW BEDFORD, MA	04/07/10 11:50
L1005022-27	S-10A-C012-0.5-1.0	NEW BEDFORD, MA	04/07/10 11:50
L1005022-28	S-10A-C013-0-0.5	NEW BEDFORD, MA	04/07/10 12:00
L1005022-29	S-10A-C013-0.5-1.0	NEW BEDFORD, MA	04/07/10 12:00
L1005022-30	S-10A-C014-0-0.5	NEW BEDFORD, MA	04/07/10 12:15
L1005022-31	S-10A-C014-0.5-1.0	NEW BEDFORD, MA	04/07/10 12:15

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1005022-32	S-10A-C015-0-0.5	NEW BEDFORD, MA	04/07/10 12:55
L1005022-33	S-10A-C015-0.5-1.0	NEW BEDFORD, MA	04/07/10 12:55
L1005022-34	S-10A-C016-0-0.5	NEW BEDFORD, MA	04/07/10 13:05
L1005022-35	S-10A-C016-0.5-1.0	NEW BEDFORD, MA	04/07/10 13:05
L1005022-37	S-10A-C017-0-0.5	NEW BEDFORD, MA	04/07/10 13:15
L1005022-38	S-10A-C017-0.5-1.0	NEW BEDFORD, MA	04/07/10 13:15
L1005022-40	S-10A-C018-0-0.5	NEW BEDFORD, MA	04/07/10 13:25
L1005022-41	S-10A-C018-0.5-1.0	NEW BEDFORD, MA	04/07/10 13:25
L1005022-42	S-10A-C019-0-0.5	NEW BEDFORD, MA	04/07/10 13:35
L1005022-43	S-10A-C019-0.5-1.0	NEW BEDFORD, MA	04/07/10 13:35
L1005022-44	S-10A-C020-0-0.5	NEW BEDFORD, MA	04/07/10 13:45
L1005022-45	S-10A-C020-0.5-1.0	NEW BEDFORD, MA	04/07/10 13:45
L1005022-46	S-10A-C021-0-0.5	NEW BEDFORD, MA	04/07/10 14:00
L1005022-47	S-10A-C021-0.5-1.0	NEW BEDFORD, MA	04/07/10 14:00



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Sample Receipt

Sediment samples were received intact on April 7, 2010. Aliquots of the samples were analyzed for percent solids. Based on the results of the percent solids, samples underwent air drying and were placed in refrigerated storage until April 15, 2010 and April 16, 2010 when they were removed to extract samples for PCB Congener analysis and analyze for air-dried percent solids.

PCB Congeners by 8082

The PCB Congener analysis was performed utilizing dual column confirmation with the higher of the two values reported. Technical judgment was employed in the case of an observed interference. In each case that interference was observed on one column, the value from the opposite column was reported regardless of

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Case Narrative (continued)

whether it was the higher or lower value.

The majority of samples were re-analyzed on dilution in order to quantitate the sample within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial analysis. The re-analysis was performed only for the compounds that exceeded the calibration range.

L1005022-42: The internal standard (IS) response on Rtx-CLPII column was elevated due to possible interference, therefore the results were reported of the compliant RTX-5 column, with the exception of compounds BZ#28, BZ#66 and BZ#153. The results for these compounds were reported off the Rtx-CLPII column due to the obvious interference observed on RTX-5. The results were flagged with an "E" qualifier due to the potentially low bias. The sample was re-analyzed at additional dilution to eliminate the interference.

The WG408427-4 and WG408427-5 MS/MSD recoveries associated with L1005022-32 were above the acceptance criteria for multiple compounds due to sample matrix interference; however, the associated LCS/LCSD recoveries were within criteria. The results of the sample utilized for the MS/MSD are considered to have a potentially high bias for these compounds.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Cynthia McQueen

Title: Technical Director/Representative

Date: 04/23/10

ORGANICS



PCBS



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-01
Client ID: EB-040610-01
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 04/17/10 03:22
Analyst: NS

Date Collected: 04/06/10 16:15
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 04/13/10 14:40
Cleanup Method1: - - - -
 - - - -
Cleanup Method2:

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	ND		ug/l	0.00102	1
CI3-BZ#18	ND		ug/l	0.00102	1
CI3-BZ#28	ND		ug/l	0.00102	1
CI4-BZ#44	ND		ug/l	0.00102	1
CI4-BZ#52	ND		ug/l	0.00102	1
CI4-BZ#66	ND		ug/l	0.00102	1
CI5-BZ#101	ND		ug/l	0.00102	1
CI5-BZ#105	ND		ug/l	0.00102	1
CI5-BZ#118	ND		ug/l	0.00102	1
CI6-BZ#128	ND		ug/l	0.00102	1
CI6-BZ#138	ND		ug/l	0.00102	1
CI7-BZ#170	ND		ug/l	0.00102	1
CI7-BZ#180	ND		ug/l	0.00102	1
CI7-BZ#187	ND		ug/l	0.00102	1
CI8-BZ#195	ND		ug/l	0.00102	1
CI9-BZ#206	ND		ug/l	0.00102	1
CI10-BZ#209	ND		ug/l	0.00102	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	103		30-150
BZ 198	85		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-01
Client ID: EB-040610-01
Sample Location: NEW BEDFORD, MA
Matrix: Water
Analytical Method: 1,8082
Analytical Date: 04/17/10 03:22
Analyst: NS

Date Collected: 04/06/10 16:15
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 04/13/10 14:40
Cleanup Method1: - - - -
 - - - -
Cleanup Method2:

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
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PCB Congeners (NOAA List) - Mansfield Lab

Cl6-BZ#153	ND		ug/l	0.00102	1
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DBOB	103		30-150		
BZ 198	85		30-150		



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-02
Client ID: S-10A-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/19/10 23:50
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 08:50
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	18.3		ug/kg	1.32	1
Cl3-BZ#18	55.8	E	ug/kg	1.32	1
Cl5-BZ#101	32.0	E	ug/kg	1.32	1
Cl5-BZ#118	19.5		ug/kg	1.32	1
Cl6-BZ#128	3.78		ug/kg	1.32	1
Cl6-BZ#138	12.0		ug/kg	1.32	1
Cl7-BZ#170	1.44		ug/kg	1.32	1
Cl7-BZ#180	2.46		ug/kg	1.32	1
Cl8-BZ#195	ND		ug/kg	1.32	1
Cl10-BZ#209	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	96		30-150
BZ 198	86		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-02
 Client ID: S-10A-C001-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/19/10 23:50
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 08:50
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	73.0	E	ug/kg	1.32	1
Cl4-BZ#44	38.1	E	ug/kg	1.32	1
Cl4-BZ#52	61.7	E	ug/kg	1.32	1
Cl4-BZ#66	45.5	E	ug/kg	1.32	1
Cl5-BZ#105	7.74		ug/kg	1.32	1
Cl6-BZ#153	3.83		ug/kg	1.32	1
Cl7-BZ#187	1.97		ug/kg	1.32	1
Cl9-BZ#206	ND		ug/kg	1.32	1

DBOB	96	30-150
BZ 198	86	30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-02 D
Client ID: S-10A-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/20/10 00:31
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 08:50
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	76.6		ug/kg	13.2	10

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-02 D
 Client ID: S-10A-C001-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 00:31
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 08:50
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	89.8		ug/kg	13.2	10
Cl4-BZ#44	52.5		ug/kg	13.2	10
Cl4-BZ#52	80.1		ug/kg	13.2	10
Cl4-BZ#66	58.7		ug/kg	13.2	10
Cl5-BZ#101	30.9		ug/kg	13.2	10



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-04 D2
 Client ID: S-10A-C002-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/22/10 12:30
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:05
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	233		ug/kg	33.1	25

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-04 D2
Client ID: S-10A-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 12:30
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 09:05
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	448		ug/kg	33.1	25
Cl4-BZ#52	440		ug/kg	33.1	25
Cl4-BZ#66	177		ug/kg	33.1	25

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-04 D
 Client ID: S-10A-C002-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 01:52
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:05
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	131		ug/kg	6.63	5
CI3-BZ#18	236	E	ug/kg	6.63	5
CI4-BZ#66	152	E	ug/kg	6.63	5
CI5-BZ#118	76.1		ug/kg	6.63	5
CI6-BZ#128	13.9		ug/kg	6.63	5
CI6-BZ#138	52.2		ug/kg	6.63	5
CI7-BZ#170	7.44		ug/kg	6.63	5
CI7-BZ#180	10.6		ug/kg	6.63	5
CI9-BZ#206	ND		ug/kg	6.63	5
CI10-BZ#209	ND		ug/kg	6.63	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	95		30-150
DBOB	71		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-04 D
 Client ID: S-10A-C002-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 01:52
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:05
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	302	E	ug/kg	6.63	5
Cl4-BZ#44	120		ug/kg	6.63	5
Cl4-BZ#52	302	E	ug/kg	6.63	5
Cl5-BZ#101	82.4		ug/kg	6.63	5
Cl5-BZ#105	18.0		ug/kg	6.63	5
Cl6-BZ#153	26.1		ug/kg	6.63	5
Cl7-BZ#187	11.2		ug/kg	6.63	5
Cl8-BZ#195	ND		ug/kg	6.63	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	95		30-150
DBOB	71		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-06 D2
 Client ID: S-10A-C003-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/21/10 11:15
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:20
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	269		ug/kg	33.4	25
Cl4-BZ#52	323		ug/kg	33.4	25

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-06 D
 Client ID: S-10A-C003-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 03:14
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:20
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	92.1		ug/kg	13.4	10
CI3-BZ#18	215		ug/kg	13.4	10
CI4-BZ#66	180		ug/kg	13.4	10
CI5-BZ#118	97.2		ug/kg	13.4	10
CI6-BZ#128	19.1		ug/kg	13.4	10
CI6-BZ#138	75.5		ug/kg	13.4	10
CI7-BZ#170	ND		ug/kg	13.4	10
CI7-BZ#180	16.3		ug/kg	13.4	10
CI7-BZ#187	20.6		ug/kg	13.4	10
CI9-BZ#206	ND		ug/kg	13.4	10
CI10-BZ#209	ND		ug/kg	13.4	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	141		30-150
DBOB	71		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-06 D
 Client ID: S-10A-C003-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 03:14
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:20
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	350	E	ug/kg	13.4	10
Cl4-BZ#44	149		ug/kg	13.4	10
Cl4-BZ#52	437	E	ug/kg	13.4	10
Cl5-BZ#101	124		ug/kg	13.4	10
Cl5-BZ#105	18.8		ug/kg	13.4	10
Cl6-BZ#153	51.6		ug/kg	13.4	10
Cl8-BZ#195	ND		ug/kg	13.4	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	141		30-150
DBOB	71		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-08 D2
 Client ID: S-10A-C004-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/22/10 08:25
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:30
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	375		ug/kg	67.1	50
Cl3-BZ#18	779		ug/kg	67.1	50
Cl4-BZ#66	447		ug/kg	67.1	50

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-08 D2
Client ID: S-10A-C004-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 08:25
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 09:30
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	1160		ug/kg	67.1	50
Cl4-BZ#44	396		ug/kg	67.1	50
Cl4-BZ#52	863		ug/kg	67.1	50

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-08 D
 Client ID: S-10A-C004-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 05:58
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:30
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	274	E	ug/kg	6.71	5
CI3-BZ#18	484	E	ug/kg	6.71	5
CI4-BZ#66	285	E	ug/kg	6.71	5
CI5-BZ#118	116		ug/kg	6.71	5
CI6-BZ#128	18.4		ug/kg	6.71	5
CI7-BZ#170	9.79		ug/kg	6.71	5
CI7-BZ#180	12.6		ug/kg	6.71	5
CI7-BZ#187	15.3		ug/kg	6.71	5
CI8-BZ#195	ND		ug/kg	6.71	5
CI9-BZ#206	ND		ug/kg	6.71	5
CI10-BZ#209	ND		ug/kg	6.71	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	62		30-150
DBOB	36		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-08 D
 Client ID: S-10A-C004-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 05:58
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:30
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	663	E	ug/kg	6.71	5
Cl4-BZ#44	219	E	ug/kg	6.71	5
Cl4-BZ#52	474	E	ug/kg	6.71	5
Cl5-BZ#101	133		ug/kg	6.71	5
Cl5-BZ#105	24.7		ug/kg	6.71	5
Cl6-BZ#138	34.9		ug/kg	6.71	5
Cl6-BZ#153	47.8		ug/kg	6.71	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	62		30-150
DBOB	36		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-10 D2
Client ID: S-10A-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 12:37
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 09:45
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	180		ug/kg	13.3	10
Cl4-BZ#66	163		ug/kg	13.3	10
Cl5-BZ#118	144		ug/kg	13.3	10

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-10 D2
 Client ID: S-10A-C005-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/21/10 12:37
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:45
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	137		ug/kg	13.3	10

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-10 D
 Client ID: S-10A-C005-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 07:20
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:45
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	15.0		ug/kg	6.65	5
CI3-BZ#18	35.7		ug/kg	6.65	5
CI4-BZ#44	82.7		ug/kg	6.65	5
CI4-BZ#52	190	E	ug/kg	6.65	5
CI4-BZ#66	174	E	ug/kg	6.65	5
CI5-BZ#118	140	E	ug/kg	6.65	5
CI6-BZ#128	31.7		ug/kg	6.65	5
CI6-BZ#138	112		ug/kg	6.65	5
CI7-BZ#170	15.5		ug/kg	6.65	5
CI7-BZ#180	21.2		ug/kg	6.65	5
CI7-BZ#187	18.4		ug/kg	6.65	5
CI8-BZ#195	ND		ug/kg	6.65	5
CI9-BZ#206	ND		ug/kg	6.65	5
CI10-BZ#209	ND		ug/kg	6.65	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	96		30-150
BZ 198	106		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-10 D
 Client ID: S-10A-C005-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 07:20
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 09:45
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	144	E	ug/kg	6.65	5
Cl5-BZ#101	118		ug/kg	6.65	5
Cl5-BZ#105	35.1		ug/kg	6.65	5
Cl6-BZ#153	38.6		ug/kg	6.65	5

DBOB	96	30-150
BZ 198	106	30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-12 D2
 Client ID: S-10A-C006-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/21/10 13:18
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 10:05
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#52	172		ug/kg	13.2	10
Cl4-BZ#66	236		ug/kg	13.2	10
Cl5-BZ#118	214		ug/kg	13.2	10

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-12 D2
 Client ID: S-10A-C006-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/21/10 13:18
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 10:05
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI5-BZ#101	175		ug/kg	13.2	10

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-12 D
Client ID: S-10A-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/20/10 08:42
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 10:05
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	17.2		ug/kg	6.62	5
CI3-BZ#18	60.9		ug/kg	6.62	5
CI4-BZ#44	82.4		ug/kg	6.62	5
CI4-BZ#52	161	E	ug/kg	6.62	5
CI4-BZ#66	231	E	ug/kg	6.62	5
CI5-BZ#118	201	E	ug/kg	6.62	5
CI7-BZ#180	25.0		ug/kg	6.62	5
CI7-BZ#187	22.8		ug/kg	6.62	5
CI8-BZ#195	ND		ug/kg	6.62	5
CI9-BZ#206	ND		ug/kg	6.62	5
CI10-BZ#209	ND		ug/kg	6.62	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	98		30-150
BZ 198	103		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-12 D
 Client ID: S-10A-C006-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 08:42
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 10:05
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	129		ug/kg	6.62	5
Cl5-BZ#101	157	E	ug/kg	6.62	5
Cl5-BZ#105	18.5		ug/kg	6.62	5
Cl6-BZ#128	8.01		ug/kg	6.62	5
Cl6-BZ#138	45.0		ug/kg	6.62	5
Cl6-BZ#153	53.7		ug/kg	6.62	5
Cl7-BZ#170	9.38		ug/kg	6.62	5

DBOB	98	30-150
BZ 198	103	30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-14
 Client ID: S-10A-C007-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/19/10 23:09
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 10:25
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#66	8.59		ug/kg	1.32	1
Cl5-BZ#101	8.06		ug/kg	1.32	1
Cl5-BZ#118	4.72		ug/kg	1.32	1
Cl6-BZ#128	ND		ug/kg	1.32	1
Cl6-BZ#138	3.65		ug/kg	1.32	1
Cl7-BZ#180	ND		ug/kg	1.32	1
Cl7-BZ#187	ND		ug/kg	1.32	1
Cl10-BZ#209	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	85		30-150
DBOB	68		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-14
Client ID: S-10A-C007-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/19/10 23:09
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 10:25
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	4.74		ug/kg	1.32	1
Cl3-BZ#18	12.0		ug/kg	1.32	1
Cl3-BZ#28	17.5		ug/kg	1.32	1
Cl4-BZ#44	6.65		ug/kg	1.32	1
Cl4-BZ#52	20.9		ug/kg	1.32	1
Cl5-BZ#105	ND		ug/kg	1.32	1
Cl6-BZ#153	2.09		ug/kg	1.32	1
Cl7-BZ#170	ND		ug/kg	1.32	1
Cl8-BZ#195	ND		ug/kg	1.32	1
Cl9-BZ#206	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	85		30-150
DBOB	68		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-16 D2
Client ID: S-10A-C008-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 13:59
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 10:50
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	452		ug/kg	33.4	25
Cl4-BZ#44	187		ug/kg	33.4	25
Cl4-BZ#52	516		ug/kg	33.4	25
Cl4-BZ#66	209		ug/kg	33.4	25

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-16 D
 Client ID: S-10A-C008-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 10:03
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 10:50
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	170		ug/kg	13.4	10
Cl3-BZ#18	216		ug/kg	13.4	10
Cl5-BZ#118	215		ug/kg	13.4	10
Cl7-BZ#170	23.6		ug/kg	13.4	10
Cl7-BZ#180	31.4		ug/kg	13.4	10
Cl7-BZ#187	40.0		ug/kg	13.4	10
Cl9-BZ#206	ND		ug/kg	13.4	10
Cl10-BZ#209	ND		ug/kg	13.4	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	140		30-150
DBOB	82		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-16 D
 Client ID: S-10A-C008-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 10:03
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 10:50
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	706	E	ug/kg	13.4	10
Cl4-BZ#44	278	E	ug/kg	13.4	10
Cl4-BZ#52	774	E	ug/kg	13.4	10
Cl4-BZ#66	306	E	ug/kg	13.4	10
Cl5-BZ#101	255		ug/kg	13.4	10
Cl5-BZ#105	37.2		ug/kg	13.4	10
Cl6-BZ#128	17.8		ug/kg	13.4	10
Cl6-BZ#138	73.2		ug/kg	13.4	10
Cl6-BZ#153	111		ug/kg	13.4	10
Cl8-BZ#195	ND		ug/kg	13.4	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	140		30-150
DBOB	82		30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-18 D2
 Client ID: S-10A-C009-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/22/10 09:06
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 11:10
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	172		ug/kg	65.8	50
Cl3-BZ#18	366		ug/kg	65.8	50

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-18 D2
Client ID: S-10A-C009-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 09:06
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 11:10
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	529		ug/kg	65.8	50
Cl4-BZ#44	256		ug/kg	65.8	50
Cl4-BZ#52	1180		ug/kg	65.8	50
Cl4-BZ#66	261		ug/kg	65.8	50

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-18 D
Client ID: S-10A-C009-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/20/10 11:25
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 11:10
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	294	E	ug/kg	13.2	10
Cl3-BZ#18	692	E	ug/kg	13.2	10
Cl5-BZ#118	119		ug/kg	13.2	10
Cl6-BZ#128	21.3		ug/kg	13.2	10
Cl7-BZ#170	13.7		ug/kg	13.2	10
Cl7-BZ#180	19.3		ug/kg	13.2	10
Cl7-BZ#187	42.5		ug/kg	13.2	10
Cl9-BZ#206	ND		ug/kg	13.2	10
Cl10-BZ#209	ND		ug/kg	13.2	10

DBOB	87	30-150
BZ 198	100	30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-18 D
 Client ID: S-10A-C009-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 11:25
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 11:10
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	664	E	ug/kg	13.2	10
Cl4-BZ#44	330	E	ug/kg	13.2	10
Cl4-BZ#52	1540	E	ug/kg	13.2	10
Cl4-BZ#66	360	E	ug/kg	13.2	10
Cl5-BZ#101	188		ug/kg	13.2	10
Cl5-BZ#105	20.3		ug/kg	13.2	10
Cl6-BZ#138	40.5		ug/kg	13.2	10
Cl6-BZ#153	103		ug/kg	13.2	10
Cl8-BZ#195	ND		ug/kg	13.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	87		30-150
BZ 198	100		30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-20 D2
 Client ID: S-10A-C007-0-0.5REP
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/21/10 15:21
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 10:40
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	182		ug/kg	33.0	25
Cl4-BZ#52	212		ug/kg	33.0	25

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-20 D
 Client ID: S-10A-C007-0-0.5REP
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 14:09
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 10:40
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	170		ug/kg	13.2	10
Cl5-BZ#118	72.9		ug/kg	13.2	10
Cl6-BZ#128	14.9		ug/kg	13.2	10
Cl7-BZ#170	ND		ug/kg	13.2	10
Cl7-BZ#180	ND		ug/kg	13.2	10
Cl7-BZ#187	17.2		ug/kg	13.2	10
Cl8-BZ#195	ND		ug/kg	13.2	10
Cl9-BZ#206	ND		ug/kg	13.2	10
Cl10-BZ#209	ND		ug/kg	13.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	112		30-150
DBOB	86		30-150



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-20 D
 Client ID: S-10A-C007-0-0.5REP
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 14:09
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 10:40
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	73.4		ug/kg	13.2	10
Cl3-BZ#28	277	E	ug/kg	13.2	10
Cl4-BZ#44	117		ug/kg	13.2	10
Cl4-BZ#52	338	E	ug/kg	13.2	10
Cl4-BZ#66	124		ug/kg	13.2	10
Cl5-BZ#101	95.7		ug/kg	13.2	10
Cl5-BZ#105	14.1		ug/kg	13.2	10
Cl6-BZ#138	28.6		ug/kg	13.2	10
Cl6-BZ#153	36.9		ug/kg	13.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	112		30-150
DBOB	86		30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-22 D2
Client ID: S-10A-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 09:47
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 11:25
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	154		ug/kg	66.0	50
Cl3-BZ#18	328		ug/kg	66.0	50
Cl4-BZ#52	699		ug/kg	66.0	50
Cl5-BZ#118	159		ug/kg	66.0	50

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-22 D2
Client ID: S-10A-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 09:47
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 11:25
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	714		ug/kg	66.0	50
Cl4-BZ#44	296		ug/kg	66.0	50
Cl4-BZ#66	282		ug/kg	66.0	50
Cl5-BZ#101	223		ug/kg	66.0	50

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-22 D
Client ID: S-10A-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/20/10 15:31
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 11:25
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	404	E	ug/kg	13.2	10
CI3-BZ#18	760	E	ug/kg	13.2	10
CI4-BZ#52	1670	E	ug/kg	13.2	10
CI5-BZ#118	423	E	ug/kg	13.2	10
CI6-BZ#128	83.9		ug/kg	13.2	10
CI7-BZ#170	47.3		ug/kg	13.2	10
CI7-BZ#180	67.2		ug/kg	13.2	10
CI7-BZ#187	86.3		ug/kg	13.2	10
CI8-BZ#195	ND		ug/kg	13.2	10
CI9-BZ#206	ND		ug/kg	13.2	10
CI10-BZ#209	ND		ug/kg	13.2	10

DBOB	61	30-150
BZ 198	143	30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-22 D
 Client ID: S-10A-C010-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 15:31
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 11:25
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	1280	E	ug/kg	13.2	10
Cl4-BZ#44	589	E	ug/kg	13.2	10
Cl4-BZ#66	576	E	ug/kg	13.2	10
Cl5-BZ#101	439	E	ug/kg	13.2	10
Cl5-BZ#105	72.3		ug/kg	13.2	10
Cl6-BZ#138	140		ug/kg	13.2	10
Cl6-BZ#153	246		ug/kg	13.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	61		30-150
BZ 198	143		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-24 D2
Client ID: S-10A-C011-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 10:28
Analyst: NS
Percent Solids: 97%

Date Collected: 04/07/10 11:35
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	404		ug/kg	136	100
Cl3-BZ#18	836		ug/kg	136	100
Cl4-BZ#52	1600		ug/kg	136	100
Cl5-BZ#118	345		ug/kg	136	100
Cl6-BZ#138	272		ug/kg	136	100

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-24 D2
Client ID: S-10A-C011-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 10:28
Analyst: NS
Percent Solids: 97%

Date Collected: 04/07/10 11:35
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	1520		ug/kg	136	100
Cl4-BZ#44	645		ug/kg	136	100
Cl4-BZ#66	634		ug/kg	136	100
Cl5-BZ#101	505		ug/kg	136	100

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-24 D
 Client ID: S-10A-C011-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 23:42
 Analyst: NS
 Percent Solids: 97%

Date Collected: 04/07/10 11:35
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	385	E	ug/kg	13.6	10
CI3-BZ#18	748	E	ug/kg	13.6	10
CI4-BZ#52	1580	E	ug/kg	13.6	10
CI5-BZ#118	358	E	ug/kg	13.6	10
CI6-BZ#128	62.8		ug/kg	13.6	10
CI6-BZ#138	273	E	ug/kg	13.6	10
CI7-BZ#170	43.6		ug/kg	13.6	10
CI7-BZ#180	58.2		ug/kg	13.6	10
CI7-BZ#187	75.7		ug/kg	13.6	10
CI9-BZ#206	ND		ug/kg	13.6	10
CI10-BZ#209	ND		ug/kg	13.6	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	111		30-150
DBOB	48		30-150



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-24 D
 Client ID: S-10A-C011-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 23:42
 Analyst: NS
 Percent Solids: 97%

Date Collected: 04/07/10 11:35
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	1190	E	ug/kg	13.6	10
Cl4-BZ#44	519	E	ug/kg	13.6	10
Cl4-BZ#66	517	E	ug/kg	13.6	10
Cl5-BZ#101	430	E	ug/kg	13.6	10
Cl5-BZ#105	58.6		ug/kg	13.6	10
Cl6-BZ#153	238		ug/kg	13.6	10
Cl8-BZ#195	ND		ug/kg	13.6	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	111		30-150
DBOB	48		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-26 D2
 Client ID: S-10A-C012-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/22/10 11:09
 Analyst: NS
 Percent Solids: 98%

Date Collected: 04/07/10 11:50
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	353		ug/kg	134	100
Cl3-BZ#18	800		ug/kg	134	100
Cl4-BZ#52	1780		ug/kg	134	100
Cl5-BZ#118	407		ug/kg	134	100

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-26 D2
Client ID: S-10A-C012-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 11:09
Analyst: NS
Percent Solids: 98%

Date Collected: 04/07/10 11:50
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	1790		ug/kg	134	100
Cl4-BZ#44	747		ug/kg	134	100
Cl4-BZ#66	725		ug/kg	134	100
Cl5-BZ#101	581		ug/kg	134	100
Cl6-BZ#153	411		ug/kg	134	100

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-26 D
 Client ID: S-10A-C012-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/21/10 00:23
 Analyst: NS
 Percent Solids: 98%

Date Collected: 04/07/10 11:50
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	401	E	ug/kg	13.4	10
CI3-BZ#18	589	E	ug/kg	13.4	10
CI4-BZ#52	2130	E	ug/kg	13.4	10
CI5-BZ#118	501	E	ug/kg	13.4	10
CI7-BZ#170	60.6		ug/kg	13.4	10
CI7-BZ#180	83.4		ug/kg	13.4	10
CI7-BZ#187	105		ug/kg	13.4	10
CI9-BZ#206	14.5		ug/kg	13.4	10

DBOB	52	30-150
BZ 198	138	30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-26 D
Client ID: S-10A-C012-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 00:23
Analyst: NS
Percent Solids: 98%

Date Collected: 04/07/10 11:50
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	1410	E	ug/kg	13.4	10
Cl4-BZ#44	657	E	ug/kg	13.4	10
Cl4-BZ#66	663	E	ug/kg	13.4	10
Cl5-BZ#101	534	E	ug/kg	13.4	10
Cl5-BZ#105	76.5		ug/kg	13.4	10
Cl6-BZ#128	37.1		ug/kg	13.4	10
Cl6-BZ#138	156		ug/kg	13.4	10
Cl6-BZ#153	299	E	ug/kg	13.4	10
Cl8-BZ#195	ND		ug/kg	13.4	10
Cl10-BZ#209	ND		ug/kg	13.4	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	52		30-150
BZ 198	138		30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-28 D2
 Client ID: S-10A-C013-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/21/10 19:26
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 12:00
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	337		ug/kg	33.2	25
Cl4-BZ#52	357		ug/kg	33.2	25

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-28 D
Client ID: S-10A-C013-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 01:04
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 12:00
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	172		ug/kg	13.3	10
Cl5-BZ#101	238		ug/kg	13.3	10
Cl5-BZ#118	151		ug/kg	13.3	10
Cl6-BZ#128	33.7		ug/kg	13.3	10
Cl6-BZ#138	119		ug/kg	13.3	10
Cl7-BZ#170	18.8		ug/kg	13.3	10
Cl7-BZ#180	24.1		ug/kg	13.3	10
Cl9-BZ#206	ND		ug/kg	13.3	10
Cl10-BZ#209	ND		ug/kg	13.3	10
DBOB	79			30-150	
BZ 198	114			30-150	

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-28 D
 Client ID: S-10A-C013-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/21/10 01:04
 Analyst: NS
 Percent Solids: 100%

Date Collected: 04/07/10 12:00
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	80.7		ug/kg	13.3	10
Cl3-BZ#28	484	E	ug/kg	13.3	10
Cl4-BZ#44	185		ug/kg	13.3	10
Cl4-BZ#52	500	E	ug/kg	13.3	10
Cl4-BZ#66	228		ug/kg	13.3	10
Cl5-BZ#105	37.5		ug/kg	13.3	10
Cl6-BZ#153	77.0		ug/kg	13.3	10
Cl7-BZ#187	29.6		ug/kg	13.3	10
Cl8-BZ#195	ND		ug/kg	13.3	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	79		30-150
BZ 198	114		30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-30 D2
 Client ID: S-10A-C014-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/21/10 20:07
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 12:15
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	161		ug/kg	33.5	25

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-30 D2
 Client ID: S-10A-C014-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/21/10 20:07
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 12:15
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	351		ug/kg	33.5	25
Cl4-BZ#52	388		ug/kg	33.5	25

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-30 D
Client ID: S-10A-C014-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 01:44
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 12:15
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	275	E	ug/kg	13.4	10
Cl5-BZ#101	214		ug/kg	13.4	10
Cl5-BZ#118	121		ug/kg	13.4	10
Cl7-BZ#170	14.7		ug/kg	13.4	10
Cl7-BZ#180	20.8		ug/kg	13.4	10
Cl7-BZ#187	26.8		ug/kg	13.4	10
Cl10-BZ#209	ND		ug/kg	13.4	10

DBOB	77	30-150
BZ 198	108	30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-30 D
Client ID: S-10A-C014-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 01:44
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 12:15
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	130		ug/kg	13.4	10
Cl3-BZ#28	501	E	ug/kg	13.4	10
Cl4-BZ#44	210		ug/kg	13.4	10
Cl4-BZ#52	571	E	ug/kg	13.4	10
Cl4-BZ#66	192		ug/kg	13.4	10
Cl5-BZ#105	23.4		ug/kg	13.4	10
Cl6-BZ#128	ND		ug/kg	13.4	10
Cl6-BZ#138	45.7		ug/kg	13.4	10
Cl6-BZ#153	66.8		ug/kg	13.4	10
Cl8-BZ#195	ND		ug/kg	13.4	10
Cl9-BZ#206	ND		ug/kg	13.4	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	77		30-150
BZ 198	108		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-32
Client ID: S-10A-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 20:48
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 12:55
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	3.58		ug/kg	1.32	1
Cl4-BZ#52	10.9		ug/kg	1.32	1
Cl5-BZ#101	9.81		ug/kg	1.32	1
Cl5-BZ#118	8.10		ug/kg	1.32	1
Cl6-BZ#128	1.56		ug/kg	1.32	1
Cl6-BZ#138	5.92		ug/kg	1.32	1
Cl7-BZ#170	ND		ug/kg	1.32	1
Cl7-BZ#180	ND		ug/kg	1.32	1
Cl8-BZ#195	ND		ug/kg	1.32	1
Cl9-BZ#206	ND		ug/kg	1.32	1
Cl10-BZ#209	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	88		30-150
DBOB	86		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-32
Client ID: S-10A-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 20:48
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 12:55
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	1.40		ug/kg	1.32	1
Cl3-BZ#28	12.1		ug/kg	1.32	1
Cl4-BZ#44	4.26		ug/kg	1.32	1
Cl4-BZ#66	6.90		ug/kg	1.32	1
Cl5-BZ#105	3.02		ug/kg	1.32	1
Cl6-BZ#153	2.24		ug/kg	1.32	1
Cl7-BZ#187	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	88		30-150
DBOB	86		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-34
Client ID: S-10A-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 21:29
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 13:05
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
CI2-BZ#8	1.53		ug/kg	1.31	1
CI3-BZ#18	6.61		ug/kg	1.31	1
CI4-BZ#44	20.7		ug/kg	1.31	1
CI5-BZ#101	64.8	E	ug/kg	1.31	1
CI5-BZ#118	65.9	E	ug/kg	1.31	1
CI6-BZ#128	16.4		ug/kg	1.31	1
CI6-BZ#138	58.4	E	ug/kg	1.31	1
CI7-BZ#170	7.34		ug/kg	1.31	1
CI7-BZ#180	10.4		ug/kg	1.31	1
CI7-BZ#187	5.52		ug/kg	1.31	1
CI9-BZ#206	ND		ug/kg	1.31	1
CI10-BZ#209	ND		ug/kg	1.31	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	69		30-150
BZ 198	81		30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-34
Client ID: S-10A-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 21:29
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 13:05
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	20.8		ug/kg	1.31	1
Cl4-BZ#52	19.8		ug/kg	1.31	1
Cl4-BZ#66	36.1	E	ug/kg	1.31	1
Cl5-BZ#105	19.7		ug/kg	1.31	1
Cl6-BZ#153	9.02		ug/kg	1.31	1
Cl8-BZ#195	ND		ug/kg	1.31	1

DBOB	69	30-150
BZ 198	81	30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-34 D
Client ID: S-10A-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/20/10 16:12
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 13:05
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl5-BZ#101	104		ug/kg	13.1	10
Cl5-BZ#118	98.1		ug/kg	13.1	10
Cl6-BZ#138	82.6		ug/kg	13.1	10

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-34 D
Client ID: S-10A-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/20/10 16:12
Analyst: NS
Percent Solids: 100%

Date Collected: 04/07/10 13:05
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl4-BZ#66	100		ug/kg	13.1	10

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-37
Client ID: S-10A-C017-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 22:10
Analyst: NS
Percent Solids: 98%

Date Collected: 04/07/10 13:15
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	4.24		ug/kg	1.33	1
Cl5-BZ#118	3.92		ug/kg	1.33	1
Cl7-BZ#170	ND		ug/kg	1.33	1
Cl7-BZ#180	ND		ug/kg	1.33	1
Cl7-BZ#187	ND		ug/kg	1.33	1
Cl8-BZ#195	ND		ug/kg	1.33	1
Cl9-BZ#206	ND		ug/kg	1.33	1
Cl10-BZ#209	ND		ug/kg	1.33	1

DBOB	103	30-150
BZ 198	87	30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-37
Client ID: S-10A-C017-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 22:10
Analyst: NS
Percent Solids: 98%

Date Collected: 04/07/10 13:15
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	9.62		ug/kg	1.33	1
Cl3-BZ#28	9.06		ug/kg	1.33	1
Cl4-BZ#44	4.37		ug/kg	1.33	1
Cl4-BZ#52	9.70		ug/kg	1.33	1
Cl4-BZ#66	2.73		ug/kg	1.33	1
Cl5-BZ#101	3.40		ug/kg	1.33	1
Cl5-BZ#105	1.37		ug/kg	1.33	1
Cl6-BZ#128	1.68		ug/kg	1.33	1
Cl6-BZ#138	5.03		ug/kg	1.33	1
Cl6-BZ#153	1.85		ug/kg	1.33	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	103		30-150
BZ 198	87		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-40
Client ID: S-10A-C018-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 22:51
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 13:25
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	2.02		ug/kg	1.31	1
Cl4-BZ#52	6.08		ug/kg	1.31	1
Cl5-BZ#118	4.18		ug/kg	1.31	1
Cl7-BZ#170	ND		ug/kg	1.31	1
Cl7-BZ#180	ND		ug/kg	1.31	1
Cl7-BZ#187	ND		ug/kg	1.31	1
Cl8-BZ#195	ND		ug/kg	1.31	1
Cl9-BZ#206	ND		ug/kg	1.31	1
Cl10-BZ#209	ND		ug/kg	1.31	1

DBOB	77	30-150
BZ 198	76	30-150

Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-40
Client ID: S-10A-C018-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/21/10 22:51
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 13:25
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	3.98		ug/kg	1.31	1
Cl3-BZ#28	5.54		ug/kg	1.31	1
Cl4-BZ#44	2.47		ug/kg	1.31	1
Cl4-BZ#66	2.22		ug/kg	1.31	1
Cl5-BZ#101	3.20		ug/kg	1.31	1
Cl5-BZ#105	ND		ug/kg	1.31	1
Cl6-BZ#128	1.32		ug/kg	1.31	1
Cl6-BZ#138	4.20		ug/kg	1.31	1
Cl6-BZ#153	1.73		ug/kg	1.31	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	77		30-150
BZ 198	76		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-42 D2
 Client ID: S-10A-C019-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/22/10 11:49
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 13:35
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	442		ug/kg	66.7	50
Cl4-BZ#44	348		ug/kg	66.7	50
Cl4-BZ#52	884		ug/kg	66.7	50
Cl5-BZ#101	851		ug/kg	66.7	50
Cl5-BZ#105	222		ug/kg	66.7	50
Cl5-BZ#118	728		ug/kg	66.7	50
Cl6-BZ#138	679		ug/kg	66.7	50



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-42 D2
 Client ID: S-10A-C019-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/22/10 11:49
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 13:35
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	558		ug/kg	66.7	50
Cl4-BZ#66	718		ug/kg	66.7	50
Cl6-BZ#153	348		ug/kg	66.7	50

Project Name: NEW BEDFORD HARBOR

Lab Number: L1005022

Project Number: TO-0010

Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-42 D
 Client ID: S-10A-C019-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 18:15
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 13:35
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	72.6		ug/kg	13.3	10
Cl3-BZ#18	459	E	ug/kg	13.3	10
Cl4-BZ#44	384	E	ug/kg	13.3	10
Cl4-BZ#52	987	E	ug/kg	13.3	10
Cl5-BZ#101	934	E	ug/kg	13.3	10
Cl5-BZ#105	268	E	ug/kg	13.3	10
Cl5-BZ#118	852	E	ug/kg	13.3	10
Cl6-BZ#128	230		ug/kg	13.3	10
Cl6-BZ#138	810	E	ug/kg	13.3	10
Cl7-BZ#170	118		ug/kg	13.3	10
Cl7-BZ#180	156		ug/kg	13.3	10
Cl7-BZ#187	75.1		ug/kg	13.3	10
Cl8-BZ#195	ND		ug/kg	13.3	10
Cl9-BZ#206	ND		ug/kg	13.3	10
Cl10-BZ#209	ND		ug/kg	13.3	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	96		30-150
BZ 198	138		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-42 D
 Client ID: S-10A-C019-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/20/10 18:15
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 13:35
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#28	296	E	ug/kg	13.3	10
Cl4-BZ#66	403	E	ug/kg	13.3	10
Cl6-BZ#153	172	E	ug/kg	13.3	10

DBOB	96	30-150
BZ 198	138	30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-44
Client ID: S-10A-C020-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 00:12
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 13:45
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	1.96		ug/kg	1.32	1
Cl5-BZ#118	2.83		ug/kg	1.32	1
Cl6-BZ#128	ND		ug/kg	1.32	1
Cl7-BZ#170	ND		ug/kg	1.32	1
Cl7-BZ#180	ND		ug/kg	1.32	1
Cl7-BZ#187	ND		ug/kg	1.32	1
Cl8-BZ#195	ND		ug/kg	1.32	1
Cl9-BZ#206	ND		ug/kg	1.32	1
Cl10-BZ#209	ND		ug/kg	1.32	1

DBOB	84	30-150
BZ 198	83	30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-44
Client ID: S-10A-C020-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 00:12
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 13:45
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:04
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	ND		ug/kg	1.32	1
Cl3-BZ#28	3.41		ug/kg	1.32	1
Cl4-BZ#44	2.37		ug/kg	1.32	1
Cl4-BZ#52	4.32		ug/kg	1.32	1
Cl4-BZ#66	2.26		ug/kg	1.32	1
Cl5-BZ#101	2.85		ug/kg	1.32	1
Cl5-BZ#105	ND		ug/kg	1.32	1
Cl6-BZ#138	3.71		ug/kg	1.32	1
Cl6-BZ#153	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	84		30-150
BZ 198	83		30-150



Project Name: NEW BEDFORD HARBOR**Lab Number:** L1005022**Project Number:** TO-0010**Report Date:** 04/23/10**SAMPLE RESULTS**

Lab ID: L1005022-46
Client ID: S-10A-C021-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment
Analytical Method: 1,8082
Analytical Date: 04/22/10 00:53
Analyst: NS
Percent Solids: 99%

Date Collected: 04/07/10 14:00
Date Received: 04/07/10
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 04/16/10 11:07
Cleanup Method1: EPA 3630
Cleanup Date1: 04/19/10
Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl3-BZ#18	6.43		ug/kg	1.32	1
Cl4-BZ#66	6.68		ug/kg	1.32	1
Cl5-BZ#101	4.36		ug/kg	1.32	1
Cl5-BZ#118	4.16		ug/kg	1.32	1
Cl6-BZ#128	ND		ug/kg	1.32	1
Cl6-BZ#138	3.24		ug/kg	1.32	1
Cl7-BZ#180	ND		ug/kg	1.32	1
Cl7-BZ#187	ND		ug/kg	1.32	1
Cl8-BZ#195	ND		ug/kg	1.32	1
Cl9-BZ#206	ND		ug/kg	1.32	1
Cl10-BZ#209	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	81		30-150
DBOB	98		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-46
 Client ID: S-10A-C021-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment
 Analytical Method: 1,8082
 Analytical Date: 04/22/10 00:53
 Analyst: NS
 Percent Solids: 99%

Date Collected: 04/07/10 14:00
 Date Received: 04/07/10
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:07
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab					
Cl2-BZ#8	7.28		ug/kg	1.32	1
Cl3-BZ#28	10.7		ug/kg	1.32	1
Cl4-BZ#44	4.47		ug/kg	1.32	1
Cl4-BZ#52	11.6		ug/kg	1.32	1
Cl5-BZ#105	1.32		ug/kg	1.32	1
Cl6-BZ#153	1.67		ug/kg	1.32	1
Cl7-BZ#170	ND		ug/kg	1.32	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	81		30-150
DBOB	98		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 04/17/10 01:19
Analyst: NS

Extraction Method: EPA 3510C
Extraction Date: 04/13/10 14:40
Cleanup Method1: ----
Cleanup Date1:
Cleanup Method2: ----
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01 Batch: WG407917-1				
CI2-BZ#8	ND		ug/l	0.00100
CI3-BZ#18	ND		ug/l	0.00100
CI3-BZ#28	ND		ug/l	0.00100
CI4-BZ#44	ND		ug/l	0.00100
CI4-BZ#52	ND		ug/l	0.00100
CI4-BZ#66	ND		ug/l	0.00100
CI5-BZ#101	ND		ug/l	0.00100
CI5-BZ#105	ND		ug/l	0.00100
CI5-BZ#118	ND		ug/l	0.00100
CI6-BZ#128	ND		ug/l	0.00100
CI6-BZ#138	ND		ug/l	0.00100
CI7-BZ#170	ND		ug/l	0.00100
CI7-BZ#180	ND		ug/l	0.00100
CI7-BZ#187	ND		ug/l	0.00100
CI8-BZ#195	ND		ug/l	0.00100
CI9-BZ#206	ND		ug/l	0.00100
CI10-BZ#209	ND		ug/l	0.00100

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	93		30-150
BZ 198	87		30-150



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 04/17/10 01:19
 Analyst: NS

Extraction Method: EPA 3510C
 Extraction Date: 04/13/10 14:40
 Cleanup Method1: ----
 Cleanup Date1:
 Cleanup Method2: ----
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01 Batch: WG407917-1				
Cl6-BZ#153	ND		ug/l	0.00100
Cl7-BZ#184	ND		ug/l	0.00100

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	93		30-150
BZ 198	87		30-150



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 04/19/10 21:06
Analyst: NS

Extraction Method: EPA 3540C
Extraction Date: 04/15/10 09:56
Cleanup Method1: EPA 3630
Cleanup Date1: 04/16/10
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 02,04,06,08,10,12,14,16,18,20,22 Batch: WG408251-1				
CI2-BZ#8	ND		ug/kg	1.33
CI3-BZ#18	ND		ug/kg	1.33
CI3-BZ#28	ND		ug/kg	1.33
CI4-BZ#44	ND		ug/kg	1.33
CI4-BZ#52	ND		ug/kg	1.33
CI4-BZ#66	ND		ug/kg	1.33
CI5-BZ#101	ND		ug/kg	1.33
CI5-BZ#105	ND		ug/kg	1.33
CI5-BZ#118	ND		ug/kg	1.33
CI6-BZ#128	ND		ug/kg	1.33
CI6-BZ#138	ND		ug/kg	1.33
CI7-BZ#170	ND		ug/kg	1.33
CI7-BZ#180	ND		ug/kg	1.33
CI7-BZ#187	ND		ug/kg	1.33
CI8-BZ#195	ND		ug/kg	1.33
CI9-BZ#206	ND		ug/kg	1.33
CI10-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	94		30-150
BZ 198	118		30-150



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 04/19/10 21:06
 Analyst: NS

Extraction Method: EPA 3540C
 Extraction Date: 04/15/10 09:56
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/16/10
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 02,04,06,08,10,12,14,16,18,20,22 Batch: WG408251-1				
Cl6-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	94		30-150
BZ 198	118		30-150

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 04/20/10 23:01
 Analyst: NS

Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 24,26,28,30,32,34,37,40,42,44,46 Batch: WG408427-1				
CI2-BZ#8	ND		ug/kg	1.33
CI3-BZ#18	ND		ug/kg	1.33
CI3-BZ#28	ND		ug/kg	1.33
CI4-BZ#44	ND		ug/kg	1.33
CI4-BZ#52	ND		ug/kg	1.33
CI4-BZ#66	ND		ug/kg	1.33
CI5-BZ#101	ND		ug/kg	1.33
CI5-BZ#105	ND		ug/kg	1.33
CI5-BZ#118	ND		ug/kg	1.33
CI6-BZ#128	ND		ug/kg	1.33
CI6-BZ#138	ND		ug/kg	1.33
CI7-BZ#170	ND		ug/kg	1.33
CI7-BZ#180	ND		ug/kg	1.33
CI7-BZ#187	ND		ug/kg	1.33
CI8-BZ#195	ND		ug/kg	1.33
CI9-BZ#206	ND		ug/kg	1.33
CI10-BZ#209	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	112		30-150
BZ 198	99		30-150



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
 Analytical Date: 04/20/10 23:01
 Analyst: NS

Extraction Method: EPA 3540C
 Extraction Date: 04/16/10 11:04
 Cleanup Method1: EPA 3630
 Cleanup Date1: 04/19/10
 Cleanup Method2: - - - -
 Cleanup Date2:

Parameter	Result	Qualifier	Units	RDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 24,26,28,30,32,34,37,40,42,44,46 Batch: WG408427-1				
Cl6-BZ#153	ND		ug/kg	1.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	112		30-150
BZ 198	99		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 24,26,28,30,32,34,37,40,42,44,46 QC Batch ID: WG408427-4 WG408427-5 QC Sample: L1005022-32 Client ID: S-10A-C015-0-0.5												
Cl2-BZ#8	1.40	3.31	4.78	102		4.50	94		40-140	9		30
Cl3-BZ#18	3.58	3.31	7.94	132		8.46	147	Q	40-140	11		30
Cl3-BZ#28	12.1	3.31	28.6	498	Q	20.1	241	Q	40-140	70	Q	30
Cl4-BZ#44	4.26	3.31	9.95	172	Q	8.01	113		40-140	41	Q	30
Cl4-BZ#52	10.9	3.31	20.6	293	Q	18.0	214	Q	40-140	31	Q	30
Cl4-BZ#66	6.90	3.31	14.0	214	Q	10.8	118		40-140	58	Q	30
Cl5-BZ#101	9.81	3.31	14.0	126		12.2	72		40-140	54	Q	30
Cl5-BZ#105	3.02	3.31	5.60	78		4.67	50		40-140	44	Q	30
Cl5-BZ#118	8.10	3.31	13.9	175	Q	11.6	106		40-140	49	Q	30
Cl6-BZ#128	1.56	3.31	4.13	78		4.04	75		40-140	4		30
Cl6-BZ#138	5.92	3.31	10.0	123		8.68	83		40-140	39	Q	30
Cl6-BZ#153	2.24	3.31	3.97	52		3.46	37	Q	40-140	35	Q	30
Cl7-BZ#170	ND	3.31	3.61	109		3.39	102		40-140	7		30
Cl7-BZ#180	ND	3.31	4.34	131		4.11	124		40-140	5		30
Cl7-BZ#187	ND	3.31	4.37	132		3.68	111		40-140	17		30
Cl8-BZ#195	ND	3.31	3.02	91		2.82	85		40-140	7		30
Cl9-BZ#206	ND	3.31	2.74	83		3.00	90		40-140	9		30
Cl10-BZ#209	ND	3.31	2.67	81		2.76	83		40-140	3		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
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PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 24,26,28,30,32,34,37,40,42,44,46 QC Batch ID: WG408427-4 WG408427-5 QC Sample: L1005022-32 Client ID: S-10A-C015-0-0.5

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
BZ 198	96		97		30-150
DBOB	87		79		30-150



Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01 Batch: WG407917-2 WG407917-3								
CI2-BZ#8	91		84		40-140	7		30
CI3-BZ#18	75		82		40-140	8		30
CI3-BZ#28	84		92		40-140	9		30
CI4-BZ#44	80		85		40-140	6		30
CI4-BZ#52	78		83		40-140	6		30
CI4-BZ#66	86		92		40-140	7		30
CI5-BZ#101	78		85		40-140	9		30
CI5-BZ#105	90		97		40-140	8		30
CI5-BZ#118	88		97		40-140	10		30
CI6-BZ#128	85		91		40-140	6		30
CI6-BZ#138	87		93		40-140	6		30
CI7-BZ#170	80		85		40-140	6		30
CI7-BZ#180	82		87		40-140	6		30
CI7-BZ#187	79		84		40-140	6		30
CI8-BZ#195	76		88		40-140	15		30
CI9-BZ#206	82		87		40-140	6		30
CI10-BZ#209	73		77		40-140	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L1005022

Project Number: TO-0010

Report Date: 04/23/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01 Batch: WG407917-2 WG407917-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	92		97		30-150

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01 Batch: WG407917-2 WG407917-3

Cl6-BZ#153	76		68		40-140	12		30
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Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	92		97		30-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 02,04,06,08,10,12,14,16,18,20,22 Batch: WG408251-2 WG408251-3								
CI2-BZ#8	87		80		40-140	8		30
CI3-BZ#18	88		77		40-140	13		30
CI3-BZ#28	88		86		40-140	2		30
CI4-BZ#44	88		84		40-140	5		30
CI4-BZ#52	102		91		40-140	11		30
CI4-BZ#66	92		89		40-140	3		30
CI5-BZ#101	88		85		40-140	3		30
CI5-BZ#105	93		88		40-140	6		30
CI5-BZ#118	97		94		40-140	3		30
CI6-BZ#128	98		92		40-140	6		30
CI6-BZ#138	90		90		40-140	0		30
CI7-BZ#170	92		87		40-140	6		30
CI7-BZ#187	95		88		40-140	8		30
CI8-BZ#195	88		81		40-140	8		30
CI9-BZ#206	101		95		40-140	6		30
CI10-BZ#209	92		87		40-140	6		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L1005022

Project Number: TO-0010

Report Date: 04/23/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 02,04,06,08,10,12,14,16,18,20,22 Batch: WG408251-2 WG408251-3

DBOB	99		90		30-150			
BZ 198	124		106		30-150			

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 02,04,06,08,10,12,14,16,18,20,22 Batch: WG408251-2 WG408251-3

Cl6-BZ#153	105		88		40-140	18		30
Cl7-BZ#180	114		99		40-140	14		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	99		90		30-150
BZ 198	124		106		30-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 24,26,28,30,32,34,37,40,42,44,46 Batch: WG408427-2 WG408427-3								
Cl2-BZ#8	79		79		40-140	0		30
Cl3-BZ#18	87		79		40-140	10		30
Cl3-BZ#28	96		94		40-140	2		30
Cl4-BZ#44	94		91		40-140	3		30
Cl4-BZ#52	94		94		40-140	0		30
Cl4-BZ#66	106		101		40-140	5		30
Cl5-BZ#101	96		94		40-140	2		30
Cl5-BZ#105	102		100		40-140	2		30
Cl5-BZ#118	107		106		40-140	1		30
Cl6-BZ#128	101		99		40-140	2		30
Cl6-BZ#138	102		100		40-140	2		30
Cl7-BZ#170	92		89		40-140	3		30
Cl7-BZ#180	102		104		40-140	2		30
Cl7-BZ#187	95		93		40-140	2		30
Cl8-BZ#195	80		79		40-140	1		30
Cl9-BZ#206	89		88		40-140	1		30
Cl10-BZ#209	81		80		40-140	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD HARBOR

Lab Number: L1005022

Project Number: TO-0010

Report Date: 04/23/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 24,26,28,30,32,34,37,40,42,44,46 Batch: WG408427-2 WG408427-3								

DBOB	106	96	30-150
BZ 198	90	89	30-150

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 24,26,28,30,32,34,37,40,42,44,46 Batch: WG408427-2 WG408427-3

Cl6-BZ#153	101	97	40-140	4	30
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Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	106	96	30-150		
BZ 198	90	89	30-150		

INORGANICS & MISCELLANEOUS



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-02
Client ID: S-10A-C001-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 08:50
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.6		%	0.100	1	-	04/12/10 13:40	30,2540G	KB
Solids, Total (Pre-Dried)	85.5		%	0.100	1	-	04/09/10 16:23	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-04
Client ID: S-10A-C002-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 09:05
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.4		%	0.100	1	-	04/12/10 13:40	30,2540G	KB
Solids, Total (Pre-Dried)	80.0		%	0.100	1	-	04/09/10 16:23	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-06
Client ID: S-10A-C003-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 09:20
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.9		%	0.100	1	-	04/12/10 13:40	30,2540G	KB
Solids, Total (Pre-Dried)	59.2		%	0.100	1	-	04/09/10 16:23	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-08
Client ID: S-10A-C004-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 09:30
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.5		%	0.100	1	-	04/12/10 13:40	30,2540G	KB
Solids, Total (Pre-Dried)	53.3		%	0.100	1	-	04/09/10 16:23	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-10
Client ID: S-10A-C005-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 09:45
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.0		%	0.100	1	-	04/12/10 13:40	30,2540G	KB
Solids, Total (Pre-Dried)	78.9		%	0.100	1	-	04/09/10 16:23	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-12
Client ID: S-10A-C006-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 10:05
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.5		%	0.100	1	-	04/12/10 13:40	30,2540G	KB
Solids, Total (Pre-Dried)	62.9		%	0.100	1	-	04/09/10 16:23	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-14
Client ID: S-10A-C007-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 10:25
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.8		%	0.100	1	-	04/12/10 13:40	30,2540G	KB
Solids, Total (Pre-Dried)	82.6		%	0.100	1	-	04/09/10 16:23	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-16
 Client ID: S-10A-C008-0-0.5
 Sample Location: NEW BEDFORD, MA
 Matrix: Sediment

Date Collected: 04/07/10 10:50
 Date Received: 04/07/10
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.8		%	0.100	1	-	04/12/10 13:40	30,2540G	KB
Solids, Total (Pre-Dried)	65.5		%	0.100	1	-	04/09/10 16:23	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-18
Client ID: S-10A-C009-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 11:10
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.8		%	0.100	1	-	04/12/10 13:40	30,2540G	KB
Solids, Total (Pre-Dried)	73.2		%	0.100	1	-	04/09/10 16:23	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-20
Client ID: S-10A-C007-0-0.5REP
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 10:40
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.6		%	0.100	1	-	04/12/10 13:40	30,2540G	KB
Solids, Total (Pre-Dried)	78.5		%	0.100	1	-	04/09/10 16:23	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-22
Client ID: S-10A-C010-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 11:25
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.2		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	64.2		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-24
Client ID: S-10A-C011-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 11:35
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	97.4		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	41.8		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-26
Client ID: S-10A-C012-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 11:50
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.3		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	48.0		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-28
Client ID: S-10A-C013-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 12:00
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.6		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	75.2		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-30
Client ID: S-10A-C014-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 12:15
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.8		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	51.7		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-32
Client ID: S-10A-C015-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 12:55
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.3		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	77.0		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-34
Client ID: S-10A-C016-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 13:05
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.8		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	84.0		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-37
Client ID: S-10A-C017-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 13:15
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.4		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	74.3		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-40
Client ID: S-10A-C018-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 13:25
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.0		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	67.7		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-42
Client ID: S-10A-C019-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 13:35
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	98.7		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	43.7		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-44
Client ID: S-10A-C020-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 13:45
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.4		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	78.7		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

SAMPLE RESULTS

Lab ID: L1005022-46
Client ID: S-10A-C021-0-0.5
Sample Location: NEW BEDFORD, MA
Matrix: Sediment

Date Collected: 04/07/10 14:00
Date Received: 04/07/10
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab									
Solids, Total	99.2		%	0.100	1	-	04/12/10 14:05	30,2540G	KB
Solids, Total (Pre-Dried)	69.1		%	0.100	1	-	04/09/10 16:25	30,2540G	KB



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L1005022
Report Date: 04/23/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 02,04,06,08,10,12,14,16,18,20 QC Batch ID: WG407493-1 QC Sample: L1005022-04 Client ID: S-10A-C002-0-0.5						
Solids, Total (Pre-Dried)	80	79.8	%	0		20
General Chemistry - Mansfield Lab Associated sample(s): 22,24,26,28,30,32,34,37,40,42,44,46 QC Batch ID: WG407495-1 QC Sample: L1005022-22 Client ID: S-10A-C010-0-0.5						
Solids, Total (Pre-Dried)	64.2	63.3	%	1		20
General Chemistry - Mansfield Lab Associated sample(s): 02,04,06,08,10,12,14,16,18,20 QC Batch ID: WG407731-1 QC Sample: L1005022-04 Client ID: S-10A-C002-0-0.5						
Solids, Total	99.4	99.6	%	0		20
General Chemistry - Mansfield Lab Associated sample(s): 22,24,26,28,30,32,34,37,40,42,44,46 QC Batch ID: WG407737-1 QC Sample: L1005022-22 Client ID: S-10A-C010-0-0.5						
Solids, Total	99.2	99.5	%	0		20

Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent
 B Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L1005022-01A	Amber 1000ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA()
L1005022-01B	Amber 1000ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA()
L1005022-02A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-03A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-04A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-05A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-06A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-07A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-08A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-09A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-10A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-11A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-12A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-13A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-14A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-15A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-16A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-17A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)

*Hold days indicated by values in parentheses



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L1005022-18A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-19A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-20A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-21A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-22A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-23A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-24A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-25A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-26A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-27A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	HOLD(14)
L1005022-28A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-29A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	HOLD(14)
L1005022-30A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-31A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-32A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-MS/MSD(),A2-TS-PREDRIED(7)
L1005022-32B	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-MS/MSD(),A2-TS-PREDRIED(7)
L1005022-33A	Glass 250ml unpreserved	B	N/A	4.5	Y	Absent	HOLD(14)
L1005022-34A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-35A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	HOLD(14)
L1005022-36A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	-
L1005022-37A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-MS/MSD(),A2-TS-PREDRIED(7)
L1005022-37B	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-MS/MSD(),A2-TS-PREDRIED(7)
L1005022-38A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	HOLD(14)
L1005022-39A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	-

*Hold days indicated by values in parentheses



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L1005022-40A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-41A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	HOLD(14)
L1005022-42A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-43A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-44A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-45A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)
L1005022-46A	Glass 250ml unpreserved	B	N/A	4.1	Y	Absent	A2-PCBCONG-8082-NOAA(),A2-TS(7),A2-TS-PREDRIED(7)
L1005022-47A	Glass 250ml unpreserved	A	N/A	2.7	Y	Absent	HOLD(14)

*Hold days indicated by values in parentheses



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

GLOSSARY

Acronyms

- EPA - Environmental Protection Agency.
- LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCSD - Laboratory Control Sample Duplicate: Refer to LCS.
- MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MSD - Matrix Spike Sample Duplicate: Refer to MS.
- NA - Not Applicable.
- NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- NI - Not Ignitable.
- RDL - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RDL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reported detection limit (RDL) for the sample.

Report Format: Data Usability Report



Project Name: NEW BEDFORD HARBOR
Project Number: TO-0010

Lab Number: L1005022
Report Date: 04/23/10

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised December 15, 2009 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Maine Department of Human Services Certificate/Lab ID: MA0030.

Wastewater (Inorganic Parameters: EPA 120.1, 300.0, SM 2320, 2510B, 2540C, 2540D, EPA 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID: 68-02089. *NELAP Accredited.*

Non-Potable Water (Organic Parameters: EPA 5030B, EPA 8260)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. *NELAP Accredited via LA-DEQ.*

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. *NELAP Accredited.*

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 3005A,3020, 6020, 245.1, 245.7, 1631E, 7470A, 7474, 9014, 120.1, 9050A, 180.1, SM4500H-B, 2320B, 2510B, 2540D,9040. Organic Parameters: EPA 3510C, 5030B, 9010B, 624, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).)

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl.



CHAIN OF CUSTODY

PAGE 1 OF 5

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: **L100 5022**

Project Information

Project Name: ~~TO-NESH~~ **TO-NESH Sediment**

Project Location: **New Bedford, MA**

Project #: **TO-0010**

Project Manager: **Dave Walsh**

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: _____ Time: _____

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #: _____

Regulatory Requirements/Report Limits

State (Fed Program) _____ Criteria _____

MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Client Information

Client: **Woods Hole Group**

Address: **81 Technology Park Dr.
E. Falmouth, MA 02536**

Phone: **508-540-8080**

Fax: **508-540-1001**

Email: **dwalsh@whgwp.com**

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

level III data report and project specific EDD * please homogenize all samples

ANALYSIS	SAMPLE HANDLING										TOTAL # BOTTLES	
	Filtration _____ <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)											
NOAA-18 Feb Cong archive												

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials									Sample Specific Comments	
		Date	Time												
5022-1	EB-040610-01	4/6/10	16:15	SW	KGM	X								equip. blank	2
2	S-10A-C001-0-0.5	4/7/10	08:50	SE	KGM	X								sample	1
3	S-10A-C001-0.5-0.9	4/7/10	08:50	SE	KGM	X								archive	1
4	S-10A-C002-0-0.5		09:05			X								sample	1
5	S-10A-C002-0.5-0.9		09:05			X								archive	1
6	S-10A-C003-0-0.5		09:20			X								sample	1
7	S-10A-C003-0.5-1.0		09:20			X								archive	1
8	S-10A-C004-0-0.5		09:30			X								sample	1
9	S-10A-C004-0.5-1.0		09:30			X								archive	1
10	S-10A-C005-0-0.5		09:45			X								sample	1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type **A A**
Preservative **A A**

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By: <i>[Signature]</i>	Date/Time: 4/7/10 15:45	Received By: <i>[Signature]</i>	Date/Time: 4-7-10 15:45
<i>[Signature]</i>	4-7-10 16:45	<i>[Signature]</i>	4/7/10 16:45

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

04231012:54

Delivery Order-0010
June 2010

B-129

NWS Monitoring Summary Report
W912WJ-09-D-0001



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 2 OF 5

Date Rec'd in Lab:

ALPHA Job #: L1005022

Project Information

Project Name: NBH Env. Monitoring
Project Location: New Bedford, MA

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Dr.
E. Falmouth MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com

Project #: TO-0010
Project Manager: Dave Walsh
ALPHA Quote #:

Regulatory Requirements/Report Limits

State Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Level III data report
Project Specific EDD

ANALYSIS
NOAA IS FOR LONG
Archive

SAMPLE HANDLING
Filtration _____
 Done
 Not needed
 Lab to do Preservation
 Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials															Sample Specific Comments	TOTAL # BOTTLES	
		Date	Time																			
<u>5022-11</u>	<u>S-10A-C005-0.5-1.0</u>	<u>4/7/10</u>	<u>09:45</u>	<u>SE</u>	<u>KGM</u>	<u>X</u>															<u>archive</u>	<u>1</u>
<u>12</u>	<u>S-10A-C006-0-0.5</u>		<u>10:05</u>		<u>V</u>	<u>X</u>															<u>sample</u>	<u>1</u>
<u>13</u>	<u>S-10A-C006-0.5-1.0</u>		<u>10:05</u>			<u>X</u>															<u>archive</u>	<u>1</u>
<u>14</u>	<u>S-10A-C007-0-0.5</u>		<u>10:25</u>			<u>X</u>															<u>sample</u>	<u>1</u>
<u>15</u>	<u>S-10A-C007-0.5-1.0</u>		<u>10:25</u>			<u>X</u>															<u>archive</u>	<u>1</u>
<u>16</u>	<u>S-10A-C008-0-0.5</u>		<u>10:50</u>			<u>X</u>															<u>sample</u>	<u>1</u>
<u>17</u>	<u>S-10A-C008-0.5-1.0</u>		<u>10:50</u>			<u>X</u>															<u>archive</u>	<u>1</u>
<u>18</u>	<u>S-10A-C009-0-0.5</u>		<u>11:10</u>			<u>X</u>															<u>sample</u>	<u>1</u>
<u>19</u>	<u>S-10A-C009-0.5-1.0</u>		<u>11:10</u>			<u>X</u>															<u>archive</u>	<u>1</u>
<u>20</u>	<u>S-10A-C007-0.5REP</u>		<u>10:40</u>			<u>X</u>															<u>sample</u>	<u>1</u>

PLEASE ANSWER QUESTIONS ABOVE!

Container Type A A
Preservative A A

IS YOUR PROJECT
MA MCP or CT RCP?

Relinquished By: P. Silbert Date/Time: 4/7/10 15:45
Received By: P. Silbert Date/Time: 4/7/10 15:45
P. Silbert 4/7/10 16:45 Lillian Sullivan 4/7/10 16:45

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

04231012-54

Delivery Order-0010
June 2010

B-130

NWS Monitoring Summary Report
W912WJ-09-D-0001



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 3 OF 5

Date Rec'd in Lab:

ALPHA Job #: L1005078

Project Information

Project Name: NBH Environmental Monitoring
Project Location: New Bedford, MA

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: Woods Hole Group
Address: 81 Technology Park Dr.
E. Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: dwalsh@whgrp.com

Turn-Around Time

Project #: TO-P014
Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: Time:

Regulatory Requirements/Report Limits

State/Fed Program: Criteria:

MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Level III data report
Project specific EDD

ANALYSIS
NOAA/IS PCB CEN
archive

SAMPLE HANDLING
Filtration _____
 Done
 Not needed
 Lab to do Preservation
 Lab to do (Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials									Sample Specific Comments	TOTAL # BOTTLES
		Date	Time												
<u>5072-21</u>	<u>S-10A-C007-0.5-1.0REP</u>	<u>4/7/10</u>	<u>10:40</u>	<u>SE</u>	<u>KGM</u>									<u>archive</u>	<u>1</u>
<u>22</u>	<u>S-10A-C010-0-0.5</u>		<u>11:25</u>											<u>sample</u>	<u>1</u>
<u>23</u>	<u>S-10A-C010-0.5-0.9</u>		<u>11:25</u>											<u>archive</u>	<u>1</u>
<u>24</u>	<u>S-10A-C011-0-0.5</u>		<u>11:35</u>											<u>sample</u>	<u>1</u>
<u>25</u>	<u>S-10A-C011-0.5-1.0</u>		<u>11:35</u>											<u>archive</u>	<u>1</u>
<u>26</u>	<u>S-10A-C012-0-0.5</u>		<u>11:50</u>											<u>sample</u>	<u>1</u>
<u>27</u>	<u>S-10A-C012-0.5-1.0</u>		<u>11:50</u>											<u>archive</u>	<u>1</u>
<u>28</u>	<u>S-10A-C013-0-0.5</u>		<u>12:00</u>											<u>sample</u>	<u>1</u>
<u>29</u>	<u>S-10A-C013-0.5-1.0</u>		<u>12:00</u>											<u>archive</u>	<u>1</u>
<u>30</u>	<u>S-10A-C014-0-0.5</u>		<u>12:15</u>											<u>sample</u>	<u>1</u>

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Container Type AA
Preservative AA

Relinquished By: [Signature] Date/Time: 4/7/10 15:45
[Signature] Date/Time: 4-7-10 16:45

Received By: [Signature] Date/Time: 4/7/10 15:45
[Signature] Date/Time: 4/7/10 16:45

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

04231012-54

Delivery Order-0010
June 2010

B-131

NWS Monitoring Summary Report
W912WJ-09-D-0001



CHAIN OF CUSTODY

PAGE 4 OF 5

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1005022**Project Information****Report Information - Data Deliverables****Billing Information**

Project Name: NBH Env. Monitoring
Project Location: New Bedford, MA

FAX EMAIL
 ADEX Add'l Deliverables

Same as Client info PO #:

Client Information

Project #: TO-φφ1φ
Project Manager: Dave Walsh
ALPHA Quote #:

Regulatory Requirements/Report Limits

State / Fed Program

Criteria

Client: Woods Hole Group
Address: 81 Technology Park Dr.
E. Falmouth, MA 02536

Phone: 508-540-8080Fax: 508-540-1001Email: dwalsh@whgrp.com These samples have been previously analyzed by Alpha**Turn-Around Time**

Standard RUSH (only confirmed if pre-approved!)

Date Due:

Time:

MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS Yes No Are MCP Analytical Methods Required? Yes No Are CT RCP (Reasonable Confidence Protocols) Required?**Other Project Specific Requirements/Comments/Detection Limits:**

Level III data report
project specific EDD

ANALYSIS
NOAA 18 PCB Cong.
archive

SAMPLE HANDLING

Filtration _____
 Done
 Not needed
 Lab to do Preservation
 Lab to do

(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS	TOTAL # BOTTLES										Sample Specific Comments					
		Date	Time																			
5022-31	S-1φA-Cφ14-φ.S-1.φ	4/7/10	12:15	SE	K6M	X															archive	1
32	S-1φA-Cφ15-φ-φ.S		12:55			X															sample	1
33	S-1φA-Cφ15-φ.S-1.φ		12:55			X															archive	1
34	S-1φA-Cφ16-φ-φ.S		13:05			X															sample	1
35	S-1φA-Cφ16-φ.S-1.φ		13:05			X															archive	1
-32-36	S-1φA-Cφ15-φ-φ.S MSMSD		12:55			X															MSMSD sample	1
37	S-1φA-Cφ17-φ-φ.S		13:15			X															sample	1
38	S-1φA-Cφ17-φ.S-1.φ		13:15			X															archive	1
-37-39	S-1φA-Cφ17-φ-φ.S MSMSD		13:15			X															MSMSD sample	1
40	S-1φA-Cφ18-φ-φ.S		13:25			X															sample	1

PLEASE ANSWER QUESTIONS ABOVE!

Container Type

AA

Preservative

AA

IS YOUR PROJECT
MA MCP or CT RCP?

Relinquished By:

Date/Time

Received By:

Date/Time

[Signature]
P. Sullivan

4/7/10 15:45
4-7-10 16:45

[Signature]
Ellen Sullivan

4/7/10 15:45
4/7/10 16:45

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 5 OF 5

Date Rec'd in Lab:

ALPHA Job #: L1005000

Project Information

Project Name: NBH Env. Monitoring

Project Location: New Bedford, MA

Project #: TO-0010

Project Manager: Dave Walsh

ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: Woods Hole Group

Address: 81 Technology Park Dr.
E. Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: d.walsh@whgrp.com

These samples have been previously analyzed by Alpha

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: Time:

Regulatory Requirements/Report Limits

State / Fed Program Criteria

MA MCP PRESUMPTIVE CERTAINTY - CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Level III data report
project specific EDD

ANALYSIS NOAA/18 PCB cong archive											TOTAL # BOTTLES
	<h3>SAMPLE HANDLING</h3> <p>Filtration _____</p> <p><input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do</p> <p><small>(Please specify below)</small></p>										

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials													Sample Specific Comments		
		Date	Time																	
5022-41	S-10A-C018-0.5-1.0	4/7/10	13:25	SE	KCM	X													archive	1
42	S-10A-C019-0-0.5		13:35			X													sample	1
43	S-10A-C019-0.5-1.0		13:35			X													archive	1
	S-10A-C019-KCM																			
44	S-10A-C020-0-0.5		13:45			X													sample	1
45	S-10A-C020-0.5-1.0		13:45			X													archive	1
46	S-10A-C021-0-0.5		14:00			X													sample	1
47	S-10A-C021-0.5-1.0		14:00			X													archive	1

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT
MA MCP or CT RCP?

Container Type AA
Preservative AA

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

Date/Time

Received By:

Date/Time

[Signature]
4/7/10 15:45

4/7/10 16:45

[Signature]
Lillian Sullivan

4/7/10 16:45