FINAL
WATER QUALITY MONITORING SUMMARY REPORT
2012 REMEDIAL DREDGING
NEW BEDFORD HARBOR SUPERFUND SITE, OU #1

Contract No. W912WJ-09-D-0001-0010-07

Prepared For:
United States Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

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June 2013

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Table of Contents

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1

1.1 SITE LOCATION AND DESCRIPTION 1

1.2 PROJECT OBJECTIVES 3

1.3 WATER QUALITY MONITORING PROGRAM 3

2.0 METHODS 9

2.1 MONITORING APPROACH 9

2.1.1 Boat-Based Water Quality Monitoring 10

2.1.2 Fixed Station Water Quality Monitoring 11

2.1.3 Discrete Water Samples 13

2.2 LABORATORY ANALYSIS 17

2.2.1 Total Suspended Solids and Turbidity 17

2.2.2 Polychlorinated Biphenyl Congeners (NOAA-18) 17

2.2.3 Toxicity 18

2.2.3.1 Test Species 19

2.2.3.2 Site Water Samples and Laboratory Control Water 19

2.2.3.3 Bioassay Tests 19

2.2.3.4 Data Analysis 20

2.2.3.5 Quality Control 21

3.0 CHRONOLOGY OF BOAT-BASED OBSERVATIONS 23

4.0 DREDGING SUMMARY 55

5.0 RESULTS 57

5.1 FIELD MONITORING SUMMARY 57

5.2 BOAT-BASED MONITORING 57

5.2.1 Turbidity Summary 57

5.2.2 Dissolved Oxygen Summary 58

5.3 FIXED-STATION CONTINUOUS MONITORING 58

5.3.1 Calibration Correction Offset 59

5.3.2 High Turbidity Readings 60

5.4 COLLECTION OF DISCRETE WATER SAMPLES 66

5.4.1 Level II - Baseline Water Quality Samples 66
5.4.2 Level I – Startup Water Quality Samples 67
5.4.3 Level II –Bi-weekly Water Quality Samples..... 67
5.5 LABORATORY TESTING SUMMARY 69
5.5.1 Total Suspended Solids and Turbidity..... 69
5.5.2 Polychlorinated Biphenyl Congeners (NOAA-18)..... 77
5.2.3 Toxicity..... 83
5.5.4 Quality Control 87
6.0 DISCUSSION 89
6.1 FISHERY AND WILDLIFE OBSERVATIONS..... 89
6.2 SUSPENDED SEDIMENT PLUMES AND ELEVATED TURBIDITY EVENTS 90
6.3 TURBIDITY SPIKES IN IN-SITU DATASETS 92
6.4 RECOMMENDATIONS FOR FUTURE SAMPLING EVENTS 93
REFERENCES..... 95
APPENDIX A. WATER QUALITY MONITORING FIELD LOGS AND DAILY REPORTS..... A-1
APPENDIX B. CONTINUOUS IN-SITU FIXED STATION WATER QUALITY TIME SERIES DATA B-1
APPENDIX C. ALPHA ANALYTICAL LABORATORY REPORTS C-1
APPENDIX D. ENVIROSYSTEMS, INC. LABORATORY REPORTS D-1
APPENDIX E. NEW ENVIRONMENTAL HORIZONS, INC. DATA VALIDATION REPORTS..... E-1
APPENDIX F. TURBIDITY DATA REVIEW MEMORANDUM F-1

List of Figures

Figure 1. Basemap of New Bedford Harbor Superfund Site in Southeastern, MA 1
Figure 2. Basemap of 2012 Remedial Dredging Areas, with updated compliance transects.....5
Figure 3. Decision Sequence for 2012 Water Quality Monitoring 6
Figure 4. Decision Sequence for Level III Water Quality Sample Analysis 7
Figure 5. Diagram of Fixed Station Water Quality Moorings 13
Figure 6. Mud Cat™ Hydraulic Dredge.....55
Figure 7. Debris Removal Excavator and Debris Storage Scow.....56
Figure 8. Turbidity readings at mooring 300S, August 16 – 28, 2012.....61
Figure 9. Turbidity readings at mooring 300N, August 17 – 24, 2012. 63
Figure 10. Rapid changes in dissolved oxygen, August 2 – 3, 2012.....65
Figure 11. Average monthly water temperature from fixed-station in-situ YSI sondes, May 22 – September 25, 2012. 66
Figure 12. Correlation between TSS and Turbidity. 71
Figure 13. Correlation between Turbidity and total NOAA-18 Congeners, and dissolved NOAA-18 Congeners. 83
Figure 14. Cormorants in dredge Area L. 90
Figure 15. Sediment plume from drainage pipe caused by shore-based construction on 6/27. 91

List of Tables

Table 1. Fixed-station IDs and positions for in-situ instruments.....12
Table 2. Sample collection requirements and participating laboratories.....15
Table 3. Summary of discrete water sampling events 68
Table 4. Summary of TSS, turbidity and TOC results.....73
Table 5. Summary of total and dissolved PCB (NOAA-18 Congeners) results.....79
Table 6. Summary of toxicity results for Level I – Startup samples 85

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ACRONYMS

1000N	Mooring located 1500' north of the northern boundary of Area L
1000S	Mooring located 1000' south of the southern boundary of Area P
300N	Mooring located 300' north of the northern boundary of Area L
300S	Mooring located 300' south of the southern boundary of Area P
AAL	Alpha Analytical Laboratory
CDF	Confined Disposal Facility
CETIS	Comprehensive Environmental Toxicity Information System
CSO	Combined Sewer Overflow
DMU	Dredge Management Unit
DO	Dissolved Oxygen
DR	Debris Removal
DRG	Dredge/dredging
EDD	Electronic Data Deliverable
EMIS	New Bedford Environmental Management Information System
EPA	US Environmental Protection Agency
ESI	EnviroSystems, Inc.
FSP	Field Sampling Plan
JE	Jacobs Engineering
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MDL	Method Detection Limit
MS	Matrix Spike sample
MSD	Matrix Spike Duplicate sample
NOAA	National Oceanic and Atmospheric Administration
NTU	Nephelometric Turbidity Unit
PAL	Project Action Limit
PCB	Polychlorinated Biphenyls
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
SES	Sevenson Environmental Services, Inc.
SOP	Standard Operating Procedure
TOC	Total Organic Carbon
TSS	Total Suspended Solids
VOC	Volatile Organic Compound
USACE NAE	US Army Corps of Engineers, New England District
WHG	Woods Hole Group, Inc.
YSI	Yellow Springs Instruments (6920-V2 sonde)

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EXECUTIVE SUMMARY

In 2012, remediation activities at the New Bedford Harbor Superfund Site included hydraulic dredging and excavation of contaminated sediments from the upper harbor. Water quality monitoring was performed during remediation activities as part of a larger environmental monitoring program with the goal to minimize potential ecological impacts that could be caused by the resuspension of contaminated sediment into the water column during operations. Data and observations resulting from the water quality monitoring were used to document background conditions and identify the extent of 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 or cause unacceptable impacts to water quality, 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 2012 dredge season.

Dredging, debris removal, and other support operations were performed between June and September 2012, and resulted in the removal of 19,502 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 turbidity criterion, and to establish baseline water quality conditions of the harbor. The monitoring program included: 1) boat-based monitoring of in-situ turbidity and dissolved oxygen, and observation of the active work zone for sediment plumes, as well as fish and wildlife passage, 2) fixed-station water quality moorings installed to record in-situ data that supplemented the boat-based monitoring, and 3) collection of discrete water samples for physical, chemical, and biological analysis for assessment of the ecological protectiveness of the project-specific turbidity criterion.

Boat-based in-situ measurements were evaluated against the upper-level turbidity criterion, which was defined as 100 Nephelometric Turbidity Units (NTU) above background or ambient turbidity. Consistent with previous years, a turbidity criterion was defined to ensure ecological protectiveness at the dredge operations, and was used to determine whether discrete water samples would be collected and analyzed to assess impacts. During the 2012 environmental monitoring season turbidity was monitored 100-1500 feet down-current of the active work zone. The turbidity criterion was not exceeded during boat-based monitoring. However, during the course of the dredging season, exceedances of the turbidity criterion were observed in fixed-station mooring data, but a direct correlation to remediation activity cannot be made with absolute certainty.

Boat-based monitoring and the fixed-station in-situ turbidity data from the water quality moorings revealed that dredge operations did, at times, have an effect on the turbidity in the immediate vicinity (≤ 300 feet) of the dredging activity. Background turbidity levels ranged from 0-19 NTU compared to > 0-52 NTU during times of active remediation. The fixed-station in-situ data also demonstrated that weather events, tidal activity, and natural influences affect water quality throughout the harbor. There were no plumes of

high turbidity observed during boat-based monitoring, but in previous years these plumes tended to be ephemeral and dissipated within 150-200 feet of its origin.

Throughout the 2012 dredge season, large numbers of fish and wildlife were observed in the project area. Lower trophic level fish were consistently observed moving throughout the river between the Sawyer Street Confined Disposal Facility (CDF) and the former Aerovox facility. Birds, such as great blue herons, green herons, gulls, swans, cormorants, egrets, osprey, terns, ducks and other water fowl were observed feeding along the shoreline and in the river. During late summer, hypoxic conditions were observed in the active dredge areas as well as the in-situ mooring locations, where DO concentrations routinely decreased below 1 mg/L, most often at night. Hypoxic conditions are a naturally occurring phenomenon in estuarine systems like the Acushnet River and occur more often during the mid to late summer timeframe when water temperatures are high. Small fish exhibited stressed behavior during hypoxic conditions and a few were found dead, but no large scale fish kills were observed. These conditions occurred regardless of remediation activities. During the active dredge season, when fish were most abundant, there appeared to be no restriction of fish movement through the dredge area based on visual observations of the monitoring field crew.

The combination of boat-based monitoring, fixed-station in-situ water quality data, and discrete water samples demonstrated that the remediation operations at the New Bedford Harbor Superfund Site have a low, but measurable impact on water quality. These impacts, most notably demonstrated by elevated turbidities and suspended sediment concentration, were limited to near-field areas, contained within the active dredge zone, and generally decreased with increasing distance from the active operations. Overall, the polychlorinated biphenyls (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.

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.

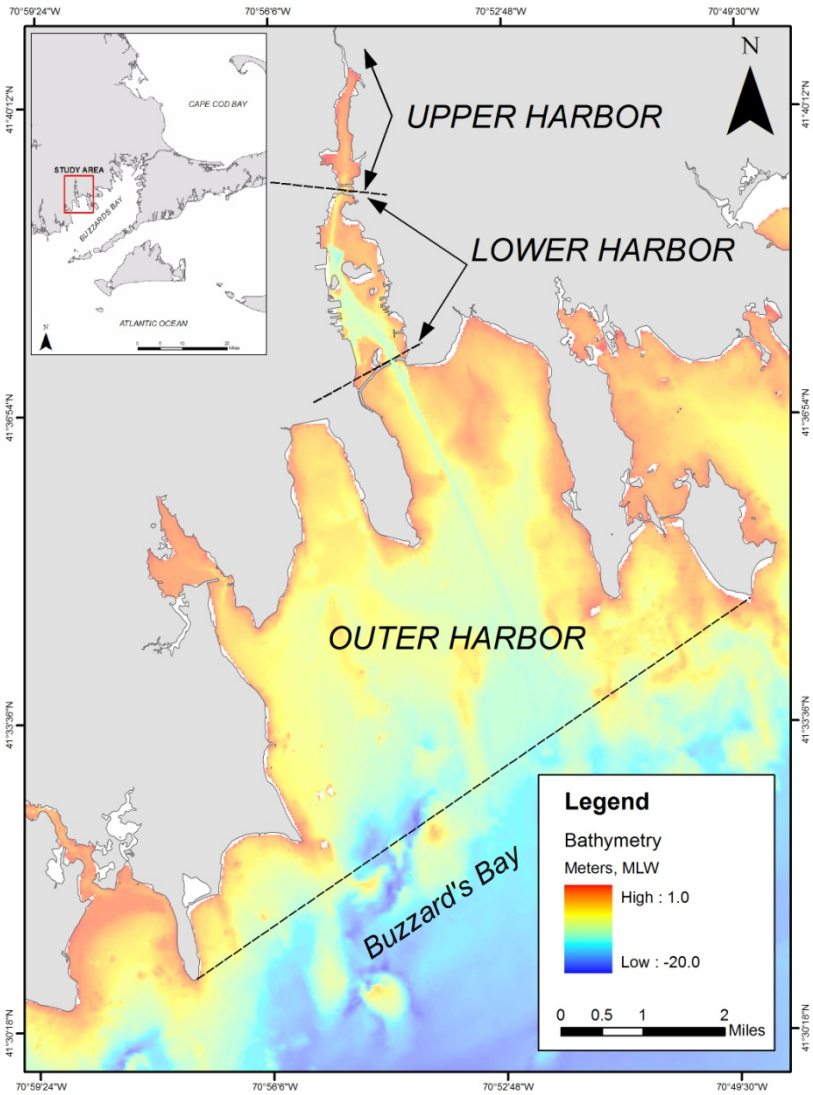


Figure 1. Basemap of New Bedford Harbor Superfund Site in Southeastern, MA

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, which are 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 present 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 present 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

The primary objective of the 2012 water quality monitoring program was to conduct boat-based and fixed-station in-situ monitoring during dredging activity in order to limit impacts to water quality. 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 field reconnaissance information, collected as part of this effort, was made available to the USACE, USEPA, and dredge operators, and used to help limit the extent of water quality impacts resulting from dredging operations. This information was also used to make operational adjustments as may be necessary to limit the transport of suspended sediments and their associated contaminants, and any biological impacts to the water column. An additional objective of the monitoring program was to ensure that anadromous fish are able to successfully navigate through or around dredging operations on their natural migratory paths. Close observation of fisheries and wildlife behaviors will be pertinent to the goals of the project as defined in the 2012 Fish Migration Plan (Jacobs Engineering Group, 2012). Dredging activities and water quality monitoring were coordinated to minimize any potentially negative impacts to migratory fish. Such methods included avoiding pipelines crossing the channel when possible and keeping a minimum of 6 inches of clearance between the river bottom and the dredge pipeline to allow for fish passage even during low tide when channel crossing was unavoidable.

The Site is divided into a series of Dredge Management Units (DMU) based primarily on contamination levels and topography. Each year, specific Dredge Areas are established based on DMU boundaries, removal volume, and dredging operations logistics. In 2012, remediation activities at the Site included hydraulic dredging and/or debris removal in two Dredge Areas: L and P (Figure 2). Both dredge Areas were adjacent to the Manomet Street CSO. Hydraulic dredging removed 19,502 cubic yards of contaminated sediment from the harbor in 2012.

During dredging and dredging related activities, such as debris removal, resuspended sediments and associated contaminants can be transported by currents away from the dredge area. Contaminated sediments suspended in the water column present a concern for toxicity to aquatic organisms in the area. The water quality monitoring program presented herein was developed to assess the near-field water column impacts, as well as the extent of sediment resuspension and transport away from the remedial dredging operation.

1.3 WATER QUALITY MONITORING PROGRAM

The water quality monitoring program was developed to meet the objectives described above; this was accomplished by employing a tiered monitoring approach. The approach was consistent with previous years' monitoring and incorporated field measurements of

turbidity and water quality parameters along with discrete water samples for physical, chemical, and biological testing within the active work zone, as needed. The active work zone is a generic term defined as the area between the northern boundary of Area L and the southern boundary of Area P (Figure 2).

Background turbidity was quantified each day from observations at reference stations 1500 feet north of Area L (ebb reference) and 1000 feet south of Area P (flood reference) based on the tidal phase. The *turbidity criterion* for 2012 was defined as 100 Nephelometric Turbidity Units (NTU) above background turbidity levels measured 300 feet down-current of the active work-zone, at the *compliance transects* (Figure 2). For example, if background turbidity of the native harbor water during flood tide is quantified as 10 NTU, then the exceedance criterion will be 110 NTU until the tide switches.

The compliance transects (Figure 2) were transects across the river at two locations: 300' south of Area P and 300' north of Area L. If values of ≥100 NTU above background were observed 300 feet down-current of the active work zone (*threshold exceedance* at the *compliance transect*), and were attributable to dredging related activities, the resident USACE NAE Project Engineer (Mr. Paul L'Heureux) was notified to implement corrective actions as determined necessary to abate the condition while WHG would proceed to collect contingency water samples for potential analysis to assess impacts per the established protocol. Factors used in determining the cause of threshold exceedance included an assessment of remediation activity, location, weather, tides, and ambient water quality conditions. Following water sample collection at the 300-foot down-current compliance transect location, WHG continued to monitor water quality parameters before collecting water samples at the background reference location, 1000 feet up-current of all activity. Figure 3 depicts the decision sequence for the 2012 water quality monitoring program.

If there was a threshold exceedance of the turbidity criterion, a full suite of water samples would be collected and submitted for conditional analysis of parameters including toxicity, dissolved PCBs, total PCBs (sum of NOAA-18 congeners), metals, turbidity, TSS, and TOC. An initial toxicity analysis would be 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 would be delivered to appropriate USACE personnel to determine, in conjunction with EPA, whether subsequent analytical chemistry testing should be performed. Figure 4 illustrates the tiered decision sequence for water sample analyses.

A threshold exceedance is not the same as a "high turbidity event," which occurred if turbidity levels reached 100 NTU above background, but still within the compliance transects. Although this condition may necessitate certain adjustments to active dredging operations in the area, it did not constitute a project-specific threshold exceedance and therefore did not require collection of water quality samples. There were no threshold exceedances or "high turbidity events" observed during boat-based monitoring during the 2012 dredging season, but fixed-station mooring instrumentation occasionally recorded turbidity peaks over 100 NTU. This is discussed in greater detail in Section 5.3.

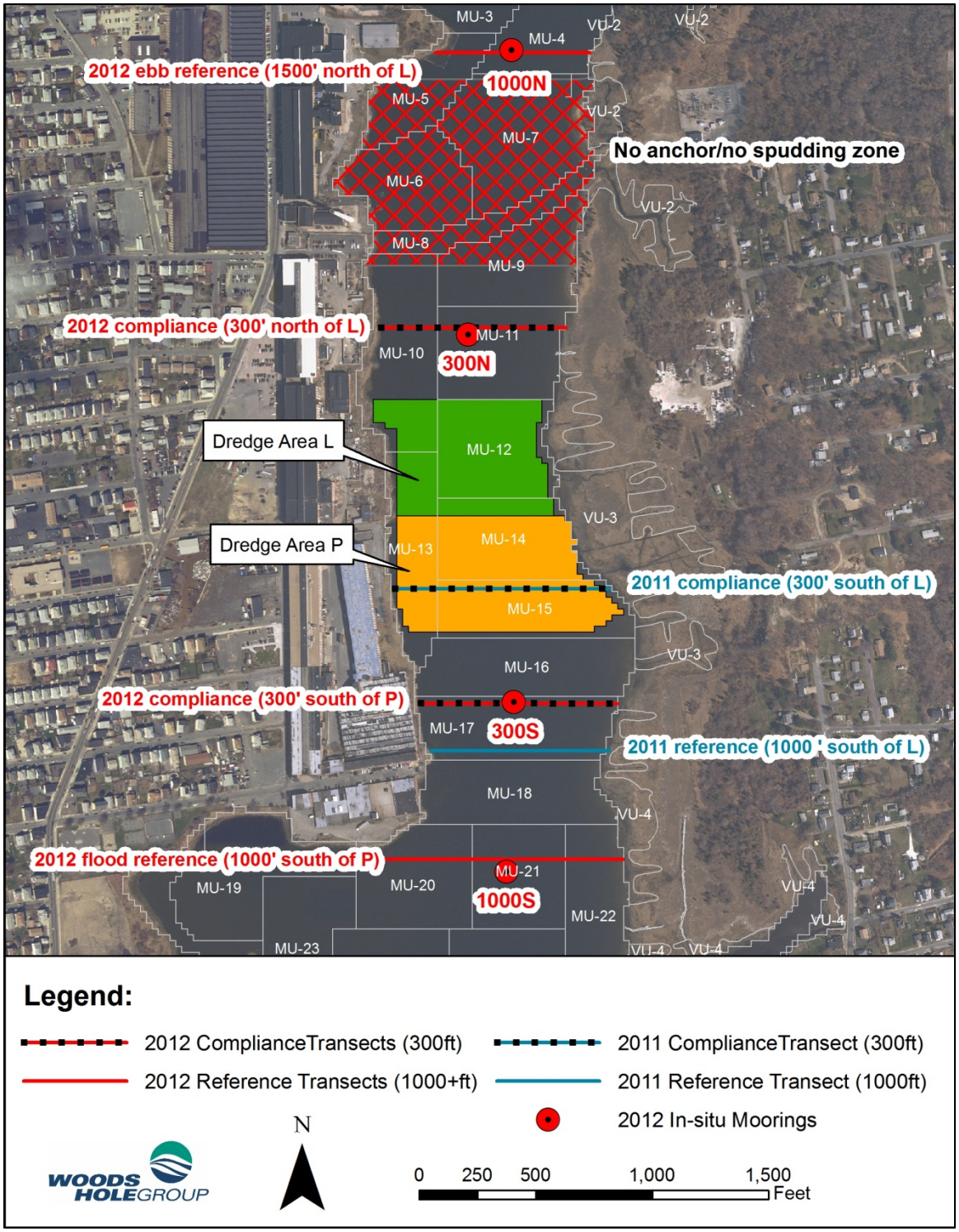


Figure 2. Basemap of 2012 Remedial Dredging Areas, with updated compliance transects.

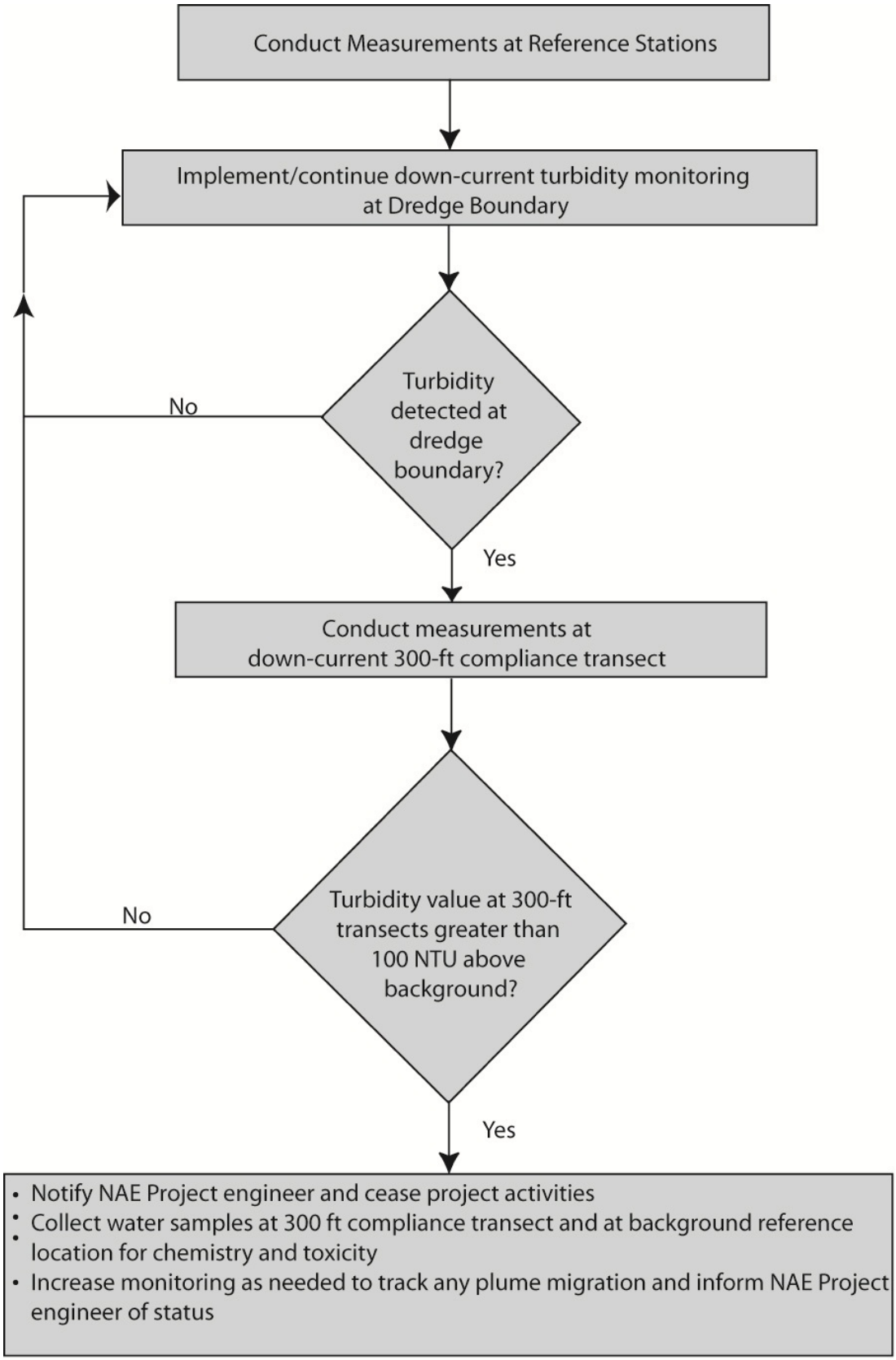
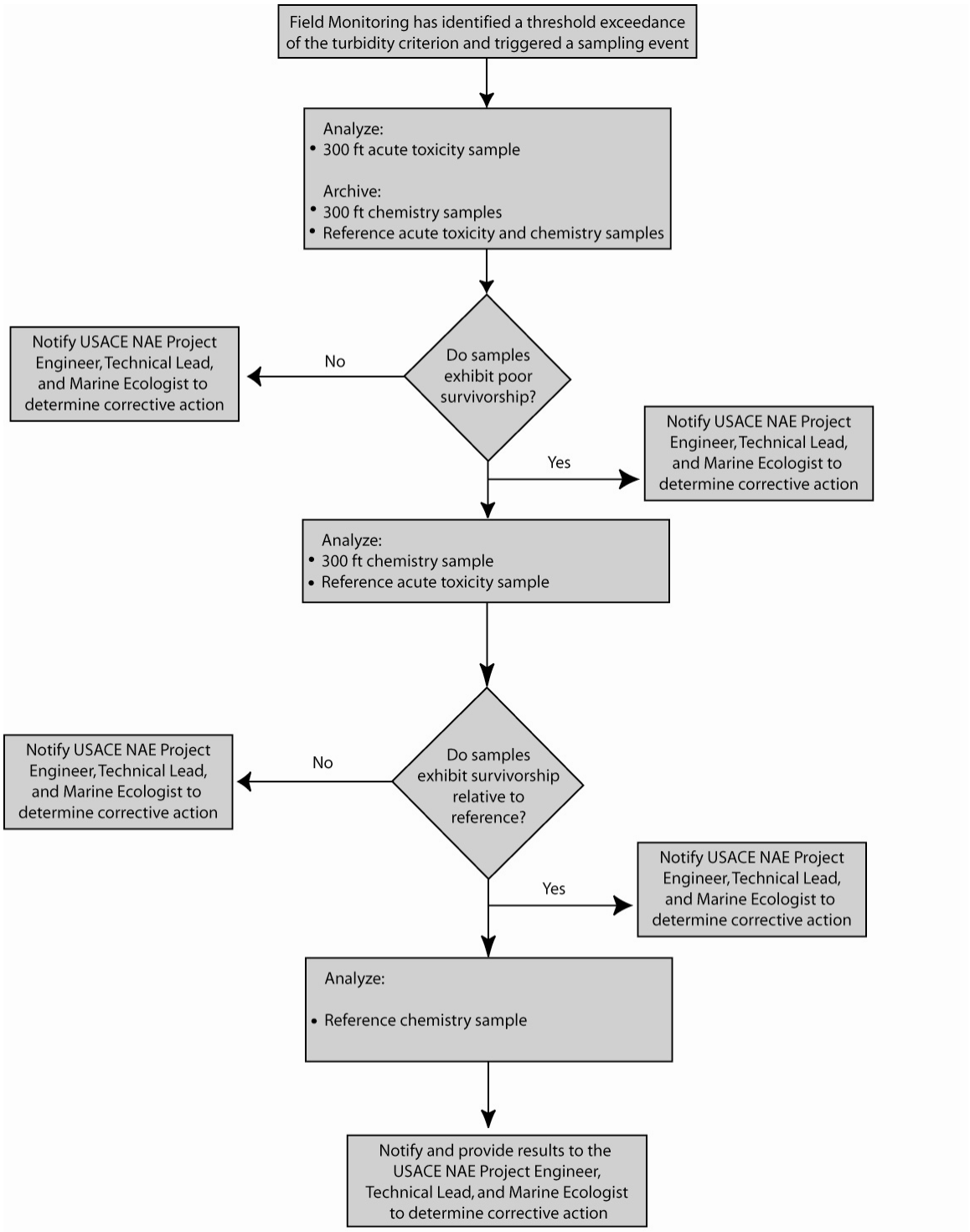


Figure 3. Decision Sequence for 2012 Water Quality Monitoring



*Notes: "Threshold exceedance" is defined as 100 NTU above background turbidity level if observed 300 feet down-current of compliance transects

Figure 4. Decision Sequence for Level III Water Quality Sample Analysis

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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 (FSP) (Woods Hole Group, 2012a) and Quality Assurance Project Plan (QAPP) (Woods Hole Group, 2012b).

2.1 MONITORING APPROACH

The established sampling approach for this program employed a variety of methods to characterize sediment suspension in the water column and its potential impact on water quality. The overall approach utilizes an adaptive, criteria-based, sampling scheme to monitor project-related water quality parameters and impacts. 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 1.3. Daily boat-based monitoring data was supplemented with fixed instrument stations that recorded a near-continuous time series of the pertinent water quality parameters in the estuary before, during, and after the dredging season.

As with previous years' efforts, a tiered monitoring approach was employed that used varying levels of monitoring intensity to assess dredging related water quality impacts, the levels of monitoring are described below. Intensive daily monitoring occurred during the initial week of dredging to verify the effectiveness of the project-specific turbidity criterion, and to track sediment plume dispersion and potential for contaminant transport downfield of the dredge. Following the intensive daily monitoring at the start of the season, boat-based monitoring was performed twice weekly. Flexibility in the monitoring program and the operational program was necessary throughout the dredging process. The sampling locations and frequency of sampling was often altered depending on field conditions (e.g., tide level, location of remediation equipment).

The three levels of monitoring are defined as follows:

- **Level I:**
  Level I represents the highest level of monitoring and required collection of discrete water samples, independent of *in-situ* observations. Level I sampling was conducted at the start of the season, requiring the collection of discrete water samples at four designated stations: two reference (1 ebb, 1 flood) and 300 feet down-current (1 ebb, 1 flood). Water samples were collected for all test parameters from the depth of highest turbidity, based on in-situ readings.

- **Level II:**
  Level II represents a lower level of monitoring intensity compared to Level I, and is performed to identify any project-related water quality impacts, as warranted or requested by the USACE. An example of Level II sampling includes the collection of samples for TSS, turbidity, total PCBs and TOC to be used to characterize ambient conditions. Sampling typically occurs at two reference and two activity locations. Level II sampling was scheduled to occur every two weeks during the 2012 dredge season.

- **Level III:**
  Level III occurs when boat-based monitoring identifies a situation during dredging activities which requires sample collection in order to evaluate a threshold exceedance of the project-specific turbidity criterion. Collection of Level III discrete water samples for laboratory analysis is conditional upon in-situ turbidity monitoring and occurs if there is an exceedance of the turbidity criterion. Level III sample collection occurs at one reference site and in the active turbidity plume.

Complete details of these sampling methods are provided in the Field Sampling Plan (Woods Hole Group, 2012a) and Quality Assurance Project Plan (Woods Hole Group, 2012b).

2.1.1 Boat-Based Water Quality Monitoring

Boat-based monitoring was performed aboard the R/V George Hampson, a 24-foot pontoon boat, which provided access to all areas of the harbor during most tides. Except for Level I and Level II monitoring events implemented at the beginning of the dredge season, Level III monitoring occurred twice weekly, throughout the active dredge season from June to September. A YSI 6920-V2 sonde was used to collect in-situ measurements of depth, temperature, salinity, turbidity (optically), and dissolved oxygen (optically) along monitoring transects. A handheld YSI 650 was used to display real-time data during monitoring transects with the sonde. The sonde was lowered into the water slowly, allowing parameters to slowly stabilize, and was ultimately lowered to the depth of highest turbidity according to the optical turbidity sensor. This depth was then monitored for several minutes, at which time the sonde was raised and lowered in the water column to see if a new depth of highest turbidity was present. In this way, WHG field crews would constantly search for the depth at which turbidity was highest and monitor for compliance. Data were recorded on field log sheets and summarized in a daily report, which was delivered to the USACE at the end of each monitoring day. The daily water quality summary reports are presented in Appendix A.

At the start of each monitoring day, the vessel transited to the appropriate reference station, at least 1000 feet up-current of the active work zone, to collect background water quality observations to establish baseline conditions for the day. During an ebb tide this station was located 1500 feet North of Area L, and during a flood tide it was 1000 feet south of the southern boundary of Area P. These background reference observations were used to characterize the ambient conditions in the estuary, and to serve as the basis

for comparison with the monitoring data from the active work zone on a given day and tide. Background turbidity values were re-established as necessary given changes in weather and tidal conditions. The terms "background" and "reference" are used interchangeably in this report.

Figure 2 depicts the compliance transects for the 2012 water quality monitoring efforts as well as the in-situ mooring placement. These transects were a result of a water quality monitoring plan self-imposed upon the USACE and EPA. Before the 2012 dredge season started the compliance and reference transects were updated to place them at 300 and 1000 feet away from the 2012 active work zone. The original compliance transect from 2011 would have been placed within Area L and the reference transect would have been only 500 feet south of Area L. The ebb reference could not be placed at 1000 feet north of Area L as proposed due to the no anchor/no spudding zone. Instead it was moved 500 feet farther north. The no anchor/no spudding zone defines an area where buried high voltage cables run across the width of the estuary and no buoys, anchors, boat spuds or bottom trawls can be deployed there.

Once background values were established, the WHG team would initiate boat-based monitoring per required protocols. Water quality parameters (dissolved oxygen, turbidity, water temperature, and salinity) were monitored at transects 300 feet down-current from the active work zone, or wherever work was being performed at that time. Monitoring typically occurred from 100 - 300 feet north of Area L and 100 - 300 feet south of Area P.

If turbidity values were found to be in excess of the turbidity criterion (100 NTU above background) at either of the updated compliance transects a threshold exceedance would occur, the resident Project Engineer Mr. Paul L'Heureux would be notified and a Level III sampling event would occur. If turbidity readings remained elevated above the turbidity criterion, all dredge-related operations would be shut down until the condition abated. An ephemeral (short-lived) spike in turbidity did not warrant sample collection, but was noted as a high turbidity reading.

2.1.2 Fixed Station Water Quality Monitoring

In addition to the active boat-based monitoring, fixed station water quality moorings were installed at four locations throughout the upper portion of the estuary (Figure 2). The data from the fixed stations supplemented the field monitoring to provide coverage on a 24 hour cycle. Mooring locations included: 1) 1500 feet north of Area L (1000N), 300 feet north of Area L (300N), 300 feet south of Area P (300P) and 1000 feet south of Area P (1000P). The proposed location of mooring 1000N was within the no anchoring/no spudding zone north of Area L so it was moved 500 feet farther north during installation, but the station name was not changed. Moorings were designed to keep instrumentation approximately two feet below the water surface. Each mooring was equipped with a YSI 6920-V2 sonde that recorded depth, temperature, salinity, turbidity, and dissolved oxygen measurements in 15-minute intervals. The mooring locations were strategically selected in order to best supplement the boat-based water quality monitoring data. Cages made of copper mesh were attached around the sensor suite in an effort to reduce the impact of

biofouling on the logged data. This was a suggestion implemented from the 2011 Water Quality Report (Woods Hole Group, 2012c).

The fixed-station water quality moorings were made of a YSI sonde that was fixed by a chain and mushroom anchor, and suspended by a lobster pot buoy (Figure 5). The instruments were positioned to float vertically, with the sensors facing downward. Fixed-station IDs and locations are summarized in Table 1.

Table 1. Fixed-station IDs and positions for in-situ instruments

Station Name	Latitude N Longitude W	Location / Description
1000N	41° 40.294 70° 55.007	1500 feet north of Area L*
300N	41° 40.093 70° 55.050	300 feet north of Area L
300S	41° 39.833 70° 55.009	300 feet south of Area P
1000S	41° 39.713 70° 55.017	1000 feet south of Area P

* mooring location relocated to avoid no anchoring/no spudding zone.

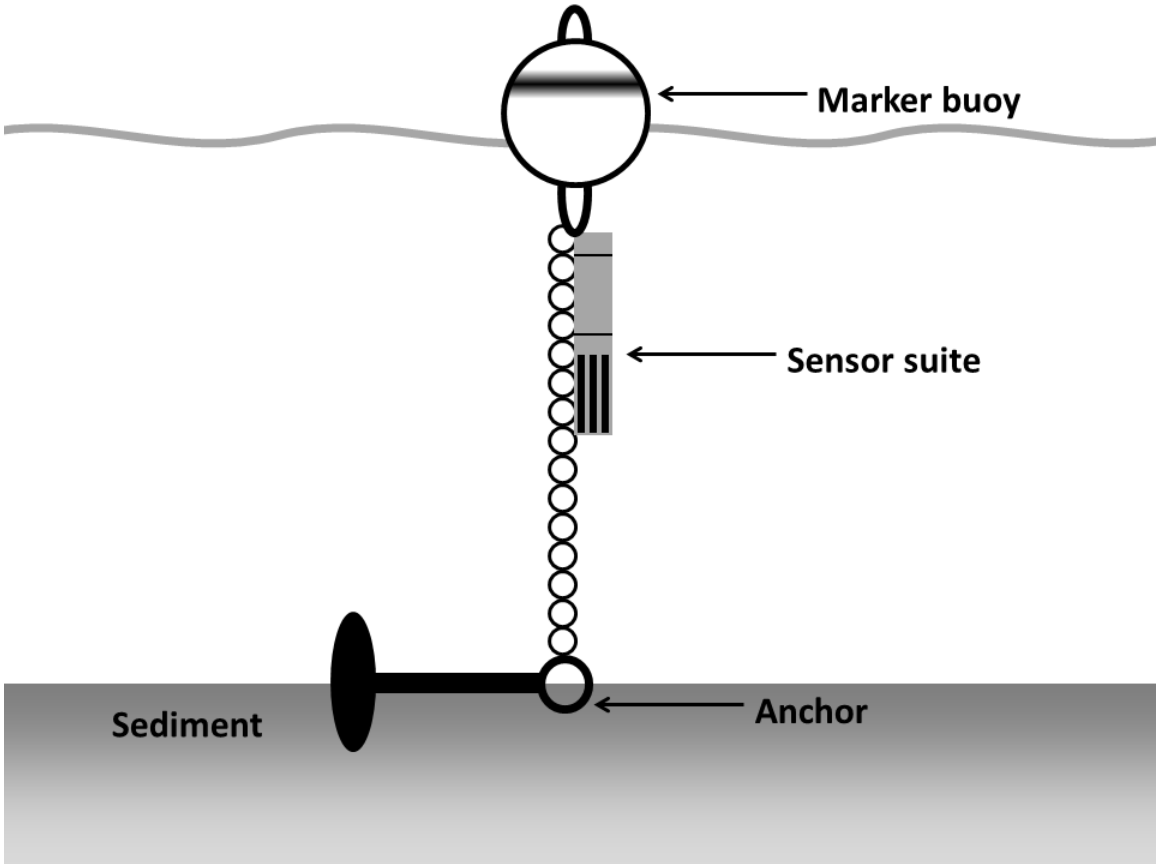

Figure 5. Diagram of Fixed Station Water Quality Moorings

Data from all water quality moorings were downloaded once per week and reported to the USACE. The data were provided as plots of the turbidity, dissolved oxygen and temperature time series at each station in one week intervals. Information regarding dredge related activities was provided by the dredge contractor and was included on these figures. The complete time series of turbidity and dissolved oxygen concentration data are provided for each mooring in Appendix B.

The moorings and YSI instruments were cleaned every week, with recalibration and battery replacement occurring every other week (~14 days). Once routine maintenance was performed and the data had been downloaded, the mooring instruments were redeployed.

2.1.3 Discrete Water Samples

Discrete water samples were collected during boat-based monitoring using a diaphragm pump connected to 20 feet of tygon tubing. Prior to collecting samples at a given location, approximately 0.5 gallons of 1% Liquinox-DI solution was pumped through the tubing, followed by site water 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 tubing was attached to the YSI in-situ sensor with the tubing inlet positioned adjacent to the depth sensor 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 tube outlet was collected into the appropriate sample containers for laboratory testing (Table 2). The geographic coordinates of the sample collection location and other ancillary information were recorded in the WHG field logbook and later entered into electronic data deliverable (EDD) file for inclusion in the project database. Following collection, samples were stored on ice in coolers until delivery to the participating laboratories for analysis (Table 2). For both Level I sample events, a routine set of field-based quality control (QC) samples were collected to monitor data quality. Samples included one equipment blank and one field replicate sample for each set of 20 or fewer field samples. Field QC samples were collected for all test parameters except for toxicity bioassays. Level II samples had a QC frequency of 1 per 20 samples only (not per event) in order to reduce laboratory costs.

Table 2. Sample collection requirements and participating laboratories

Parameter	Sample Container Type and Volume	Number of Containers per Field Sample	Preservation	Storage Condition	Hold Time	Analytical Laboratory
TSS	1 L HDPE Bottle	1	Ice	4 ± 2 °C	7 Days	**Alpha Analytical** 320 Forbes Blvd Mansfield, MA 02767 Ph: 508-822-9300
Turbidity	1 L HDPE Bottle	1	Ice	4 ± 2 °C	48 Hours	
Total PCBs	1 L Amber Glass Bottle	2	Ice	4 ± 2 °C	7 Days to extraction; 40 Days to analysis	
Dissolved PCBs	1 L Amber Glass Bottle	2	Ice	4 ± 2 °C filter 0.45 µm at lab	24 hours to filtration, 7 Days to extraction; 40 Days to analysis	
Metals	500 ml HDPE Bottle	1	HNO_3 *, Ice	4 ± 2 °C pH <2	6 Months	
TOC	40 mL VOA vial	2	H_2SO_4*, Ice	4 ± 2 °C pH <2	28 days	
Toxicity	10 L Cubitainer	2	Ice	4 ± 2 °C	24 Hours	**EnviroSystems, Inc.** One Lafayette Road P.O. Box 778 Hampton, NH 03843 Ph: 603-926-3345

*Preservation with HNO_3 (nitric acid) and H_2SO_4 (sulfuric acid) was performed at Alpha Analytical.

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2.2 LABORATORY ANALYSIS

Laboratory testing was performed on preplanned discrete water samples. Contingency based samples (Level III) were not collected during the 2012 season because no threshold exceedances were observed during boat-based monitoring. At the direction of USACE, planned samples (Levels I and II) were submitted for total suspended solids (TSS), turbidity, PCB (total and dissolved phases), TOC, and toxicity testing. Additional samples were collected and archived in the event that heavy metals analysis was later requested; however, metals analysis was not needed and the samples were eventually discarded.

In addition to the discrete water samples, a routine set of laboratory-based QC samples were prepared from the sample bottles submitted to the laboratory to monitor data quality in terms of laboratory 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 QAPP (Woods Hole Group, 2012b).

2.2.1 Total Suspended Solids and Turbidity

In addition to real-time in-situ turbidity monitoring, discrete water samples were submitted for 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, 2012b), USEPA Method 160.2. In brief, a well-mixed sample was filtered through a 0.45 µm 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" (Woods Hole Group, 2012b), which is based on USEPA Method 180.1. Sample results were reported as NTU.

TSS and Turbidity samples were collected on May 24 (Level II – Baseline) and June 26 - 27 (Level I – Startup). Seven additional Level II collections (June 7, June 22, July 12, July 26, August 8, August 23, and September 13) were added to the schedule in 2012 to further our understanding of using turbidity as a proxy to rapidly assess the potential for PCB presence in the water column during boat-based monitoring. These sampling events each consisted of collecting water samples for total PCBs, TSS, turbidity, and TOC, similar to the baseline sampling. Samples were sent to AAL for analysis.

2.2.2 Polychlorinated Biphenyl Congeners (NOAA-18)

Polychlorinated biphenyl (PCB) analysis for the National Oceanic and Atmospheric Administration (NOAA) 18 congeners was 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 µm pore size) and the filtrate captured for analysis. Samples for total PCB analysis were collected during Level I – Startup activities (June 26 and June 27) and during scheduled Level II events (Baseline – May

24, June 7, June 22, July 12, July 26, August 8, August 23, and September 13), but samples for dissolved PCBs were only collected during Level I activities.

Polychlorinated biphenyl samples (total and dissolved) were extracted following EPA Method 3510C, AAL SOP "Extraction of Water Samples by Separatory Funnel" (Woods Hole Group, 2012b). 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 1–5 mL.

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 USEPA Method 8082 (Woods Hole Group, 2012b). 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 (µg/L) for the individual eighteen congeners.

For each batch of 20 or fewer samples per event, 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 bioassays were performed to evaluate the potential toxicity of surface water samples. Samples collected for toxicity analysis were only collected during Level I – Startup activities (6/26 & 6/27). All bioassays 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). Bioassay 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

bioassays: 1) a 48-hour acute bioassay conducted with the mysid shrimp *Americamysis bahia*, 2) a 7-day chronic bioassay conducted with *Americamysis bahia*, and 3) a 60-minute chronic fertilization bioassay conducted with the purple sea urchin, *Arbacia punctulata*.

2.2.3.1 Test Species

Americamysis 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. Holding tanks were maintained in a flow-through culture mode at a temperature of 25±2°C. At the start of the bioassays the mysids were < 5 days old for the acute evaluation and 7 days old for the chronic evaluation. 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 acquired 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 bioassay.

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). When necessary, the salinity of samples for the *A. bahia* acute and chronic exposure bioassays were adjusted to 25±2‰ while samples used for the *A. punctulata* bioassays 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 bioassays 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.

2.2.3.3 Bioassay Tests

***Americamysis bahia* Acute Exposure Bioassays**

The endpoint for the 48 hour *A. bahia* bioassay was survival (acute). The static acute toxicity test was conducted at 25±1°C with a photoperiod of 16:8 hours light:dark. Test chambers for the acute bioassay 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 all replicates and pH, temperature, and salinity were measured daily in one replicate of each test treatment. Specific conductance was measured in one replicate of each test concentration at the start of the bioassay. Mysids were fed #24 hour old *Artemia nauplii* during the bioassay.

Americamysis bahia Chronic Exposure Bioassays

The endpoints for the 7 day *A. bahia* bioassays were survival and growth. Chronic exposure screening bioassays were conducted in a static renewal test mode with renewals made at 24-hour intervals. The bioassays were conducted at a temperature of 25±1°C with a photoperiod of 16:8 hours light:dark. Mysids were maintained in 300 mL beakers containing 200 mL of test solution. Approximately 150 mL of the test solution were replaced each day. The bioassay 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 daily from a single replicate of the "old" test solution. All water quality parameters were recorded from a single replicate of the "new" test solution. 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 bioassay, 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 104°C. Foils were weighed to the nearest 0.01 mg. Mean dry biomass 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 bioassay.

Arbacia punctulata Chronic Exposure Fertilization Bioassays

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 x 10^7 sperm/mL in the surface water treatments. 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 bioassay 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.

2.2.3.4 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 % <0.05. The laboratory control was used for both bioassays to determine whether there were significant reductions in survival or fertilization as compared to the site samples. If survival in the acute bioassay was greater than 90%, then a determination of "not significant" was made based on direct observation.

2.2.3.5 Quality Control

As part of the toxicity testing laboratory quality control program, standard reference toxicant bioassays 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.

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3.0 CHRONOLOGY OF BOAT-BASED OBSERVATIONS

Water quality monitoring of the Acushnet River and Upper New Bedford Harbor via in-situ fixed-station moorings started on May 22, 2012, approximately 1 month prior to the onset of the dredging season. Monitoring with the fixed-station mooring ended on September 25, 2012, approximately two weeks after the dredging season was completed. Boat-based monitoring began with baseline samples collected on May 23, 2012 and continued through the dredge season until the completion of dredging activities in mid-September. Remedial dredging began on June 26, 2012 and was completed on September 7, 2012.

The following section provides a weekly summary of boat-based 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 2012 dredge season. Background levels were recorded each day and were used as a basis of comparison for readings recorded each day. With the exception of reference sites, all values were recorded within the compliance transects of 300 feet north of Area L and 300 feet south of Area P. Most monitoring was done within the active work zone, 300 feet down current of active work to monitor near-field impacts.

Field logs and daily summary reports, as well as figures depicting the complete time series from in-situ fixed-station instruments are included in Appendices A and B, respectively. Tide level data are included on the field logs (Appendix A). DR stands for "debris removal" and DRG stands for "dredge".

All turbidity values referenced in this report are the actual values as read directly from the instrument, and do not have calibration correction offsets applied to them.

Calibration correction offsets were only applied to Figures 8 – 9 and figures in Appendix B. See section 5.3.1 for more explanation.

Week 1: May 22 – June 7, 2012

A) Areas of activity: None.
B) Days monitored: Wednesday 5/23
C) Exceedances: None observed
D) Turbidity summary:

Date	Area/Station	Tide	Turbidity range (NTU)
5/23/12	Ebb Reference – 1000' N of Area L	Ebb	0.2-1.7
	Flood Reference – 1000' S of Area P	Flood	0.3*
	Area L	Ebb	0.0-0.2
	Area P	Flood	0.5-0.7

* value comes from WHG field notes during sampling, and was not recorded on the daily field report submitted to the USACE-NAE.

E) Samples: Level II – Baseline water quality samples collected on Wednesday 5/23. Level II - Baseline samples were analyzed for total PCBs concentrations (TPC), turbidity (TUR), total suspended solids (TSS), total organic carbon (TOC).
F) Wildlife: Jellyfish, sparrows, gulls and ducks.
G) Notes: Baseline samples are used as a benchmark for comparison to samples collected during dredge season. In-situ moorings were installed on 5/22 and had their data downloaded on 6/7.
H) Next week: Bi-weekly Level 2 sampling is scheduled to be performed on the weeks of 6/7, 6/22, 7/5, 7/19, 8/2, 8/16 and 8/30.

In-situ Mooring Data:
In-situ moorings were installed on May 22, 2012 in order to record water quality parameters prior to mobilization of remediation equipment. Values for turbidity were very low for this period, where values rarely exceeded 10 NTU and the peak value was only 25.4 NTU at mooring 300N on 5/25. For the first 11 days of deployment (5/22 - 6/2) DO was highly variable, ranging from 3.44 to 18.4 mg/L with large changes occurring over short time periods. Recorded values for DO vary far less beginning on 6/2 and continuing to the end of the dataset on 6/7. During this time the peak value was 7.88 mg/L and values did not vary far from the mean of 6.29 mg/L.

Mooring 1000S experienced an unknown malfunction on Sunday 6/2. The malfunction appears to be an internal electronics problem and not related to biofouling. The problem was discovered during instrument recovery, when neither optical wiper responded to commands to initiate cleaning. The problematic instrument was sent back to the distributer and a new replacement unit was installed on 6/11.

Boat-Based Water Quality Monitoring:
No boat-based monitoring was preformed, since remedial activities are not scheduled to begin until late June.

Water quality conditions during sampling on 5/23 showed very low turbidity throughout the upper estuary: values ranged from 0 to 1.7 NTU. Dissolved oxygen values were between 5.95 – 8.66 mg/L during sampling, where values decreased with depth.

Week 2: June 25 – June 29, 2012 mooring data from 5/21 – 6/29

A) Areas of activity: Dredging in Areas L and P. Debris Removal in Area L.
B) Days monitored: Monday 6/25, Tuesday 6/26, Wednesday 6/27, Thursday 6/28, Friday 6/29
C) Exceedances: None observed
D) Turbidity summary: **in this and future reports, "dredge" may be shortened to "DRG" and "debris removal" to "DR"**

Date	Area/Station	Tide	Turbidity range (NTU)
6/25/2012	None		N/A
6/26/2012	Ebb Reference – 1500’ N of Area L	Ebb	1.3 - 3.2
	Flood Reference – 1000’ S of Area P	Flood	0 - 6.5
	300' north of Area L DRG and DR	Flood	2.1 - 52.1
	300' south of Area L DRG and DR	Ebb	0.4 - 18
6/27/2012	Ebb Reference – 1500’ N of Area L	Ebb	0 - 1.5
	Flood Reference – 1000’ S of Area P	Flood	2.3 - 5.1
	300' north of Area L DRG and DR	Flood	6.3 - 9.3
	300' south of Area L DRG and DR	Ebb	8.4 - 9.3
	Outfall pipe in Area L	Flood	21.4 - 33.3
6/28/2012	Ebb Reference – 1500’ N of Area L	Ebb	1.8 - 2.8
	Flood Reference – 1000’ S of Area P	Flood	0 - 5.0
	300' north of Area L DRG and DR	Flood	4.2 - 50.5
	300' south of Area P DRG	Ebb	0 - 4.0
6/29/2012	Flood Reference – 1000’ S of Area P	Flood	0 - 15.5
	300' north of Area L DRG and DR	Flood	7.3 - 44.6

E) Samples:
   a. Level II samples were collected on 5/23 (Baseline), 6/7 and 6/22. Samples were collected for total PCBs concentrations (TPC), turbidity (TUR), total suspended solids (TSS), and total organic carbon (TOC).
   b. Level I – Startup water quality samples were collected on Tuesday 6/26 and Wednesday 6/27. Samples were collected for toxicity (TOX), total PCBs concentrations (TPC), dissolved PCB concentrations (DPC), metals (MET, archived), turbidity (TUR), total suspended solids (TSS), total organic carbon (TOC).

F) Wildlife: Gulls, osprey, terns, oyster catchers, ducks.

G) Notes: Baseline samples are used as a benchmark for comparison to samples collected during the dredge season.

H) Next week: Level 3 monitoring continues at a rate of twice per week, likely on 7/3/12 and 7/5/12. Level II samples will also be collected on 7/5/12.

In-situ Mooring Data:

In-situ moorings were installed on May 22, 2012 in order to record water quality parameters prior to mobilization of remediation equipment. Values for turbidity were very low for this period, where values rarely exceeded 10 NTU and the peak value was only 25.4 NTU at mooring 300N on 5/25. For the first 11 days of deployment (5/22 - 6/2) DO was highly variable, ranging from 3.44 to 18.4 mg/L with large changes occurring over short time periods. Recorded values for DO vary far less beginning on 6/2

and continuing to the end of the dataset on 6/7. During this time the peak value was 7.88 mg/L and values did not vary far from the mean of 6.29 mg/L.

Turbidity and DO readings remained low during site mobilization. Mooring 1000S was dragged to within 500 feet of the southern boundary of Area P during mobilization and was returned to its original location on 6/25 by the WHG field crew. The small gap in data at this time it attributable to the relocation process.

The YSI instrument at mooring 1000S experienced an unknown malfunction on Sunday 6/3. The malfunction appeared to be an internal electronics problem and was not related to biofouling or lack of upkeep. The problem was discovered during instrument recovery, when both optical wipers failed to respond to commands to initiate cleaning. The problematic instrument was sent back to the distributer and a new replacement unit was installed on 6/12. Data from 6/3 to 6/12 at this location have been omitted for quality reasons.

Boat-Based Water Quality Monitoring:
Boat-based monitoring was performed every day from 6/25-6/29. Level I monitoring and sampling was scheduled to be performed on Monday 6/25 but thunderstorms stopped all work on the water from 0900 – 1400, at which point all remaining work for the day was cancelled due to impending weather.

Boat-based monitoring was resumed on 6/26, monitoring both reference sites and remedial activity (debris removal and dredging) in Area L. Dredging was performed briefly in Area P, but not long enough for the WHG field crew to monitor for compliance. Turbidity readings were low throughout the estuary, though values peaked at 52.1 NTU at 300' north of Area L work. This increase was abrupt and short-lived, and is believed to be a result of pipeline disturbing the bottom. The WHG field crew later realized they were spudded almost directly above the pipeline when it floated to the surface as dredge crews cleaned the auger head. Level I samples were collected at the following locations: 1000 ft south of Area P (flood reference), 300 ft north of Area L debris removal & dredge (flood sample), 1500 ft north of Area L (ebb reference), and 300 ft south of Area L debris removal and dredge (ebb sample).

Boat-based monitoring on 6/27 was similar to the previous day, where turbidity values were low at all areas, as measured during flood, high water slack, and ebb tides. The WHG field crew was requested to investigate a pipe that was reported to be expelling turbid water into Area L. When the WHG field crew arrived at the pipe, they took photographs and recorded water quality parameters near the surface (turbidity = 25.2 – 33.3 NTU at 0-2 ft) and at depth (21.4 – 29.9 NTU at 1.2 – 1.5 ft) and there was no observable impact on dissolved oxygen. The plume was limited in size to approximately 30-50 feet from the pipe. These readings and a description of the plume were described to Jacobs and USACE, and it was determined that sampling was not warranted. The WHG field crew returned to the location in the afternoon after the tide has risen and there were no observable or measureable effects of any kind from the pipe, which was submerged at high tide. The plume was likely a result of power-washing at nearby shoreline construction. Level I samples were collected on 6/27 at the following locations:

1000 ft south of Area P (flood reference), 300 ft north of Area L debris removal & dredge (flood sample), 1500 ft north of Area L (ebb reference), and 300 ft south of Area L debris removal and dredge (ebb sample). Turbidity was low throughout the remediation area, rarely exceeding 20 NTU throughout the day.

Thursday 6/28 monitoring was conducted during the flood, HWS and ebb tides. Remediation activity was conducted in Areas L and P during the monitoring period. From approximately 1200 to 1530 both dredging and debris removal was conducted in Area L. Turbidity levels ranged from 4.2 NTU to 50.5 NTU while monitoring north of area L. Dredging in Area P was in the afternoon only. Turbidity levels during monitoring ranged from 0.0 NTU to 4.0 NTU 300 ft south of Area P.

On Friday 6/29, Level 3 monitoring was performed at these locations: 1000 ft south of Area P (flood reference), 300 ft north of Area L debris removal & dredge. In addition, in-situ moorings were cleaned, calibrated and had data downloaded. Turbidity readings were higher than usual at the flood reference site (15.5 NTU near bottom), but turbidities within the work zone were between 7.3 – 44.6 NTU. There was a light sheen observed north of the work in Area L in the afternoon, though it was contained by the oil booms.

Week 3: July 2 – July 6, 2012, mooring data from 6/29-7/5

A) Areas of activity: Dredging in Areas L and P. Debris Removal in Area L.
B) Days monitored: Tuesday 7/3 and Thursday 7/5
C) Exceedances: None observed
D) Turbidity summary: DRG = dredge, DR = debris removal

Date	Area/Station	Tide	Turbidity range (NTU)
7/3/2012	300' south of Area P	Ebb	0.3 - 4.4
	300' north of DR in Area L	Ebb/Flood	1.4 - 6.5
	300' north of DRG in Area L	Ebb/Flood	0.6 - 6.4
	300' north of DR + DRG in Area L	Ebb/Flood	0.8 - 8.6
	200' north of DR + DRG in Area L	Ebb/Flood	0.8 - 11.3
	300' south of DR + DRG in Area L	Ebb/Flood	3.1 - 5.5
	300' south of DR in Area L	Flood	2.8 - 11.1
7/5/2012	Ebb Reference – 1500’ N of Area L	Ebb	2.2 - 2.7
	300' south of DRG and DR in Area L	Ebb	1.8 - 12.5

E) Samples:
   a. None collected
F) Wildlife: Gulls, terns, small fish, osprey, cormorants
G) Notes: Tide chart was misread by WHG field team on 7/3, so the first half of the monitoring day was on the wrong side of the tide.

In-situ Mooring Data:
Turbidity data from in-situ moorings show very little sign of impact from remedial dredging. Turbidity values typically remain at or near 0 NTU at moorings 300N, 300S and 1000S. Mooring 1000N (which is actually 1500 ft north of Area L) recorded turbidity between 0 – 15.9 NTU, though values remained above 0 for the majority of the deployment period. The reason for these repeated zero values may be a true reflection of the water quality parameters, however it seems more likely that the instrument calibrations were erroneous. WHG has always used new, 1-gallon jugs of distilled water purchased from supermarkets for calibrating turbidity (as per manufacturer recommendations). This water has been used by WHG for 0 NTU calibration since 2009, and is typically between 0 – 1 NTU. However, the water used for the previous calibration may have had turbidity >0 NTU. Proper calibration procedures will be reiterated to WHG field crew to ensure that instruments are being calibrated correctly.

Dissolved oxygen readings for all four instruments range from 2.6 – 8.9 mg/L during the deployment period. Lower readings (< 4 mg/L) were observed at all four mooring locations, typically occurring at night. There were no spikes or dips in dissolved oxygen readings that cannot be attributable to the natural diel cycle of photosynthesis within the harbor.

Boat-Based Water Quality Monitoring:
Boat-based water quality monitoring was completed on Tuesday July 3rd. Monitoring was conducted mostly around Area L, where debris removal and dredging were occurring all day. In the morning, the WHG field crew misread the tidal predictions for the day and were monitoring on the upstream side of remedial work instead of the downstream side. This mistake was noticed at 1140 and the remainder of the monitoring was in the correct location downstream of work. This error is noted on the daily report from 7/3/12. Remedial work was stop-and-go in the afternoon. Turbidity readings were low (< 20 NTU) throughout the day, and dissolved oxygen readings never decreased below 5.66 mg/L. There were no sheens and no exceedances observed.

Boat-based monitoring on Thursday 7/5 was conducted entirely around Area L. Dredging and debris removal was ongoing throughout the entire day in Area L, whereas the dredge in Area P was only active for approximately 2 hours in late morning. The debris removal crew in Area L produced a strong H_2S odor, and a moderate sheen was noted in the afternoon but was contained by oil booms. Turbidity readings varied between 1.8 and 12.5 NTU during monitoring both afternoon ebb and flood. There were no samples collected, and no exceedances were observed. In-situ moorings were serviced, had their data downloaded and were redeployed in the morning.

Week 4: July 9 – July 13, 2012, mooring data from 7/6-7/13

A) Areas of activity: Dredging in Areas L and P. Debris Removal in Area L.
B) Days monitored: Monday 7/9 and Thursday 7/12
C) Exceedances: None observed
D) Turbidity summary: DRG = dredge, DR = debris removal

Date	Area/Station	Tide	Turbidity range (NTU)
7/9/2012	1000' south of Area P	Flood	1.0-5.7
	1500' north of Area L	Ebb	2.2-4.9
	300' north of DRG + DR in Area L	Flood	3.7-19.7
	300' north of DR in Area L	Flood	2.6-6.3
	300' north of DRG in Area L	Flood	3.4-4.4
	300' south of DRG in Area L	Ebb	1.2-13.3
7/12/2012	1000' south of Area P	Flood	0.4-7.2
	1500' north of Area L	Ebb	5.1-8.4
	300' north of DRG + DR in Area L	Flood	2.7-17.4
	300' north of DRG in Area L	Flood	7.6-9.2
	300' south of DRG in Area L	Ebb	3.1-5.0
	Aerovox drilling transects	Flood	3.2-4.0

E) Samples:
   a. Bi-weekly Level 2 samples collected on 7/12 for turbidity, TSS, TOC and total PCBs at four locations
F) Wildlife: Gulls, terns, small fish (bunker), grass shrimp
G) Notes: Monitoring was briefly conducted at the Aerovox site while sonic drilling occurred. Multiple surface measurement transects were conducted and turbidity readings did not exceed 4.0 NTU.

In-situ Mooring Data:

In-situ turbidity readings typically did not exceed 20 NTU for the period of deployment, and values remained at background levels for much of the time. On Sunday 7/8, a spike in turbidity was observed at moorings 1000N, 300N and 300S during flood tide in the early morning. Station 1000N reached a maximum of 66.7 NTU, and turbidity readings did not subside to background levels until 2 hours later. Similarly, moorings 300N (peak = 34.4 NTU) and 300S (peak = 18.1 NTU) also had elevated turbidity for approximately 2 hours. The cause of these elevated readings is unknown, but it happened on a Sunday so it cannot be a result of remediation activities. There is another peak in turbidity on 7/10 at moorings 1000N and 300N to a lesser extent. The peak (22.9 NTU max at 1000N) occurred during at time when remediation activities were ongoing in Areas L and P, but it seems unlikely that the most distal mooring (1000N is 1500 feet north of the northern boundary of Area L) would show signs of disturbance while the more proximal one (300N) does not.

From 7/9 to 7/13, the turbidity readings from moorings 300S and 1000S show the following pattern: background turbidity readings in the morning, slightly elevated readings during remediation, then dropping back to background levels in the evening.

Dissolved oxygen (DO) readings show the characteristic diel cycle of lower values at night and early evening and higher values during the day. DO reaches a maximum of

10.43 mg/L at 1000N on 7/10, and a minimum of 2.2 also at 1000N on 7/8. DO readings average approximately 6 mg/L during the measurement period.

Boat-Based Water Quality Monitoring:
Boat-based monitoring on 7/9 was conducted mostly around the Area L debris removal and dredge. The Area P dredge was in operation for approximately 2 hours, and monitoring was conducted 300 north briefly. Turbidity levels ranged from 1.0-19.7 NTU. The highest turbidity (19.7 NTU) was detected 300 feet north of dredge and debris removal. A short time after, turbidity levels decreased to slightly above background levels. DO readings were universally higher at all monitoring locations and depths in the afternoon, from approximately 6.5 mg/L in the morning to a maximum of 10.70 mg/L in the afternoon. There were no sheens or exceedances observed and no samples were collected.

Boat-based monitoring on 7/12 was similar to 7/9, in that most monitoring was done around Area L. The Area P dredge was inactive all day. The GPS typically used for boat-based monitoring was being used for Aerovox shoreline drilling, so locations recorded were approximate. Level II samples were collected, which consisted of Turbidity (TUR), Total organic carbon (TOC), Total suspended solids (TSS), and Total PCBs (TPC). Samples for each analyte were collected at four locations: 1 ebb reference, 1 flood reference, and locations down current of dredge and debris removal activity. Turbidity measurements throughout the day did not exceed 17.4 NTU. The highest (17.4 NTU) was recorded down current of dredge and debris removal. Monitoring was conducted at the Aerovox site during shoreline drilling from 1345 – 1430, where multiple surface measurement transects were conducted. During these moving transects, turbidity readings did not exceed 5 NTU. Monitoring continued around Area L in the afternoon. There were no sheens or exceedances observed.

Week 5: July 16 – July 20, 2012, mooring data from 7/13-7/19

A) Areas of activity: Dredging in Areas L and P. Debris Removal in Area L.
B) Days monitored: Thursday 7/19 and Friday 7/20
C) Exceedances: None observed
D) Turbidity summary: DRG = dredge, DR = debris removal

Date	Area/Station	Tide	Turbidity range (NTU)
7/19/2012	1000' south of Area P	Flood	3.4-9.2
	1500' north of Area L	Ebb	1.8-3.2
	300' north of DR in Area L	Ebb	2.6-8.5
	300' south of DR in Area L	Ebb	7.0-18.1
	300' north of DRG + DR in Area L	Flood	4.9-12.2
7/20/2012	1000' south of Area P	Flood	4.1-5.0
	1500' north of Area L	Ebb	0.9-5.7
	300' north of DRG + DR in Area L	Flood	1.2-10.9
	300' south of DRG + DR in Area L	Ebb	1.9-24.2

E) Samples:
   a. None collected
F) Wildlife: Gulls, terns, small fish (silversides), menhaden, cormorant
G) Notes: slight sheen observed south of Area L outside of double booms on 7/19. Sheen observed north of Area L debris removal and dredge on 7/19. Sheen observed in Area L on ebb tide along with small amount of floating plastic debris on 7/20. Four dead menhaden and one dead eel were observed on 7/20. See below text for further discussion.

In-situ Mooring Data:

In-situ turbidity readings were low during the deployment period, averaging less than 10 NTU for the majority. Moorings 1000N and 300N showed some small variability in turbidity readings throughout deployment, where values varied between 0-15 NTU with a few peaks over 20 NTU. 1000N had a maximum peak of 26.8 NTU on 7/16, though it happened prior to the start of remediation activities. This mooring also had a peak of 26.0 NTU on 7/17 when work was being performed in both Areas L and P. Starting on 7/17 and continuing until 7/19, turbidity readings at all stations showed slightly greater daily variability, especially at 300N.

DO readings followed the typical diel cycle, varying daily between approximately 3 and 8 mg/L. The maximum DO reading (11.5 mg/L) was recorded at 1000N at 17:30 on 7/16. The minimum DO reading (1.8 mg/L) was recorded at 300N at 01:30 on 7/17. There was a sharp decline in DO recorded at stations 1000N and 300N beginning in the evening of 7/16 which lasted for several hours until readings increased the following morning.

Boat-Based Water Quality Monitoring:

Boat-based monitoring on 7/19 was conducted near the north and south ends of Area L. The maximum turbidity level recorded was 18.1 NTU. Debris removal was the primary activity with two excavators in use. Extra oil boom was installed around Area L to contain the sheens that are being reported on the water surface. Remedial dredging did not begin until later in the afternoon due to an apparent equipment malfunction near the

booster pump. DO readings remained within normal range for the Harbor (5-8 mg/L) but got as low as 3.6 mg/L at the bottom depth at the ebb reference site.

Boat-based monitoring on 7/20 was conducted around dredging and debris removal in Area L. Two debris excavators were in use during the day, sometimes working in unison and individually, while dredging activity work was sporadic. The maximum recorded turbidity was 24.2 NTU and was recorded at the bottom depth at 300 ft south of dredging and debris removal. An oily sheen and small amounts of debris were almost constantly observed in Area L on the ebb tide (300' south of debris removal and dredge activity). There were no exceedances observed, and no samples were collected.

On 7/20, four dead menhaden and one dead eel were observed during the course of monitoring. Two of the fish were observed 300 ft north of Area L and the other two fish were observed south of Area L. The eel was observed approximately 1000 ft south of Area P while transiting back to the Area C dock. Water quality samples were not collected at this time, so there are no definitive data that would necessarily link the menhaden and eel death to toxicity poisoning from the remedial activity or surface sheen. There were no observed high turbidity events or sheens in the immediate vicinity of the fish. Due to the small number of dead fish, the Woods Hole Group field crew did not consider it a major fish kill. Low dissolved oxygen levels may have been a factor in the observed fish mortality: oxygen at mid and bottom water depths were near hypoxic level, with the lowest reading of 4.04 mg/L recorded that day. There were no exceedances observed, and no samples were collected.

Week 6: July 23 – July 27, 2012, mooring data from 7/19-7/28

A) Areas of activity: Dredging in Areas L. Debris Removal in Areas L and P.
B) Days monitored: Wednesday 7/25 and Thursday 7/26
C) Exceedances: None observed
D) Turbidity summary: DRG = dredge, DR = debris removal

Date	Area/Station	Tide	Turbidity range (NTU)
7/25/2012	Flood Ref - 1000' south of Area P	Flood	1.2-6.5
	Ebb Ref - 1500' north of Area L	Ebb	5.5-6.5
	300' north of DRG + DR in Area L	Flood	3.2-16.7
	300' south of DRG in Area P	Ebb	1.6-4.8
	300' south of DRG + DR in Area L	Ebb	5.4-17.6
7/26/2012	Flood Ref - 1000' south of Area P	Flood	2.8-19.0
	Ebb Ref - 1500' north of Area L	Ebb	8.0-13.2
	300' north of DR in Area L	Flood	10.5-22.4
	300' north of DRG + DR in Area L	Flood	5.9-24.3
	300' south of DRG + DR in Area L	Ebb	10.3-11.3
	300' south of DRG in Area L	Ebb	10.5-12.0

E) Samples:
   a. Level 2 samples for TPC, TUR, TSS and TOC collected on 7/26.
F) Wildlife: Gulls, terns, minnows, menhaden, cormorant
G) Notes: Lightning stopped all work on the water for 30 minutes on 7/26.

In-situ Mooring Data:
The turbidity profiles for this deployment period had fairly consistent readings, punctuated by a few periods of elevated turbidity. At mooring 1000N, the instrument recorded peaks of 165 NTU and 160 NTU. The first peak was recorded at 05:00 on 7/21(Sunday); the other was recorded at 06:30 on 7/25, approximately 30 minutes prior to the start of dredging that day. The peak on 7/25 occurred near low tide, and the reduced water column may have restricted flow to the point that bottom sediment was being disturbed. Mooring 300N had two peaks over 50 NTU: 57 NTU at 17:15 on 7/22 (Sunday), and 70 NTU at 10:30 on 7/25. Mooring 300S had one peak: 42.2 NTU on 7/24 at 23:45.

Moorings showed some signs of increased turbidity during hours of remediation. This was especially true at 300N, where turbidity was usually slightly elevated during remediation in Area L. Mooring 300S did not have the same variability in turbidity readings as 300N. One possible reason could be that the majority of work has been performed in Area L so far this dredge season and mooring 300S is approximately 900 feet away. Dredging in Area P has been sporadic throughout the 2012 remediation season.

Dissolved oxygen readings followed the typical diel cycle of high values during the day and lower values at night, though cycles were very dynamic throughout the deployment period. Datasets had large ranges between minimum and maximum values and occasionally had rapid changes between high and low readings. The lowest DO reading was 1.1 mg/L, which happened at mooring 1000N at 05:45 on 7/21 (Sunday). In the figures at the end of this report, it appears that the low DO occurred at the sample time as a spike in turbidity, but the two events happened 45 minutes apart. The maximum reading (11.1 mg/L) was at 1000N on 7/25 at 20:45. Changes in DO sometimes happened over a short time: in two hours, DO decreased from 10.1 mg/L to 4.4 mg/L at 1000N on 7/22. Rapid changes in DO occurred at all other moorings throughout the deployment period and usually coincided with one another, indicating a system-wide change in water quality.

Boat-Based Water Quality Monitoring:
Boat-based water quality monitoring on 7/25 was conducted mostly around Area L: two debris removal crews and the dredge were operating all day. The two debris removal crews were operating near the western shoreline. Dredging in Area P was conducted for a short while in the afternoon. Turbidity readings were low at both reference sites: a maximum of 6.5 NTU was observed at each site. Turbidity near the remedial activity was also low, never exceeding 20 NTU. The highest turbidity reading was 17.5 NTU, which was recorded near the bottom on ebb tide, 300ft south of dredging and debris removal in Area L (outside of the double booms). There were no exceedances, no dead fish and no sheens observed.

Monitoring on 7/26 was conducted around Area L. Dredging and debris removal were underway in Area L, with two excavators performing debris removal close to the western shoreline. The excavators were located near the Manomet Street CSO, working simultaneously for the entire day. A 30-minute weather stand down was in effect from 11:45am-12:15pm due to thunder. Both reference locations had somewhat high turbidity values: the flood reference had a maximum of 19.1 NTU at 6.9 ft depth, whereas the ebb reference had a maximum value of 13.9 NTU. The highest turbidity reading for the day was 24.3 NTU and was recorded at the surface on the flood tide, 300ft north of dredging and debris removal in Area L. Level 2 samples were collected at four locations: flood reference (1000 ft south of Area P), ebb reference (1500 ft north of Area L), 300 ft north of Area L dredge and debris removal during flood, and 300 ft south of Area L dredge and debris removal during ebb. There were no exceedances, no dead fish and no sheens observed.

Week 7: July 30 – August 3, 2012, mooring data from 7/28-8/2

A) Areas of activity: Dredging in Areas L and P. Debris Removal in Area L.
B) Days monitored: Tuesday 7/31 and Thursday 8/2
C) Exceedances: None observed
D) Turbidity summary: DRG = dredge, DR = debris removal

Date	Area/Station	Tide	Turbidity range (NTU)
7/31/2012	Flood Ref - 1000' south of Area P	Flood	4.8-6.9
	Ebb Ref - 1500' north of Area L	Ebb	1.9-10.4
	300' south of DR (x2) in Area L	Ebb	6.1-25.7
	250' south of DRG in Area L	Ebb	2.3-43.1
	300' north of DRG in Area L	Flood	5.1-22.2
	200' north of DR (x2) in Area L	Flood	5.6-11.1
8/2/2012	Flood Ref - 1000' south of Area P	Flood	4.0-5.7
	Ebb Ref - 1500' north of Area L	Ebb	1.5-7.3
	300' north of Area L	Ebb	1.3-12.1
	300' south of DR in Area L	Ebb	2.4-16.1
	200' south of DRG in Area P	Ebb	1.5-15.8
	300' south of DRG in Area L	Ebb	5.8-13.9
	300' north of DRG in Area L	Flood	5.1-25.2

E) Samples:
   a. None collected.
F) Wildlife: Minnows, gulls, terns, osprey (feeding), fish jumping, cormorant, menhaden, egrets, hawk.
G) Notes: Dissolved oxygen readings were very high during boat-based monitoring on 7/31. Moorings were recovered with slight biological growth on them, but the copper anti-fouling cages around the sensor array are keeping biofouling to a minimum.

In-situ Mooring Data:

Mooring turbidity data for this deployment period had a considerable amount of variability at sites 1000N and 300N, plus 300S to a lesser degree. There were three events of high turbidity though none of them produced consistently high (>100 NTU) values for longer than an hour, indicating these events were ephemeral. Each event is described below.

1) On 7/28 (Saturday), three moorings recorded peaks in turbidity with readings > 30 NTU lasting for a few hours, the highest was 179 NTU at 1000N. There had been a significant amount of rainfall on 7/28, which could be the cause for these readings, especially because they happen almost simultaneously at three moorings. Readings at 300N did not decrease to near-background levels until late at night on 7/28.
2) On 7/29 (Sunday), mooring 300S recorded an abrupt peak in turbidity occurring over an hour and a half, with a maximum of 196 NTU. The sensor recorded two high readings during this time: 116 and 196 NTU. There is a half hour of 0 NTU readings between each of these high readings, indicating that this was a short-lived event, or possibly caused by a piece of debris that eventually drifted away. This instrument was recovered on 8/2 with minor biological growth on the copper cage surrounding the sensor array but no growth on the sensor itself. The aperture size of the cage would make it unlikely for anything larger than 0.5cm to make it inside. Therefore, unless some of the biological growth broke off and floated in, the cause of these high readings remains unknown.
3) Mooring 1000N recorded another series of high turbidity values on 7/30 (Monday). Beginning around 14:00, readings increase from single-digits to 168 NTU at 15:15 with two other peaks of 56 NTU at 18:45 and 184 NTU at 21:30, returning to single digits by 22:00. Low tide occurred three hours prior to the start of the event, and there was no rainfall that day. Work on site stopped at 15:30 that day due to a loss of power, so the cause remains unknown.

Mooring 300N logged a peak of 93 NTU on 8/1 during working hours, but there is only a single data point so it is difficult to expand on its cause. Day-to-day turbidity readings were higher at the northern moorings than at the southern moorings. Southern moorings are located farther away from the majority of remedial activity this season and in deeper water. Combined with the slightly sandier east coast in Area P, these factors may lead to overall less turbid water at the southern stations. Despite their predominance of near-zero values, moorings 300S and 1000S showed signs slightly increased turbidity at midday, even on non-working days. These increases in turbidity usually correspond to increases in dissolved oxygen.

All four moorings recorded the diel cycle of increasing dissolved oxygen during the day and decreasing dissolved oxygen at night. However, DO values frequently reached 10 mg/L or greater during daylight hours. The peak DO value was 15.4 mg/L at station 1000N on 8/1 at 16:00, which was a day when all four moorings hit their highest DO values. This deployment period also contained the lowest recorded DO value: 0.68 mg/L at 1000N at 03:45 on 8/1. This and other moorings had DO values < 3 mg/L at night on more than one occasion.

Boat-Based Water Quality Monitoring:
Boat-based water quality monitoring on 7/31 was conducted exclusively around Area L. Two debris removal crews were in use, both located near the Manomet Street CSO and often working at the same time. A small amount of sheen was observed coming from the debris removal crews, but it did not escape the oil booms around the dredge area. The Woods Hole Group field crew often saw plastic bottles and trash floating near where the debris removal crews were operating. Turbidity readings were somewhat higher than what is typically seen at most locations including the reference sites, ranging from 1.9-43.1 NTU. The highest turbidity (43.1 NTU) was detected ~250 feet south of the dredge in Area L at 10.7 feet depth. The WHG field crew remained down-current of the dredge after operations there stopped for a short time and the elevated turbidity readings (>25 NTU) persisted, suggesting that the higher turbidity readings were related to near-bottom processes and not the dredge.

DO values were very high in the top 1.5 feet of water, up to maximum of 18.2 mg/L around midday at 1000S. DO reached a minimum of 3.5 mg/L at 3.3 feet depth at 300 feet north of the Area L dredge on flood tide. At this location and depth, DO values fluctuated regularly between 3.5 and 6.5 mg/L, constantly increasing and decreasing, and never stabilized for more than a few seconds. DO was not this variable at other monitoring locations, so the WHG field crew removed the boat-based instrument from the water, cleaned the optics and tested it in DI water. After a successful test of stabilization, the instrument was return to the same depth and DO values still fluctuated as before. There were no exceedances observed and no samples were collected.

On Thursday 8/2, boat-based monitoring was performed primarily around Area L and in Area P for a short time in the afternoon. Dredging in Area P was stop-and-go, and the dredge was progressing at a very slow rate. The Area P dredge made less than two full transects before work in that area was stopped. Turbidity readings were low (<25 NTU) throughout the day, and the maximum turbidity value (25.2 NTU) was observed near the bottom at 300 ft north of the Area L dredge in the afternoon. DO was within range of values typically seen in New Bedford Harbor (2.8 – 6.4 mg/L), though readings near the surface reached a peak of 14.7 mg/L in the afternoon.

An excavator that was not a part of the remediation project was working on the shoreline to remove vegetation just north of Area L starting in the late morning and continuing for several hours. The excavator was removing sections of vegetation and placing what appeared to be gravel in its place. The WHG field crew could not get close enough to the shoreline to take any readings, but it appeared that the work did not have any effect on water quality. This excavator appeared to be operated as part of the ongoing remodeling of the Riverside Avenue factory complexes.

All four WHG moorings were cleaned, data downloaded, calibrated and redeployed. The WHG YSI used for boat-based monitoring was calibrated in the morning before field activities began. Some small patches of sheen were observed originating from the debris removal crew in Area L, but most were contained by the double booms. Some sheen escaped when support crews opened the boom to move the second debris removal crew

from Area L, but the sheen dissipated after moving a few hundred feet away. There were no exceedances observed and no samples were collected.

Week 8: August 6 – August 10, 2012, mooring data from 8/2 – 8/8

A) Areas of activity: Dredging in Areas L and P (sporadic). Debris Removal near Manomet CSO in Area L/P.
B) Days monitored: Tuesday 8/7 and Wednesday 8/8
C) Exceedances: None observed
D) Turbidity summary: DRG = dredge, DR = debris removal

Date	Area/Station	Tide	Turbidity range (NTU)
8/7/2012	Flood Ref - 1000' south of Area P	Flood	2.6-6.5
	Ebb Ref - 1500' north of Area L	Ebb	2.8-3.6
	300' north of Area L DRG	Flood	2.8-5.1
	300' north of Area L DRG + DR	Flood	2.1-9.5
	300' north of Area L DR	Flood	3.1-6.5
	300' south of Area L DRG + DR	Ebb	3.2-18.6
	300' south of Area L DR	Ebb	9.6-13.0
8/8/2012	Flood Ref - 1000' south of Area P	Flood	0.5-5.6
	Ebb Ref - 1500' north of Area L	Ebb	1.4-3.0
	300' north of Area L DRG	Flood	2.8-7.1
	250' north of Area L DR (x2)	Flood	2.9-15.4
	200' south of Area L DRG	Ebb	4.4-8.4
	200' south of Area L DR	Ebb	13.0-24.7

E) Samples:
   a. Scheduled Level 2 samples for Total PCBs, TSS, turbidity and TOC collected on Wednesday 8/8 at four locations.
F) Wildlife: Gulls, osprey, cormorants, small fish, blue crabs.
G) Notes: heavy rain during the weekend (8/4-8/5) may have caused some high turbidity readings at mooring 300N. The Manomet Street CSO continues to produce a significant amount of debris, and two debris removal crews are usually working near it at all times.

In-situ Mooring Data:

In-situ mooring data from this deployment period showed consistently low turbidity values for most stations with fewer system-wide disturbances. Mooring 1000N had only one peak above 40 NTU, and it occurred after remediation activity had stopped for the day on 8/3. Mooring 300S had only one peak of 49 NTU on 8/6 at 13:15, which may have been caused by support boats traveling to and from Area P for dredging near high tide, which has been frequently observed throughout this dredge season. Mooring 1000S had one peak of 28 NTU at 07:00 on 8/8, which may have occurred when support crews

transited from the Area C dock to begin work in the morning. However, the exact cause is unknown.

Mooring 300N recorded several periods of elevated turbidity during this deployment period. The Area L dredge does not tend to produce much turbidity, but the pipeline being dragged on the bottom can produce sharp increases. This phenomenon has been documented by WHG in daily and weekly reports from 2011. Since the start of monitoring the WHG field crew has observed that the dredging pipeline extends nearly 100 feet outside the northern boundary of Area L, putting it approximately 150-200 feet from mooring 300N. It is believed that the proximity to the pipeline is causing elevated turbidity at this station when work is active. The periods of elevated turbidity on 8/4 - 8/5 (Saturday and Sunday) may have been caused by rainfall in the area, but the exact cause is unknown. Despite these facts, the proximity of the pipeline to mooring 300N remains a likely source of elevated turbidity at this station, which has consistently been the most proximal mooring to remediation work this season.

Peaks in dissolved oxygen were very high: all four moorings routinely had peaks higher than 10 mg/L, with a maximum of 16.4 mg/L on 8/2 at mooring 1000N. Despite these high DO values, the average DO was 6.5 mg/L because values also dropped to near-zero at night. There were 210 data points (9% of all readings) of 2.5 mg/L or less, with a minimum value of 0.29 mg/L at 300N on 8/3 in the early morning. These large changes in DO were observed in previous datasets where readings changed from hypoxic to hyperoxic conditions or vice versa in just a few hours.

Water temperatures reached a peak of 29.8 °C (85.6 °F) and have been consistently in the high 20's °C for several weeks.

Boat-Based Water Quality Monitoring:

Boat-based monitoring on 8/7 was conducted around Area L exclusively. Dredging was stop-and-go throughout the day in the north-western section of Area L. Debris removal operations were focused around the Manomet CSO for the majority of the day, sometimes with two crews working at once. Remediation activities did not produce any observable sheen, though debris removal continued to mobilize small plastic and organic debris from the bottom. Some of this debris was observed outside the booms south of Area L. High winds were acting against the afternoon ebb tide and were producing small whitecaps within the harbor, however this did not affect remediation or monitoring efforts. Turbidity readings were low (2.6 – 13.6 NTU) throughout the day and never exceeded 15 NTU. DO was generally high in the top 2 feet below the surface, reaching a maximum of 11.1 mg/L at the ebb reference station. DO values decreased to a minimum of 2.2 mg/L near the bottom at 300 feet north of the Area L dredge. There were no exceedances observed.

Like the day before, boat-based monitoring on 8/8 was conducted around Area L. The Area L dredge was operational for most of the day, and the debris removal crews were often working simultaneously for the entire monitoring period. The debris removal work created a light sheen that had small pieces of floating plastic and organic debris, but the sheen was completely contained by the oil booms. The Area P dredge was operational

for less than one hour before crews switched back to the Area L dredge. The WHG field crew did not monitor the Area P dredge during this time. Turbidity measurements were low (0.5 – 24.7 NTU) at all monitoring locations. The highest turbidity values were recorded 200 feet south of the dual debris removal crews during the afternoon ebb tide. DO readings were within range of values typically seen in the harbor (2.5 – 9.8 mg/L), with higher readings occurring during the ebb tide. There were no exceedances observed.

Level 2 samples were collected at four locations: 1000 feet south of Area P (flood reference), 250 feet north of two Area L debris removal crews (flood sample), 1500 feet north of Area L (ebb reference), and 200 feet south of two Area L debris removal crews (ebb sample). During this scheduled event, samples for total PCBs, TSS, turbidity, and TOC were collected. This was part of the bi-weekly sampling effort that has been ongoing throughout the 2012 dredge season.

Week 9: August 13 – August 17, 2012, mooring data from 8/8 – 8/17

A) Areas of activity: Dredging in Areas L and P. Debris Removal near Manomet CSO in Area L/P.
B) Days monitored: Tuesday 8/14 and Thursday 8/16
C) Exceedances: None observed
D) Turbidity summary: DRG = dredge, DR = debris removal

Date	Area/Station	Tide	Turbidity range (NTU)
8/14/2012	Flood Ref - 1000' south of Area P	Flood	3.5-11.0
	Ebb Ref - 1500' north of Area L	Ebb	2.0-3.0
	300' south of Area L DRG/Area P DR (3 locations)	Ebb	5.2-28.2
	300' north of Area L DRG/Area P DR (5 locations)	Flood	4.8-18.1
8/16/2012	Flood Ref - 1000' south of Area P	Flood	3.5-6.3
	Ebb Ref - 1500' north of Area L	Ebb	1.2-9.2
	300' south of Manomet CSO DR	Ebb	1.4-12.1
	500' south Area L DRG	Ebb	3.9-7.8
	300' south of Area P DRG	Ebb	3.7-12
	300' north of Area L DRG	Flood	4.7-6.8
	300' north of Area L DRG and DR	Flood	7.0-12.2
	300' north of Area P DRG	Flood	8.8-13.1

E) Samples:
   a. None collected.
F) Wildlife: Blue crabs, great blue herons, small fish, cormorant, seagulls, laughing gulls, jellyfish, small and large fish.
G) Notes: Lightning stopped work for approximately 1.5 hours on 8/15. Rapid changes in DO continue to be recorded by all four in-situ moorings.

In-situ Mooring Data:

Moorings were fully serviced on Friday 8/17: cleaned and calibrated, and data was downloaded. In-situ mooring data from 8/8 to 8/17 show a greater percentage of turbidity readings over 40 NTU than any other deployment period thus far. 1000N only had one spike which occurred on 8/13 during working hours, reaching a maximum of 41 NTU. This mooring showed the least amount of daily variability in turbidity readings. Conversely, mooring 300N had the greatest degree of variability, ranging from 0 to 114 NTU on 8/9 just prior to the end of work that day. Turbidity at this site was above background values even on the weekend. On 8/14, 300N recorded peaks of 84 and 75 NTU with values between 0-10 NTU throughout the day. This was repeated the following day (8/15) with a peak of 72 NTU and readings slightly above background all day. However, many of these peaks were recorded during ebb tide or near low tide, so a correlation to remedial activity cannot be made.

1000S and 300S were dragged from their original positions sometime on 8/11, but it appears not to have affected the water quality readings. These moorings were replaced at their original positions on 8/14. Both moorings showed more variability in turbidity readings than is typical for these sites, and both showed signs of increased turbidity throughout the day once remedial activity started in Area P. On 8/15, 300S started recording turbidity values greater than background beginning at 07:30 with values in the mid-teens, peaking at 228 NTU in the afternoon. On 8/16 this mooring recorded peaks of 134 and 112 NTU during ebb tide, as well as values above background intermittently throughout the day. At this same time, mooring 1000S recorded turbidity values in the mid-teens building to a peak of 92 NTU. 1000S showed a clear increase in turbidity readings each day soon after work began and ended sometime in the afternoon (usually when the tide switched).

DO readings displayed the characteristic diel cycle during the deployment period, punctuated by rapid changes in readings. The highest value (17.5 mg/L) was recorded at 1000N on 8/13 at 17:26. On 8/15 there was a system-wide drop in DO at all stations, leading to a minimum 0.16 mg/L recorded at 1000S at 23:00. Over the course of 3 hours DO dropped from 10 mg/L to < 1mg/L then back up to 10 mg/L at 1000S. The reason for this remains unknown, but since it affected all sites at the same time it was probably atmospheric in nature (precipitation).

Boat-Based Water Quality Monitoring:

Dredging on 8/14 took place in the northern section of Area L, while debris removal was underway near the Manomet CSO in Area L/P. Turbidity readings ranged from 2 – 28.2 NTU, where readings averaged less than 15 NTU. The highest turbidity reading was recorded near the bottom at 300 ft south of dredging activity in Area L. DO readings indicated a highly stratified water column, with surface readings as high as 17.2 mg/L then decreasing to 3 mg/L or less in as little as 2 feet. Hypoxic conditions (DO = <3.0 mg/L) were observed in the bottom water at many areas around remedial activity, and the lowest DO reading was 1.1 mg/L at 300 ft south of Area L dredge/Area P debris removal.

During water quality monitoring on 8/14, both southern moorings (1000S & 300S) were dragged from their original locations. The 1000S mooring was found close to the Area C

boat dock while the 300S mooring was found approximately 200 feet south of its original location. Jacobs Engineering alerted Woods Hole Group on 8/13 that the moorings had been moved and that it most likely occurred on Saturday 8/11. Both moorings were returned to their proper positions before monitoring began.

Boat-based monitoring on 8/16 occurred near dredging and debris removal activity in Areas L and P. A single excavator was working near the Manomet Street CSO and dredges were working in the northern part of Area L and the southern part of Area P. A very small patchy sheen was observed moving past the WHG vessel downstream of debris removal during flood tide. Small amounts of debris were also observed at this time. Turbidity readings ranged from 1.2 – 13.1 NTU, which was recorded in 3 feet of water downstream of dredging activity during flood tide. DO readings were normal (~6-8 mg/L) near the surface but decreased with depth, but this trend was only evident during ebb tide. During flood tide the water column had high DO readings from surface to bottom. The lowest DO reading was 1.2 mg/L at the ebb reference site.

Week 10: August 20 – August 24, 2012, mooring data from 8/17 to 8/25

A) Areas of activity: Dredging near Manomet CSO and in Areas L and P, debris removal in Area P.
B) Days monitored: Tuesday 8/21 and Thursday 8/23
C) Exceedances: None observed
D) Turbidity summary: DRG = dredge, DR = debris removal

Date	Area/Station	Tide	Turbidity range (NTU)
8/21/2012	Flood Ref - 1000' south of Area P	Flood	2.1-3.2
	Ebb Ref - 1500' north of Area L	Ebb	2.7-7.3
	300' north of Area P DRG (near Manomet CSO) + DR	Flood	4.7-11.2
	300' north of Area P DRG	Flood	3.7-10.2
	300' north of Area P DR	Flood	3.3-13.2
	300' south of Area P DRG (near Manomet CSO) + DR	Ebb	3.1-5.6
	300' south of Area P DRG (Manomet CSO) (2 locations)	Ebb	2.5-8.3
	300' south of Area P DRG (near Manomet CSO) + DR (2 locations)	Ebb	3.3-11.9
8/23/2012	Flood Ref - 1000' south of Area P	Flood	3.5-5.1
	Ebb Ref - 1500' north of Area L	Ebb	2.5-8.0
	300' north of Area P DR	Flood	7.8-22.6
	300' north of Area P DRG	Flood	3.4-6.0
	300' north of Area P DR + DRG (2 locations)	Flood	1.5-13.6
	300' south of Area P DRG	Ebb	1.9-2.7
	300' south of Area P DR	Ebb	1.6-18.9
	300' south of Area P DR + DRG (2 locations)	Ebb	3.5-5.8

E) Samples:
   a. Scheduled bi-weekly Level II samples for total PCBs, TSS, turbidity and total organic carbon were collected on 8/23 and delivered to Alpha Analytical Lab.

F) Wildlife: Blue crabs, cormorant, seagulls, small and large fish, comb jellies, jellyfish, osprey

G) Notes: In-situ moorings 300S and 1000S recorded several large peaks in turbidity during working hours on ebb tide from 8/20 to 8/24. These peaks typically consisted of very high (> 300 NTU) values or a cluster of high values mixed between lower/background values, suggesting an ephemeral plume of highly turbid water. The spikes only occurred during ebb tide when work was being performed in Area P.

In-situ Mooring Data:

For the majority of this deployment period, moorings 1000N and 300N recorded background levels of turbidity only, with only a few instances of elevated readings. On 8/20, 1000N recorded elevated turbidity readings from 08:00 to 20:30, ranging from 35 to 605 NTU with lower/background values were inter-mixed. There was no precipitation that day, but a moderate wind from the south acting with/against the tide may have contributed enough energy to disturb bottom sediments. Mooring 300N experienced a

similar increase at the same time but to a lesser degree. 300N recorded short increases in turbidity on 8/23 and 8/24 during work hours on flood tide, but readings did not exceed 40 NTU.

Mooring data from 300S and 1000S recorded background turbidity levels punctuated by several abrupt increases during working hours. Often these spikes exceeded 300 NTU (the maximum value recorded was 1329 NTU). All of these spikes occurred when the tide was ebbing and while remediation work and support vessel traffic were ongoing in Area P. The afternoon ebb tide on 8/20 is the first instance of this phenomenon: work was underway in Area P and turbidity slowly increased (approx. 3 NTU/hour) at 300S during ebb at 10:30, at which point values increased to 1029 NTU. Until 17:00, this station periodically recorded high readings of, 122, 60, 1329, and 305 NTU during ebb tide, though values were not always consecutive. Once the tide began flooding, values returned to background levels (0-10 NTU). Mooring 1000S had two readings over 200 NTU during the same time period.

There were no recorded spikes over 40 NTU during working hours at 300S when WHG was monitoring water quality (8/21 and 8/23). The WHG field crew would not have noticed the spikes at 1000S on 8/21 and 8/23 because they only transited to that location to collect reference readings during flood tide. These spikes in turbidity typically consisted of background readings mixed with several extremely high values, suggesting they were caused by repeated short-term/ephemeral plumes. However on 8/24, 300S recorded three consecutive turbidity readings over 300 NTU in the afternoon ebb tide, which means that plume (if that was the cause) must have lasted at least 30 minutes. These periodic spikes typically were not repeated during the evening ebb tide or during off-hours; the only exception is the spike at 300S on 8/23 which occurred at 19:48 on flood tide.

The YSI instruments at 300S and 1000S rest at approximately 1.5 ft beneath the water surface and are located in water that is ~6-9 ft deep at low tide, so there is no risk of them disturbing the bottom. Furthermore, the aperture size of the anti-fouling copper mesh surrounding the instruments is no larger than half a centimeter, making it unlikely for a piece of debris to interfere with the sensors. The exact cause of these spikes remains unknown because WHG does not have first-hand visual accounts of the phenomena, but the temporal and numerical trends in the data suggest that these readings are real (see Appendix F for a more detailed discussion).

Boat-Based Water Quality Monitoring:

On 8/21 dredging was performed in the vicinity of the Manomet CSO while debris removal went on in Area P. Monitoring mainly focused around the dredging near the Manomet CSO due to the constant presence of remedial activity in that area throughout the dredge season. Turbidity readings remained low, only reaching a maximum of 13.2 NTU at 300 ft north of Area P debris removal. There were some small pieces of plastic debris observed throughout the day, originating from the Manomet CSO area. DO readings were higher during the ebb tide compared to the flood tide. During flood tide, DO readings at depth would approach hypoxia (< 3.0 mg/L), whereas ebb tide

measurements were still fairly high throughout the water column. The largest reading for DO was 14.43 mg/L at 300 ft south of the Manomet CSO dredge at the surface.

Boat-based monitoring on 8/23 was conducted around dredging in Area P as well as a single debris removal crew in Area P. Monitoring was performed on both sides of the dredging activity near the Manomet CSO, with little to no measurable impacts on water quality. Debris removal in Area P produced the highest turbidity reading of the day at 22.6 NTU. This level of turbidity was not observed for an extended period of time, and levels soon dropped back to 6.0-7.0 NTU. Small pieces of debris were observed throughout the day around Area P.

Scheduled Level II samples for total PCBs (TPC), total suspended solids (TSS), turbidity (TUR), and total organic carbon (TOC) were collected at four different sites and delivered to Alpha Analytical later that evening. Samples were collected at the flood reference site (1000 ft south of Area P), 300' north of the Area P debris removal, the ebb reference (1500 ft north of Area L), and 300 ft south of the Area P dredge.

Week 11: August 27 – August 31, 2012, mooring data from 8/25 to 8/31

A) Areas of activity: Dredging in Area P (2 locations: eastern shoreline, near Manomet CSO), Debris removal in Area P.
B) Days monitored: Wednesday 8/29 and Thursday 8/30
C) Exceedances: None observed
D) Turbidity summary: DRG = dredge, DR = debris removal

Date	Area/Station	Tide	Turbidity range (NTU)
8/29/2012	Flood Ref - 1000' south of Area P	Flood	2.5-2.8
	Ebb Ref - 1500' north of Area L	Ebb	1.0-2.9
	300' south of Area P DRG (2 locations)	Ebb	7.8-11.3
	300' south of Area P DR + DRG (2 locations)	Ebb	15-23.1
	300' north of Area P DRG (2 locations)	Flood	17.9-25.5
	300' north of Area P DRG +DR (2 locations)	Flood	8.3-16.6
8/30/2012	Flood Ref - 1000' south of Area P	Flood	6.4-9.9
	Ebb Ref - 1500' north of Area L	Ebb	0.5-5.7
	300' south of Area P DR	Ebb	1.2-2.2
	300' south of Area P DRG (near Manomet CSO)	Ebb	1.0-2.4
	250' south of Area P DR (2 locations)	Ebb	1.6-19.3
	300' north of Area P DRG (near Manomet CSO)	Flood	2.7-3.3
	300' north of Area P DR	Flood	5.2-10.2
	300' north of Area P DRG + DR (2 locations)	Flood	5.7-11.2

E) Samples:
   a. None collected.
F) Wildlife: Blue crab, osprey, seagull, cormorants, jellyfish, baitfish, medium-size fish, swan.
G) Notes: No sheen observed, small pieces of debris floating on the surface are a common occurrence during monitoring.

In-situ Mooring Data:

Corrected values are plotted in the figures for this time period, but the un-corrected values are discussed in the text. The dataset from 1000N recorded mostly background/low level turbidity readings, with the exception of 8/27. Readings began at the usual background (2-10 NTU), then increased at 14:00: 48 NTU, 6.3 NTU, 5.5 NTU, 330 NTU, 8.1 NTU, 6.7 NTU, 5.6 NTU, and 231 NTU at 15:45 (time interval between

readings is 15 minutes). The instrument was well off the bottom at this time, and weather data from the New Bedford Airport shows wind gusts up to 20 mph, so perhaps the combination of strong tide and winds were agitating the bottom. Turbidity readings return to background levels at around 19:00. Mooring 300N also had a spike in turbidity on 8/27 at 12:15 of 230 NTU and several readings in the high teens until 15:00. Readings became slightly elevated at 300N on 8/28 from 14:00 to 17:00 but never exceeded 40 NTU.

The previous week's datasets from the southern moorings 300S and 1000S were defined by very large spikes in turbidity during ebb tide while work was underway in Area P. During this week's deployment period there was only one spike in turbidity at 300S, which occurred on 8/27 at 08:45 during ebb tide (the spike on 8/24 is described in the weekly report from 8/20-8/24). There were two consecutive values of 57 and 40 NTU at this time then values returned to background.

Mooring 1000S had several peaks over 100 NTU, but the exact cause of spikes remains unknown because they occur during different tidal phases and during off hours. Every day from 8/24 to 8/29 had at least one peak over 100 NTU but most were between 12:00 and 17:00 regardless of the tidal phase. The following table describes the peaks that occurred at station 1000S during this deployment period:

Date	Time	Tidal Phase	Maximum NTU	# Data points above background (values in NTU)
8/24	13:04	Flood	379	2 (379, 31)
8/24	16:49	Ebb	1171	2 (23, 1171)
8/25	13:34	Flood	836	2 (111, 836)
8/26	18:19	Ebb	179	1 (179)
8/27	12:34	Flood	175	3 (175, 159, 75)
8/27	14:04	Flood	622	1 (622)
8/28	10:19	Ebb	231	3 (56, 70, 231)
8/29	9:04	Ebb	200	1 (200)

Note: data points are not always consecutive but they all occur within at least a one-hour timeframe.

The daily repetition in the turbidity spikes suggests that it is not caused by biofouling, which would occur at all times of the day. The only biofouling described in the field calibration logs from 8/31 is a small barnacle growing over one of the ports for the depth sensor and should not the affect turbidity or DO sensors. The lack of synchronicity between spikes, hours of remediation work and tidal phase suggests that other forces besides remediation work are significantly affecting water quality within the estuary. Another confounding factor is why these peaks were only recorded at 1000S and not 300S. These stations are only 700 feet apart, so any process affecting one should presumably affect the other. The peak on 8/27 occurred at peak flood tide while the wind was blowing 10-20 mph, which may have had a cumulative effect on energy in the water column and disturbed bottom sediments, and all four stations recorded peaks at this time.

Dissolved oxygen readings followed the classic diel cycle and were within range of those typically seen in the estuary. From 8/28 to 8/31 the daily range in DO values at stations 300S and 1000S was approximately 3 mg/L, far less than usual. During this time the diel cycle was not as evident in the data and readings remained around 2-4 mg/L all day and night. The maximum DO value each day decreased from 8/25 to 8/28, which is especially evident at the northern stations. The maximum value was 13.5 mg/L at 300N on 8/25. Most stations reach near-zero values at night, the lowest was 0.3 at 1000N on 8/25.

Boat-Based Water Quality Monitoring:

On 8/29 dredging and debris removal was being performed in Area P and a single excavator was conducting debris removal in Area P. No dredging occurred in Area L. Turbidity readings were within range of values typically observed while monitoring (1.0 – 25.5 NTU) and values were evenly distributed throughout all depths in the water column at each site, indicating well-mixed water column. Usually the highest turbidity readings are observed at the surface or near the bottom. The highest turbidity reading (25.5 NTU) was recorded at 300 ft north of dredging at 2.4 ft depth. DO readings were lower than to those typically seen in the estuary, averaging just 3.8 mg/L. The minimum DO reading was 1.2 at the ebb reference station, 6.1 ft depth. Small pieces of debris were observed within the work area, a common occurrence throughout this year's dredge season.

Remediation activity on 8/30 was focused around dredging at the Manomet St. CSO, as well as a single excavator in Area P. Turbidity readings were similar to the day before, ranging between 0.5 – 19.3 NTU. The highest turbidity (19.3 NTU) was recorded 250 ft south of Area P debris removal, at 6.5 ft depth. During the morning ebb tide dissolved oxygen levels were low throughout the water column, ranging from 1.7 – 4.3 mg/L. Once the tide reversed, DO readings increased to approximately 4.5 – 7 mg/L. Once again, a small amount of debris was observed throughout the monitoring period.

Week 12: September 3 – September 7, 2012, mooring data from 8/31 to 9/6

A) Areas of activity: Dredging in Area P (2 locations: eastern shoreline, near Manomet CSO), Debris removal in Area P.
B) Days monitored: Wednesday 9/5 and Thursday 9/6
C) Exceedances: None observed
D) Turbidity summary: DRG = dredge, DR = debris removal

Date	Area/Station	Tide	Turbidity range (NTU)
9/5/2012	Flood Ref - 1000' south of Area P	Flood	2.0-4.4
	Ebb Ref - 1500' north of Area L	Ebb	1.1-2.4
	200' north of Area P DR	Flood	4.2-19.0
	300' north of Area P DRG	Flood	2.3-27.9
	300' south of Area P DR	Ebb	2.6-6.2
9/6/2012	Flood Ref - 1000' south of Area P	Flood	1.3-2.2
	Ebb Ref - 1500' north of Area L	Ebb	3.8-4.3
	250' north of Area P DR	Flood	2.3-37.2
	300' south of Area P DR (2 locations)	Ebb	2.0-25.9

E) Samples:
   a. None collected.
F) Wildlife: many cormorants sitting on dredge pipeline and diving for fish, gulls, bunker, osprey, swans, and ducks.
G) Notes: No sheens or exceedances were observed. The daily report for 9/6 mistakenly says "100' S of Area P" for the flood reference, when it should have said "1000' S of Area P". The water quality parameters were collected at the proper location, as evidenced by the coordinates. 9/6 was the final day of remediation activity. Moorings will be maintained throughout de-mobilization. On 8/31 all four moorings suffered poor calibrations for 0 NTU, which caused turbidity values to be recorded lower than they actually were. This is discussed in greater detail in the in-situ moorings section.

In-situ Mooring Data:

All four moorings were calibrated and re-deployed on 8/31. During this time, all four in-situ moorings inadvertently received erroneous calibrations for 0 NTU, causing the recorded turbidity values to be lower than the actual conditions in the water. Woods Hole Group has followed the instrument manufacturer guidelines of using distilled or deionized water for 0 NTU calibration since becoming involved with water quality monitoring. The calibration issue may have occurred in one of two ways: 1) after cleaning, the instrument sensors had some residual fine grained particles that became suspended in the calibration solution, or 2) the distilled water that was used for calibration had turbidity greater than 0 NTU. Turbidity values less than 0 NTU have no real-world meaning, and approximately 94% of readings from this deployment period were less than 0 NTU. Negative values for turbidity have been recorded in previous

datasets, but there were typically no more than 30 in a dataset composed of ~1500 readings. Rather than assign a value of 0 to the negative readings (which had been done in previous datasets for small negative values), a calibration correction offset of 10 NTU was added to each reading. This offset was computed by taking the absolute value of the most negative value in the dataset (-8 NTU) and adding 2 NTU to bring the lowest readings up to the background levels measured during boat-based monitoring on 8/30, 9/5 and 9/6. Please see section 5.3.1 for more information on calibration correction offsets.

Corrected values are plotted in the figures for this time period, but the un-corrected values are discussed in the text.

Turbidity readings from 1000N were low throughout deployment and readings never surpassed 10 NTU. 300N had two single-point peaks: 1168 NTU at 23:49 on 9/4, and 98 NTU at 07:34 on 9/5. The peak on 9/5 occurred while the instrument was downstream of work in Area P during flood tide. Excluding these two peaks, readings at 300N remained less than 20 NTU for the entire deployment period. Readings at 300S were consistently low, between 0 – 20 NTU with only one peak: two consecutive values of 30.5 NTU and 15.8 NTU were recorded on 9/5 at 14:30 and 14:45, respectively. Measurements before and after were at background levels. Mooring 1000S logged background readings until a single-point spike of 366 NTU was recorded on 9/5 at 04:00, then a return to background levels.

Dissolved oxygen readings were within range of those typically seen within the estuary: 1 to 11 mg/L. During this deployment period the diel cycle that is regularly seen throughout the summer was not as pronounced. DO readings at 1000N and 300N increased during the day and decreased at night as expected, but 300S and 1000S showed only small fluctuations from day to day and DO levels remained within 2 to 6 mg/L. All four moorings showed a decrease in DO from midday on 9/5 to the time when this dataset was downloaded on 9/6.

Boat-Based Water Quality Monitoring:

Boat-based monitoring on 9/5 was conducted from 08:00-14:15 in Area P over a flood and ebb tide. Monitoring was conducted at five locations due to lightning which stopped all work from 0950 to 1320 and again from 1415 to 1600. After taking readings at the flood reference station, the dredge near the Manomet street CSO shut down and the crew moved to the eastern dredge in Area P. Heavy rain and strong winds made maneuvering the WHG vessel difficult but remediation efforts persisted. Monitoring was done at two locations prior to the first lightning shutdown which lasted for almost 4 hours. Remediation and monitoring resumed for approximately one hour until more lightning caused another shutdown, this time until 16:00. Turbidity measurements were within range of those typically seen in the harbor (0-25 NTU), with a high value of 27.9 NTU. Dissolved oxygen levels were consistent at all locations and depths and ranged between 4-6 mg/L.

Boat-based monitoring was conducted the next day on 9/6 in Area P. Remediation activity was light throughout the day. From 09:40 to 11:20 the eastern dredge and debris removal crews were not operating. During this time the debris removal crew was busy

removing used oil boom from the water, which occasionally released some small plastic debris. These pieces of debris were contained within other boom around Area P. During the pause in remediation work, turbidity readings near the bottom remained as high as 30 NTU at 250' north of the debris removal crew. Monitoring in the afternoon was again focused around Area P work, but remediation work was stop-and-go. Turbidity measurements were within range of those typically seen in the harbor (0-25 NTU), with a high value of 37.2 NTU. Dissolved oxygen levels were similar at most locations, ranging from 1.3 to 6 mg/L. DO readings at near the bottom were less than 2 mg/L at most locations.

Week 13: September 10 – September 14, 2012, mooring data from 9/6 to 9/13

A) Areas of activity: Site demobilization
B) Days monitored: None
C) Exceedances: None observed
D) Turbidity summary:

Date	Area/Station	Tide	Turbidity range (NTU)
9/13/2012 (for Level II sampling)	Flood Ref - 1000' south of Area P (1000S)	Flood	0.7-5.7
	Ebb Ref - 1500' north of Area L (1000N)	Ebb	0.1-0.5
	300' south of Area P (300S)	Flood	1.0-3.4
	300' north of Area L (300N)	Ebb	1.3-11.3

E) Samples:
   a. Scheduled bi-weekly Level II samples collected at four locations.
F) Wildlife: cormorants, gulls, bunker, osprey, swans, many small fish.
G) Notes: Site demobilization underway. Scheduled Level II samples were collected at each mooring location: 1500' north of Area L (ebb ref), 300' north of Area L (ebb sample), 1000' south of Area P (flood ref), and 300' south of Area P (flood sample). Moorings were cleaned and recalibrated for the final two weeks of deployment.

In-situ Mooring Data:
In-situ mooring turbidity data were assigned a calibration correction offset of 5-10 NTU to compensate for values less than 0 NTU. The corrected values are plotted in the figures at the end but the uncorrected data are discussed in the text.

The ebb reference 1000N recorded background values for the entire deployment period with no spikes above 20 NTU. After recovery on 9/6, mooring 1000S was observed to have small biological growth on the outside of the copper antifouling cage. After removing the protective cage the organism appeared to extend into the path of the optical turbidity sensor. The data from this deployment period showed signs of biofouling interference: readings varied between background and 1000 NTU regardless of the time of day or tidal phase, with no clear pattern. As such, the entire turbidity dataset is plotted in gray with a disclaimer that these readings are not a true representation of the

conditions in the water column. The DO data from 1000S did not show signs of interference despite being an optical sensor like turbidity. The growth was removed and the instrument was tested near the surface which showed normal readings, indicating that biofouling was the problem and not sensor malfunction.

Mooring 300N recorded two single-point spikes in turbidity during the final two days of remediation work: 97.5 NTU on 9/6 at 11:28, and 146 NTU on 9/7 at 16:58. On Saturday 9/8 this instrument recorded several peaks during demobilization activity including 112, 137 and 409 NTU with a maximum value of 848 NTU at 11:43. Most of these peaks are either preceded or followed by readings above background levels. Mooring 300S recorded many spikes in turbidity during the final days of remediation work. On 9/6 the instrument recorded a single-point spike of 380 NTU at 18:30 but the remaining days had many more peaks. Turbidity spikes at 300S over 50 NTU on 9/7 and 9/8 are summarized in the following table:

Date/Time	Turbidity (NTU)
9/7/2012 8:15	98
9/7/2012 8:30	447
9/7/2012 13:00	76
9/7/2012 18:15	75
9/7/2012 19:00	716
9/7/2012 21:15	56
9/8/2012 2:15	94
9/8/2012 6:15	89
9/8/2012 6:30	429
9/8/2012 8:45	159
9/8/2012 9:15	242
9/8/2012 9:30	1091
9/8/2012 9:45	233
9/8/2012 11:00	471
9/8/2012 12:15	153

Values typically returned to background levels after spikes. Note that from 8:45 to 9:45 on 9/8 there were four readings above 150 NTU, including the largest reading from this deployment period, 1091 NTU. After 9/8, all readings from 1000N, 300N and 300S return to background levels with no spikes.

DO readings were within range of those seen throughout the dredge season (2 – 11 mg/L). DO was less than 1 mg/L at 1000N and 300N on 9/7 and 9/8 in the early morning. The northern stations showed more daily variability in DO readings, whereas 1000S only varied by approximately 4 mg/L each day.

Boat-Based Water Quality Monitoring:
There was no boat-based monitoring performed during site demobilization.

Week 14: September 13 – September 25, 2012 mooring data from 9/13 to 9/25

A) Areas of activity: Site demobilization until 9/20
B) Days monitored: None
C) Exceedances: None observed
D) Turbidity summary: N/A
E) Samples:
   a. None collected
F) Wildlife: cormorants, gulls, osprey, swans, many small fish.
G) Notes: Site demobilization underway from 9/7 to 9/20. Moorings, anchors and in-situ instruments were removed from the water on 9/25.

In-situ Mooring Data:
Turbidity readings at all four locations were at background levels for the majority of this deployment period. At 1000N, values increased gradually up to 39 NTU beginning on 9/18 but returned to background levels within 24 hours. 300N had a single-point spike of 140 NTU on 9/17 at 11:13 during peak ebb tide. Data from 300S recorded a gradual increase in turbidity from 9/16 to 9/18, reaching a peak of 26 NTU then return to background levels for the remainder of deployment. These readings may have been caused by demobilization activities, but the duration and timing (values do not decrease during off-hours) suggest it was caused by natural processes.

In-situ mooring turbidity data for 1000S were assigned a calibration correction offset of 3.1 NTU to compensate for values less than 0 NTU. The corrected values are plotted in the figures but the *un-corrected* values are discussed in the text. 1000S logged background levels with two exceptions: 1) there was a single-point spike of 63.4 NTU on 9/20 at 10:54 (flood tide), and 2) possible biofouling interference began in the morning of 9/23 and continuing until the end of deployment. This instrument had biological growth on the outside of the copper anti-fouling cage that may have extended into the sensor beam path. The data have been included in the figure at the end of this report because WHG is not absolutely certain the increase was caused by biofouling, though the evidence suggests it was. This episode of biofouling is only the second experienced this year, and the previous one (9/6 - 9/13) compromised the entire dataset. Biological growth was on the copper cages at 300N and 300S as well, but the data from these sites is unaffected.

Dissolved oxygen readings showed the classic diel cycle during this deployment period, exceeding 8 mg/L almost daily. The largest DO value of 17.1 mg/L was recorded at 1000N on 9/24. Since dredging and debris removal have stopped, DO values have not decreased below 3 mg/L and only decreased below 4 mg/L twice: both at 1000N the evening of 9/23 to the morning of 9/24.

Temperature readings began declining to cooler temperatures, steadily decreasing each day during this deployment period. The minimum value (18.1 °C) was recorded at 300N on 9/25.

Anchors, mooring balls and in-situ instruments were permanently removed from the water on 9/25.

Boat-Based Water Quality Monitoring:
There was no boat-based monitoring performed during this time.

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4.0 DREDGING SUMMARY

Remedial dredging was initiated on June 26, 2012 and completed on September 7, 2012. Remediation activities at the Site included hydraulic dredging and/or debris removal in two Dredge Areas: L and P (Figure 2). Dredge Areas are comprised of Dredge Management Units (DMU), which divide up the entire site and are based primarily on contamination levels, contamination sources, and topography. Portions of the following DMUs fell within the boundaries of the Dredge Areas that were active in the 2012 season: DMU-10, DMU-12, DMU-13, DMU-14, and DMU-15.

Once the dredge areas were determined, sheet pilings were placed around the perimeter of each section, at approximately 50-foot spacing, to anchor the dredge winching cables. The perimeter cable was run around the sheet piles at approximately the high tide mark. Floating, absorbent oil booms were also placed around the dredge area perimeter to contain any surface slicks/sheens.

Dredging was performed by Sevenson Environmental Services Inc. (SES) under the direction of Jacobs Engineering (JE). Sevenson Environmental Services utilized a Mud Cat™ hydraulic dredge equipped with a horizontal auger (Figure 6). The dredge was propelled by a winch along a transverse cable that spans the dredge area perimeter. Once a pass was completed, support crews relocated the cable to position for the next pass. Dredged material was pumped through a flexible pipeline to a booster pump on shore, 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 19,502 cubic yards of material in 2012.

Figure 6. Mud Cat™ Hydraulic Dredge

Hydraulic dredges cannot process large debris contained in the native sediment because the debris fouls the auger and suction of the slurry pipeline. Therefore, the hydraulic

dredging 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 7). 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. Debris such as cobbles, old tires, timbers or scrap metal were contained within the excavator jaws, and stored in scows that were secured to the excavator or barge. Support boats were used throughout the operation to transport crews, maintain dredges, handle the pipeline, and move barges.

The eastern portions of Areas P and L were exposed at low tide, and dredging operations were limited by water depth at times. When low water prevented work in these areas, the dredge crew moved operations to deeper waters near the western shoreline.

Figure 7. Debris Removal Excavator and Debris Storage Scow

The area near the Manomet Street combined sewer overflow (CSO) was occupied by remediation activities for the entirety of the 2012 dredge season. At times there were two debris removal crews working in this area to remove a large amount of debris, mostly plastic. Surface sheens that were observed during boat-based monitoring often originated from this area.

5.0 RESULTS

Results for the water quality monitoring of the 2012 remedial dredging operations at the New Bedford Harbor Superfund Site are presented in this section. Complete results, including fixed-station time series and laboratory data reports are provided as Appendices to this report.

5.1 FIELD MONITORING SUMMARY

Water quality monitoring using in-situ fixed station YSI mooring and boat-based observations was conducted in an adaptive manner due to changing operational and weather related conditions. The monitoring approach was adjusted: 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. The monitoring program incorporated assessment of the entire operation and environmental conditions.

5.2 BOAT-BASED MONITORING

Boat-based water quality monitoring was performed five days during the first week of the dredging season in June, and twice per week until dredging was completed in September. 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 Appendix A. Water quality monitoring was performed north of activities during a flood tide and south of activities during an ebb tide.

5.2.1 Turbidity Summary

Each water quality monitoring day began with a transit to the reference station, at least 1000 feet up-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 turbidity criterion (100 NTU above background turbidity) on a given day. Turbidity values were generally higher 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 0 and 20 NTU, depending on environmental conditions.

During dredging and debris removal operations, in-situ turbidity readings in the active work zone increased compared to background conditions, with readings ranging 0 – 50.5 NTU. Variations in turbidity were observed due to proximity to dredging activities, and environmental conditions. The maximum turbidity observation of 52.1 NTU was observed on June 26, 300 feet north of the dredge and debris removal in Area L. There were no boat-based observations of sediment plumes over 100 NTU that resulted from remediation activity in 2012.

Sheens were observed while monitoring turbidity near dredging and debris removal operations, particularly during operations near the western shoreline in Area L. These sheens either had an oily/iridescent color or appeared like a dull haze on the water surface, and sometimes had a petroleum or H_2S odor. Sheens were likely produced as a result of disturbing bottom sediments, but typically only low turbidity values were

observed when surface sheens were present. Sheens often dissipated quickly or after traveling a short distance.

Turbidity readings from 10 – 25 NTU were often observed immediately adjacent to dredging and debris removal activities. This is especially true for debris removal and the use of boats to push barges or dredges for re-location and wind stabilization. During high winds or strong tides, support boats were used to maintain the hydraulic dredge's heading, and the propeller wash sometimes extended ~100 feet down-current. In general, dredging did not produce high turbidities.

5.2.2 Dissolved Oxygen Summary

At the request of the USACE, WHG closely monitored the concentration of dissolved oxygen (DO) during the 2012 season on account of the concern for potential impacts to anadromous fish and other fish species.

Beginning in mid-August DO concentrations decreased to hypoxic levels throughout the system (1.1–3.0 mg/L). Hypoxia is a naturally occurring phenomenon in estuarine systems during summer months. DO readings of ≤1 mg/L were observed near the bottom, typically in the deepest parts of the channel in Area L. Schools of small bait fish were observed throughout the active work zone and these fish appeared stressed on occasion. Observations of stressed behavior included fish jumping out of the water and swimming sluggishly at the surface. No large scale fish-kills were observed, but on July 19 four dead menhaden were observed within the active work zone and one dead eel was observed in transit to the Area C dock. DO readings that day ranged from 3.6 – 8.4 mg/L, and water temperatures reached maximum of 28.6 °C.

Efforts to limit activity and keep equipment from interfering with fish passage or water flow exchange during hypoxic conditions were successful, as directed by the 2012 Fish Migration Impact Plan (Jacobs Engineering Group, 2012). At no time was the water column in the work area restricted enough such that fish could not pass. Dredging operations appear to have had little or no effect on the fish migration or the overall health of the local fish and wildlife population.

5.3 FIXED-STATION CONTINUOUS MONITORING

Four water quality instruments (YSI 6920 sondes) were installed on May 22, 2012 prior to the onset of active remediation and were removed on September 25. Stations were: 1) 1500 feet north of Area L, 2) 300 feet of Area L, 3) 300 feet south of Area P, and 4) 1000 feet south of Area P (Table 1). These water quality instruments provided additional data that complemented the adaptive boat-based monitoring approach discussed in the previous section. The data were continuously collected during deployment, even when active boat-based monitoring was not performed, which helped to "fill the gaps" when boat-based monitoring crews were not on site, and also provided valuable information used to define the ambient water quality parameters during non-working periods (nights, weekends, and holidays). Appendix B contains the fixed-station time series data plots for turbidity and dissolved oxygen concentration in the study area. Instruments remained at

their original locations for the duration of the 2012 environmental monitoring season, apart from these deviations:

- The original 1000S instrument suffered a complete hardware failure on 6/3. After diagnosing the problem with the manufacturer, the entire instrument was replaced on 6/13.
- 1000S was dragged closer to Area P on 6/27 and was returned to its original location on 6/28.
- Moorings 300S and 1000S were dragged sometime on 8/11. Both instruments were returned to their original positions on 8/14.

The percentage of data return was 99.8% for all moorings except 1000S which had two instances of biofouling interference during deployment and had a data return of 91.8%. The only data that were considered unusable for project use were file breaks, data that were recorded when the instrument was out of the water and data compromised by biofouling.

The copper cages designed to reduce biofouling did a good job of preventing growth from occurring near the sensors but even with regular inspection and cleaning, biofouling on the instrument could not be prevented completely. Biofouling adversely affected optical turbidity readings twice: from 9/6 - 9/13 and 9/23 - 9/25. During these periods biological growth formed on the outside of the copper cage and extended into the optical sensor beam path at 1000S. The optical turbidity data from this time period was considered unusable for project goals.

5.3.1 Calibration Correction Offset

There were times when the in-situ mooring instruments received poor calibrations for 0 NTU, resulting in values of low turbidity to be recorded as negative values. This was a rare issue in the past that became more common during the 2012 season. Most datasets had ≤ 30 negative data points (out of ~1500 readings), but occasionally the number of negative data points comprised ~80% of a dataset. Rather than discarding these values for being unusable or assigning them a value of 0 NTU, a calibration correction offset of 3-10 NTU was added to each reading in order to bring negative values up to the levels typically observed at background stations (2-10 NTU). Offsets were computed by taking the absolute value of the most negative value in a dataset and adding 2 NTU. Each instrument was assigned a different offset that was specific to it, if necessary. A correction was only applied to datasets when ≥50% of data were negative and used for plotting purposes.

Offsets were applied for plotting purposes only because negative values were not visible when plotted without an offset. The use of calibration correction offsets is strictly limited to figures. The only turbidity data to receive calibration correction offsets were those plotted in Figures 8 – 9 and Appendix B. *All turbidity values referenced in this report are the actual values as read directly from the instrument, and do not have calibration correction offsets applied to them.*

5.3.2 High Turbidity Readings

All four moorings recorded peaks in turbidity greater than 100 NTU above background infrequently throughout the year. These values typically consisted of a single data point or two over 100 NTU that were preceded and followed by background levels. This has been a common occurrence throughout the fixed-station monitoring program, and every sudden jump in turbidity is investigated for a potential cause. This was made easier in 2012 because weekly summaries of remediation activity were provided by the dredging contractor, including start/stop times and locations of work being performed. These summaries allowed for a cause-effect relationship to be investigated between remediation work and turbidity data. Dredging operations throughout the season frequently stopped and started due to mechanical or environmental issues and often the precise location of activity was variable day-to-day. Combined with atmospheric effects (high winds, rainstorms etc.), it was not always possible to accurately correlate increases in turbidity data with active work, especially when noticeable spikes occurred on weekends and during non-working hours. Inconsistencies such as these often made the mooring data difficult to interpret, despite the coincidence of active remediation and elevated turbidity.

Figure 8 depicts a series of elevated turbidity readings and spikes at mooring 300S between 8/16 – 8/28. Turbidity remained near background levels in the morning then spiked over 100 NTU in the afternoon while work was underway in Area P. Readings decreased to background levels after work stopped each day. There were 20 spikes >100 NTU during this time. Maintenance work was performed on Saturday 8/25 but turbidity remained at background levels, and elevated readings and spikes returned on 8/27 during work hours in Area P. Many factors were considered to investigate a spike in turbidity; factors included the time of day, day of the week, area/type of work being performed, tidal phase, instrument distance from the bottom, and atmospheric effects. These factors suggest that many of the spikes at 300S are actual results of remediation (see Appendix F for more information).

The correlation between dredging and elevated turbidity was not always strong, nor were the causes of turbidity spikes evident. Figure 9 is an example of turbidity spikes from mooring 300N that occurred during Saturday 8/18 and Sunday 8/19 when no active remediation work was underway. Spikes during off hours were recorded at all four instrument locations at various times throughout the year. A technical memorandum to the USACE describes the steps taken by WHG to ascertain the source of each turbidity reading >100 NTU from in-situ datasets, and is included as Appendix F to this report.

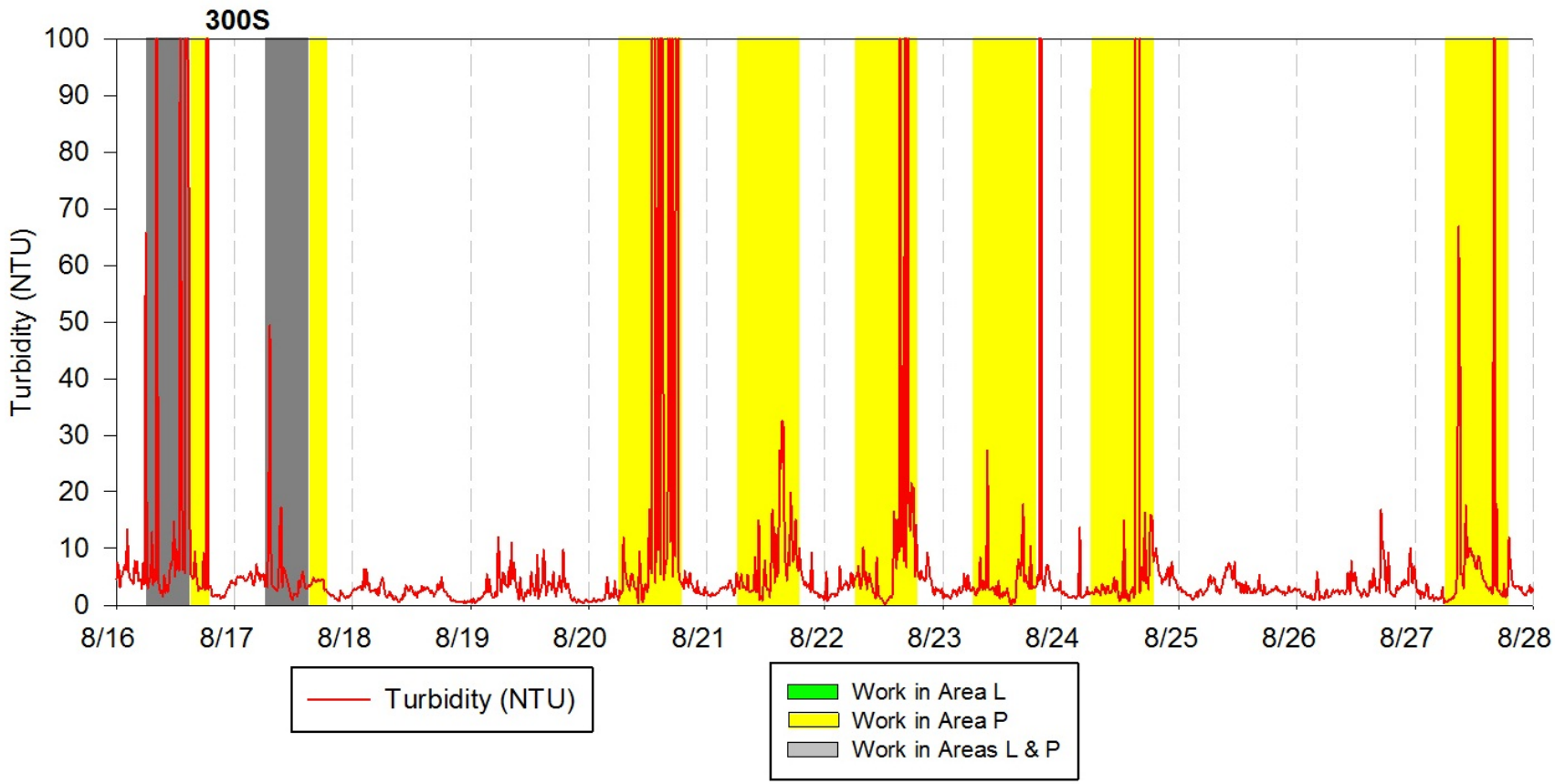

Figure 8. Turbidity readings at mooring 300S, August 16 – 28, 2012.

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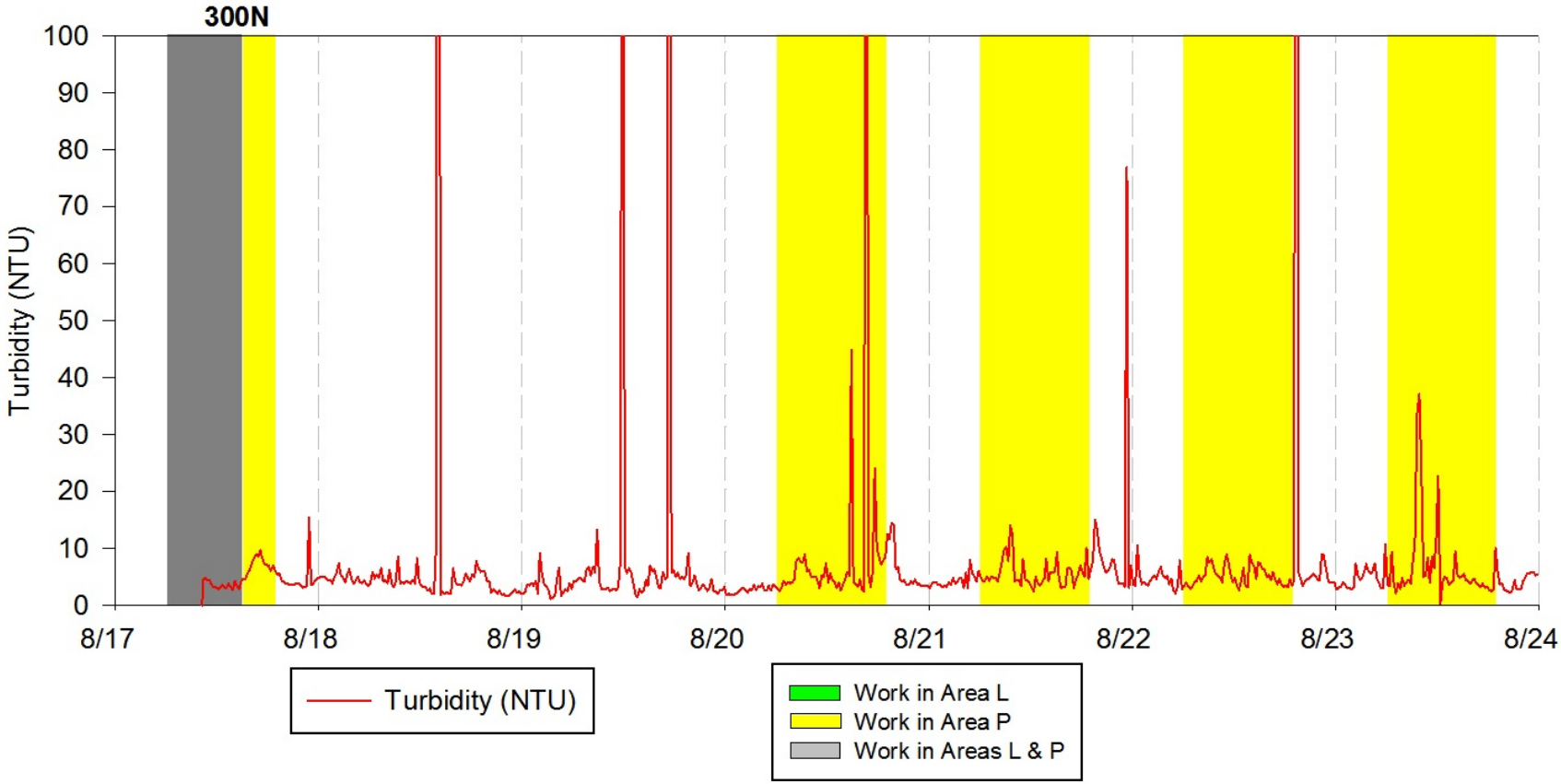

Figure 9. Turbidity readings at mooring 300N, August 17 – 24, 2012.

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Continuous in-situ DO concentration data were also collected at each of the fixed-station moorings. Conditions within the estuary often varied between hypoxia and hyperoxia, sometimes daily. Hyperoxia, or supersaturation, is a factor of temperature, depth and dissolved oxygen in the water, but a value of 8.6 mg/L was chosen as the cut-off point for this study (values >8.6 mg/L were considered supersaturated). DO values average approximately 6 mg/L throughout deployment, with typical daily variance between 2 – 10 mg/L. The classic diel cycle of increasing DO values during the day and decreasing values at night was recorded each day, though the timeframe over which this change happened varied. DO readings increased from very low (≤ 2 mg/L) to very high (> 10 mg/L) over a short timeframe beginning in early August. Figure 10 depicts an example of these sharp changes in DO seen almost daily from 8/1 to 8/27. For example, on 8/2 three of four in-situ moorings recorded increases in DO from 2-5 mg/L to 14-16 mg/L over the span of no more than two hours (300S took four hours). The duration it took for readings to decrease back to low levels was more than three times longer (average = 11 hours). At times the decrease to low levels was equally as rapid, taking no more than a few hours to go from > 10 mg/L to ≤ 2 mg/L. This process was most evident at the northern moorings 300N and 1000N, possibly because at low tide they were closer to the bottom than the southern stations.

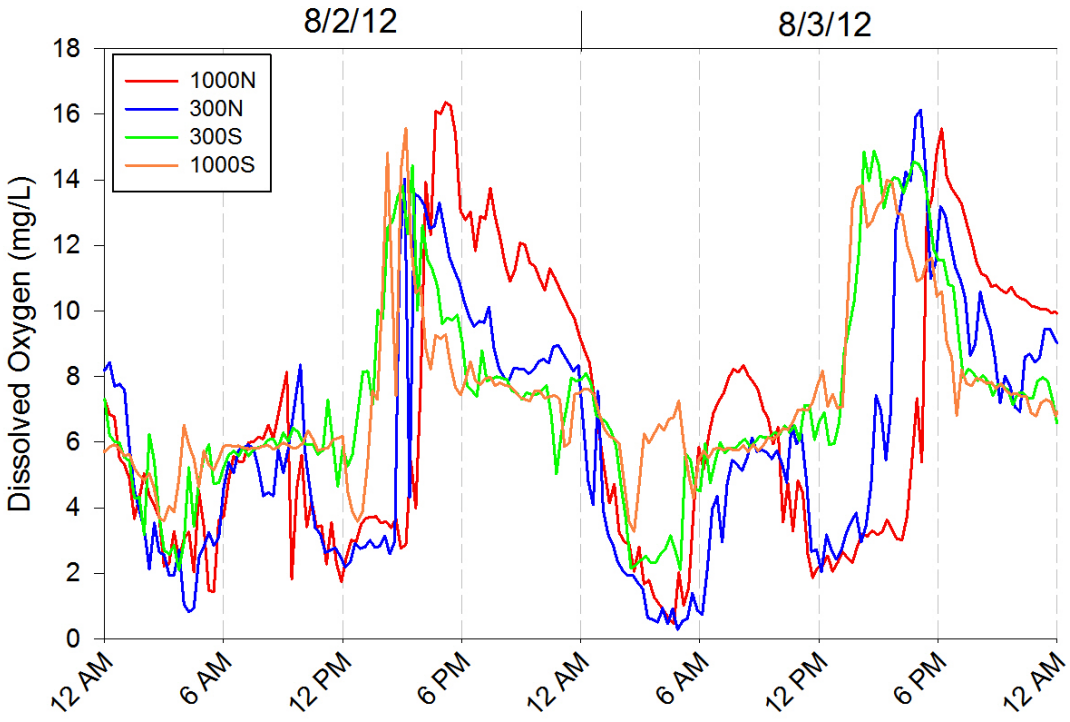

Figure 10. Rapid changes in dissolved oxygen, August 2 – 3, 2012

Water temperature in the 2012 active work zone ranged from a minimum of 16.3 °C, recorded at station 300S on June 6, to a maximum of 30.2°C, recorded at station 1000N on July 18. Figure 11 presents the average water temperature for each calendar month, averaged among all four stations over the duration of deployment (May 22 - Sept. 25).

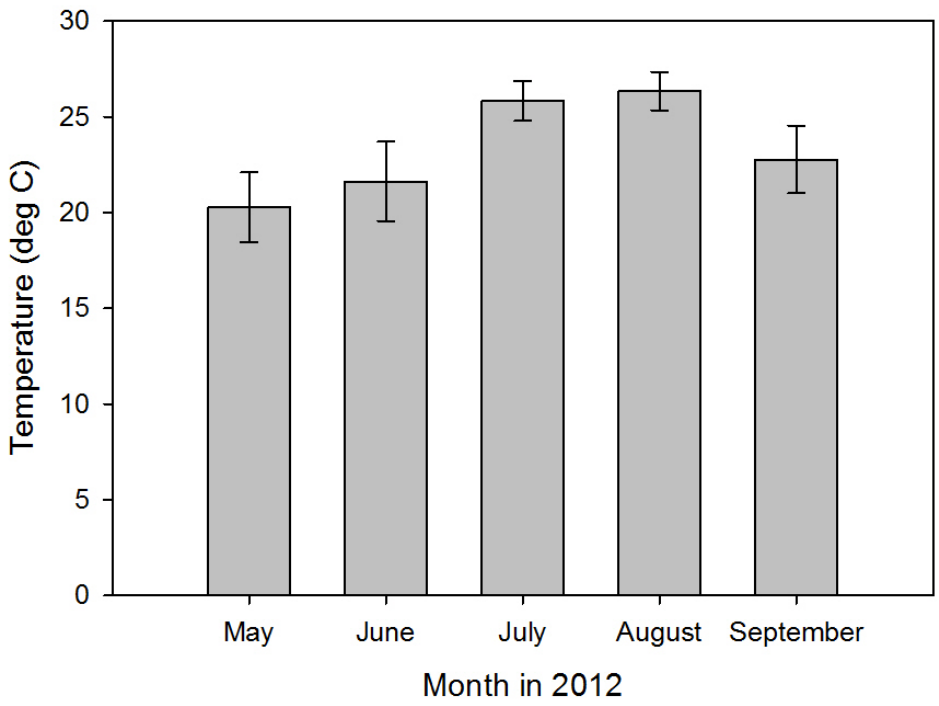

Figure 11. Average monthly water temperature from fixed-station in-situ YSI sondes, May 22 – September 25, 2012.

5.4 COLLECTION OF DISCRETE WATER SAMPLES

Discrete water samples were collected ten times during the 2012 environmental monitoring season (Table 3). Sample collections occurred May 23, June 7, June 22, June, 26, June 27, July 12, July 26, August 8, August 23, and September 13, 2012. All discrete water sample collections were planned Level I and Level II events; there were no Level III sample collection events. Under the protocols outlined in Section 2.1, the sampling team functioned in an adaptive sampling mode to track near-field turbidity plumes within the compliance transects, and utilized real-time in-situ data to guide monitoring and sample collection. Level II – Baseline samples collected on May 23 were used to establish reference conditions for the harbor and confirm the validity of in-situ measurements. On June 26 and 27, Level I - Startup water samples were collected during the first week of the dredging season at reference stations and at stations 300 feet down-current of remediation activity over both flood and ebb tidal cycles. A complete suite of samples were collected for the Level I – Startup events, which were analyzed for toxicity, TSS, turbidity, dissolved and total PCBs, TOC and metals (archived). Bi-weekly Level II samples were collected twice before dredging began (6/7 and 6/22) and continued every other week for the remainder of the dredge season. Seven Level II sampling events were completed at reference locations and at locations 300 feet down-current of active remediation efforts.

5.4.1 *Level II - Baseline Water Quality Samples*

The first sampling event was conducted on May 23, 2012 as part of the Baseline monitoring and sampling performed before the start of the dredge season (Table 3).

These samples were analyzed for turbidity, TSS, total PCBs and TOC. The primary objective of the Baseline sampling is to establish baseline conditions in the planned work zone. A secondary objective is to reaffirm the relationship between turbidity and suspended solids, and verify the accuracy of the in-situ monitoring sensors. Samples were collected at the two reference stations and within the planned active dredge zone during both a flood and an ebb tide.

5.4.2 Level I – Startup Water Quality Samples

Water quality samples were collected June 26 and 27, 2012 as part of the Level I – Startup monitoring performed at the start of the 2012 dredge season. These samples were analyzed in order to assess the protectiveness of the project's turbidity criterion during dredging activities, to reestablish confidence in the sampling protocol, and to further examine the background conditions at the reference stations during active work. Samples were analyzed for turbidity, TSS, PCBs (total and dissolved), toxicity, and TOC. Samples for metals analysis were collected and archived, but not analyzed. Samples were collected during dredging and debris removal activities in Areas L and P. Water quality samples were collected at four locations during these two events: 1) 300 feet north of activity during a flood tide, 2) 300 feet south of activity during an ebb tide, 3) the southern flood reference station, and 4) the northern ebb reference station (Table 3).

5.4.3 Level II –Bi-weekly Water Quality Samples

In 2011, samples were collected in the second half of the dredge season to produce a more robust understanding of the relationship between TSS and turbidity in the New Bedford estuary (Woods Hole Group, 2012c). This sampling scheme was modified in 2012 to include total PCBs and TOC and sampling would encompass the entire dredge season. The goals of these Level II samples were three-fold: 1) to examine the relationship between turbidity and total PCBs, 2) to determine if a relationship between total PCBs and TOC exists, and 3) to verify that turbidity is the most effective water quality parameter to monitor each day as a means of tracking the dispersion of contaminants within the work area. In total, seven Level II - Bi-weekly events were completed: June 7, June 22, July 12, July 26, August 8, August 23, and September 13. Each event consisted of sampling 300 feet down-current from active work during both flood and ebb tides and collecting flood and ebb reference.

Table 3. Summary of discrete water sampling events

Sampling Event	Date	Sample ID	Sample Description
Level II - Baseline	5/23/2012	WQ- * -001-052312	1000' South of Area P
		WQ- * -002-052312	Area P
		WQ- * -003-052312	1500' North of Area L
		WQ- * -004-052312	Area L
Level II	6/7/2012	WQ- * -001-060712	1000' South of Area P
		WQ- * -002-060712	Area L
		WQ- * -003-060712	1500' North of Area L
		WQ- * -004-060712	Area P
Level II	6/22/2012	WQ- * -001-062212	1000' South of Area P
		WQ- * -002-062212	300' South of Area P
		WQ- * -003-062212	1500' North of Area L
		WQ- * -004-062212	300' North of Area L
Level I - Startup	6/26/2012	WQ- * -001-062612	1000' South of Area P
		WQ- * -002-062612	300' North of Area L DR + DRG
		WQ- * -003-062612	1500' North of Area L
		WQ- * -004-062612	300' South of Area L DR + DRG
Level I - Startup	6/27/2012	WQ- * -001-062712	1000' South of Area P
		WQ- * -002-062712	300' North of Area L DR + DRG
		WQ- * -003-062712	1500' North of Area L
		WQ- * -004-062712	300' South of Area L DR + DRG
Level II	7/12/2012	WQ- * -001-071212	1000' South of Area P
		WQ- * -002-071212	300' North of Area L DRG + DR
		WQ- * -003-071212	1500' North of Area L
		WQ- * -004-071212	300' South of Area L DRG + DR
Level II	7/26/2012	WQ- * -001-072612	1000' South of Area P
		WQ- * -002-072612	300' North of Area L DRG + DR
		WQ- * -003-072612	1500' North of Area L
		WQ- * -004-072612	300' South of Area L DRG + DR

* three digit code for type of analysis required (TUR for turbidity, TOX for toxicity, TPC for total PCBs, DPC for dissolved PCBs, TSS for total suspended solids, and TOC for total organic carbon)

Table 3. Summary of discrete water sampling events (continued)

Sampling Event	Date	Sample ID	Sample Description
Level II	8/8/2012	WQ- * -001-080812	1000' South of Area P
		WQ- * -002-080812	250' North of Area L DR (x2)
		WQ- * -003-080812	1500' North of Area L
		WQ- * -004-080812	200' South of Area L DR (x2)
Level II	8/23/2012	WQ- * -001-082312	1000' South of Area P
		WQ- * -002-082312	300' North of Area L DR (x2)
		WQ- * -003-082312	1500' North of Area L
		WQ- * -004-082312	300' South of Area L DR (x2)
Level II	9/13/2012	WQ- * -001-091312	1500' North of Area L
		WQ- * -002-091312	300' North of Area L
		WQ- * -003-091312	1000' South of Area P
		WQ- * -004-091312	300' South of Area P

* three digit code for type of analysis required (TUR for turbidity, TOX for toxicity, TPC for total PCBs, DPC for dissolved PCBs, TSS for total suspended solids, and TOC for total organic carbon)

5.5 LABORATORY TESTING SUMMARY

As in previous years monitoring, several analytes were identified as parameters of interest to assess the impacts of remedial dredging on water quality. Total suspended solids (TSS) and turbidity are good indicators of the amount of sediment in the water column, and are a useful means of estimating how much sediment has been resuspended by remediation activities. Analyzing for total and dissolved PCBs allows for examination of the concentration on both sediment-borne and water-borne PCBs, the primary contaminant of concern. Determining toxicity is perhaps the most direct method of quantifying the threat to sensitive marine organisms associated with sediment-borne and water-borne contaminants. These analytes compose the full suite of parameters that were investigated using specified analytical protocols.

5.5.1 Total Suspended Solids and Turbidity

TSS concentrations from the May 23, 2012 Level II - Baseline sampling event range from 1.2 to 3.5 mg/L. Turbidity readings measured from the in-situ water quality monitoring sonde during sampling are comparable with the lab-based turbidity results (Table 4). The sample-based turbidity results from AAL are higher than the instrument-based turbidity readings, though not by much. These differences can be attributed to the fact that two different, albeit very similar, parcels of water were tested by each technique, even though the pump intake used to collect lab samples was mounted adjacent to the in-situ optical sensor.

Level I – Startup water quality samples collected on June 26-27, 2012 had TSS concentrations ranging from 3.2 – 15.7 mg/L. The lowest values were from samples collected 300 feet down-current of Area L dredge and debris removal, and the highest came from 300 feet down-current of Area L dredge and debris removal, both on 6/26. Instrument-based turbidity observations made during sample collection are comparable to the sample-based AAL results (Table 4).

The highest turbidity from the analytical samples was 23 NTU at 200 feet down-current of two debris removal crews near the Manomet CSO, resulting in a TSS concentration of 44.4 mg/L. A trend of increasing TSS with increasing turbidity is seen throughout the season, with one exception. Samples collected on 9/13 do not follow the same pattern as the other samples, seen in Figure 12 plotted as red points in the top plate. Lab analyses suggest that an algae bloom was in effect when these samples were collected, which increased TSS greatly while leaving turbidity unchanged. The lab noted that the different sample bottles appeared to be non-homogenous as well, even though bottles were filled at the same time, less than 10 seconds apart. Field observations did not indicate the presence of algae in the water column during sampling. Including these data in regression analysis produced a poor correlation (Figure 12, top plate, $R^2 = 0.053$), but when the data are excluded the correlation improves greatly (Figure 12, bottom plate, $R^2 = 0.721$). The TSS data from 9/13 are still valid for project use, but do not represent typical water parameters during the dredge season and should be considered outliers in the overall data set.

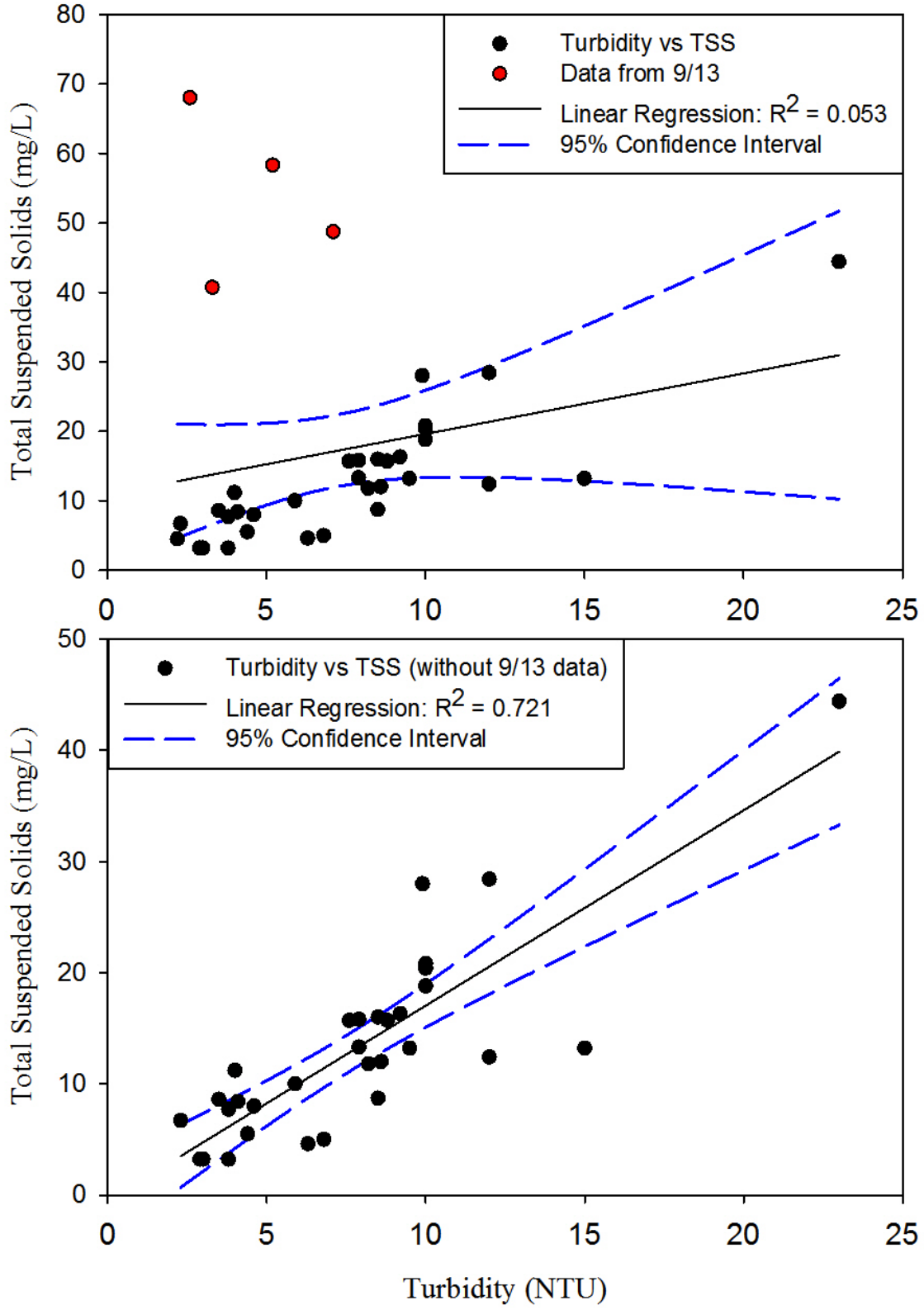

Figure 12. Correlation between TSS and Turbidity.

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Table 4. Summary of TSS, turbidity and TOC results

Sampling Event	Date	Sample ID	Sample Description				In-situ Measurements
				TSS (mg/L)	Turbidity (NTU)	TOC (mg/L)	Turbidity (NTU)
Level II - Baseline	5/23/2012	WQ-_*_-001-052312	1000' South of Area P	2	1.8	0	N/A
		WQ-_*_-002-052312	Area P	2.2	1.8	0	0.7
		WQ-_*_-002-052312-REP	Area P	2.8	1.6	0	0.7
		WQ-_*_-003-052312	1500' North of Area L	3.5	2.5	0	1.7
		WQ-_*_-004-052312	Area L	1.2	1.4	0	0.2
Level II	6/7/2012	WQ-_*_-001-060712	1000' South of Area P	2	2.4	0	2.5
		WQ-_*_-0012-060712	Area L	9.8	3.2	0	2.2
		WQ-_*_-003-060712	1500' North of Area L	4.5	2.2	0	0.9
		WQ-_*_-004-060712	Area P	3.2	3	0	1.5
Level II	6/22/2012	WQ-_*_-001-062212	1000' South of Area P	8.6	3.5	0	2.4
		WQ-_*_-002-062212	300' South of Area P	11.2	4	0	0.9
		WQ-_*_-003-062212	1500' North of Area L	6.7	2.3	0	0.6
		WQ-_*_-004-062212	300' North of Area L	10	5.9	0	2.7
Level I - Startup	6/26/2012	WQ-_*_-001-062612	1000' South of Area P	8.4	4.1	0	6.5
		WQ-_*_-002-062612	300' North of Area L DR + DRG	13.3	7.9	0	10.1
		WQ-_*_-002-062612-REP	300' North of Area L DR + DRG	15.7	7.6	0	10.1
		WQ-_*_-003-062612	1500' North of Area L	5.5	4.4	0	3.2
		WQ-_*_-004-062612	300' South of Area L DR + DRG	3.2	2.9	0	1.8

Sampling Event	Date	Sample ID	Sample Description				In-situ Measurements
				TSS (mg/L)	Turbidity (NTU)	TOC (mg/L)	Turbidity (NTU)
Level I - Startup	6/27/2012	WQ-_*_-001-062712	1000' South of Area P	7.7	3.8	0	1.5
		WQ-_*_-002-062712	300' North of Area L DR + DRG	13.2	9.5	0	9.3
		WQ-_*_-003-062712	1500' North of Area L	4.6	6.3	0	5.1
		WQ-_*_-004-062712	300' South of Area L DR + DRG	13.2	15	0	9.3
		WQ-_*_-004-062712-REP	300' South of Area L DR + DRG	12.4	12	0	9.3
Level II	7/12/2012	WQ-_*_-001-071212	1000' South of Area P	15.7	8.8	0	7.2
		WQ-_*_-002-071212	300' North of Area L DRG + DR	20.8	10	0	17.4
		WQ-_*_-003-071212	1500' North of Area L	16.3	9.2	0	8.4
		WQ-_*_-004-071212	300' South of Area L DRG + DR	8.7	8.5	0	5.0
Level II	7/26/2012	WQ-_*_-001-072612	1000' South of Area P	8	4.6	0	19.0
		WQ-_*_-002-072612	300' North of Area L DRG + DR	15.8	7.9	0	22.4
		WQ-_*_-002-072612-REP	300' North of Area L DRG + DR	11.8	8.2	0	22.4
		WQ-_*_-003-072612	1500' North of Area L	28	9.9	0	13.9
		WQ-_*_-004-072612	300' South of Area L DRG + DR	18.8	10	0	12.0
Level II	8/8/2012	WQ-_*_-001-080812	1000' South of Area P	16	8.5	4.1	7.2
		WQ-_*_-0012-080812	250' North of Area L DR (x2)	28.4	12	4.1	11.2
		WQ-_*_-003-080812	1500' North of Area L	5	6.8	0	4.2
		WQ-_*_-004-080812	200' South of Area L DR (x2)	44.4	23	0	26.0

Sampling Event	Date	Sample ID	Sample Description				In-situ Measurements
				TSS (mg/L)	Turbidity (NTU)	TOC (mg/L)	Turbidity (NTU)
Level II	8/23/2012	WQ-_*_-001-082312	1000' South of Area P	20.4	10	0	5.1
		WQ-_*_-0012-082312	300' North of Area L DR (x2)	12	8.6	0	22.6
		WQ-_*_-003-082312	1500' North of Area L	3.2	3.8	0	8.0
		WQ-_*_-004-082312	300' South of Area L DR (x2)	5.5	4.4	0	2.7
Level II	9/13/2012	WQ-_*_-001-091312	1500' North of Area L	68+	2.6	0	0.5
		WQ-_*_-0012-091312	300' North of Area L	40.7+	3.3	0	2.3
		WQ-_*_-003-091312	1000' South of Area P	48.7+	7.1	0	6.7
		WQ-_*_-004-091312	300' South of Area P	58.3+	5.2	0	3.4

* Three digit code for type of analysis required (TSS for total suspended solids, TUR for turbidity, TOC for total organic carbon)
\+ Results are outliers in the overall TSS dataset. See section 5.5.1 for details

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The addition of TOC to the analytical sampling scheme was intended to examine if the concentration of total PCBs is related to the amount of organic content in suspended sediment. All TOC analytical results were non-detects except for two samples from the 8/8 sampling event: flood reference (1000 feet south of Area P) and 250 feet north of Area L debris removal (x2). Both of these samples were 4.1 mg/L, which was just above the detection limit of 4 mg/L. These results show that no relationship exists between total PCBs and TOC.

5.5.2 Polychlorinated Biphenyl Congeners (NOAA-18)

Total polychlorinated biphenyl (PCB) analysis for the NOAA-18 congeners was performed for all sampling events but only Level I – Startup events (June 26-27) had dissolved PCB analysis. Results are presented in Table 5 as total concentrations of the NOAA-18 congeners. For all congener analyses resulting in a non-detect, a value of zero was used in determining the sum of the NOAA-18 congeners (USEPA, 1998). Results shaded gray in Table 5 are estimated (see section 5.5.4 for more details). Results for individual congeners are reported with all complete analytical data in Appendix C. Dissolved phase samples were filtered using glass fiber filters (0.45 µm pore size) and the filtrate was captured for analysis. Concentrations of the NOAA-18 PCB congeners ranged from 0.14 to 3.84 µg/L in the total (unfiltered) water samples, and from 0.17 to 0.48 µg/L in the dissolved phase (filtered) samples (Table 5). Dissolved phase samples contained lower concentrations than the total, unfiltered samples.

Flood reference site 1000 feet south of Area P typically had the lowest total PCB concentrations each day, ranging from 0.15 to 0.9 µg/L. Concentrations at the ebb reference site 1500 feet north of Area L were higher (ranging from 0.33 to 1.82 µg/L), and were typical of samples collected down-current of active work. During three of the ten sampling events (5/23, 6/7, 7/12), the ebb reference had the highest PCB concentration of the day. Three of the ten highest concentrations from all samples were collected at the ebb reference station (1.41, 1.58, 1.82 µg/L). Reasons for this are unknown, but could be related to this station's proximity to the former Aerovox facility property.

PCB concentrations from 2012 are much lower than the historical data available on the New Bedford Harbor Environmental Management Information System (EMIS). Excluding outliers, the 2004-2011 average of total NOAA-18 PCB congener results was 5.49 µg/L and dissolved NOAA-18 PCB congener results average 1.07 µg/L. The 2012 averages for these analytes were 0.86 and 0.33 µg/L, respectively.

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Table 5. Summary of total and dissolved PCB (NOAA-18 Congeners) results

Sampling Event	Date	Sample ID	Sample Description	Lab Results		In-situ Measurements
				TPC (µg/L)	DPC (µg/L)	Turbidity (NTU)
Level II - Baseline	5/23/2012	WQ-_*_-001-052312	1000' South of Area P	0.19	N/A	N/A
		WQ-_*_-002-052312	Area P	0.14	N/A	0.7
		WQ-_*_-002-052312-REP	Area P	0.14	N/A	0.7
		WQ-_*_-003-052312	1500' North of Area L	1.13	N/A	1.7
		WQ-_*_-004-052312	Area L	0.16	N/A	0.2
Level II	6/7/2012	WQ-_*_-001-060712	1000' South of Area P	0.15	N/A	2.5
		WQ-_*_-0012-060712	Area L	0.25	N/A	2.2
		WQ-_*_-003-060712	1500' North of Area L	0.49	N/A	0.9
		WQ-_*_-004-060712	Area P	0.24	N/A	1.5
Level II	6/22/2012	WQ-_*_-001-062212	1000' South of Area P	0.32	N/A	2.4
		WQ-_*_-002-062212	300' South of Area P	0.39	N/A	0.9
		WQ-_*_-003-062212	1500' North of Area L	0.33	N/A	0.6
		WQ-_*_-004-062212	300' North of Area L	1.18	N/A	2.7
Level I - Startup	6/26/2012	WQ-_*_-001-062612	1000' South of Area P	0.30	0.20	6.5
		WQ-_*_-002-062612	300' North of Area L DR + DRG	0.53 J [a]	0.32 J [a]	10.1
		WQ-_*_-002-062612-REP	300' North of Area L DR + DRG	1.22 J [a]	0.45 J [a]	10.1
		WQ-_*_-003-062612	1500' North of Area L	0.53	0.43	3.2
		WQ-_*_-004-062612	300' South of Area L DR + DRG	0.29 J [†]	0.19	1.8

Sampling Event	Date	Sample ID	Sample Description	Lab Results		In-situ Measurements
				TPC (µg/L)	DPC (µg/L)	Turbidity (NTU)
Level I - Startup	6/27/2012	WQ-_*_-001-062712	1000' South of Area P	0.28	0.17	1.5
		WQ-_*_-002-062712	300' North of Area L DR + DRG	0.88	0.29	9.3
		WQ-_*_-003-062712	1500' North of Area L	0.69	0.36	5.1
		WQ-_*_-004-062712	300' South of Area L DR + DRG	1.18 J †	0.45 J †	9.3
		WQ-_*_-004-062712-REP	300' South of Area L DR + DRG	1.28	0.48	9.3
Level II	7/12/2012	WQ-_*_-001-071212	1000' South of Area P	0.52	N/A	7.2
		WQ-_*_-002-071212	300' North of Area L DRG + DR	1.13	N/A	17.4
		WQ-_*_-003-071212	1500' North of Area L	1.82	N/A	8.4
		WQ-_*_-004-071212	300' South of Area L DRG + DR	0.43	N/A	5.0
Level II	7/26/2012	WQ-_*_-001-072612	1000' South of Area P	0.79	N/A	19.0
		WQ-_*_-002-072612	300' North of Area L DRG + DR	1.70	N/A	22.4
		WQ-_*_-002-072612-REP	300' North of Area L DRG + DR	1.74	N/A	22.4
		WQ-_*_-003-072612	1500' North of Area L	1.58	N/A	13.9
		WQ-_*_-004-072612	300' South of Area L DRG + DR	0.98	N/A	12.0
Level II	8/8/2012	WQ-_*_-001-080812	1000' South of Area P	0.67	N/A	7.2
		WQ-_*_-0012-080812	250' North of Area L DR (x2)	1.84	N/A	11.2
		WQ-_*_-003-080812	1500' North of Area L	1.41	N/A	4.2
		WQ-_*_-004-080812	200' South of Area L DR (x2)	3.84	N/A	26.0

Sampling Event	Date	Sample ID	Sample Description	Lab Results		In-situ Measurements
				TPC (µg/L)	DPC (µg/L)	Turbidity (NTU)
Level II	8/23/2012	WQ-_*_-001-082312	1000' South of Area P	0.90	N/A	5.1
		WQ-_*_-0012-082312	300' North of Area L DR (x2)	1.13	N/A	22.6
		WQ-_*_-003-082312	1500' North of Area L	1.01	N/A	8.0
		WQ-_*_-004-082312	300' South of Area L DR (x2)	0.54	N/A	2.7
Level II	9/13/2012	WQ-_*_-001-091312	1500' North of Area L	0.72	N/A	0.5
		WQ-_*_-0012-091312	300' North of Area L	0.83	N/A	2.3
		WQ-_*_-003-091312	1000' South of Area P	0.97	N/A	6.7
		WQ-_*_-004-091312	300' South of Area P	0.80	N/A	3.4

* Three digit code for type of analysis required (e.g., TPC for total PCBs and DPC for dissolved PCBs)
a Results are estimated due to field duplicate imprecision.
† Results are estimated due to MS/MSD imprecision/recovery.

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Given a criteria of P < 0.01, the correlation between turbidity and total PCBs was statistically significant (P < 0.0001) but the correlation between turbidity and dissolved PCBs has borderline significance (P = 0.0301) (Figure 13). This relationship suggests that observations of turbidity using an optical sensor are effective at estimating total PCB concentration of suspended particles in the New Bedford Harbor. However, the use of optical turbidity as a proxy for dissolved PCBs is less accurate.

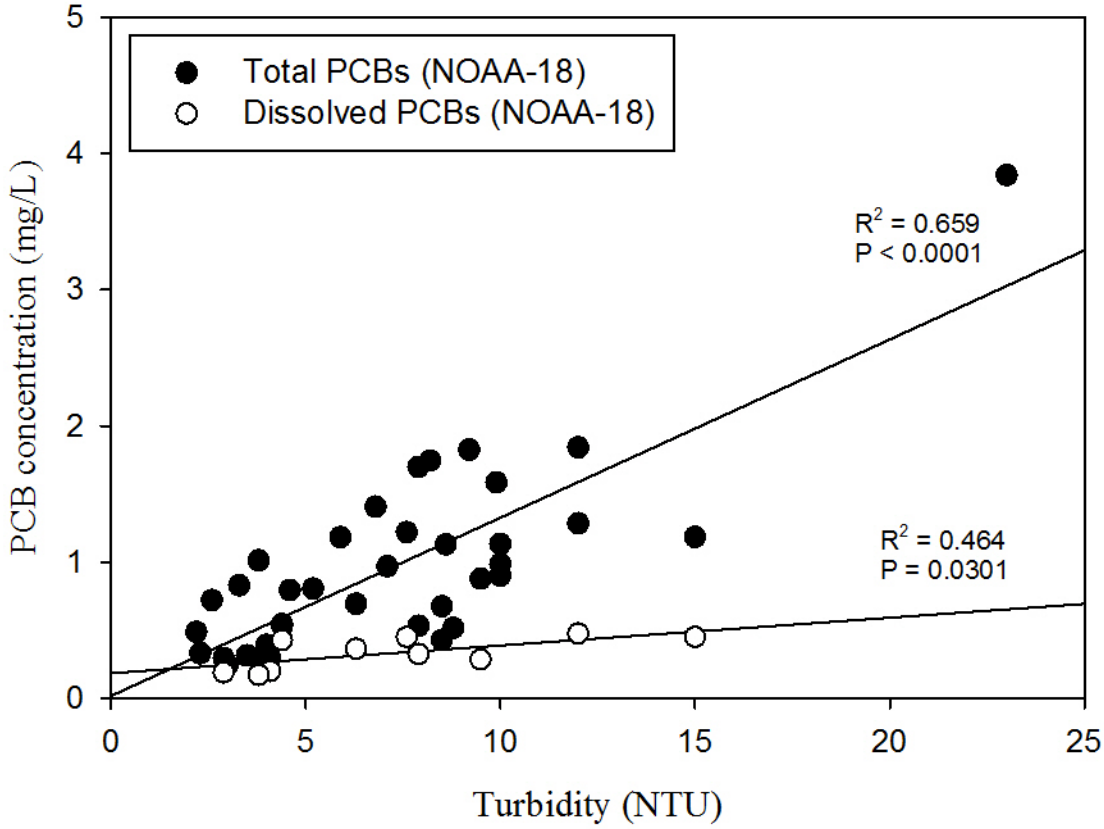

Figure 13. Correlation between Turbidity and total NOAA-18 Congeners, and dissolved NOAA-18 Congeners.

5.2.3 Toxicity

Testing included the following bioassays: 1) a 48-hour acute bioassay conducted with the mysid shrimp *Americamysis bahia*, 2) a 7-day chronic bioassay conducted with *Americamysis bahia*, and 3) a 60-minute chronic fertilization bioassay conducted with the purple sea urchin, *Arbacia punctulata*. Toxicity exposure bioassays were performed on site water samples collected during the two Level I – Startup events (June 26 and June 27) and results are summarized in Table 6. Results are presented for the acute and chronic (sub-lethal) test endpoints: survival, growth, and reproduction. Results for test endpoints for each sample were compared statistically to those from both the event-specific site reference water and the laboratory control sample. Full results and data reports from ESI are provided in Appendix D.

Chronic tests generally provide a better understanding of the toxic effects on marine organisms because they imitate long-term exposure times which can occur in the natural system. However, chronic tests assume that no dilution occurs and that test organisms remain in the same volume of water during the whole test period (7 days). These are not likely to be true for real-world conditions in the New Bedford estuary, so greater emphasis was placed on results from bioassays with short testing durations, specifically the *A. punctulata* bioassays. These tests are likely to be a faithful representation of what an actual organism in the New Bedford estuary may experience due to the short exposure time.

The lab controls for *A. punctulata* fertilization in Level I – Startup samples from 2012 were on par with levels seen in previous years (excluding 2011, which had very low survivability). Control fertilization form 2012 ranged between 86-95% and the historical average is between 90-100%. Results from three of four sample locations collected on June 26, 2012 suggest a trend of reproductive failures by *A. punctulata* after 60-minute acute exposure. The result from the flood reference (71.8% fertilization) is not included because any fertilization rate over 70% is considered to be non-toxic. Results from chronic survival/growth and acute survival bioassays of *A. bahia* were not statistically different from the lab control samples, though growth tended to be higher than the lab control at all sites.

Results from Level I – Startup water quality samples collected on June 27, 2012 show fewer fertilization failures among *A. punctulata* under acute exposure to sample water. Only the sample from the flood reference (WQ-TOX-003-062712) showed a statistically significant difference from the laboratory control. Results from chronic survival/growth and survival bioassays of *A. bahia* were not statistically different from the lab control samples, but growth was higher in the field samples than in the lab control.

Results from Level I – Startup toxicity sampling suggest that changes to water quality brought about by remediation activities are not negatively affecting survival (short-term or long-term) or growth of *A. bahia* and other marine crustaceans. Results of the *A. punctulata* bioassays suggest that fertilization in bivalves or other organisms that reproduce via spawning may be negatively impacted by the water quality in the work zone. These failures can be extrapolated to other marine species that breed in a similar manner to *A. punctulata*, such as the quahog, ribbed mussel and other species that reproduce by essentially random chance of sperm cells meeting an unfertilized egg in the water column.

Samples collected at the ebb reference site (1500 feet north of Area L) showed toxic effects on fertilization on both sampling events despite its distance from active work. Reasons for this are unknown, but *A. punctulata* fertilization bioassays are very sensitive to changes in water quality and there could be sources of toxicity other than the remedial dredging. Given the history of the harbor this may be the most likely reason. The stations proximity to the former Aerovox facility may be a factor as well.

Table 6. Summary of toxicity results for Level I – Startup samples

Sampling Event	Date	Sample ID (WQ-TOX-...)	Sample Description	Lab Results				
				Turbidity (NTU)	Sea Urchin *(A. punctulata)*	Mysid *(A. bahia)*		
					CHRONIC 60-minute mean fertilization (%)	CHRONIC 7-day mean survival (%)	CHRONIC 7-day mean biomass (mg/mysid)	ACUTE 48-hr survival (%)
Level I - Startup	6/26/2012	N/A	Laboratory control	N/A	93.7	92.5	0.359	90.0
		001-062612	1000' South of Area P	4.1	71.8*	92.5	0.390	100.0
		002-062612	300' North of Area L DR + DRG	7.9	64.3*	85.0	0.331	97.5
		003-062612	1500' North of Area L	4.4	67.5*	87.5	0.393	97.5
		004-062612	300' South of Area L DR + DRG	2.9	62.0*	82.5	0.379	97.5
Level I - Startup	6/27/2012	N/A	Laboratory control	N/A	88.5	95.0	0.32	97.5
		001-062712	1000' South of Area P	3.8	88.6	95.0	0.393	100.0
		002-062712	300' North of Area L DR + DRG	9.5	88.3	90.0	0.350	100.0
		003-062712	1500' North of Area L	6.3	84.5*	87.5	0.368	92.5
		004-062712	300' South of Area L DR + DRG	15	91.1	92.5	0.414	97.5

* indicates a value that is statistically significant from the laboratory control sample

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5.5.4 Quality Control

Data validation was completed by New Environmental Horizons, Inc. Complete laboratory QC data from AAL are included in Appendix E of this report; toxicity data from ESI were did not undergo data validation. 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 and equipment blanks) were also acceptable, indicating sampling methods were also in control. All equipment blanks returned non-detects.

The field duplicate (FD) precision was unacceptable for several NOAA Congeners from the Level I – Startup event on 6/26/12: 10 out of 18 NOAA Congeners in the FD pair of WQ-TPC-002-062612 / WQ-TPC-002-062612-REP and 7 out of 18 NOAA Congeners in the FD pair of WQ-DPC-002-062612 / WQ-DPC-002-062612-REP. Those results were estimated (J or DJ) with indeterminate bias as a consequence of the observed FD imprecision. Several congeners from WQ-TPC-004-062612 were estimated (J) due to high MS/MSD recovery and given a high bias.

From the Level I – Startup event on 6/27/12, one congener (2,2',5-Trichlorobiphenyl) was estimated (J) with an indeterminate bias in WQ-DPC-004-062712 due to low MS/MSD recovery and MS/MSD imprecision. Also, one congener (2,2',5,5'-Tetrachlorobiphenyl) from WQ-TPC-004-062712 was estimated (J) with high bias due to high MS/MSD recovery.

Based on Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and were unchanged as a consequence of this review. The full data validation reports are included in Appendix E as well as electronic attachments on CD.

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6.0 DISCUSSION

The water quality monitoring program was developed to characterize the aqueous environment, to limit potential ecologically harmful impacts of remedial operations on water quality, and to limit redistribution of contaminated sediments. Achieving these goals required utilizing a variety of monitoring techniques:

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

6.1 FISHERY AND WILDLIFE OBSERVATIONS

Field staff consistently recorded visual observations regarding fish migration and wildlife behavior throughout the 2012 environmental monitoring and remedial dredging season. Large numbers of fish were observed in the upper harbor, between the Sawyer Street CDF and the northern reaches of the estuary south of the former Aerovox facility. Lower trophic level fish and juveniles were consistently observed schooling throughout the estuary. Larger predatory fish such as striped bass and bluefish were often seen feeding on the smaller fish. Schools of bunker fish were a common sight during boat-based monitoring.

Stressed fish were observed during hypoxic conditions and water temperatures near 30°C on occasion. The stressed fish were most often observed in the top layer of water where dissolved oxygen concentrations were higher than in deeper water. Small fish were also observed in every part of the active work zone in highly variable water quality conditions, even ones with low DO. Only four dead fish were observed during the entire monitoring period (all on 7/19), and no large-scale fish kill events occurred during the 2012 dredge season. The fish mortality that occurred was probably caused by a combination of low DO concentration and high temperature that naturally occurs during summer. Movement and migration of fish within the active work zone were unobstructed.

A variety of waterfowl such as great blue herons, green herons, gulls, swans, cormorants, egrets, terns, osprey, and others were observed living and feeding in the estuary surrounding all active dredge areas (Figure 14). Cormorants were observed in large groups in late summer sitting on dredge pipeline and oil booms. The abundant schools of fish near the surface were heavily preyed upon by these birds. The species most frequently present were cormorants, gulls, and terns. Ospreys were regularly observed diving and feeding on fish.

Figure 14. Cormorants in dredge Area L.

6.2 SUSPENDED SEDIMENT PLUMES AND ELEVATED TURBIDITY EVENTS

In general, there were three activities with the greatest potential to generate suspended sediment plumes; 1) dredging, 2) debris removal, and 3) support operations. 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 distribution of turbidity plumes in the 2012 active work zone was often limited to areas of shallow water, where bottom perturbation by work-related vessels or the debris removal excavator was common. Suspended sediment plumes exhibited elevated turbidity levels immediately adjacent to the source, but rapidly decreased with distance. The shallow water (and resulting lower flow) in the active work zone is thought to have helped contain plume dispersion.

There were very few periods during boat-based monitoring where turbidity exceeded 40 NTU, and the highest reading was only 50.5 NTU on 6/28. Consequently, there were no plumes of highly elevated turbidity observed in 2012. Plumes were an issue in 2011, especially in shallow areas or where the bottom was very fine or fluidized sediment. Some of the plumes in 2011 were caused or exacerbated by the reduction of the water column during ebb tide, which increased the hydraulic forces acting on the bottom (Woods Hole Group, 2012c). This was observed in Area K in 2011. In 2012, greater depth in the central and western sections of dredge Areas L and P may be one reason why fewer plumes were observed. It was noted during boat-based monitoring that the dredge near the eastern shoreline of Area P moved more slowly than the dredge in Area L, which may have reduced the number of plumes observed. Sandier material from the eastern shoreline may have also reduced the amount of fines available for resuspension.

The placement and removal of sheet pilings had the potential to produce plumes of suspended sediments but this activity was not monitored with boat-based efforts, and in-

situ moorings were not able to attribute changes in turbidity to any specific type of activity. During demobilization (9/7 – 9/20), moorings 300N and 300S recorded several peaks in turbidity, the highest being 1091 NTU at 09:30 on 9/8/12. Mooring 300S recorded ten peaks in turbidity over 100 NTU during demobilization and 300N recorded five peaks.

Upland construction work unrelated to the harbor remediation produced a significant sediment plume in Area L on 6/27/12. When the WHG field crew arrived, muddy water was slowly draining from a pipe caused by power-washing on shore. Earlier reports by the dredge and debris removal crews said that the sediment plume at the surface extended hundreds of feet down current, but the plume extended no more than 50 feet from the pipe when the WHG field crew arrived on scene (Figure 15). Turbidity within the plume was 21-33 NTU with no measureable impact on DO. No samples were collected from the pipe location, and the plume had dissipated when the WHG field crew returned later in the day.

Figure 15. Sediment plume from drainage pipe caused by shore-based construction on 6/27.

Shoreline sampling via sediment borings was underway at the location of the former Aerovox facility property from 7/12-7/18. The boat-based water quality monitoring crew performed several transects down-current of the drilling barge to assess the potential impacts to water quality. Turbidity was at background levels (3-4 NTU) and DO was

high (9-12 mg/L) during this time, indicating that the drilling process did not negatively affect the water quality at the site.

6.3 TURBIDITY SPIKES IN IN-SITU DATASETS

As previously mentioned, there were times when spikes > 100 NTU were recorded by in-situ monitoring instruments. High turbidity readings can be caused by a variety of factors, including (but not limited to) remediation activity, turbulent wake from support boats, biofouling, runoff from a high-precipitation event, or by floating debris becoming stuck on the instrument. These last two causes are not common and typically represent only a small fraction of high turbidity data points. Beginning in mid-summer, algae blooms became more commonplace in New Bedford Harbor. However, an algae bloom is not believed to be a likely cause of high turbidity because micro-algae are typically not detected by the optical turbidity sensor. This was made evident during the final water sampling event on 9/13. During this sampling event the boat-based optical turbidity was 0.1-11 NTU but upon sample receipt at the laboratory, results for total suspended solids (which can be calculated from turbidity) were much higher than expected, given the low turbidity readings. The filters used in those analyses were tinted green, believed to result from algae.

The short-lived nature of sediment plumes observed in the past makes for a difficult interpretation of the data at moorings 1000N and 1000S. A good example of the short-lived nature of plumes is the daily report from 9/9/11, when a support boat suspended a significant amount of mud from the bottom in Area N (Woods Hole Group, 2012c). Turbidity was > 250 NTU at ~100 feet from the boat but decreased quickly as time and distance away from the source increased, down to < 100 NTU after 10 minutes and 200 feet away. That day had a combined strong ebb tide and north wind, which could have transported the plume far downstream, but the plume could only be identified for several hundred feet at most before it dissipated completely. For work-related turbidity to be registered at 1000N or 1000S would require either very strong disturbance of the bottom or disturbance of very fine sediment capable of remaining in suspension for an extended period. Therefore, the high turbidity data points from 1000N and 1000S are inconclusive, despite there being no other cause that can be readily determined other than remediation activity. There were 20 data points >100 NTU from 300N and 300S that were believed to be actual consequences of dredging and/or debris removal because no extraneous factors could be attributed that would mask the source of the high turbidity values.

Uncorrected data acquired directly from the instruments were used for the turbidity spike analysis, so as not to bias the conclusions with false spikes >100 NTU. Refer to Appendix F for a more in-depth discussion about the high-turbidity data in 2012.

A recommendation for future sampling events would be utilizing in-situ mooring instruments that are capable of taking readings in a “burst mode” instead of collecting only a single point every 15 minutes. The new EXO2 data sonde from YSI is capable of sampling in a burst mode that can be programmed to increase measuring frequency if a turbidity threshold is surpassed. The instrument will continue taking measurements at the higher frequency until readings decrease below the threshold again. This ability would

make interpreting spikes in turbidity much more effective, because there is currently no way to tell if a single high value is a fluke or part of a trend in water quality.

6.4 RECOMMENDATIONS FOR FUTURE SAMPLING EVENTS

1) Past recommendations of using copper mesh cages to reduce biofouling and increased attentiveness to mooring maintenance were very successful in 2012. The number of days lost to biofouling was just 10 out of total 508 instrument days. Marine life began to grow on the copper cages near the end of the season, suggesting there may be a limit on how long the cages remain effective at discouraging biological growth. Unless otherwise noted, Woods Hole Group recommends the continued use of copper mesh cages for long-term instrumentation.
2) The compliance and reference transects were updated in 2012 to be 300 and 1000 feet away from the active work zone as opposed to being in fixed locations from year to year. Woods Hole Group recommends continuing this procedure in order to produce a more logically-defined set of boundaries for the remediation work. For example, if the transects were not updated in 2012, the ebb reference would have been nearly 1 mile north of the work being performed in Area L.
3) TOC was added to the 2012 sampling scheme to investigate the relationship between PCBs and organic content, but the results from TOC analyses showed that no relationship exists. The majority of TOC results were non-detects, and WHG recommends that the USACE evaluates the need for TOC analyses in future sampling events.

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REFERENCES

Jacobs Engineering Group. 2012. 2012 Fish Migration Impact Plan, New Bedford Harbor Remedial Action. New Bedford Harbor Superfund Site. Prepared under Contract DACW33-03-D0006 Task Order No. 0007 for the U.S. Army Corps of Engineers New England District, Concord, MA.

USEPA. 1998. Record of Decision of the Upper and Lower Harbor Operable Unit: New Bedford Superfund Site, New Bedford, Massachusetts. United States Environmental Protection Agency Region 1. September 1998.

Woods Hole Group. 2012a. 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 0010-07 for the U.S. Army Corps of Engineers New England District, Concord, MA.

Woods Hole Group. 2012b. 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 0010-07 for the U.S. Army Corps of Engineers New England District, Concord, MA.

Woods Hole Group. 2012c. Water Quality Monitoring Summary Report, 2011 Remedial Dredging, New Bedford Harbor Superfund Site, New Bedford, Massachusetts. Prepared under Contract W912WJ-09-D-0001 Task Order No 0010-04 for the U.S. Army Corps of Engineers New England District, Concord, MA.

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APPENDIX A. WATER QUALITY MONITORING FIELD LOGS AND DAILY REPORTS

(See Electronic Attachment)

APPENDIX A WATER QUALITY MONITORING FIELD LOGS AND DAILY REPORTS

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 5/23/12

Weather: Overcast, light rain, 70's

Tides:

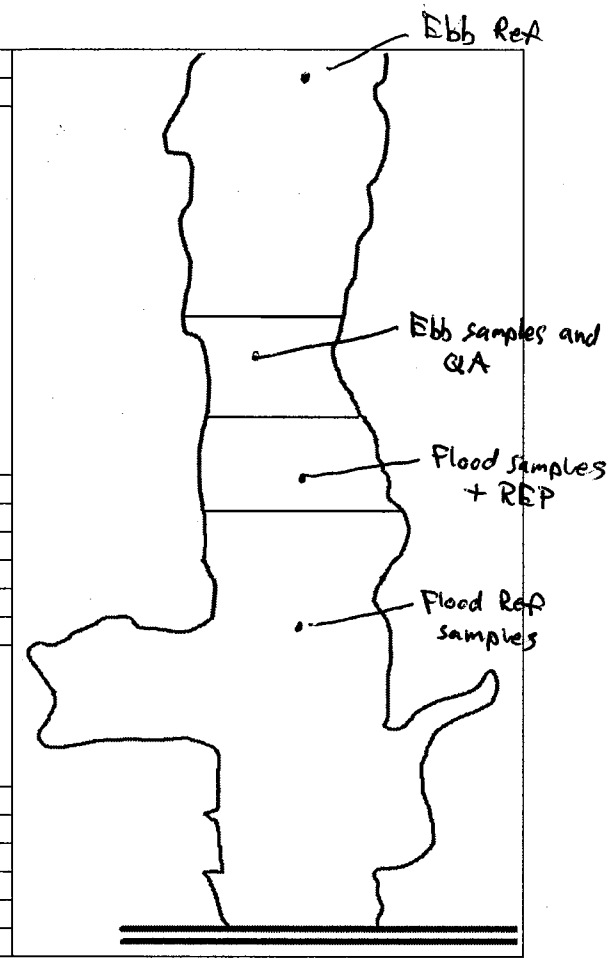
L	@	0346
H	@	1016
L	@	1529
H	@	2219

Monitoring Period:

From: 0830 To: 1210

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:
None



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Area P	0.5-0.7	6.9-8.66	2.01-8.03
~1500ft N of Area L	0.2-1.7	5.95-7.36	1.5-6.0
Area L	0-0.2	7.03-7.53	2.0-8.0

Oil Sheen/Debris:
None

Wildlife Observations:
jellyfish, sparrows, gulls, ducks

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L) 4 samples + REP
Turbidity (1L) 4 samples + REP
Total PCB (2x 1L) 4 samples + REP + MS + MSD
Dissolved PCB (2x 1L) —
Toxicity (2x 10L) —
Metals (500ml) —
TOC (2x 40mL) 4 samples + REP + MSMSD

Notes: Collected baseline (level II) water quality samples prior to dredge season start

Sampling Crew: D. Stuart, D. Rogers

Chief Scientist Signature: David Stuart

WOODS HOLE GROUP

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

Dredging Location	None
Dredging Description	None
Survey Vessel	R/V George Hampson
Chief Scientist	D. Stuart
Sampling Technician	D. Stuart
Vessel Captain	D. Rogers
Other Personnel	—
Weather Conditions	Overcast, light mist rain, 70's, wind 0-5 from N

Date	5/23/12
Page	1 of 1

Tide Information	
High	1015
Low	1529
High	2219
Low	0346

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Area P	0920	41° 39.928	70° 55.038	9.9	2.01	0.5	8.66	25.93	17.11	Flood samples + REP
	0920	↓	↓		4.04	0.5	7.63	28.64	16.77	↓
	0921	↓	↓		6.02	0.6	7.10	28.69	16.76	↓
	0921	↓	↓		8.03	0.7	6.90	28.70	16.75	↓
~1500 ft Northof	1047	41° 40.288	70° 54.998	7.3	1.54	0.2	7.36	26.14	17.54	Ebb Ref samples
Area L – Ebb	↓	↓	↓	↓	3.05	0.3	6.40	27.61	17.40	↓
Ref	↓	↓	↓	↓	4.52	0.7	5.95	28.18	17.01	↓
	↓	↓	↓	↓	6.01	1.7	6.02	28.23	16.99	↓
Ebb sample,	1122	41° 40.010	70° 55.069	9.6	2.02	0.2	7.53	26.79	17.12	Ebb samples + QA
Area L	↓	↓	↓		4.00	0.0	7.08	28.40	16.87	↓
	↓	↓	↓		6.03	0.1	7.15	28.62	16.81	↓
	↓	↓	↓		8.02	0.2	7.03	28.68	16.79	↓

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 6.7.12

Weather: Sunny 70 variable

Tides:

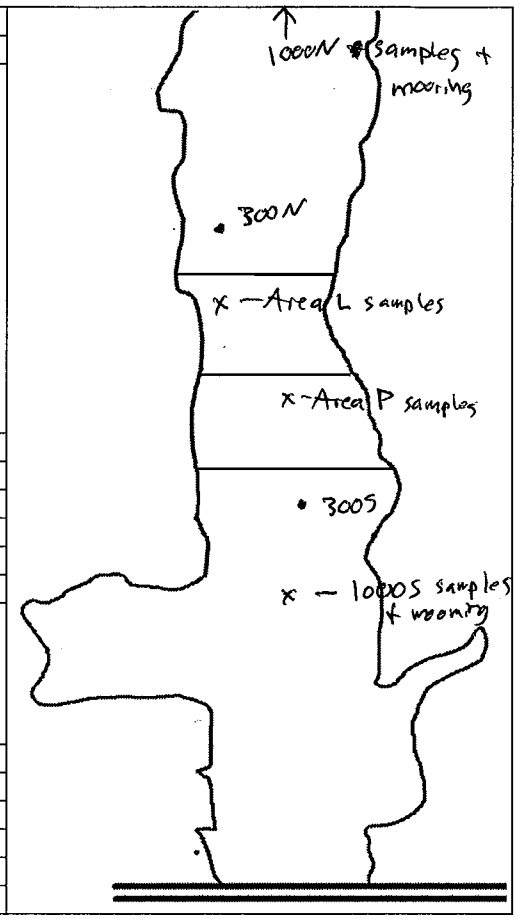
H	@	10:59
L	@	16:22
	@	
	@	

Monitoring Period:

From: 9:15 To: 1330

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

Dredging Activity: NONE



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000S	1-4	6.3-6.4	2-8
Area P	0.7-2.2	6.3-6.4	2-8
1000N	0.2-0.8	5.9-6.6	1-7
Area L	0.6-2.0	6.3-6.3	4-10

Oil Sheen/Debris: NONE

Wildlife Observations: ducks, jellyfish, blue heron

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	4 samples	Turbidity (1L)	4 samples
Total PCB (2x 1L)	4 samples	Dissolved PCB (2x 1L)	—
Toxicity (2x 10L)	—	Metals (500ml)	—
TOC (2x 40mL)	4 samples		

Notes: Bi-weekly Level II water sampling plus mooring cleaning/recalibration. ~~Mooring~~ 1000S removed due to faulty probe. Replacement to be installed soon. Instrument ↗

Sampling Crew: EGM, DGS, DJR

Chief Scientist Signature: X Dack Stuart

WOODS HOLE GROUP

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

Dredging Location	None
Dredging Description	Mob in Areas L + P
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	E. Hasbrouck
Vessel Captain	D. Rogers
Other Personnel	—
Weather Conditions	Sunny, 70's, light wind, foggy + calm in AM

Date	6/7/13
Page	1 of 1

Tide Information	
High	1059
Low	1622
High	2324
Low	0433

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000' South of	0922	41° 39.725	70 55.023	9.1	2.05	1.0	6.44	29.6	17.8	flood Ref samples
Area P	0923	↓	↓	↓	3.90	1.8	6.40	29.7	17.7	
	0924	↓	↓	↓	6.04	2.7	6.38	29.7	17.8	
	0926	↓	↓	↓	8.05	4.0	6.35	29.8	17.7	
Area P	0950	41 39.978	070 55.046	9.3	1.99	0.7	6.4	29.51	17.9	flood samples
41 39.978	0951	↓	↓	↓	4.04	1.0	6.4	29.6	17.8	
070 55.046	0952	↓	↓	↓	6.05	1.5	6.36	29.62	17.8	
	0953	↓	↓	↓	7.99	2.2	6.33	29.62	17.8	
1000 N	11:29	41 40.288	070 55.012	8.4	1.15	0.2	6.65	28.14	18.47	Ebb reference
	11:30	↓	↓	↓	3.12	0.3	6.46	29.21	18.22	samples
	11:31	↓	↓	↓	5.2	0.5	6.20	29.57	18.06	
	11:31	↓	↓	↓	7.5	0.8	5.98	29.61	18.10	
Area L	1153	41° 40.011	70° 55.092	12.9	3.98	0.6	6.26	29.58	18.18	
	1154	↓	↓	↓	8.00	0.9	6.29	29.71	17.93	Ebb samples
	1157	↓	↓	↓	10.05	2.0	6.26	29.73	17.90	

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WJ-09-D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 20120622

Weather: Warm, sunny, light variable breeze

Tides:

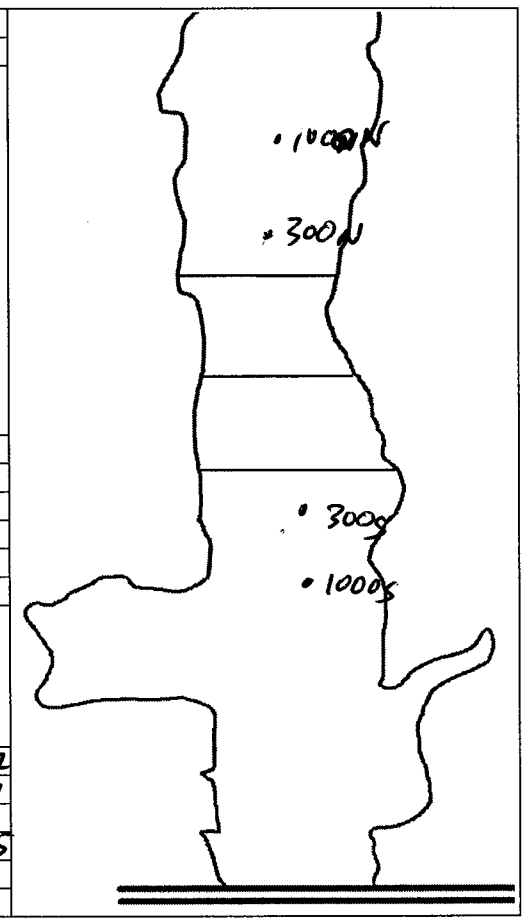
L	@	0404
H	@	1034
L	@	1552
H	@	2240

Monitoring Period:

From: 0815 To: ~~03~~ EH 1500

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

Dredging Activity: NONE



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000S	0.9-2.4	8.66-9.30	3.02-9.12
300S	3.01-8.99	8.85-9.44	3.01-8.99
300N	0.6-0.7	12.37-11.99	2.00-4.00
1000N	1.3-2.7	8.62-9.91	2.02-4.05

Oil Sheen/Debris: NONE

Wildlife Observations: NONE

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	4 Smples	Turbidity (1L)	4 smples
Total PCB (2x 1L)	4 Smples	Dissolved PCB (2x 1L)	Ø Smples
Toxicity (2x 10L)	~~4 Sm~~ Ø smples	Metals (500ml)	Ø Smples
TOC (2x 40mL)	4 Smples		

Notes: Smple nomenclature = WQ-XXX-00#-062212

XXX = Analysis

= Sample

Sampling Crew: EGH, DJR

Chief Scientist Signature:

WOODS HOLE GROUP

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

Dredging Location	N/A
Dredging Description	N/A
Survey Vessel	George Hampson
Chief Scientist	Emerson G Hesbrooock
Sampling Technician	Dan J Rogers
Vessel Captain	Dan J Rogers
Other Personnel	N/A
Weather Conditions	Hot (85°) Sunny, light variable breeze

Date	20120622
Page	of

Tide Information	
High	
Low	
High	
Low	

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000S	0830	41 39.789	70 55.004	11.2	3.02	0.9	9.30	30.62	22.99	
	9:18				6.07	1.8	8.70	30.6	22.69	
					9.12	2.4	8.60	30.62	22.69	Sample
300S	9:50	41 39.821	70 55.011	9.9	3.01	0.2	9.49	30.50	23.12	
					6.04	0.2	9.06	30.67	22.79	
					8.99	0.9	8.85	30.71	22.68	Sample
300N	1250	41 40.093	070 55.048	6.3	2.00	0.7	11.99	30.11	24.30	
					4.04	0.6	10.37	30.47	23.21	Sample
1000N	1400	41 40.291	070 55.008	5.5	2.02	2.7	9.91	29.96	24.02	Sample
					4.05	1.3	8.62	30.28	23.46	

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W91ZHT-09-D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 6/25/12

Weather: Overcast, rain, high 60's

Tides:

high	@	0014
Low	@	0548
High	@	1253
Low	@	1811

Monitoring Period:

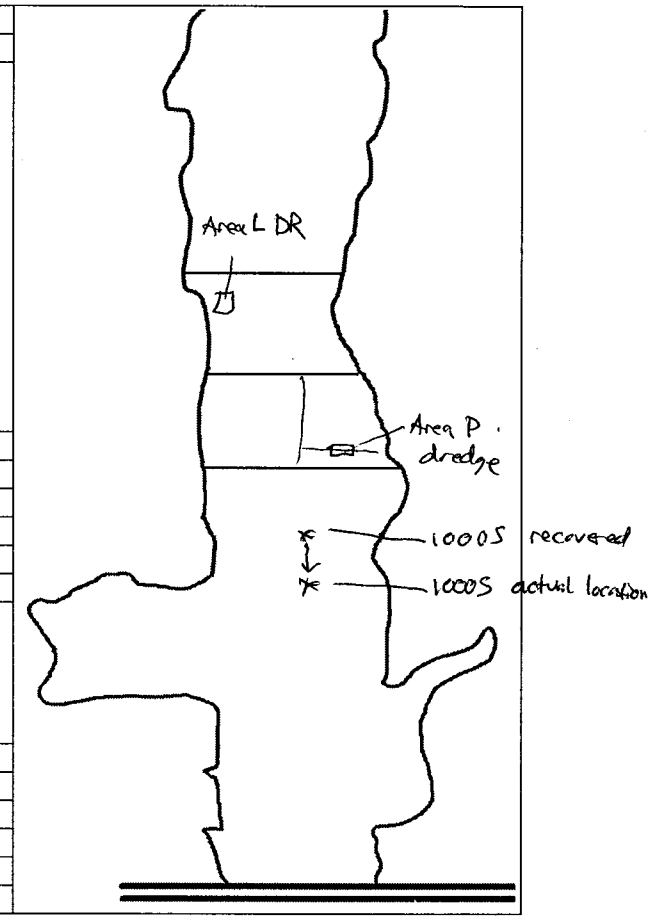
From: 0900 To: 1500

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

Dredging in area P

Debris removal in Area L



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)

Oil Sheen/Debris:

None observed

Wildlife Observations:

None

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes: Thunder + lightning stopped work from 0940 – 1400, remaining hour at end of day (1400-1500) there was no remedial work, but WHG redeployed instrument 1000S

Sampling Crew: D. Stuart, D. Rogers, E. Hasbrouck

Chief Scientist Signature: Dael Stuart

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 6/26/12

Weather: partly sunny, 70's

Tides:

H	@	0105
L	@	0634
H	@	1344
L	@	1913

Monitoring Period:

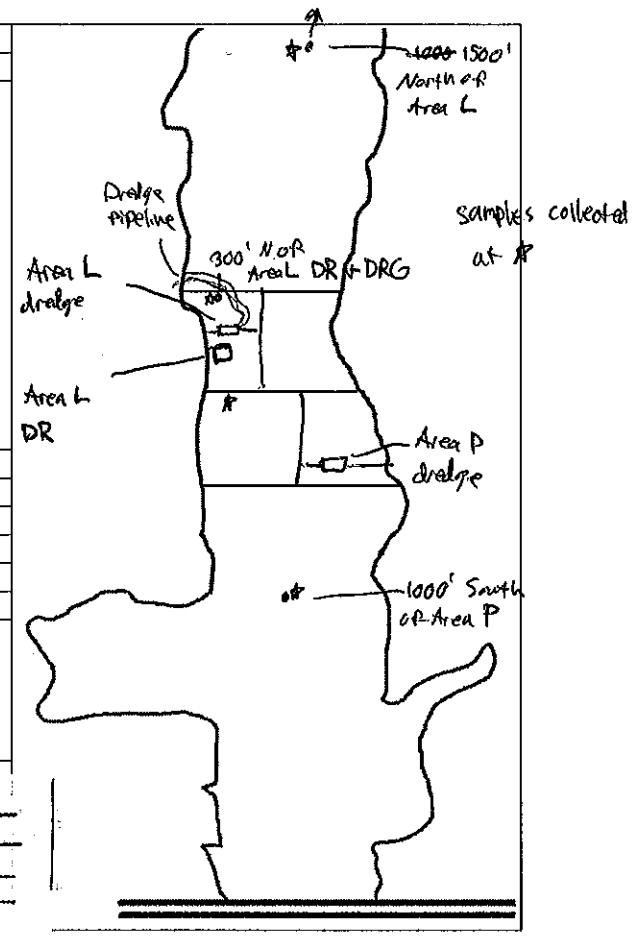
From: 0900 To: 1515

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

Dredging Activity:

AM: Dredging in Areas L + P
Debris removal in Area L

PM: Dredging in Area L
Debris removal in Area L



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' S of Area P	0-6.5	6.09-7.1	1.3-6.7
300' N of Area L dredge + debris removal	2.1-52.1	4.83-7.72	2.0-8.6
1500' N of Area L	1.3-3.2	6.63-7.55	2.1-6.2
300' S of Area L work	0.4-18	8.0-8.58	2.1-6.1

Oil Sheen/Debris:

none observed

Wildlife Observations:

Oyster catchers, terns, gulls

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	4 samples + REP + QA	Turbidity (1L)	4 samples + REP + QA
Total PCB (2x 1L)		Dissolved PCB (2x 1L)	
Toxicity (2x 10L)		Metals (500ml)	
TOC (2x 40mL)			

Notes: Level 1 samples collected at 4 stations, plus REP/QA and equipment blank. All sampling procedures completed following 2012 WQ FSP. No exceedances observed.

Sampling Crew: D. Stuart, D. Rogers, E. Nasbrouck, P. Curran

Chief Scientist Signature: Dael Stuart

WOODS HOLE GROUP

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

Dredging Location	Dredging in Areas L + P
Dredging Description	Debris removal in Area L
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	E. Hasbrouck, P. Curran
Vessel Captain	D. Rogers
Other Personnel	—
Weather Conditions	Partly cloudy, 70's, breeze from N

Date	6/26/12
Page	1 of 2

Tide Information	
High	0105
Low	0634
High	1344
Low	1913

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000' Southeast	0907	41° 39.721	70° 55.012	8.3	1.29	0.0	7.12	28.23	22.03	
Area P	0909	↓	↓	↓	3.00	0.0	6.94	28.47	22.00	
↓	0911	↓	↓	↓	5.182	3.2	6.33	29.92	22.20	
↓	0913	↓	↓	↓	6.73	6.5	6.09	30.35	22.25	Sample Flood Rep
300' N of										
Area L Dredging	0958	41° 40.016	070° 55.088	9.3'	3.14	4.2	6.37	29.33	22.51	
↓	1000	↓	↓	↓	6.09	9.7	5.91	30.28	22.26	
↓	1002	↓	↓	↓	8.02	10.1	5.77	30.29	22.26	
~300' N of										
activity in Area L	1015	41° 40.046	070° 55.089	8.0'	2.04	2.1	6.51	29.55	22.36	Flood samples + Rep
↓	1017	↓	↓	↓	4.02	2.7	6.27	29.83	22.29	
↓	1019	↓	↓	↓	6.05	5.4	5.90	30.30	22.20	
↓	~~1021~~	↓	↓	↓						
↓	1055	↓	↓	↓	6.05	52.1	4.83	~~66.0~~ 30.26 OBS	22.29	Turbidity increased for
↓	1058	↓	↓	↓	6.10	13.0	5.76	30.32	22.26	approx. 10 minutes

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WT-09-D-0000-0010

WOODS HOLE GROUP

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

Dredging Location	Area L
Dredging Description	Dredging and Debris removal
Survey Vessel	George Hempson
Chief Scientist	DGS
Sampling Technician	PBC
Vessel Captain	DJR
Other Personnel	EGH
Weather Conditions	Sunny, warm winds light & variable

Date	6/26/13
Page	2 of 2

Tide Information	
High	
Low	
High	
Low	

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300' N of	1250	41 40.043	070 55.083	9.2	3.02	5.4	7.31	30.11	22.22	
Dredge & Debris	↓	↓	↓	↓	6.000	2.4	7.72	30.45	21.95	
removal - L	↓	↓	↓	↓	8.6	4.7	7.68	30.47	21.94	
1000 N	~~1358~~	41 40.292	070 55.006	8.2	2.09	3.2	7.55	29.47	23.24	sample depth
	1400	↓	↓	↓	4.05	1.3	6.89	30.23	22.34	
		↓	↓	↓	6.23	2.2	6.63	30.24	22.33	
300' South	1427	41°39.901	70°55.069	8.0	2.10	0.4	8.59	29.78	22.92	
of Area L DR	1429	↓	↓	↓	4.01	0.3	8.56	30.27	22.42	
& DRG	1430	↓	↓	↓	6.14	1.8	8.00	30.81	22.05	Sample depth
					6.1	6-18 for sampling				

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-09-D-0001

WOODS HOLE GROUP

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 6/27/2012

Weather: Sunny / Partly Cloudy / 5 kts NW / seas 2/ft

Tides:

High	@	01:59 AM
Low	@	07:29 AM
High	@	02:37 PM
Low	@	08:30

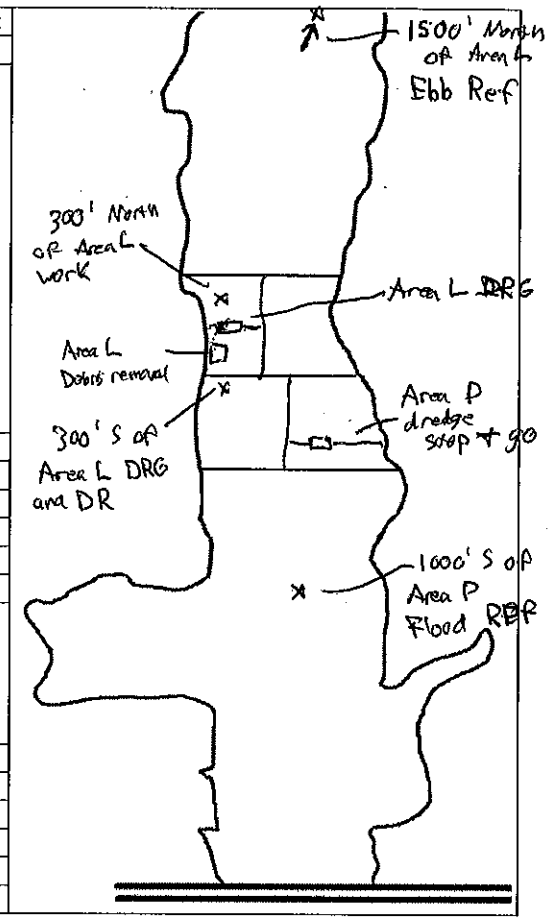
Monitoring Period:

From: 09:15 To: 1600

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

Dredging Activity:

AM Dredging in Area L
Debris removal in Area L
PM Debris removal in Area L
Dredging in Area L



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Outfall - Area L	21.4-33.3	5.56-6.15	0-1.52
1000' S of Area P	0-1.5	7.25-8.21	2.1-7.5
300' N of Area L work	6.3-9.3	6.50-7.83	2.1-7.7
1500' N of Area L	2.3-5.1	6.59-10.68	0.9-8.1
300' S of Area L work	~~0.4-6.6~~ DGS 8.4-9.3	7.60-8.51	0.9-6.6

Oil Sheen/Debris:
None observed

Wildlife Observations:
gulls, terns, ducks

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	4 samples + REP + ~~QA~~ DGS	Turbidity (1L)	4 samples + REP
Total PCB (2x 1L)	4 samples + REP + QA	Dissolved PCB (2x 1L)	4 samples + REP + QA
Toxicity (2x 10L)	4 samples	Metals (500ml)	4 samples + REP + QA
TOC (2x 40mL)	4 samples + REP + QA		

Notes: Level 1 samples collected today at flood and ebb reference sites plus 300 ft North and South of Area L work. In AM, outfall pipe from nearby construction site was expelling turbid water into the river at Area L. Measurements for Turbidity showed low (21-33 NTU) values by the time WHG field crew arrived. Impact was limited to within 30-50 feet at low tide and no observable impact during high tide.

Sampling Crew: D. Stuart, E. Hasbrouck, P. Curran, D. Rogers

Chief Scientist Signature: Paul Stuart

WOODS HOLE GROUP

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

Dredging Location	Area L and P
Dredging Description	Debris Removal in Area L
Survey Vessel	George Hampson
Chief Scientist	Dack Stuart
Sampling Technician	Emerson Hasbrouk / Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	
Weather Conditions	Sunny Partly Cloudy / wind 5 kts NW

Date	6/27/2012
Page	1 of 2

Tide Information	
High	01:59 AM
Low	07:29 AM
High	02:39 pm
Low	08:30 pm

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Outfall pipe / Area L	10:25	41° 39.982'	070° 55.117	1.2	0.00	33.3	6.15	29.58	22.20	Emergency response to outfall pipe
" / "	10:28	41° 39.982	070° 55.117	1.2	0.00	25.2	5.98	29.57	22.20	Begin Monitoring
" / "	10:30	41° 39.984	070° 55.116	4.0	2.01	25.8	6.01	29.56	22.19	of outfall pipe
" / "	10:35	41° 39.984	070° 55.116	4.0	1.52	21.4	6.09	29.56	22.18	
" / "	10:40	41 39.983	070° 55.116	4.0	1.23	29.9	5.56	29.60	22.21	
1000S of site	1100	41 39.724	070 55.007	8.5	2.07	-0.2	8.21	29.98	21.84	
					4.06	-0.2	8.04	30.43	21.67	
					6.13	1.5	7.32	30.55	21.66	sample depth
					7.54	1.3	7.25	30.55	21.67	
300N of activity	12:15	41 40.024	070 55.109	8.3	2.10	8.2	7.83	29.75	22.55	
in area L					4.03	8.2	7.33	30.05	22.07	
					6.22	~~8.2~~ 6.3	~~6.36~~ 6.75	30.32	21.79	
					7.65	9.3	6.50	30.35	21.81	Sample depth

WOODS HOLE GROUP

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

Dredging Location	Dredging in Areas L and P
Dredging Description	Debris removal in Area L
Survey Vessel	George Hampson
Chief Scientist	Dack Stuart
Sampling Technician	Emerson Hasbrouck, Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	—
Weather Conditions	Sunny, wind from W/N, high 70's

Date	6/27/12
Page	2 of

Tide Information	
High	0159
Low	0729
High	1439
Low	2030

Location	Time	Latitude	Longitude	Water Depth	Sample Depth	Turbidity	DO	Salinity	Temp	Notes
1000 N ref.	1510	41 40.292	070 55.000	9.0	0.93	2.3	10.68	26.35	23.89	
Site					3.00	5.1	9.68	29.64	23.42	Sampling depth
					5.99	2.5	7.38	30.24	22.40	
					8.06	3.8	6.59	30.21	22.16	
300 S of	15:41	41° 39.930	070° 55.080	7.5	0.9	8.8	8.51	30.50	23.04	
Area L DRG					2.5	9.3	8.00	30.74	22.50	Sampling Depth
+ Debris removal					4.2	8.4	7.84	30.69	22.24	
					6.6	8.6	7.60	30.83	22.08	

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 6.28.12

Weather: Sunny, warm, breeze light; variable

Tides:

H	@	0258
L	@	0830
H	@	1538
L	@	2150

Monitoring Period:

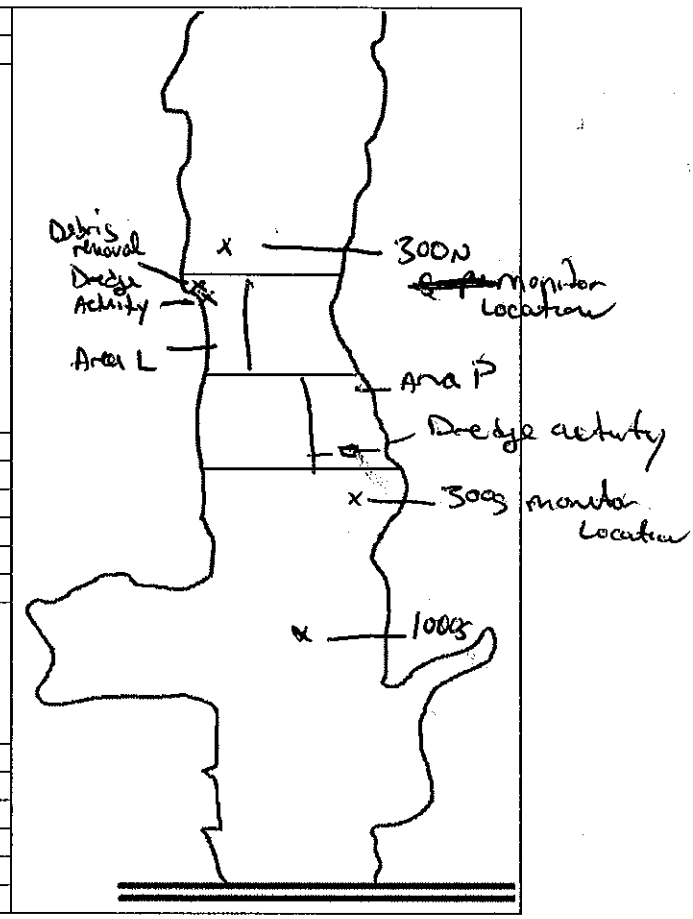
From: 12:00 To: 1700

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

Dredging Activity:

12-330 Dredging and debris removal in Area L

330-500 Dredging in area P



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000S'	0-5.0	8.5-9.4	1.1-8.7
300N	9.2-50.5	6.8-10.17	1.1-4.3
1000N	1.8-2.8	12.8-9.9	1.1-7.5
300S	0.0-9.0	10.76-11.51	1.5-7.1

Oil Sheen/Debris: NONE

Wildlife Observations: Terns, black back gull, osprey

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes: all activity in area L was in the Northern portions of area
all activity in area P was in the Southern portion of area

Sampling Crew: E. Hushcroft, D. Rogers

Chief Scientist Signature:

WOODS HOLE GROUP

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

Dredging Location	L
Dredging Description	Debris & Dredging Activity
Survey Vessel	George Thompson
Chief Scientist	E. Hasbrouck
Sampling Technician	EGH
Vessel Captain	DJR
Other Personnel	—
Weather Conditions	Sunny, Hot, light breeze (S)

Date	6.28.12
Page	1 of 2

Tide Information	
High	258
Low	830
High	1538
Low	2150

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000S	1230	41 39.727	070 55.009	8.9	1.12	-0.3	9.41	29.62	23.45	
					3.02	-0.7	9.43	29.99	22.72	
					5.67	0.2	8.91	30.84	21.78	
					8.72	5.0	8.51	30.85	21.76	
300 N of	1300	41 40.085	070 55.111	6.0	2.86	45.9	6.83	30.36	23.04	
activity in					4.32	20.6	6.83	30.62	23.41	
Area L					1.27	46.5	6.99	30.22	23.71	
≈ LF6	1305				1.17	25.1	7.79	30.31	23.11	
	1309				1.16	18.0	9.36	30.19	23.82	- Dredge Stopped ~~for~~
	1317				1.16	11.2	10.17	30.03	24.22	- Dredge Stopped
	1331				1.15	14.3	9.76	30.09	24.40	Dredge activity start
	1350	41 40.091	070 55.108	1.55	~~1.55~~	40.6	8.39	30.21	23.53	No Sheen or Smell
	1406				1.15	50.5	7.70	30.29	23.68	
	1423				1.16	4.2	10.00	30.10	24.38	No dredge/debris activity
	1442				1.15	21.5	7.87	30.38	23.19	No Activity

WOODS HOLE GROUP

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

Dredging Location	✓
Dredging Description	Debris Removal
Survey Vessel	George Hampson
Chief Scientist	E. Hashoucik
Sampling Technician	D. Rogers
Vessel Captain	D. Rogers
Other Personnel	—
Weather Conditions	Sunny, Hot, winds light & variable

Date	6.28.12
Page	2 of 2

Tide Information	
High	0258
Low	0830
High	1538
Low	2150

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000 N	1545	41 40.292	070 55.002	8.5	1.19	2.8	12.34	29.91	24.72	ebb reference
					2.91	2.6	11.54	29.97	24.43	
					5.08	1.8	9.90	30.45	23.52	
					~~7.08~~					
					7.52	1.4	7.53	30.49	22.70	
300S of	1602	41 39.832	070 55.002	7.9	1.55	-0.5	11.37	30.28	23.51	
Area P	1602				5.10	-0.6	11.25	30.50	23.19	
	1602				7.08	-0.5	10.76	30.79	22.52	
	1614				1.53	2.0	11.47	30.25	23.54	
	1621				1.55	4.0	11.51	30.34	23.39	
	1644				1.51	2.2	11.31	30.35	23.44	
	1651				1.52	3.6	11.22	30.34	23.42	

WOODS HOLE GROUP

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 20120629

Weather: Sunny, warm, wind < 5 knts.

Tides:

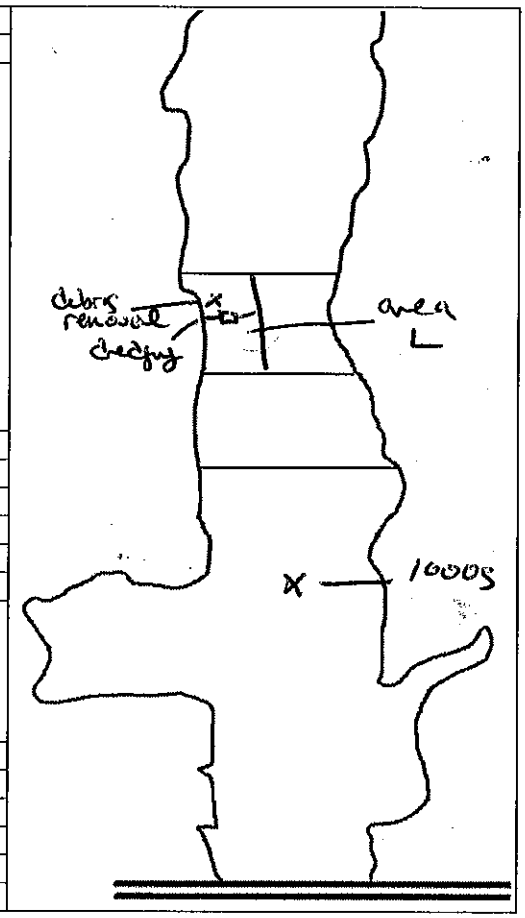
0401	@	H
0937	@	L
1641	@	H
2258	@	L

Monitoring Period:

From: 0700 To: 1400

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

Dredging Activity:
Debris removal Area L - stopped @ 1330
Dredg Area L - stopped ~ 12:30
started ~ 13:20



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000S	0.0 ~ 15.5 ~	6.6 - 7.1	0.8 - 6.53
300'N	7.3 - 44.6	5.53 - 8.8	1.5 - 3.1

Oil Sheen/Debris: Light Sheen @ 12:50 @ 41 40.096, 070 55.109

Wildlife Observations: Terns, Sea gulls

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes: 1260 - light sheen visible - TUR = 12.7
1304 - light sheen visible - sulfur/Petro odor TUR = 9.3

Sampling Crew: CGH, DJR

Chief Scientist Signature:

WOODS HOLE GROUP

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

Dredging Location	Area L
Dredging Description	Debris removal
Survey Vessel	George Hampson
Chief Scientist	E Flashcovic
Sampling Technician	—
Vessel Captain	D. Rogers
Other Personnel	—
Weather Conditions	Rainy, overcast, wind 5-10 kts W

Date	6.29.12
Page	1 of 1

Tide Information	
High	0401
Low	0937
High	1641
Low	2258

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000 S ref.	1120	41 39.721	070 55.015	7.3	0.8	0.0	9.13	29.21	23.16	
					4.5	5.8	7.01	30.74	22.41	
					6.53	15.5	6.60	30.90	22.31	
300 N of										
activity Area L	1146	41 40.091	070 55.107	4.8	1.5	7.9	8.25	27.93	22.37	
				~~3.2~~	~~14.4~~	~~6.61~~				
					3.2	14.4	6.61	29.71	23.41	
	1158	41.40.096	070 55.109		3.1	44.6	5.53	29.92	23.03	
	1215				1.5	23.6	6.98	29.43	23.12	
	1220				1.5	21.5	7.15	29.37	23.20	
	1250				1.5	12.7	7.05	29.68	23.15	Light sheen visible
	1304				1.5	9.3	7.87	29.45	23.52	Petro odor / sulfur odor - light sheen
	1320				1.5	7.3	7.65	29.42	23.55	Dredging started
	1330				1.5	11.1	7.19	29.72	23.33	

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: July 3rd 2012

Weather: Sun/25% Cloud cover/wind N 5-10 kts/<1 ft seas

Tides:

↑	Low	@	0148
↓	High	@	0802
↑	Low	@	1327
↓	High	@	2031

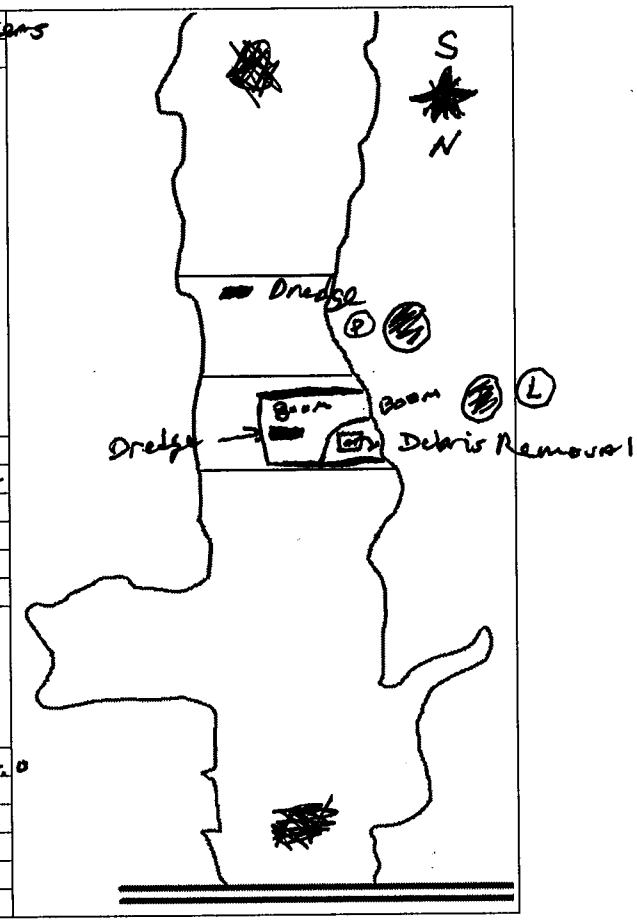
Monitoring Period:

From: 0845 To: 1535

Tidal Stages: HWS (Ebb) LWS (Flood)

Dredging Activity:
Debris Removal stoppage @ 0855.
Dredging start & stoppages frequent to reposition. Debris removal stoppages frequent (reason unknown).

1400 - Dredge stop
1505 - Debris Removal Start/Sporadic/
1535 - All Stop



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
300 ft S ref	0.3 - 0.7	6.9 - 7.05	1.6 - 8.9
300 ft N DR*	1.4 - 3.8	5.66 - 6.55	~~1.4~~ 1.6 - 7.0
300 ft N DR+D**	0.8 - 1.2	6.1 - 6.3	1.57 - 6.0
300 ft N ref	1.1 - 2.2	6.08 - 6.3	1.3 - 4.0
300 ft S DR+D	1.2 - 2.5	6.97 - 7.0	1.2 - 2.5

Oil Sheen/Debris:
NONE

Wildlife Observations:
Sea Gulls, Terns, small birds, Osprey, Cormorants

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes:
* DR = Debris Removal / ** D = Dredge / Tide chart read incorrectly MONITORING FROM 0850 - 1140 should have been from the South. Repositioned and began sampling from south at 12:00
- 0930 Dredge start up.
- 1020 Debris Removal start up.

Sampling Crew: Patrick Curtar, Dan ~~Red~~ Rogers

Chief Scientist Signature:

WOODS HOLE GROUP

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

Dredging Location	NEW BEDFORD HARBOR
Dredging Description	Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Dack Stuart / Dave Walsh
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rodgers
Other Personnel	Patrick Curran
Weather Conditions	Sunny / Partly cloudy / wind 5-10 kts N / seas 1-1 ft

Date	7/3/12
Page	1 of 3

	Tide Information	
Low	~~High~~	0148
High	~~Low~~	0802
Low	~~High~~	1327
High	~~Low~~	2031

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
REF Buoy Southern 300 ft	0845	41° 39.816	070° 55.008	10.0	1.6	0.3	6.95	30.98	23.87	REF Buoy. ~~Incoming~~ Tide. South
		"	"	"	2.8	0.5	7.01	31.22	23.82	
		"	"	"	6.0	0.6	7.09	31.43	23.77	
		"			8.9	0.7	7.05	31.48	23.71	
300 ft N of debris removal	0859	41° 40.081'	070° 55.095	8.5	1.6	1.4	5.66	30.37	24.06	Debris removal stopped just before measurements were collected.
					3.0	1.6	6.08	31.03	24.27	
					7.0	3.8	6.55	31.32	23.83	—
300 ft N of Dredge	0930	41° 40.083	070° 55.096	8.5	6.39	6.4	6.79	31.18	23.91	Dredge start up
					3.6	1.2	6.01	30.92	24.44	
					1.6	0.6	6.34	29.79	24.74	
300 ft N of Dredge + Debris Removal	1020	41° 40.083	070° 55.074	6.9	1.59	0.8	6.33	29.75	25.13	Dredge repositioned
					3.1	1.0	6.10	30.69	24.61	Debris removal start up
—					6.0	1.2	6.23	31.10	23.95	—
300 ft N of dredge + Debris Removal	1110	41° 40.084	070 55.077	7.0	1.75	0.8	6.43	29.91	25.30	Dredge + Debris Removal
	—	—	—	—	5.0	11.3	6.15	24.10	31.02	

PBC 7/3/12

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WL-09-D-0001

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor
Dredging Description	Dredge & Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Dick Stuart / Dave Walsh
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	Sunny / 1/4 cloud cover / wind N 10 kts / Seas <1 Ft

Date: 7/3/12
Page: 2 of 3

Tide Information		
Low	~~High~~	0148
High	~~Low~~	0802
Low	~~High~~	1327
High	~~Low~~	2031

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
ref Buoy 300ft N of D+DR	1141	41° 40.082	070° 55.075	5.2	1.3	1.1	6.08	30.02	25.51	
EBB				PRC 7/02/12 ~~2.5~~	2.5	1.6	6.30	30.20	25.25	
					4.0	2.2	6.08	31.03	24.22	
300 ft S of D+DR	1200	41° 39.950'	070° 55.090	3.2	1.2	3.1	7.0	30.05	25.79	very shallow
					2.5	5.5	6.97	30.07	25.75	
300 ft S of DR	1215	41° 39.949	070° 55.089'	2.5	~~2.4~~ 0.6	2.8	7.59	29.98	26.09	Dredge stopped. Too shall Surface Measurement only
	1230	41° 39.948	070° 55.091	2.4	0.73	4.0	7.59	29.99	26.20	Dredge Started. Surface Measurement
	1245	41° 39.948	070° 55.090	2.4	0.73	11.1	7.42	30.06	26.18	Dredge restarted. Surface Measurement
	1255	41° 39.948	070° 55.094	2.3	0.677	6.3	7.45	30.13	26.10	Debris removal stopped Dredge continued. Surface sa
300 ft S Ref Flood	1350	41° 39.817'	070° 55.009	8.0	1.551	2.4	7.49	30.09	26.16	Reference Flood
					3.510	2.8	7.16	30.46	24.96	
					5.110	3.6	6.92	30.87	24.41	
					6.897	4.4	6.54	31.07	24.00	

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-09-D-0001

WOODS HOLE GROUP

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

Dredging Location	NEW BEDFORD HARBOR
Dredging Description	DREDGING + Debris Removal
Survey Vessel	George Hampson
Chief Scientist	DACK Stuart / Dave Walsh
Sampling Technician	PATRICK CUTTAN
Vessel Captain	DAN Rogers
Other Personnel	NA
Weather Conditions	Sunny / 40% Cloud cover / wind 5-10 kts NNW / seas <1 ft

Date	7/3/12
Page	3 of 3

Tide Information	
High	0802
Low	0148
High	2031
Low	1327

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300 Ft N of inactive dredge	1410	41° 40.064'	070° 55.063'	4.6	1.557	8.3	7.14	30.27	25.98	Dredge + Debris removal inactive
+ Debris removal	⊥	⊥	⊥	⊥	2.602	8.2	6.84	30.39	25.67	⊥
⊥	⊥	⊥	⊥	⊥	3.465	8.6	6.43	30.58	24.98	⊥
300 ft N of Active Debris Removal	1445	41° 40.064'	070° 55.064'	4.8	2.223	6.5	7.76	30.27	26.27	Debris Removal Start.
300 ft N of inactive Debris removal	1450	41° 40.067	070° 55.061	4.8	2.226	5.5	7.76	30.28	26.25	Debris Removal Stop
300 ft N of Active Debris Removal	1505	41° 40.070	070° 55.062	4.9	2.240	3.7	7.57	30.34	25.94	Debris Removal Start
⊥	1520	⊥	⊥	5.0	2.193	3.1	8.09	30.20	26.26	Sporadic start/stops
⊥	1522	⊥	⊥	5.0	3.564	4.3	6.78	30.57	25.11	
⊥	1535	⊥	⊥	5.1	1.480	3.0	7.73	30.10	26.51	END OF Monitoring
										Debris Removal
										Stopped. No dredging

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-09-D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 7.5.12

Weather: Sunny, warm, winds light & variable

Tides:

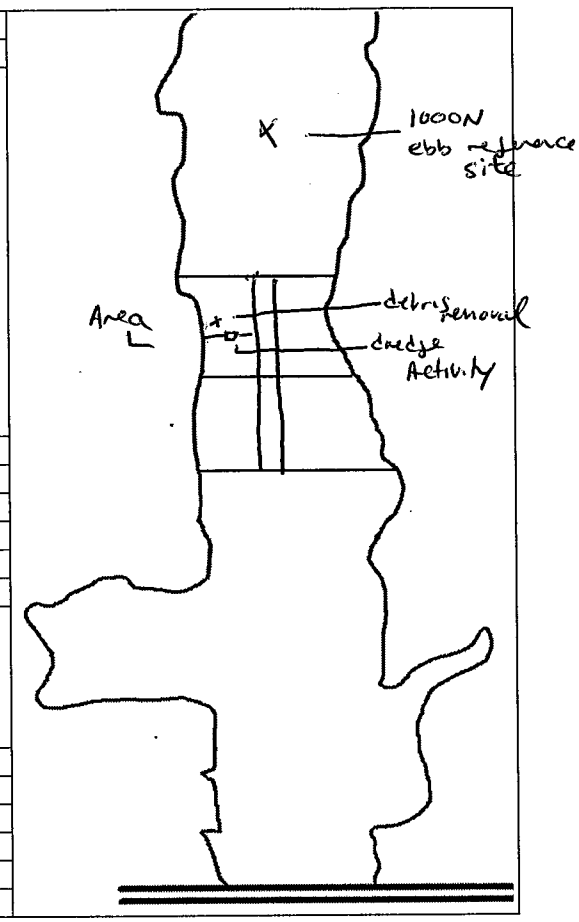
L	@	0325
H	@	0946
L	@	1576
H	@	22:11

Monitoring Period:

From: 0830 To: 1600

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

Dredging Activity:
Debris and dredging activity in Area L



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000N	2.2-27	6.22-7.56	1.3-4.3
300' S of Activity	1.8-12.5	6.57-8.67	1.3-5.06

Oil Sheen/Debris: Light sheen visible @ 1530 onwards

Wildlife Observations: Tern, gulls, bait fish

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)		Turbidity (1L)	
Total PCB (2x 1L)		Dissolved PCB (2x 1L)	NONE
Toxicity (2x 10L)	NONE	Metals (500ml)	
TOC (2x 40mL)			

Notes:
Visible sheen was noted south of area L @ ~1530 boom seemed to contain sheen as none was visible upon transit out of area. Debris removal was producing a strong sulfur odor at times

Sampling Crew: EGH, DJR

Chief Scientist Signature:

WOODS HOLE GROUP

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

Dredging Location	Area L ≈ 300'N of 41 39.958, 070 55.080
Dredging Description	bridge & debris removal
Survey Vessel	George Hampson
Chief Scientist	E. Hasbrouck
Sampling Technician	DJR / EGH
Vessel Captain	D. Rogers
Other Personnel	—
Weather Conditions	warm, sunny, breeze light & variable

Date: 7. 5. 12
Page: of

Tide Information	
High	0946
Low	1516
High	2211
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000N	1301	41 40.289	070 55.009	6.0	1.3	2.5	7.01	30.00	26.41	
		↓	↓		3.2	2.2	6.88	30.21	26.07	
					4.3	2.7	6.22	30.92	25.48	
300 S of	1320	41 39.958	070 55.080	5.7	1.4	2.5	7.56	29.74	26.56	
activity in	1320				~~3.60~~	~~3.59~~				
Area L	1320	↓	↓		3.60	6.9	7.40	30.01	26.07	
	1320				5.06	8.1	6.57	31.14	24.68	
	1320				1.58	6.6	6.99	29.81	26.43	
	1330				1.3	4.4	7.52	29.82	26.57	
	1335				1.4	4.8	7.55	29.79	26.70	
	1340				1.35	1.8	7.52	29.78	26.69	
	1345				1.43	2.9	7.58	29.89	26.52	
	1355				1.46	2.7	7.83	29.77	26.72	Strong sulfur odor
	1430				1.48	12.5	7.80	29.84	26.53	
					1.48	2.9	7.66	29.92	26.79	

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W9GWL-090D-0001

WOODS HOLE GROUP

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

Dredging Location	Area L
Dredging Description	Debris & Dredge
Survey Vessel	George Henfsson
Chief Scientist	EGH
Sampling Technician	—
Vessel Captain	DJR
Other Personnel	—
Weather Conditions	Sunny, warm, winds light & variable

Date	7.5.12
Page	2 of 2

Tide Information	
High	0946
Low	1516
High	2211
Low	

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300'S of	1450	41 39.958	070 55.080	5.7	1.48	3.2	7.47	29.94	26.73	
activity	1500				1.49	2.1	7.36	29.80	26.59	
	1525				1.49	4.0	7.99	30.00	26.76	
	1540	41 39.960	070 55.087	4.5	1.48	4.0	8.17	29.96	26.90	visible sheen
	1555				1.52	7.8	8.67	29.91	27.03	

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WJ-09-D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 7/9/2012

Weather: Sunny / 50% Clouds / 5-10 N wind / Seas <1 ft

Tides:

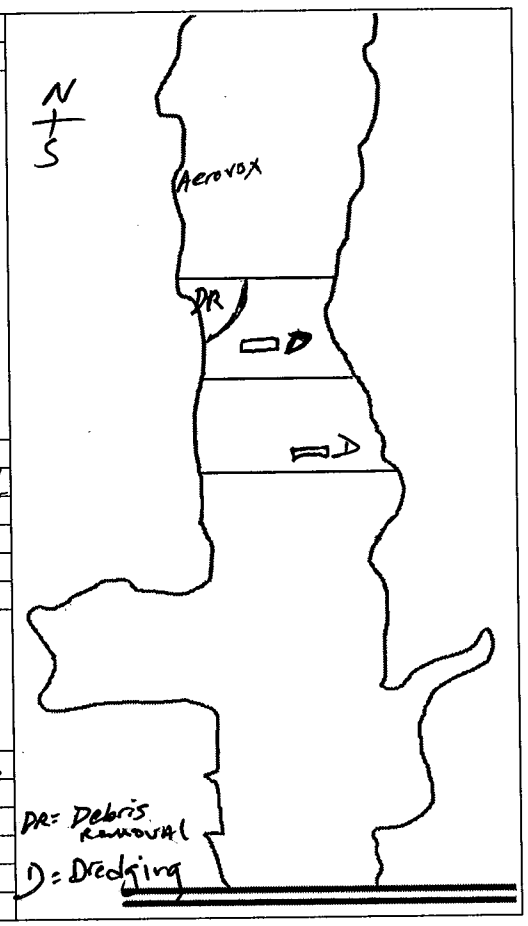
High	@	12:39
Low	@	05:57
High	@	13:07
Low	@	18:34

Monitoring Period:

From: 0852 To: 16:00

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:
Dredge + Debris Removal. Sporadic. Debris Removal close to shoreline. Double boom deployed because it is a highly contaminated area. @1130 - All Activity stop. / @1140 Debris removal start again.



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Flood Ref	1.0-5.7	6.06-6.61	1.2-6.4
300' N of D+DR	17.8-19.7	6.05-6.31	1.747-4.853
300' N of D+DR	4.3-12.5	6.31-6.70	1.301-4.788
Ebb Ref	2.2-4.9	6.40-10.23	1.439-6.5
300' South of D	1.2-5.4	6.99-8.45	1.502-6.596

Oil Sheen/Debris:
No sheen

Wildlife Observations:
Sea Gull, Tern, Cross shrimp, fish (Bunker) (1) Fish swimming in circles @ surface

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)		Turbidity (1L)	
Total PCB (2x 1L)		Dissolved PCB (2x 1L)	
Toxicity (2x 10L)		Metals (500ml)	
TOC (2x 40mL)			

Notes: D = Dredging
DR = Debris Removal

@1130 - All Activity stopped. @ 1140 DR start.
1215 - DR stop.

Sampling Crew: Dan Rogers / Patrick Curran

Chief Scientist Signature:

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor
Dredging Description	Debris Removal / Dredging
Survey Vessel	George Hampson
Chief Scientist	Dave Walsh
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	Sunny / 40% clouds / 5-10 Kts N / <1 ft seas

Date: July 9th, 2012
Page: 1 of 3

Tide Information	
High	12:39 AM
Low	05:57 AM
High	1:07 PM
Low	6:34 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000' At South Ref	0852	41° 39.721'	070° 55.016	8.1	1.176	1.0	6.61	31.32	25.13	
					3.565	2.0	6.18	31.40	25.07	
					5.533	3.6	6.10	31.42	25.05	
					6.409	5.7	6.06	31.41	25.05	
300' N of DR+D	0901	41° 40.085	070° 55.067	5.5	1.747	17.8	6.21	30.93	25.38	
					2.616	16.9	6.14	30.93	25.38	
					4.853	19.7	6.05	30.94	25.37	
300' N of DR+D	1020	41° 40.084	070° 55.068	6.8	4.781	12.5	6.31	31.06	25.21	
					2.28	4.3	6.69	30.96	25.42	
					1.301	4.4	6.70	30.95	25.43	
300' N of DR+D	1120	41° 40.085	070° 55.068	7.6	2.1	5.5	6.98	31.08	25.50	
					5.801	4.5	6.53	31.21	25.29	
					1.296	3.7	6.89	31.10	25.54	
300' N of DR	1205	41° 40.086	070° 55.064	8.2	1.276	2.6	7.53	31.07	25.89	
					2.945	2.8	7.38	31.16	25.68	

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor
Dredging Description	Debris Removal + Dredging
Survey Vessel	George Hampson
Chief Scientist	Dave Winch
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	Sun / 50% Clouds / 5 Kts N / <1 ft seas

Date 7/9/12
Page 2 of 3

Tide Information	
High	1239 AM
Low	05:57 AM
High	1:07 PM
Low	6:34 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300'N of DR (cont)	1205	41 40.086	070 55.064	8.2	5.081	6.3	6.58	31.31	25.28	
300'N of D	1237	41 39.968	070 54.996	4.5	1.998	3.4	7.41	30.94	26.09	Repositioned
					3.5	4.4	6.72	31.38	25.38	
1000 FT N Ebb ref	13:15	41 40.285	070 55.009	8.0	1.439	2.2	10.23	30.21	26.85	
					3.502	3.5	8.73	30.97	25.91	
					6.5	4.9	6.40	31.22	25.50	
300 FT S of D	13:35	41 39.831	070 54.977	8.1	1.502	1.2	8.45	31.37	26.19	Not actively Dredging
					3.334	4.0	7.89	31.51	25.53	
					6.596	5.4	6.99	31.54	25.16	
	1440	41 39.832	070 54.975	7.5	1.597	2.2	8.77	30.95	26.63	Active Dredging
						13.3	7.56	31.39	26.77	
						6.1	6.60	31.53	25.29	

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor
Dredging Description	Debris Removal / Dredging
Survey Vessel	George Hampson
Chief Scientist	Dave Walsh
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	N/A
Weather Conditions	Sunny / 35% Cloud / 5-10 Kts / <1 ft seas

Date	7/9/12
Page	3 of 3

Tide Information	
High	1239 AM
Low	0537 AM
High	1:07 PM
Low	6:34 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
30' South of Dredge	1517	41 39.936	070 55.070	7.3	1.449	1.9	10.70	30.68	27.00	Dredge Relocated
					3.007	1.6	9.08	31.22	25.9	INACTIVE
						3.6	7.27	31.42	25.24	

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-090D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 7/12/2012

Weather: Sunny / 20% Cloud / 5 Kts S / <1ft seas

Tides:

High	@	3:06 AM
High	@	3:38 PM
Low	@	8:21 AM
Low	@	10:12 PM

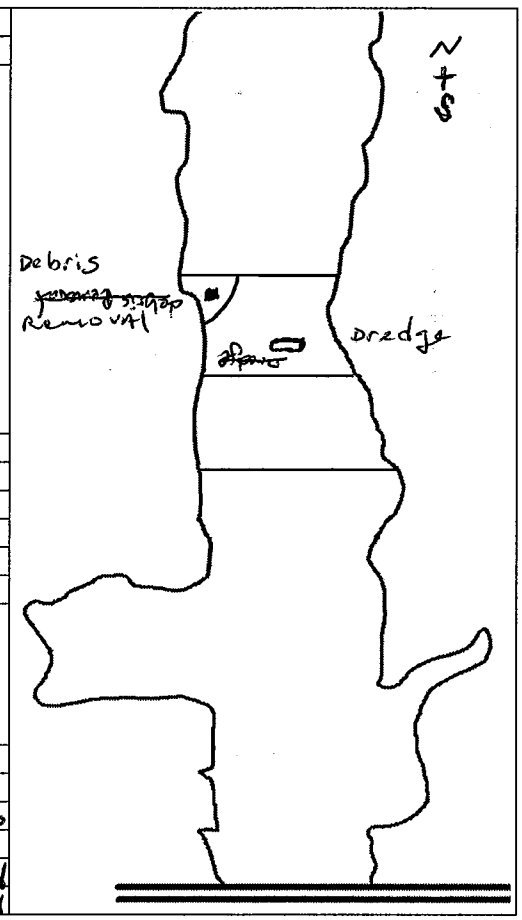
Monitoring Period:

From: 8:53 AM To: 1630

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

- Debris Removal + Dredge in Area L.
- Monitoring @ Aerovox site while sonic drilling



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Flood Ref	0.4 - 7.2	6.02 - 8.26	1.312 - 5.442
300 ft N of DR/D	2.3 - 17.4	5.95 - 8.73	1.101 - 4.667
300 ft N Monitor	7.1 - 7.7	8.03 - 8.31	1.467 - 4.913
300 ft N Monitor	7.6 - 9.2	8.79 - 9.34	1.317 - 5.100
Aerovox	surface / 3.2 - 4.0	/ 9.91 - 1.91	/
EBB REF	5.1 - 6.1	10.96 - 11.25	1.267 - 6.416
300 ft EBB S	3.1 - 5.0	7.47 - 8.17	1.473 - 8.804

Oil Sheen/Debris:

None

Wildlife Observations:

Seagull, tern, small fish

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L) WQ-TSS (001-004)	Turbidity (1L) WQ-TUR (001-004)
Total PCB (2x 1L) WQ-TPC (001-004)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL) WQ-TOC (001-004)	

Notes: Level II samples collected. All buoy data downloaded to handheld YSI.

Sampling Crew: Patrick Curran, Charlie (TG&B)

Chief Scientist Signature:

WOODS HOLE GROUP

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

Dredging Location	NEW BEDFORD HARBOR
Dredging Description	Debris Removal / Active Dredging
Survey Vessel	TG&B Coring Carolina
Chief Scientist	Dave Walsh
Sampling Technician	PATRICK CURRAN
Vessel Captain	Charlie
Other Personnel	NA
Weather Conditions	Sunny / 40% cloud cover / <5 KTS SW / Seas <1 FT

Date	7/12/12
Page	1 of 2

Tide Information	
High	3:06 AM
Low	8:21 AM
High	3:38 PM
Low	10:12 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Flood REF 1000 FT S	0853	NO GPS*	NO GPS*	8.501	1.312	0.4	8.26	30.12	26.58	Flood REF
					3.431	2.5	6.42	31.25	25.93	SAMPLES
					5.442	3.9	6.16	31.42	25.69	⊥
					7.421	7.2	6.02	31.49	25.72	SAMPLE DEPTH
300 ft N DR/D	1055			5.041	1.101	2.3	8.73	30.52	26.70	300 FT N of DR/D
					2.770	17.4	6.35	31.08	26.30	Flood Samples
					4.007	15.6	5.95	31.26	26.14	⊥
300 ft N/Monitoring	12:15			5.8	1.467	7.1	8.31	30.91	26.82	Monitoring DR/D
					3.228	7.7	8.24	30.92	26.76	⊥
					4.913	7.6	8.03	30.95	26.73	⊥
				6.3	1.317	7.6	9.30	31.11	27.14	Monitoring Dredge
					3.241	7.8	9.34	31.11	27.18	⊥
					5.100	9.2	8.79	31.11	27.05	⊥

* GPS was needed for Aerovox sonic Drilling.

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor
Dredging Description	Aerovox Drilling / Dredge + Debris Removal
Survey Vessel	Carolina Corer (TG&B)
Chief Scientist	Dave Walsh
Sampling Technician	Patrick Cussan
Vessel Captain	Charlie Perry
Other Personnel	NA
Weather Conditions	Partly Cloudy / 5-10 kts S / <1 ft sea / wind increase 10-15 kts S

Date	7/12/12
Page	2 of 2

Tide Information	
High	3:06 AM
Low	~~8:21 PM~~ 8:21 AM
High	3:38 PM
Low	10:12 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Aerovox site	1350	NO GPS	NO GPS	NA	surface	3.4	11.91	30.11	23.1	Transect
⊥	1415	⊥	⊥	NA	surface	4.0	9.91	30.01	24.3	Transect } underway
⊥	1430	⊥	⊥	NA	surface	3.2	10.20	30.21	24.0	Transect
300 ft N of DR/D	1455	NO GPS	NO GPS	6.9	1.091	6.8	9.73	31.15	27.28	MONITORING
⊥	⊥	⊥	⊥	⊥	3.852	7.2	9.26	31.18	27.18	⊥
⊥	⊥	⊥	⊥	⊥	6.005	8.5	8.58	31.27	26.93	⊥
EBB REF / 1050 ft EBB N	1600	NO GPS	NO GPS	7.439	1.287	5.1	10.99	30.89	27.88	EBB REF
⊥	⊥	⊥	⊥	⊥	2.751	5.4	10.96	30.85	27.85	
⊥	⊥	⊥	⊥	⊥	4.529	6.1	11.25	30.93	27.79	
⊥	⊥	⊥	⊥	⊥	6.416	8.4	11.63	31.06	27.61	SAMPLE DEPTH
300 ft EBB S	1630	NO GPS	NO GPS	9.107	1.473	3.6	8.08	31.39	26.97	EBB SAMPLE / 300 ft
⊥	⊥	⊥	⊥	⊥	4.001	3.1	8.17	31.43	26.89	
⊥	⊥	⊥	⊥	⊥	8.801	5.0	7.47	31.44	26.63	SAMPLE DEPTH

WOODS HOLE GROUP

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 19 July 2012

Weather: 95% Clouds / Wind South @ 0-5 kts / <1 ft seas

Tides:

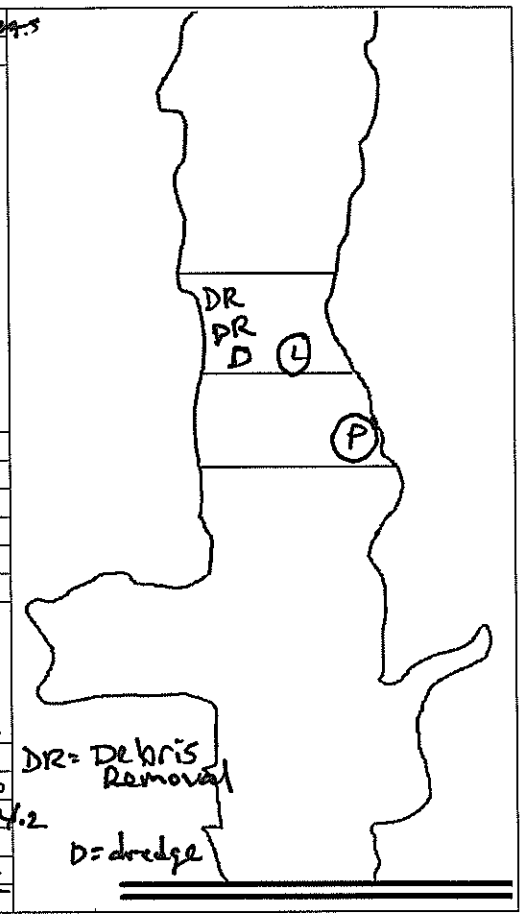
High	@	0845
Low	@	1418
High	@	2056
	@	

Monitoring Period:

From: 0850 To: 1600

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

Dredging Activity:
Debris Removal in Area L. ~~No dredging activity.~~ Dual excavators in Area L. Dredging started in afternoon.



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000 South	3.4-4.4 ~~1.583-5.585~~	5.69-5.73	1.6-5.6
300 N of DR	2.6-8.5	5.06-5.28	0.6-7.1
300 S of DR	7.0-18.1	4.53-6.0	1.2-3.8
1000 Ebb Ref	1.8-3.1	3.63-5.85	0.5-4.2
300 South of DR	17.2	6.37	1.5
1000 South	6.1-8.5	4.04-7.59	0.9-5.7
300 N of DR+D	4.9-8.5	5.27-8.42	1.6-3.5

Oil Sheen/Debris:
Slight sheen south of Area L outside of boom. Sheen North of DR+D

Wildlife Observations:
Terns, Seagull, small minnows (silversides), Menhaden

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes:
- Bouy servicing day
- Double boom set up around Area L

Sampling Crew: Patrick Curran, Dan Rogers

Chief Scientist Signature:

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor Area L
Dredging Description	Debris removal
Survey Vessel	George Hampson
Chief Scientist	Dave Walsh
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	100% Cloud / Variable wind <5 kts / seas <1 ft / rain

Date	19 July 2012
Page	1 of 2

Tide Information	
High	~~0844~~ 0845
Low	1410
High	20:56
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000 ft flood/slack ref	0850	41° 39.720	070° 55.015	9.7	1.583	3.4	5.73	31.80	26.35	
South					3.504	3.7	5.69	31.82	26.36	
					5.585	3.4	5.67	31.83	26.35	
					8.228	4.4	5.58	31.84	26.34	
300 ft N of DR*	0901	41° 40.088	070° 55.084	8.1	0.634	2.6	5.10	31.04	26.75	
					4.017	4.3	5.28	31.49	26.69	
					7.130	8.5	5.06	31.64	26.67	
300 ft S of DR				6.4	1.199	7.0	6.00	30.57	27.10	
					2.590	12.5	5.19	30.84	26.91	
					3.755	18.1	4.53	30.79	26.90	
1000' Ebb REF	1115	41° 40.289'	070° 55.010	6.0	0.564	3.1	5.85	30.24	28.04	
					2.001	3.2	6.81	30.43	27.83	
					4.244	1.8	3.63	31.22	27.03	

* Debris Removal + 2 excavators

WOODS HOLE GROUP

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

Dredging Location	NEW Bedford Harbor
Dredging Description	Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Dave Walsh
Sampling Technician	PATRICK CURRAN
Vessel Captain	DAN Rogers
Other Personnel	NA
Weather Conditions	95% clouds / 0-5 kts S / <1ft sea

Date	19 July 2012
Page	2 of 2

Tide Information	
High	0845
Low	1410
High	2056
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300 South of DR	1323	41° 39.922	070° 55.087	2.4	1.5	17.2	6.37	30.43	28.03	shallow
1000 S, Flood Rd	1433	41° 39.728	070° 55.017	7.1	0.999	6.1	7.59	30.60	27.84	
⊥	⊥	⊥	⊥	⊥	3.182	9.2	~~8.78~~ 4.81	31.03	27.15	
⊥	⊥	⊥	⊥	⊥	5.721	8.5	4.04	31.45	26.55	sheen on water
300 N of DR+D	1445	41° 40.098	070° 55.082	4.7	1.643	5.8	8.42	30.37	28.31	
⊥	⊥	⊥	⊥	⊥	2.597	4.9	6.76	30.67	28.09	
⊥	⊥	⊥	⊥	⊥	3.524	8.5	5.27	31.07	27.63	
300 N of DR+D	1515	41° 40.098	070° 55.081	4.7	3.505	6.5	4.51	30.72	28.16	
⊥	⊥	⊥	⊥	⊥	2.341	7.9	7.70	30.44	28.42	
⊥	⊥	⊥	⊥	⊥	0.848	6.6	9.46	30.42	28.46	
300 N of DR+D	1545	41° 40.097	070° 55.082	4.8	0.851	9.7	8.75	30.58	28.28	
⊥	⊥	⊥	⊥	⊥	2.323	9.8	8.26	30.60	28.24	
⊥	⊥	⊥	⊥	⊥	3.980	12.2	4.69	30.78	28.09	sensor hit bottom

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-09-D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 20 July 2012

Weather: 100% cloud/Rain/wind variable/<1 ft sea

Tides:

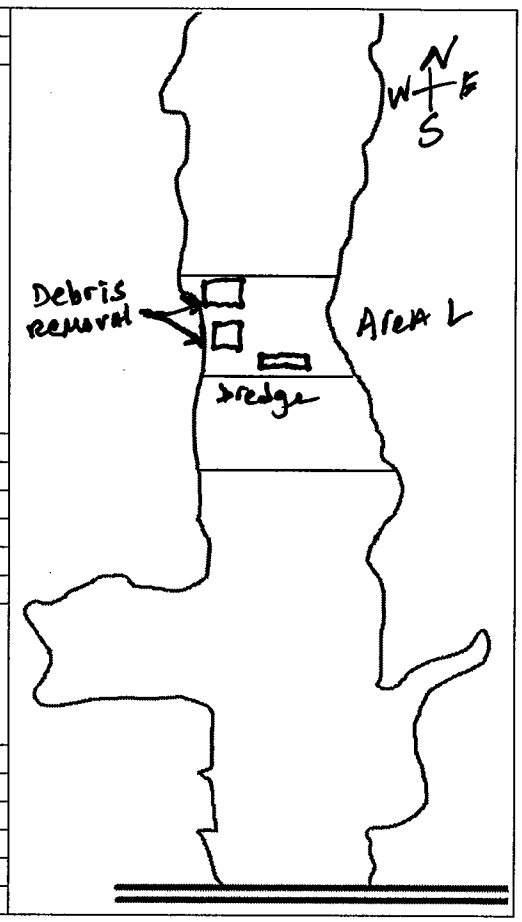
High	@	0926
Low	@	1454
High	@	2136
	@	

Monitoring Period:

From: 0700 To: 1500

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

Dredging Activity:
Dredging + Debris Removal in area L
Two excavators in use along western shoreline.



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000'S	4.1-5.0	5.55-5.64	0.8-7.3
300'N of D+DR	1.3-10.9	5.0-5.54	0.5-5.4
1000'N	0.9-5.7	4.04-7.48	0.6-7.2
300'S of D+DR	10.5-18.5	4.48-5.73	0.9-4.4
300'S of D+DR	7.8-18.9	4.44-5.10	0.5-4.2
300'S of D+DR	3.4-7.1	4.72-7.03	0.5-4.2
300'S of D+DR	1.9-24.2	5.23-7.96	0.6-7.2

Oil Sheen/Debris:
~~Dark~~ Sheen observed on EBB tide along with small amount of debris (plastic)

Wildlife Observations:
Tern, Seagull, cormorant, menhaden, minnows

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes:

Sampling Crew: Patrick Curran, Dan Rogers

Chief Scientist Signature:

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor
Dredging Description	Dredging & Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Dave Walsh
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	100% Cloud cover / Rain / <5 kts S / <1 ft seas

Date	20 July 2012
Page	1 of 3

Tide Information	
High	0926 AM
Low	1454 PM
High	0936 PM
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000 South Ref	0730	41° 39.724'	070° 55.018	8.6	0.821	4.1	5.64	31.54	25.94	Ref flood
⊥	⊥	⊥	⊥	~~3.618~~	3.618	5.0	5.59	31.56	25.95	
⊥	⊥	⊥	⊥		7.258	4.3	5.55	31.57	25.95	
300 N of D+DR	0743	41° 40.098	070° 55.053	6.0	0.518	1.2	5.85	30.41	26.12	Flood
⊥	⊥	⊥	⊥	⊥	2.965	2.6	5.54	31.01	25.95	
⊥	⊥	⊥	⊥	⊥	5.447	10.9	5.00	31.22	26.08	
⊥	0836	41° 40.092'	070° 55.058	7.9	0.551	1.3	5.35	30.30	25.74	Flood
⊥	⊥	⊥	⊥	~~[illegible]~~	3.146	3.5	5.06	31.18	25.89	
⊥	⊥	⊥	⊥		6.768	8.9	4.72	31.29	25.94	
⊥	0925	41° 40.091'	070° 55.057'	8.7	0.701	2.1	5.35	30.84	25.80	Slack tide
⊥	⊥	⊥	⊥	⊥	3.601	4.2	4.95	31.37	25.99	
⊥	⊥	⊥	⊥	⊥	7.832	10.7	4.53	31.04	25.99	
1000 N Ref	0943	41° 40.286'	070° 55.012'	8.3	0.563	0.9	7.48	29.57	26.28	
⊥	⊥	⊥	⊥	⊥	3.370	1.4	6.33	30.32	26.13	
⊥	⊥	⊥	⊥	⊥	7.190	5.7	4.04	31.22	26.13	

2 excavators in use for debris removal

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor
Dredging Description	Debris Removal + Dredging
Survey Vessel	George Thompson
Chief Scientist	Dave Walsh
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	100% Clouds / Rain / 5 kts S / <1 ft seas

Date	20 July 2012
Page	2 of 3

Tide Information	
High	0926 AM
Low	1454 PM
High	0936 PM
Low	

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300 ft South of D+DR	0956	41° 39.922'	070° 55.094'	5.9	0.976	10.5	5.73	30.87	25.89	Ebb / Sheen
⊥	⊥	⊥	⊥	⊥	2.2	16.1	4.80	31.31	26.01	Dredge + Debris
⊥	⊥	⊥	⊥	⊥	4.470	18.5	4.48	31.39	26.03	Removal
300' South of D+DR	1055	41° 39.928	070° 55.089	5.7	0.524	8.3	5.05	30.98	25.94	Sheen on Surface
⊥	⊥	⊥	⊥	⊥	2.137	7.8	5.10	30.94	25.97	
⊥	⊥	⊥	⊥	⊥	4.223	18.9	4.44	31.41	25.94	
⊥	1157	41° 39.923	070° 55.079'	5.3	0.575	3.7	7.03	30.43	26.13	Sheen on Surface
⊥	⊥	⊥	⊥	⊥	2.273	4.4	5.45	31.13	26.11	
⊥	⊥	⊥	⊥	⊥	4.237	7.1	4.72	31.39	26.05	
⊥	1255	41° 39.920	070° 55.081'	4.0	0.628	1.9	7.96	30.49	26.27	Sheen on Surface
⊥	⊥	⊥	⊥	⊥	1.874	13.7	6.30	30.74	26.37	
⊥	⊥	⊥	⊥	⊥	3.271	24.2	5.23	30.93	26.32	
⊥	1355	41° 39.920	070° 55.080	3.4	0.712	5.4	8.23	30.41	26.19	
⊥	⊥	⊥	⊥	⊥	1.683	9.1	7.24	30.59	26.32	
⊥	⊥	⊥	⊥	⊥	2.556	10.8	4.94	30.73	26.31	

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WY-090D-0001

WOODS HOLE GROUP

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

Dredging Location	NEW BEDFORD HARBOR
Dredging Description	Debris Removal & Dredging
Survey Vessel	George Humpson
Chief Scientist	Dave Walsh
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	100% clouds/Rain/wind variable/<0.5 ft seas

Date	20 July 2012
Page	3 of 3

Tide Information	
High	0926
Low	1454
High	2136
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300' South of D+DR	1500	41° 39.923	070° 55.081	3.1	0.631	8.3	~~40.7~~ 6.89	30.78	26.24	Sheen on Surface
⊥	⊥	⊥	⊥	⊥	2.275	11.0	5.23	30.79	26.26	

WOODS HOLE GROUP

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: Wednesday July 25th, 2012

Weather: NW 5-10 Kts / Sunny / ~1 ft Seas

Tides:

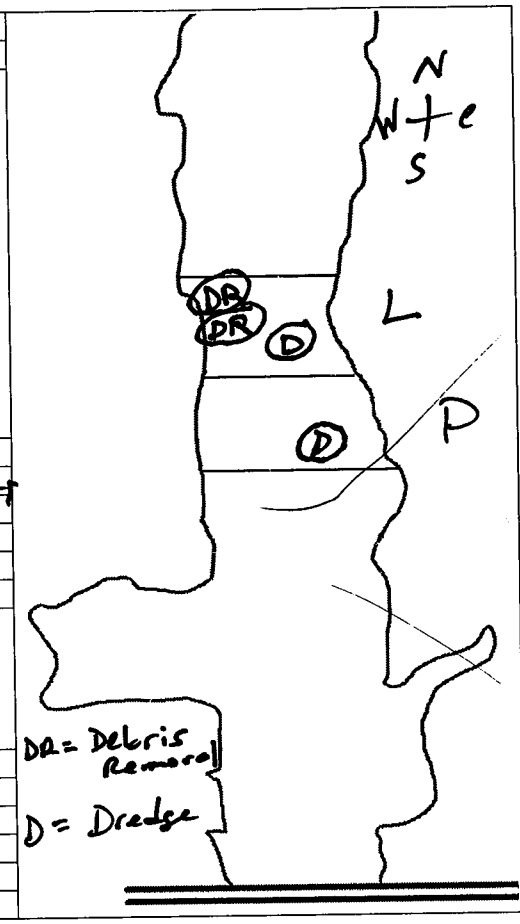
High	@	12:46 AM
Low	@	6:06 AM
High	@	1:22 PM
Low	@	6:54 PM

Monitoring Period:

From: 0750 To: 1600

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

Dredging Activity:
Dredging + Debris Removal in area L. Two excavators in use in Area L. Debris removal is along shoreline (western). Dredging was conducted in Area P for a very short time.



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
50' South / Flood Ref	1.2-6.5	5.57-6.49	0.4-7.8
300' N of DR+D	3.2-16.7	4.6-5.38	0.2-4.3
1000' N / Ebb Ref	5.5-6.5	6.59-10.50	0.8-7.8
300' S of Dredge	1.6-4.8	6.72-8.01	0.7-5.9
300' S of DR+D	5.4-10.1	5.83-7.41	0.5-5.6

Oil Sheen/Debris:
No sheen detected

Wildlife Observations:
Terns, Seagull, Minnows, Cormorant, Menhaden

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes: Debris Removal taking place on western shoreline of Area L

Sampling Crew: Patrick Curran / Dan Rogers

Chief Scientist Signature: PATC

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor, MA
Dredging Description	Debris Removal (2 excavators) + Dredging
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Dan Rogers
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	NW 5-10kts / 0% cloud / <1 ft seas

Date: 25 July 2012
Page: 1 of 3

Tide Information	
High	12:46 AM
Low	06:06 AM
High	01:22 PM
Low	06:54 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Flood Ref	0752	41° 39.731	070° 55.020	9.4	0.429	1.4	6.49	30.41	24.90	
1000' South	⊥	⊥	⊥	⊥	3.018	1.2	6.44	30.48	24.94	
					7.797	6.5	5.57	30.76	25.25	
Flood / 300' N	0815	41° 40.081	070° 55.082	5.1	0.352	3.2	5.38	30.34	25.06	
of DR+D	⊥	⊥	⊥	⊥	2.213	4.6	4.74	30.38	25.14	
					4.321	16.7	4.60	30.40	25.17	
	0920	41° 40.074	070° 55.079	5.4	0.309	7.0	4.98	30.24	25.08	
	⊥	⊥	⊥	⊥	2.247	6.5	5.02	30.23	25.05	
					3.312	8.1	4.63	30.35	25.10	
					4.413	11.2	4.58	30.37	25.11	
	1024	41° 40.072	070° 55.078	6.4	0.409	4.8	6.27	30.30	25.24	
	⊥	⊥	⊥	⊥	2.5	5.5	6.34	30.32	25.20	
					5.121	11.0	6.20	30.34	25.15	
	1120	41° 40.075	070° 55.075	7.0	0.315	5.5	6.46	30.21	25.47	
⊥	⊥	⊥	⊥	⊥	5.134	12.2	5.84	30.44	25.21	

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WY-0900-0001

WOODS HOLE GROUP

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

Dredging Location	NEW Bedford Harbor, MA
Dredging Description	Dredging + Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	Sunny / 5-10 KH NW / <1 ft seas / Becoming Partly Cloudy

Date	25 July 2012
Page	2 of 3

Tide Information	
High	12:46 AM
Low	6:06 AM
High	1:22 PM
Low	6:54 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300' N of D+DR	1200	41° 40.074	070° 55.074	8.0	0.236	8.2	6.01	30.41	25.44	Flood
North	⊥	⊥	⊥	⊥	3.316	6.4	6.13	30.42	25.45	
	⊥	⊥	⊥	⊥	7.113	8.4	5.72	30.70	25.20	
	1322	41° 40.098	070° 55.130	6.2	0.297	9.6	5.48	30.45	25.89	SLACK
	⊥	⊥	⊥	⊥	2.471	13.4	5.38	30.58	25.60	
	⊥	⊥	⊥	⊥	5.219	14.1	4.95	30.88	25.20	
1000' N / Ebb REF	1340	41° 40.280	070° 55.004	9.1	0.861	5.5	10.08	30.03	25.96	Ebb Reference
⊥	⊥	⊥	⊥	⊥	3.312	5.7	10.50	30.02	25.90	
	⊥	⊥	⊥	⊥	7.811	6.5	6.59	30.42	25.59	
300' S of Dredge	1355	41° 39.819	070° 54.947	7.8	0.773	1.6	8.01	30.74	25.64	Ebb
Area P	⊥	⊥	⊥	⊥	3.251	1.9	7.45	30.87	25.57	
	⊥	⊥	⊥	⊥	5.931	4.8	6.73	31.12	25.40	
300' S of DR+D	1420	41° 39.909	070° 55.086	6.7	0.485	5.4	7.41	30.33	25.95	Ebb
Area L	⊥	⊥	⊥	⊥	2.5	4.9	7.01	30.81	25.74	
	⊥	⊥	⊥	⊥	5.6	10.1	5.83	31.09	25.46	

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report
W912WJ-09-D-0001

WOODS HOLE GROUP

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

Dredging Location	NEW Bedford Harbor, MA
Dredging Description	Dredging + Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	Sunny/20% cloud cover/5-10Kts NW/<1ft seas

Date	25 July 2012
Page	3 of 3

Tide Information	
High	12:46 AM
Low	6:06 AM
High	1:22 PM
Low	6:54 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300's of DR+D	1540	41° 39.904'	070° 55.089	5.9	0.583	6.4	7.76	30.62	26.11	Ebb
					2.321	7.2	7.39	30.65	26.08	
					4.888	17.5	6.19	30.66	26.00	

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WJ-09-D-0001

WOODS HOLE GROUP

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 26 July 2012

Weather: 90% Clouds / 5-15 kts South / <1 ft seas

Tides:

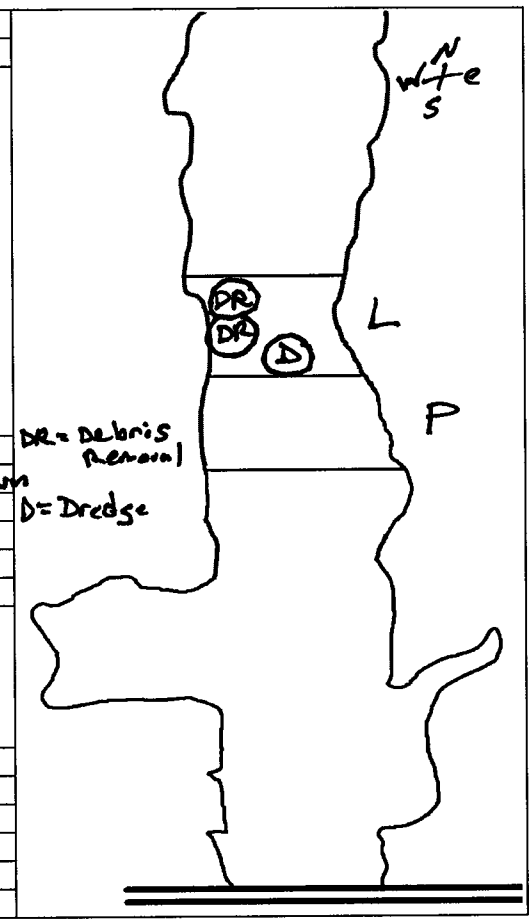
High	@	01:14 Am
Low	@	06:59 Am
High	@	02:19 Pm
Low	@	08:12 pm

Monitoring Period:

From: 0800 To: 1600

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:
Dredging + Debris Removal in Area L. Two Excavators working western shoreline of Area L. Weather stand down @ 11:45-12:15



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000' Flood REF	2.8-19.0	5.25-6.68	0.3-6.9
300' N of DR	18.1-22.4	4.23-5.79	0.4-4.2
300' N of D+DR	5.9-9.6	6.0-6.71	0.4-4.9
300' N of D+DR	7.4-9.2	5.72-5.92	0.4-5.5
1000' Ebb REF	8.0-13.9	5.9-5.94	0.2-8.2

Oil Sheen/Debris:
No sheen detected / small amount of debris observed

Wildlife Observations:
Tern, Cormorant, small fish, sea gull

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L) WQ-TSS-001-0726 Turbidity (1L) WQ-TUR-001-0726

Total PCB (2x 1L) WQ-TPC-001-0726 ~~Dissolved PCB (2x 1L)~~

~~Toxicity (2x 10L)~~ ~~Metals (500ml)~~

TOC (2x 40mL) WQ-TOC-001-0726

Notes: SAMPLES Collected (Level 2)
For: TSS, Total PCB, TOC, Turbidity

Sampling Crew: Patrick Curran, Dan Rogers

Chief Scientist Signature: [signature]

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor
Dredging Description	Dredging + Debris Removal (Area L)
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	90% Cloud / South Wind 5-15 Kts / ~1 ft seas

Date	26 July 2012
Page	1 of 2

Tide Information	
High	01:41 AM
Low	06:59 AM
High	02:19 PM
Low	08:12 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000' Flood REF	0810	41° 39.728	070° 55.009	8.0	0.291	2.8	6.68	30.87	25.06	Flood REF
SOUTH				~~3.606~~	3.606	16.6	5.25	31.18	25.06	
					6.921	19.0	5.35	31.15	25.00	
300' North of DR	0900	41° 40.096	070 55.102	5.3	0.392	18.1	5.79	30.54	25.19	Flood
					2.010	20.5	5.70	30.57	25.16	
					4.225	22.4	4.23	30.57	25.16	
300' N of DR+D	1002	41° 40.096	070° 55.100	6.1	0.391	5.9	6.71	30.66	25.28	Flood
					2.076	5.9	6.70	30.65	25.32	
				~~4.099~~	4.899	9.6	6.00	30.66	25.33	
300' N of DR	1105	41° 40.097	070° 55.103	6.4	0.487	10.5	5.33	30.72	25.29	Flood
					2.541	12.2	5.49	30.72	25.31	
					5.562	15.1	5.52	30.72	25.30	
300' N of DR+D	1235	41° 40.114	070° 55.098	6.4	0.400	24.3	5.83	30.85	25.23	Flood
					3.688	11.6	6.25	30.90	25.19	
					5.851	10.0	6.06	30.94	25.14	

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-090D-0001

WOODS HOLE GROUP

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

Dredging Location	NEW BEDFORD HARBOR AREA 2
Dredging Description	Dredging + Debris removal
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	100% clouds / 5-15 kts SSW / <1 ft seas

Date	26 July 2012
Page	2 of 2

Tide Information	
High	01:41 AM
Low	06:59 AM
High	02:19 PM
Low	08:12 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300' N of DR + D	1400	41° 40.092	070° 55.127	6.6	0.417	7.4	5.92	31.04	25.14	Flood
⊥	⊥	⊥	⊥	⊥	2.412	7.6	5.91	31.04	25.13	
⊥	⊥	⊥	⊥	⊥	5.517	9.2	5.72	31.04	25.14	
1000' N / Ebb Ref	1430	41° 40.289	070° 55.004	9.3	0.212	8.0	5.94	30.78	25.18	EBB REF
⊥	⊥	⊥	⊥	⊥	3.594	8.2	5.90	30.78	25.17	
⊥	⊥	⊥	⊥	⊥	8.186	13.9	5.90	30.85	25.15	
300' S of Dredge	1450	41° 39.914	070° 55.096	7.0	0.129	11.4	5.81	31.22	25.13	EBB
⊥	⊥	⊥	⊥	⊥	3.232	12.0	5.75	31.30	25.13	
⊥	⊥	⊥	⊥	⊥	5.981	10.5	5.78	31.37	25.12	
300' S of DR + D	1540	41° 39.914	070° 55.097	6.7	0.339	10.3	5.77	31.26	25.12	EBB
⊥	⊥	⊥	⊥	~~2.14~~	2.122	11.2	5.77	31.25	25.12	
⊥	⊥	⊥	⊥	⊥	5.7	11.3	5.78	31.31	25.12	

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-09-D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 7/31/12

Weather: Cloudy, low 70's, light breeze, chance of rain

Tides:

L	@	0047
H	@	0653
L	@	1224
H	@	1924

Monitoring Period:

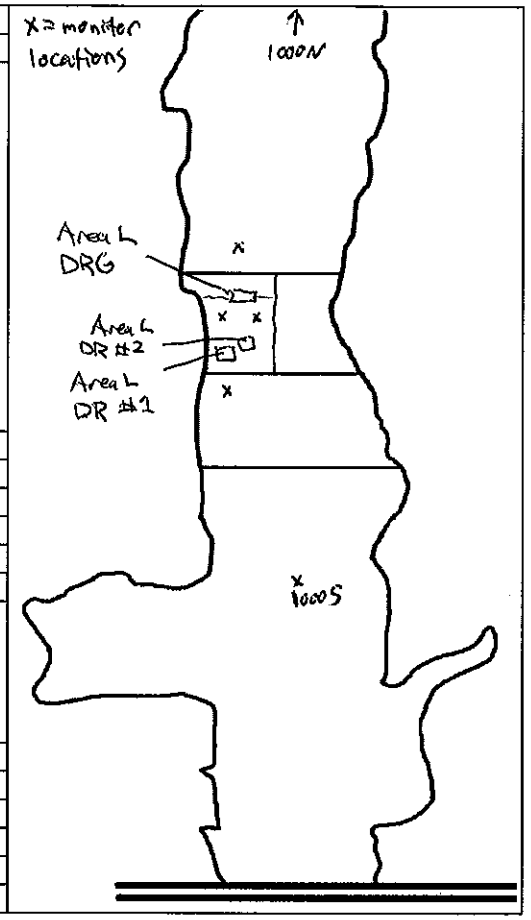
From: 0830 To: 1600

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

Dredging Activity:

AM: Dredging in Area L
Debris removal in Area L (x2)

PM: Dredging in Area L
Debris removal in Area L (x2)



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1500' N of Area L	1.9-10.4	5.3-11.2	1.1-6.1
300' S of Area L DR	6.1-25.7	6.0-10.4	1.1-4.5
250' S of Area L DRG	2.3-43.1	5.2-13.3	1.5-10.7
1000' S of Area P	4.8-6.9	7.5-18.2	1.1-5.0
300' N of L DRG	5.1-22.2	10.5-3.5	1.6-3.6
200' N of L DR x2	5.6-11.1	4.4-11.6	1.6-7.2

Oil Sheen/Debris:

Small plastic + organic debris near Area L DR all contained by booms

Wildlife Observations:

minnows, gulls, terns, Osprey, fish jumping at surface in Area L, cormorant

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)		Turbidity (1L)	
Total PCB (2x 1L)		Dissolved PCB (2x 1L)	
Toxicity (2x 10L)		Metals (500ml)	
TOC (2x 40mL)			

Notes: Two adjacent Debris removal crews in Area L, usually working simultaneously. Dissolved oxygen was highly variable, ranging from 18 mg/L to 3.5 mg/L. Small sheen observed near DR crews was contained by booms. Sediment near CSO has a lot of plastic debris in it, (bottles and trash). Mild H_2S odor from dredge in afternoon. No exceedances observed, no samples

Sampling Crew: D. Stuart, D. Rogers

Chief Scientist Signature: [signature]

WOODS HOLE GROUP

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

Dredging Location	Dredging in Area L
Dredging Description	Debris removal x2 in Area L
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	–
Vessel Captain	D. Rogers
Other Personnel	
Weather Conditions	Cloudy, low 70's, light breeze from S (5-10 knot)

Date	7/31/12
Page	1 of 2

Tide Information	
~~High~~ L	0047
~~Low~~ H	0653
~~High~~ L	1224
~~Low~~ H	1924

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1500' N of Area L	0840	41° 40.289	70° 55.014	7.3	1.11	10.4	11.16	29.01	25.99	Mooring 1000N, ebb
	0841				4.21	1.9	7.11	29.90	24.76	
	0843				6.05	3.3	5.25	30.19	24.68	
300' S of DR x2	0853	41° 39.911	70° 55.101	5.2	1.11	6.1	10.39	27.83	24.96	Ebb
in Area L	0855				3.08	11.3	6.55	29.99	24.74	
	0857				4.54	11.0	6.02	30.41	24.64	
	0910				3.13	11.7	6.32	30.04	24.77	
	0915				3.11	25.7	6.19	29.93	24.82	
	0945				3.14	10.8	6.52	29.86	24.96	
~250' S of Area L	0954	41° 39.988	70° 55.061	11.4	1.46	7.8	13.30	28.88	25.49	
DRG	0956				4.10	2.3	~~9.16~~ 8.01	29.94	24.96	
	0957				7.51	15.9	6.36	30.37	24.66	
	0959				10.72	43.1	5.78	30.40	24.63	Dredging stop at 1010
	1025				9.75	20.3	5.84	30.31	24.68	
	1045				9.76	17.1	5.57	30.29	24.71	Dredging starts at 1045

WOODS HOLE GROUP

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

Dredging Location	Dredging in Area L
Dredging Description	Debris Removal in Area L x2
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	–
Vessel Captain	D. Rogers
Other Personnel	–
Weather Conditions	Cloudy, low 70's, wind from S (5-10 knot), chance of rain

Date	7/31/13
Page	2 of ~~2~~ 2

Tide Information	
~~High~~ L	0047
~~Low~~ H	0653
~~High~~ L	1224
~~Low~~ H	1924

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
~250' South of Area L	1115	41° 39.988	70° 55.061	10.5	9.86	16.4	5.23	30.29	24.71	Ebb
DRG	1145	↓	↓	↓	9.31	17.5	5.35	30.23	24.77	
1000' S of Area P	1248	41° 39.727	70° 55.021	6.7	1.14	4.8	18.19	29.21	26.11	Flood Ref. Flood
↓	1250	↓	↓	↓	3.01	5.5	14.56	29.31	25.91	↓
↓	1253	↓	↓	↓	5.04	6.9	7.47	30.01	24.98	↓
360' N of L Dredge	1302	41° 40.083	70° 55.070	4.7	1.56	5.1	~~12.57~~ 10.51	29.23	26.13	Flood
↓	1305	↓	↓	↓	3.64	15.0	6.27	29.55	25.69	
↓	1325	↓	↓	↓	3.31	6.9	4.66*	29.53	25.84	DO varying between 8.5-6.5
↓	1410	↓	↓	5.1	3.03	22.2	8.48	29.27	25.97	
~200' N of L DR x2	1425	41° 39.999	70° 55.109	8.2	1.60	11.1	11.61	28.85	26.29	Flood
	1429	↓	↓	↓	4.10	5.6	5.30	29.79	25.45	
	1432	↓	↓	↓	7.16	9.8	4.68	29.92	25.17	
	1448	↓	↓	↓	7.06	9.6	4.35	29.95	25.10	H_2S odor from dredge
	1502	↓	↓	↓	7.20	11.1	4.54	29.98	25.03	
	1515	↓	↓	↓	7.20	8.5	4.51	29.93	25.08	

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 8/2/12

Weather: Partly cloudy, high 70's, breeze from S

Tides:

L	@	0217
H	@	0836
L	@	1411
H	@	2102

Monitoring Period:

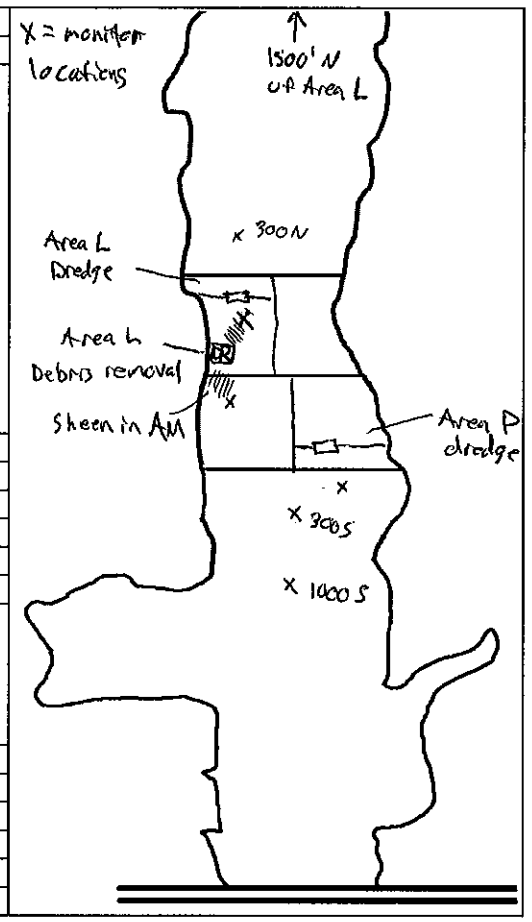
From: 0815 To: 1600

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

AM: Dredging in Area P (sporadic)
Debris removal in Area L

PM: Dredging in Area L
Debris removal in Area L



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1500' ~~30 area~~ N of Area L	1.5-7.3	4.52-6.14	1.5-8.0
300' N of Area L	1.3-12.1	4.96-6.43	1.6-6.1
300' S of DR in Area L	2.4-16.1	4.92-5.58	1.5-5.0
300' S of DRG in P	1.5-15.8	5.12-6.33	1.5-5.1
300' S of DRG in L	5.8-13.9	2.78-3.76	1.5-8.2
1000' S of Area P	4.6-5.7	2.80-14.72	1.5-6.3
300' N of L dredge	5.1-25.2	2.90 14.57	1.1-3.0

Oil Sheen/Debris:

very small sheen patch south of Area L on ebb (outside of booms), moderate sheen in Area L in afternoon

Wildlife Observations:

Osprey feeding, gulls, menhaden, egrets, hawk, cormorant

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes: Remedial dredging in Area P was step and go, and the dredge must move very slowly. Small sheens evident in Area L, coming from the debris removal crew. ~~All~~ Most sheen was contained by booms, but some escaped as they moved a debris removal crew out of Area L. All WQG instruments cleaned and calibrated. No exceedances observed, no samples collected

Sampling Crew: D. Stuart, D. Rogers

Chief Scientist Signature: Duck Stuart

WOODS HOLE GROUP

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

Dredging Location	Dredging in Areas P + L
Dredging Description	Debris removal in Area L
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	-
Vessel Captain	D. Rogers
Other Personnel	
Weather Conditions	Partly cloudy, high 70's, breeze from N

Date	8/2/12
Page	1 of 3

Tide Information	
~~High~~ L	0217
~~Low~~ H	0836
~~High~~ L	1411
~~Low~~ H	2102

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1500' N of Area L	0838	41° 40.287	70° 55.007	9.1	1.49	1.5	6.14	27.13	25.36	Ebb Ref 1000N
	0840				4.11	2.9	5.18	28.91	25.17	
	0842				6.04	5.4	4.94	28.96	25.17	
	0844				7.97	7.3	4.52	28.97	25.19	
300' N of Area L	0959	41° 40.095	70° 55.047	8.1	1.64	1.8	6.43	27.12	25.73	Ebb 300N
	1001				3.11	1.3	5.44	28.91	25.34	
	1003				5.10	12.1	5.46	29.19	25.03	
	1005				6.05	8.2	4.96	29.21	25.00	
300' S of DR in L	1012	41° 39.910	70° 55.088	6.0	1.55	2.4	5.58	27.11	25.53	
	1014				3.23	3.1	5.45	29.15	25.11	
	1016				5.30	16.0	5.06	29.33	25.00	
	1030				5.00	10.4	5.22	29.31	25.01	
	1045			5.5	4.86	16.1	4.92	29.27	25.06	
200' S of P DRG	1100	41° 39.861	70° 54.956	6.0	1.50	1.5	6.33	~~26.78~~ 27.78 DES	25.88	
	1103				3.15	6.6	5.12	29.28	25.10	

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-09-D-0001

WOODS HOLE GROUP

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

Dredging Location	Dredging in Areas P & L
Dredging Description	Debris removed in Area L
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	"
Vessel Captain	D. Rogers
Other Personnel	"
Weather Conditions	Partly cloudy, high 70's, breeze from S

Date	8/2/12
Page	2 of 3

Tide Information	
~~High~~ L	0217
~~Low~~ H	0836
~~High~~ L	1411
~~Low~~ H	2102

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
200' S of DRG in P	1105	41° 39.861	70° 54.956	6.0	5.06	9.6	5.12	29.36	25.07	Ebb
↓	1122	↓	↓	↓	3.28	15.8	5.17	28.98	25.35	↓
↓	1140	↓	↓	↓	3.28	11.4	5.22	28.70	25.30	↓
300' S of Area P	1220	41° 39.823	70° 55.015							300S
300' S of Area L DRG	1322	41° 39.995	70° 55.060	9.3	1.53	5.9	3.76	28.29	25.91	Ebb
↓	1324	↓	↓	↓	3.00	5.8	DGS ~~3.4~~ 3.18	28.47	25.81	↓
↓	1326	↓	↓	↓	5.98	8.1	3.15	28.82	25.51	↓
↓	1328	↓	↓	↓	8.25	13.9	3.62	29.16	25.10	↓
↓	1345	↓	↓	↓	8.16	6.4	3.00	28.88	25.43	↓
↓	1400	↓	↓	↓	8.17	8.6	2.78	28.73	25.56	↓
100' S of Area P	1445	41° 39.727	70° 55.010	6.8	1.49	5.3	14.72	25.48	27.70	Flood Ref, flood
↓	↓	↓	↓	↓	3.20	5.7	DGS ~~5.14~~ 56	27.97	26.03	flood
↓	↓	↓	↓	↓	6.31	4.0	2.80	28.69	25.60	↓
300' N of DRG in	1500	41° 40.101	70° 55.071	4.2	1.06	5.1	14.57	28.62	28.30	↓
Area L	↓	↓	↓	↓	3.03	7.9	3.50	28.02	26.67	↓

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WJ-09-D-0001

WOODS HOLE GROUP

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

Dredging Location	Dredging in Areas L + P
Dredging Description	Debris removal in Area L
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	–
Vessel Captain	D. Rogers
Other Personnel	–
Weather Conditions	Sunny, high 70's, wind from S

Date	8/2/12
Page	3 of 3

Tide Information	
High L	0217
Low H	0836
High L	1411
Low H	2102

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300' N of Area L	1515	41° 40.101	70° 55.071	4.2	2.89	7.2	5.30	27.88	26.55	Flood
Dredge	1525	↓	↓	↓	2.91	25.2	2.90	28.05	26.43	↓
↓	1545	↓	↓	↓	2.89	10.8	3.11	27.81	26.61	↓

WOODS HOLE GROUP

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 7 APR 2012

Weather: 20% cloud / <5kt variable / sea <1ft

Tides:

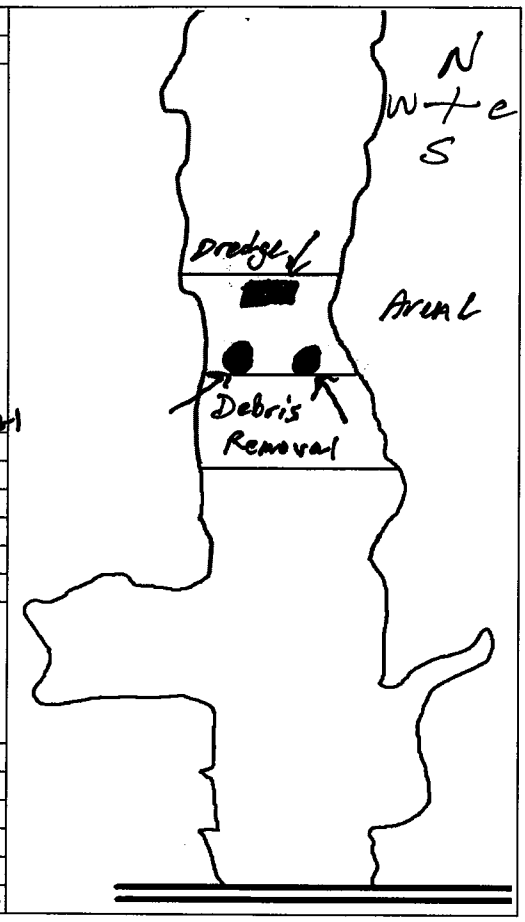
High	@	12:04 AM
Low	@	5:13 AM
High	@	12:28 PM
Low	@	5:50 PM

Monitoring Period:

From: 0800 To: 1600

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

Dredging Activity:
Dredging in North of Area L. Debris removal in South of Area L. Two excavators in use for most of the monitoring period. Dredging was sporadic through out the day



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Flood Ref	2.6-6.5	4.8-7.8	0.7-7.1
~~300'N of Dredge~~	~~0.8-4.5~~	~~2.17-7.8~~	~~0.8-4.5~~
300'N of Dredge	2.8-5.5	2.17-7.8	0.8-4.5
300'N of DR+D	4.6-7.1	3.8-6.6	0.9-5.7
EBB REF	2.8-3.6	5.06-11.13	0.7-7.2
300'S of DR+D	3.2-13.6	5.2-7.8	0.6-9.3
300'S of DR+D	9.6-13.0	5.8-6.9	0.8-3.2

Oil Sheen/Debris:
ND Sheen / small amounts of debris outside boom

Wildlife Observations:
Blue Crabs / sea gull / small fish + Larger fish

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes: Wind in afternoon picked up to 15-20 Kts from the South on an ebb tide. Wind against tide. Level II samples to be collected tommorow.

Sampling Crew: Patrick Curran, Dan Rogers

Chief Scientist Signature: PatC

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor / Area L
Dredging Description	Dredge + Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	80% Sunny / <5 kts variable / seas <1 ft

Date	7 AUG 2012
Page	1 of 2

Tide Information	
High	12:04 AM
Low	05:13 AM
High	12:28 PM
Low	5:50 AM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000'S REF	0820	41° 39.722	70° 55.015	8.1	0.782	2.6	7.19	28.41	25.62	
⊥	⊥	⊥	⊥	⊥	3.2	2.8	5.92	29.76	26.07	
⊥	⊥	⊥	⊥	⊥	7.111	6.5	4.81	30.30	26.23	
300'N of Dredge	0830	41° 40.085	70° 55.078'	5.9	0.812	5.5	7.83	28.02	25.79	
⊥	⊥	⊥	⊥	⊥	2.097	3.1	5.82	28.92	26.27	
⊥	⊥	⊥	⊥	⊥	4.574	2.8	2.17	30.18	26.80	
300'N of Dredge	0930	41° 40.093	70° 55.069	6.5	0.938	4.6	6.59	28.61	26.24	
+ Debris Removal	⊥	⊥	⊥	⊥	3.475	5.2	4.48	30.06	26.67	
⊥	⊥	⊥	⊥	⊥	5.712	7.1	3.81	30.17	26.41	
300'N of Dredge	10:30	41° 40.094	70° 55.071	7.3	1.084	9.5	7.12	28.89	26.66	
AND Debris Removal	⊥	⊥	⊥	⊥	3.091	3.9	5.61	29.91	26.55	
⊥	⊥	⊥	⊥	⊥	6.2	7.7	3.79	30.18	26.22	
300'N of Debris	11:30	41° 40.094	70° 55.069	7.9	0.912	5.3	5.99	28.91	27.02	
Removal	⊥	⊥	⊥	⊥	4.080	3.1	5.35	30.11	26.47	
⊥	⊥	⊥	⊥	⊥	6.390	6.5	3.97	30.21	26.44	

WOODS HOLE GROUP

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

Dredging Location	NEW BEDFORD HARBOR / AREA L
Dredging Description	Dredging + Debris Removal
Survey Vessel	George Hampson
Chief Scientist	PATRICK CURRAN
Sampling Technician	PATRICK CURRAN
Vessel Captain	DAN Rogers
Other Personnel	NA
Weather Conditions	50% Cloud cover / 5-10 Kts South / <1 Ft SEA

Date	7 Aug 2012
Page	2 of 2

Tide Information	
High	12:04 AM
Low	05:13 AM
High	12:28 PM
Low	5:50 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300'N of Dredge	12:20	41° 40.094	70° 55.070	8.3	0.912	3.5	7.75	29.22	27.17	
+ Debris Removal	⊥	⊥	⊥	⊥	4.219	2.1	6.97	29.82	26.71	
⊥	⊥	⊥	⊥	⊥	8.019	5.8	3.32	30.16	26.51	
1000'N Ebb REF	12:59	41° 40.293	70° 55.007	8.7	0.777	3.6	11.13	28.05	27.89	
⊥	⊥	⊥	⊥	⊥	4.159	2.8	6.70	29.22	27.16	
⊥	⊥	⊥	⊥	⊥	7.251	3.4	5.06	29.71	27.00	
300'S of Debris	13:15	41° 39.906	70° 55.098	6.0	0.669	3.2	7.87	29.54	27.22	
Removal + Dredge	⊥	⊥	⊥	⊥	2.511	13.6	5.24	29.81	26.90	
⊥	⊥	⊥	⊥	⊥	9.312	8.9	5.5	30.18	26.59	
300'S of Debris	14:15	41° 39.907	70° 55.101	5.3	0.803	10.7	6.91	29.57	27.57	
removal	⊥	⊥	⊥	⊥	2.145	9.6	7.15	29.60	27.51	
⊥	⊥	⊥	⊥	⊥	3.911	13.0	5.83	29.77	27.19	
300' S of Debris	15:40	41° 39.905	70° 55.099	4.1	0.614	5.7	7.90	29.95	27.57	
Removal + Dredge	⊥	⊥	⊥	⊥	1.962	5.6	7.78	29.34	27.59	
⊥	⊥	⊥	⊥	⊥	3.219	8.1	6.82	29.40	27.47	

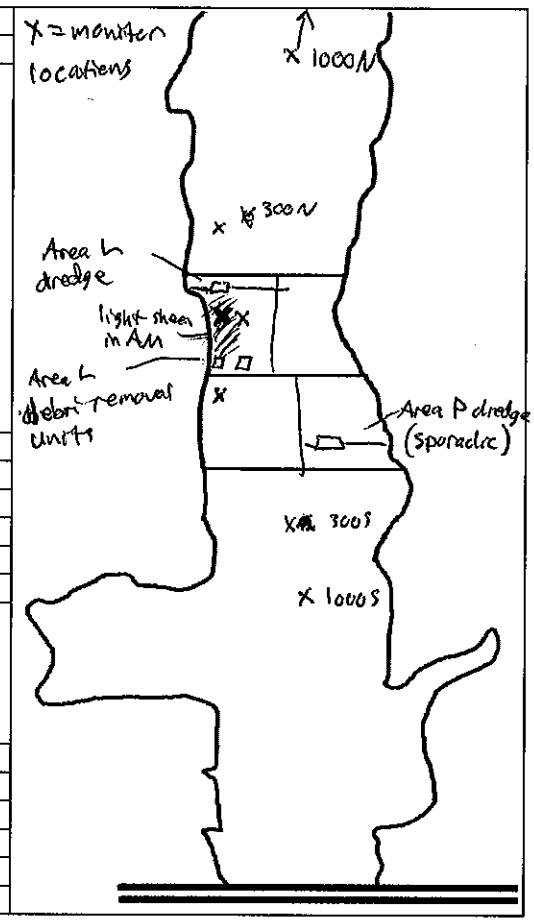
New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 8/8/13

Weather: sunny, 80's, wind from S (5-15 mph)

Tides:

H	@	0049
L	@	0553
H	@	1313
L	@	1840



Monitoring Period:

From: 0810 To: 1550

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

Dredging Activity:
AM: Dredging in Areas L + P (Sporadic)
Debris removal in Area L x2 crews

PM: Dredging in Area L
Debris removal in Area L x2 crews

Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
1000S - Flood Ref	0.5-5.6	3.7-6.3	1.6-7.5
300' N of L DRG	2.8-7.1	2.5-6.0	1.3-4.8
250' N of L DR x2	2.9-15.4	3.3-8.2	1.3-8.8
Ebb Ref 1500' N of Area L	1.4-3.0	3.8-9.8	1.6-7.4
200' S of Area L DRG	4.4-8.4	4.6-8.3	1.0-12.0
200' S of Area L DR			

Oil Sheen/Debris:
light sheen observed within Area L on flood coming from Debris removal, plastic + organic debris

Wildlife Observations:
Gulls, Osprey, cormorants, small fish

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L) 4 samples
Total PCB (2x 1L) 4 samples + QA + Equip. Blank
~~Toxicity (2x 10L)~~
TOC (2x 40mL) 4 samples
Turbidity (1L) 4 samples
~~Dissolved PCB (2x 1L)~~
~~Metals (500ml)~~

Notes: Level II samples collected at 4 sites. Turbidity and DO were within range of typical values. Sheen + debris observed within Area L did not escape oil booms and were minor in scale. All moorings had data downloaded. No exceedances observed.

Sampling Crew: D. Stuart, D. Rogers

Chief Scientist Signature: David Stuart

WOODS HOLE GROUP

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

Dredging Location	Dredging in Areas L & P
Dredging Description	Debris removal in Area L
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	D. Rogers
Vessel Captain	D. Rogers
Other Personnel	–
Weather Conditions	Sunny, 80's, wind from S 5-15 mph

Date	8/8/12
Page	1 of 3

Tide Information	
High	0049
Low	0553
High	1313
Low	1840

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000' S of Area P	0813	41° 39.731	70° 55.014	8.2	1.55	1.2	6.31	29.10	26.27	Flood Ref
	0816				4.02	0.5	5.75	29.61	26.17	
	0818				6.04	1.0	4.89	29.77	26.22	
	0820				7.50	5.6	3.73	30.08	26.39	sample depth
300' N of L Dredge	0912	41° 40.098	70° 55.087	5.4	1.26	5.6	6.03	28.88	26.76	Flood
	0914				3.00	0.65 ~~3.9~~ 6.4	5.55	29.10	26.69	
	0916				4.76	2.8	2.48	29.64	26.72	
	0937				2.78	3.2	4.97	29.17	26.70	
	0956				1.78	7.1	5.78	29.08	26.78	
250' N of Area L	1016	41° 40.005	70° 55.103	9.7	1.26	2.9	6.83	28.82	26.67	
Debris removal R	1018				3.01	15.4	4.84	29.27	26.63	
	1020				5.01	6.6	3.52	29.68	26.56	
	1022				8.83	3.8	3.33	29.88	26.50	
	1100				1.83	11.2	6.05	28.87	26.96	Sample depth
	1125				1.81	15.1	5.90	29.02	26.20	

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WJ-09-D-0001

WOODS HOLE GROUP

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

Dredging Location	Dredging in Areas L + P
Dredging Description	Debris removal in Area L
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	D. Rogers
Vessel Captain	D. Rogers
Other Personnel	–
Weather Conditions	Sunny, 80's, wind from S

Date	8/8/12
Page	2 of 3

Tide Information	
High	0049
Low	0553
High	1313
Low	1846

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
250' N of Area L	1145	41° 40.005	70° 55.013	10.2	1.82	14.2	6.09	29.14	27.05	Flood
Debris Removal	1215	↓	↓	↓	1.83	4.0	8.20	29.09	27.33	↓
↓	1230	↓	↓	↓	1.82	14.9	7.06	29.16	27.32	↓
1500' N of Area L	1322	41° 40.292	70° 55.008	8.2	1.55	1.4	9.76	28.70	27.78	Ebb, Ebb reference
↓	1324	↓	↓	↓	3.03	1.6	9.74	28.69	27.78	
↓	1326	↓	↓	↓	5.52	2.9	7.60	28.87	27.29	
↓	1328	↓	↓	↓	7.37	3.0	3.80	29.06	27.09	Sample depth
200' S of L DRG	1415	41° 39.993	70° 55.083	13.5	1.03	8.4	6.98	29.43	27.31	Ebb
↓	1417	↓	↓	↓	4.01	4.5	7.07	29.64	27.21	↓
↓	1419	↓	↓	↓	8.03	4.4	6.02	29.78	26.81	↓
↓	1421	↓	↓	↓	12.03	6.8	4.58	29.89	26.47	↓
↓	1423	↓	↓	↓	1.56	8.3	7.05	29.52	27.33	↓
↓	1444	↓	↓	↓	1.58	6.2	8.34	29.47	27.46	↓
200' S of L DR	1459	41° 39.909	70° 55.107	5.3	1.02	13.1	6.40	29.58	27.24	↓
↓	1502	↓	↓	↓	2.58	13.5	6.32	29.58	27.21	↓

WOODS HOLE GROUP

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

Dredging Location	Dredging in Areas L + P
Dredging Description	Debris Removal in Area L x2
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	D. Rogers
Vessel Captain	D. Rogers
Other Personnel	–
Weather Conditions	Sunny, 80's, wind from S

Date	8/8/12
Page	3 of 3

Tide Information	
High	0049
Low	0553
High	1313
Low	1840

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
200' S of Area L DR	1504	41° 39.909	70° 55.107	5.3	4.48	13.0	6.35	29.61	27.14	Ebb
↓	1522	↓	↓	↓	3.61	24.7	5.87	29.50	27.27	→ sample depth
↓	1535	↓	↓	↓	3.00	15.0	6.81	29.46	27.43	

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 14 AUG 2012

Weather: 20% Cloud / <5 Kts NW / <1 ft seas

Tides:

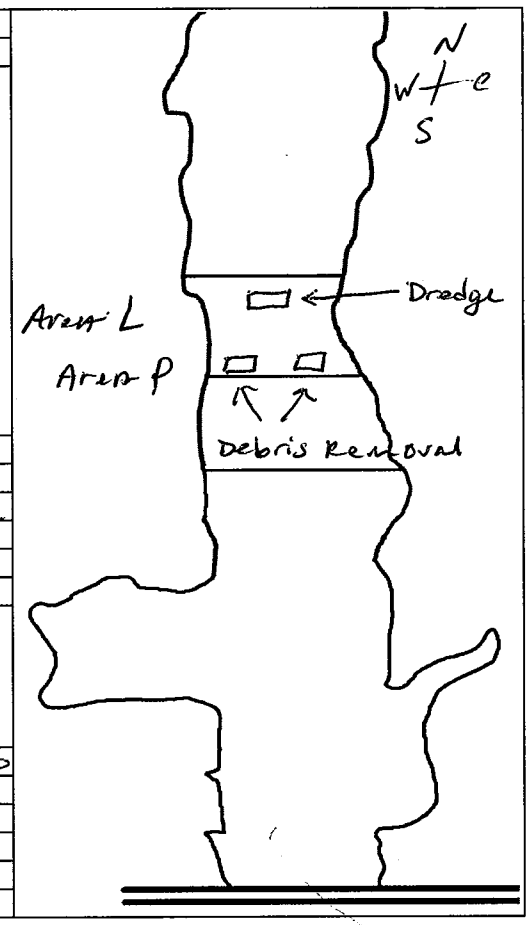
Low	@	12:01 AM
High	@	6:06 AM
Low	@	11:31 AM
High	@	6:27 PM

Monitoring Period:

From: 0810 To: 1600

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

Dredging Activity:
Dredging + Debris removal in area L/P
Dredging occuring in the North and debris removed in the South. Debris removal was in the vicinity of the Manomet CSO. (western shoreline).



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Ebb Ref	2.0-3.0	1.33-7.66	0.7-5.0
300's of DR+D	13.7-16.3	1.06-8.13	0.55-4.0
300's of DR+D	5.2-28.2	1.12-10.2	0.3-3.5
300's of DR+D	8.1-18.8	3.61-13.97	0.5-3.1
Flood Ref	3.5-11.0	1.99-17.20	0.6-6.1
300'N of DR+D	4.8-9.4	4.63-12.28	0.6-3.2
300'N of DR+D	6.7-14.2	4.12-12.73	0.7-4.0

Oil Sheen/Debris:
No Sheen / Small amount of debris

Wildlife Observations:
Blue Crabs, Great Blue heron, small fish, cormorant, Seagulls, laughing Gulls

Samples Collected for Laboratory Analysis - Sample IDs:

~~TSS (1L)~~	~~Turbidity (1L)~~
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
~~Toxicity (2x 10L)~~	~~Metals (500ml)~~
TOC (2x 40mL)	

Notes: Southern bouys were found moved from thier locations. Bouys were placed back in thier correct locations. Low dissolved oxygen levels observed at depth in southern area of L and in Northern area

Sampling Crew: Patrick Curran, Dan Rogers

Chief Scientist Signature: [signature]

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor / Area L+P
Dredging Description	Dredge + Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	80% sun / 5 Kts NW / Seas <1 ft

Date 14 Aug 2012
Page 1 of 2

	Tide Information	
Low	~~High~~	12:01 AM
High	~~Low~~	6:06 AM
Low	~~High~~	11:31 AM
High	~~Low~~	6:27 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Ebb REF	0810	41° 40.287	70° 55.005	6.5	0.774	3.0	7.66	26.46	27.82	
↓	↓	↓	↓	↓	3.041	2.8	2.52	29.11	27.12	
↓	↓	↓	↓	↓	5.011	2.0	1.33	29.67	26.77	
300' S of Dredge	0840	41° 39.901	70° 55.075	5.1	0.559	13.7	8.13	21.92	27.67	
+ Debris Removal	↓	↓	↓	~~2.001~~	2.003	15.3	2.93	28.00	27.07	
↓	↓	↓	↓	↓	4.044	16.3	1.06	29.92	26.61	
300's of Dredge	0940	41° 39.902	70° 55.074	4.5	0.348	5.2	10.20	17.84	27.06	
+ Debris Removal	↓	↓	↓	↓	2.026	19.5	1.61	29.52	26.79	
↓	↓	↓	↓	↓	3.512	28.2	1.12	29.79	26.67	
300's of Dredge	1040	41° 39.902	70° 55.074	4.2	0.580	8.1	13.97	22.52	28.28	
+ Debris Removal	↓	↓	↓	↓	2.010	5.7	7.82	27.00	27.67	
↓	↓	↓	↓	↓	3.112	18.8	3.61	29.13	26.67	
Flood REF	12:00	41° 39.712	70° 55.012	7.7	0.608	3.5	17.20	~~28.31~~ 19.44	28.31	
↓	↓	↓	↓	↓	3.014	4.2	7.47	28.47	27.61	
↓	↓	↓	↓	↓	6.107	11.0	1.99	29.77	26.70	

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-09-D-0001

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor / Area L + P
Dredging Description	Dredging + Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	50% cloud / 5 kt NW / <1 ft seas

Date	14 Aug 2012
Page	2 of 2

	Tide Information	
Low	~~High~~	12:01 AM
High	~~Low~~	6:06 AM
Low	~~High~~	11:31 AM
High	~~Low~~	6:27 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300' N of Dredge	12:10	41° 40.098	70° 55.102	4.8	0.612	4.8	12.28	23.70	29.32	
+ Debris Removal	↓	↓	↓	↓	2.054	8.1	9.16	27.26	28.67	
↓	↓	↓	↓	↓	3.228	9.4	4.63	29.12	27.71	
300' N of Dredge	13:10	41° 40.101	70° 55.098	5.3	0.712	14.2	12.73	23.22	29.38	
+ Debris Removal	↓	↓	↓	↓	2.458	8.0	7.60	28.66	28.08	
↓	↓	↓	↓	↓	4.000	6.7	4.12	29.38	27.52	
300' N of Dredge	14:05	41° 40.098	70° 55.099	6.0	0.424	13.1	15.24	24.25	29.69	
+ Debris Removal	↓	↓	↓	↓	2.404	11.7	5.75	28.05	27.99	
↓	↓	↓	↓	↓	4.674	6.2	3.80	29.01	27.82	
300' N of Dredge	15:00	41° 40.099	70° 55.098	6.5	0.663	13.9	10.50	26.80	28.77	
+ Debris Removal	↓	↓	↓	↓	3.508	6.1	4.16	28.63	28.08	
↓	↓	↓	↓	↓	4.913	~~13.0~~ 7.3	2.90	29.01	27.85	
300' N of Dredge	15:30	41° 40.098	70° 55.099	6.6	0.520	18.1	10.62	26.14	29.12	
+ Debris Removal	↓	↓	↓	↓	3.193	11.9	5.79	29.02	27.50	
↓	↓	↓	↓	↓	5.172	11.6	1.95	29.34	26.98	

WOODS HOLE GROUP

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 16 AUG 2012

Weather: 50% Cloud / <5kt N / <1ft seas

Tides:

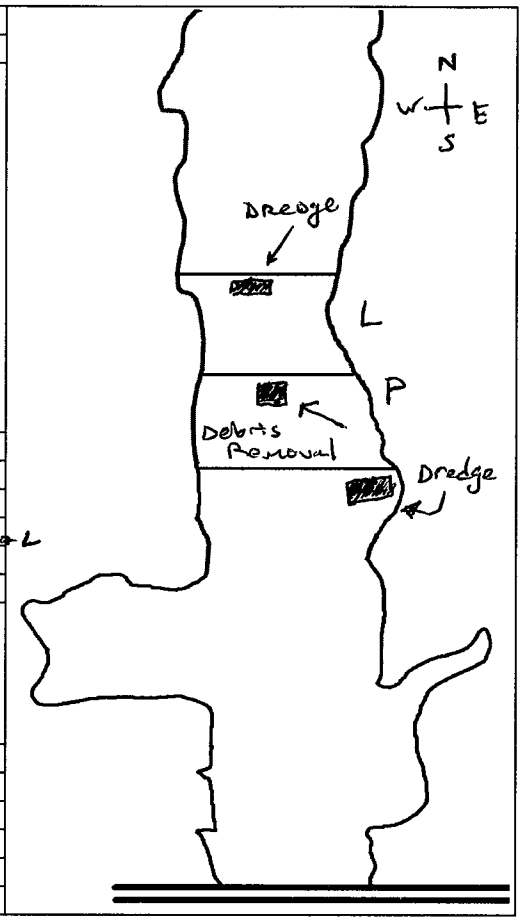
High	@	0735
Low	@	1319
High	@	1950
—	@	—

Monitoring Period:

From: 0800 To: 1600

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

Dredging Activity:
Dredging in North of Area L. Single excavator debris removal in Area P. @1110 Dredge stopped working in Area L. Crew switched to dredge in Area P. Crew went back to Dredge + Debris removal in Area L @1240. @1450 Crew leaves Area L back to Area P.



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Ebb Ref	1.2 - 9.2	1.26 - 7.44	0.5 - 7.2
300'S of DR+D	1.4 - 5.3	1.41 - 5.74	0.1 - 4.0
500'S of Dredge	3.9 - 7.8	2.13 - 10.40	0.6 - 4.1
300'S of DR	8.6 - 12.1	1.44 - 11.33	0.5 - 3.4
300'S of Dredge	8.8 - 12.0	2.53 - 9.01	0.3 - 8.0
Flood Ref	3.5 - 6.3	3.78 - 14.81	0.4 - 5.7
300'N of DR+D	7.0 - 12.2	3.91 - 10.59	0.2 - 4.7

Oil Sheen/Debris:
Very Small patch of sheen that passed by. No other sheen observed. Small amount of debris

Wildlife Observations:
Jellyfish, Small + Large fish, Seagull

Samples Collected for Laboratory Analysis - Sample IDs:

~~TSS (1L)~~	~~Turbidity (1L)~~
~~Total PCB (2x 1L)~~	~~Dissolved PCB (2x 1L)~~
~~Toxicity (2x 10L)~~	~~Metals (500ml)~~
~~TOC (2x 40mL)~~	

Notes: Dredge Crew Swapping between Area L + P throughout the day

Sampling Crew: Patrick Curran, Dan Rogers

Chief Scientist Signature: [signature]

WOODS HOLE GROUP

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

Dredging Location	Dredging + Debris Removal in Area L + P
Dredging Description	Dredging in Area L (north) / Debris Removal Area P
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	50% Cloud / <5 kts N / <1 ft sea

Date	16 AUG 2012
Page	1 of 2

Tide Information	
High	0735
Low	1306
High	1950
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Ebb REF	0800	41°40.285	70°55.013	8.3	0.528	9.2	7.44	21.21	26.48	
⊥	⊥	⊥	⊥	⊥	3.818	2.2	2.37	28.64	26.83	
⊥	⊥	⊥	⊥	⊥	7.212	1.2	1.26	28.86	26.59	
300' S of Debris	0820	41°39.907	70°55.098	5.9	0.162	4.0	5.74	13.27	24.20	
Removal + Dredge	0820	⊥	⊥	⊥	2.527	5.3	4.27	27.22	26.63	
⊥	⊥	⊥	⊥	⊥	4.070	1.4	1.41	29.21	26.57	
500' S of Dredge	0925	41°39.904	70°55.105	5.3	0.620	7.8	10.40	20.62	26.33	Debris Removal stop
⊥	⊥	⊥	⊥	⊥	2.001	4.7	4.53	27.79	26.64	
⊥	⊥	⊥	⊥	⊥	4.102	3.9	2.13	29.09	26.53	
300' S of Debris	1033	41°39.907	70°55.100	4.3	0.537	12.1	11.33	23.78	27.46	
removal	⊥	⊥	⊥	⊥	2.544	8.6	2.07	28.75	26.64	
	⊥	⊥	⊥	⊥	3.452	10.7	1.44	29.07	26.58	Area P Dredge
300' S of Dredge	1120	41°39.823	70°55.013	9.0	0.329	8.8	9.01	22.28	27.73	
in Area P south	⊥	⊥	⊥	⊥	4.012	12.0	3.53	28.94	26.60	
⊥	⊥	⊥	⊥	⊥	8.085	10.1	2.53	29.48	26.33	

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-09-D-0001

WOODS HOLE GROUP

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

Dredging Location	Dredging and Debris Removal in Area L/P. Dredge in P
Dredging Description	1 excavator for Debris Removal 2 dredges total.
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	50% Cloud cover / 0-5 kts N / <1 ft sea

Date	~~14~~ 16 AUG 2012
Page	2 of 2

Tide Information	
High	0735
Low	1306
High	1950
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300's of Dredge	1231	41° 39.824	70° 55.014	8.5	0.364	4.5	8.90	21.33	28.27	
in Area P	⊥	⊥	⊥	⊥	3.571	3.7	~~60.0~~ 3.64	28.47	27.14	
	⊥	⊥	⊥	⊥	6.198	5.0	1.85	29.09	26.56	
Flood REF	1332	41° 39.708	70° 55.018	6.9	0.452	6.3	14.81	21.99	28.40	
⊥	⊥	⊥	⊥	~~2.899~~ ⊥	2.899	4.9	11.23	26.10	26.92	
⊥	⊥	⊥	⊥	⊥	5.700	3.5	3.78	28.49	27.09	
300' N of Dredge	1343	41° 40.090	70° 55.081	4.9	0.274	5.7	12.07	22.88	28.94	
Area L	⊥	⊥	⊥	⊥	1.782	4.7	6.31	28.46	27.22	
⊥	⊥	⊥	⊥	⊥	3.891	6.8	3.10	28.98	26.74	
300' N of Dredge	1431	41° 40.090	70° 55.079	5.5	0.239	7.0	10.59	23.49	28.93	
+ Debris Removal	⊥	⊥	⊥	⊥	2.064	7.8	8.81	24.66	28.45	
⊥	⊥	⊥	⊥	⊥	4.7	12.2	3.91	26.01	28.08	
300' N of Dredge	1537	41° 39.977	70° 55.005	3.2	0.354	9.5 ~~15.57~~	15.57 ~~23.15~~	23.33	28.67	
in Area P	⊥	⊥	⊥	⊥	1.109	8.8	12.90	23.95	28.45	
	⊥	⊥	⊥	⊥	2.026	13.1	8.24	26.44	27.72	

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WJ-09-D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 21 AUG 2012

Weather: Overcast / <5 kt North / <1 ft seas

Tides:

High	@	11:16 AM
Low	@	4:50 PM
High	@	11:36 PM
—	@	—

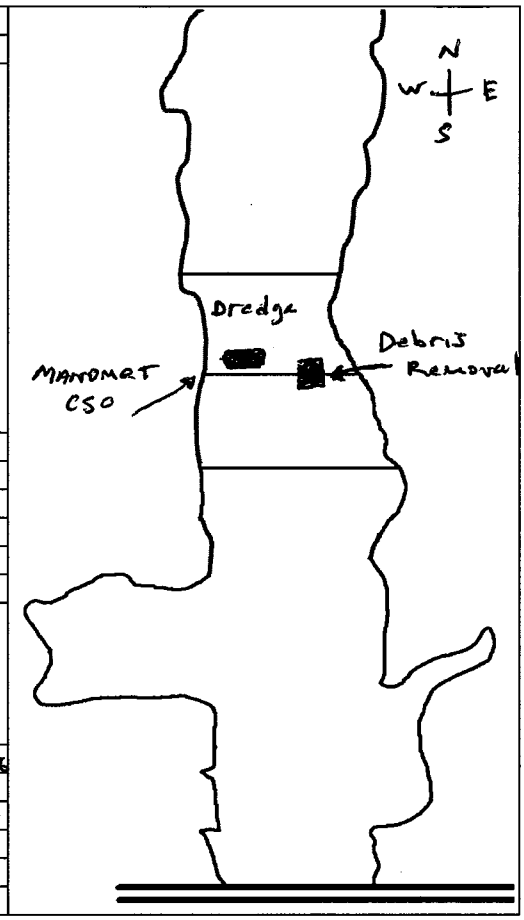
Monitoring Period:

From: 0800 To: 1600

Tidal Stages: HWS Ebb LWS Flood

Dredging Activity:

Dredging + Debris Removal in Area L/P in the vicinity of the Manomet St CSO



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Flood Ref	2.1-3.2	3.56-5.68	0.9-8.0
300'N of DR+D	4.7-11.9	3.88-8.46	0.58-5.556
300'N of Dredge	4.7-10.2	4.41-8.45	0.4-7.4
300'N of DR	3.3-13.2	4.40-7.15	0.7-7.5
Ebb Ref	2.7-7.3	3.51-7.71	0.3-7.7
300'S of DR+D	3.1-5.6	4.98-7.95	0.7-6.2
300'S of Dredge	2.5-5.1	5.51-9.02	

Oil Sheen/Debris:

No sheen / small amount of debris

Wildlife Observations:

Blue crabs, cormorant, sea gull, small fish, larger fish, Comb Jellies

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes:

One excavator in use today.

Sampling Crew: Patrick Curran, Dan Rogers

Chief Scientist Signature: Pat

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor. Area P/L
Dredging Description	Dredging + Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	Overcast / <5 kts Northerly / <1 ft seas

Date	21 August 2012
Page	1 of 2

Tide Information	
High	11:16 AM
Low	04:50 PM
High	11:36 PM
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Flood Ref	0800	41°39.712	70°55.011	9.0	0.978	2.1	5.68	28.29	24.58	
⊥	⊥	~~41° 40.~~ ⊥	⊥	⊥	4.260	2.7	4.92	29.23	24.93	
⊥	⊥	⊥	⊥	⊥	8.079	3.2	3.56	29.39	25.06	
300' N of Dredge	0829	41° 40.012	70° 55.025	6.9	0.580	4.7	8.46	26.66	24.47	
+ Debris Removal	⊥	⊥	⊥	⊥	2.857	10.2	6.83	27.62	24.77	
⊥	⊥	⊥	⊥	⊥	5.556	11.9	3.88	29.02	25.05	
300' N of Dredge	1000	41° 40.007	70° 55.027	9.1	0.467	4.7	7.45	27.66	24.86	
⊥	⊥	⊥	⊥	⊥	5.016	3.7	5.07	29.25	25.10	
⊥	⊥	⊥	⊥	⊥	7.441	10.2	4.41	29.44	24.91	
300' N Debris	1100	41° 40.004	70° 55.029	9.4	0.701	3.3	7.15	28.84	25.10	
Removal	⊥	⊥	⊥	⊥	4.265	4.8	5.95	29.49	24.96	
⊥	⊥	⊥	⊥	⊥	7.547	13.2	4.90	29.56	24.93	
Ebb Ref	11:30	41° 40.283	70° 55.008	9.0	0.391	2.7	7.71	25.89	25.30	
⊥	⊥	⊥	⊥	⊥	4.234	4.8	5.02	29.03	25.22	
⊥	⊥	⊥	⊥	⊥	7.754	7.3	3.51	29.13	25.13	

WOODS HOLE GROUP

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

Dredging Location	NEW BEDFORD HARBOR AREA / L+P
Dredging Description	Dredging + Debris Removal
Survey Vessel	George Hampson
Chief Scientist	PATRICK CURRAN
Sampling Technician	PATRICK CURRAN
Vessel Captain	DAN ROGERS
Other Personnel	NA
Weather Conditions	50% Cloudy / 0-5 Kts / <1 ft seas

Date	21 AUG 2012
Page	2 of 2

Tide Information	
High	11:16 AM
Low	4:50 PM
High	11:36 PM
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300'S of DR+D	1230	41° 39.904	070° 55.074	7.7	0.796	3.1	7.95	27.31	26.17	
⊥	⊥	⊥	⊥	⊥	4.019	4.9	5.30	29.4	25.14	
⊥	⊥	⊥	⊥	⊥	6.229	5.6	4.98	29.66	24.95	
300's of dredge	1305	41° 39.908	070° 55.084	6.5	0.597	2.5	9.02	27.49	26.58	
⊥	⊥	⊥	⊥	⊥	3.606	4.5	6.92	29.32	25.30	
⊥	⊥	⊥	⊥	⊥	5.027	5.1	5.51	29.54	25.04	
300's of dredge	1400	41° 39.908	070° 55.083	5.4	0.284	3.1	13.47	27.37	27.17	
⊥	⊥	⊥	⊥	⊥	3.196	7.4	8.21	29.12	25.32	
⊥	⊥	⊥	⊥	⊥	4.011	8.3	5.58	29.52	25.10	
300's of DR+D	1430	41° 39.909	070° 55.085	4.6	0.484	3.3	14.43	25.73	27.71	
⊥	⊥	⊥	⊥	⊥	2.387	7.0	8.57	29.03	25.69	
⊥	⊥	⊥	⊥	⊥	3.3	5.1	6.05	29.57	25.21	
300'S of DR+D	1545	41° 39.908	070° 55.083	3.5	0.996	5.6	13.06	28.09	26.87	
⊥	⊥	⊥	⊥	⊥	2.619	11.7	9.21	29.09	25.52	
⊥	⊥	⊥	⊥	⊥	3.001	11.9	7.04	29.10	25.56	

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 23 AUG 2012

Weather: Partly Cloudy / 0-2 Kt wind / <1 ft sea

Tides:

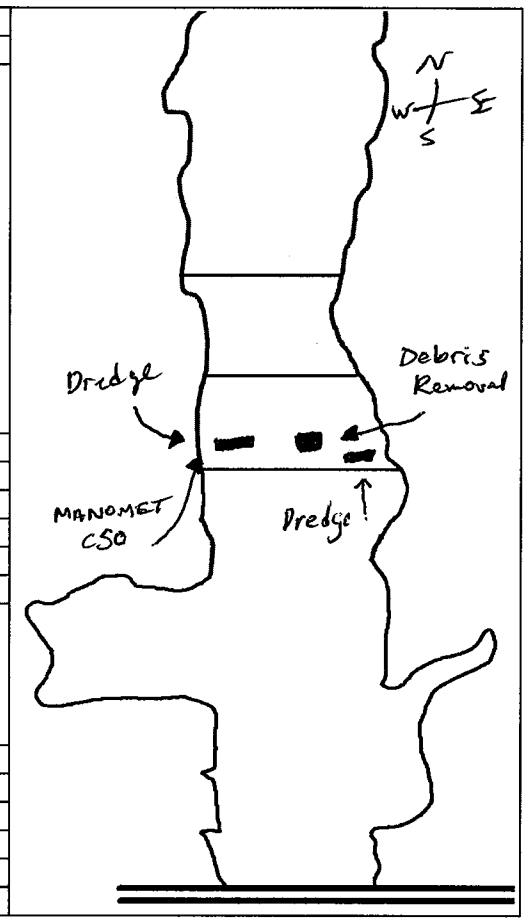
High	@	12:29 AM
Low	@	5:43 AM
High	@	1:03 pm
Low	@	6:41 pm

Monitoring Period:

From: 0800 To: 1600

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

Dredging Activity:
Dredging and Debris removal in Area P+L. Debris removal in Area P. Dredging in P+L



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Flood Ref	3.5-5.1	1.65-4.24	0.8-6.0
300'N DR	7.8-22.6	1.74-7.01	0.7-5.0
300'N Dredge	3.4-3.8	2.92-5.79	0.9-6.0
300'N DR+D	2.9-5.9	4.32-7.72	0.8-7.1
Ebb Ref	2.5-8.0	3.41-10.17	0.6-6.6
300'S of Dredge	1.9-2.7	5.59-7.22	0.5-6.9
300'S of DR+D	1.6-18.9	5.73-7.40	1.0-6.5

Oil Sheen/Debris:
No Sheen / Small amounts of debris

Wildlife Observations:
Jelly fish, small + large fish, Osprey, seagulls

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L) WQ-TSS-001-082312 (x4) Turbidity (1L) WQ-TUR-001-082312 (x4)

Total PCB (2x 1L) WQ-TPC-001-082312 (x4) ~~Dissolved PCB (2x 1L)~~

~~Tributyltin (2x 40L) WQ~~ ~~Metals (500ml)~~

TOC (2x 40mL) WQ-TOC-001-082312 (x4)

Notes:
Level II samples collected today (No blanks, MS, MSD, dup)

Sampling Crew: Dan Rogers, Patrick Curran

Chief Scientist Signature: [signature]

WOODS HOLE GROUP

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

Dredging Location	NEW Bedford Harbor Area L/P
Dredging Description	Dredging + Debris Removal
Survey Vessel	George Humpson
Chief Scientist	PATRICK CURRAN
Sampling Technician	PATRICK CURRAN
Vessel Captain	DAN ROGERS
Other Personnel	NA
Weather Conditions	PARTLY Cloudy / 0 Kt wind / <1 ft sea

Date	23 AUG 2012
Page	1 of 2

Tide Information	
High	12:29 AM
Low	5:43 AM
High	1:07 PM
Low	6:41 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Flood REF	0810	41° 39.711	070° 55.018	7.1	0.851	5.1	4.24	28.53	25.18	Sample depth
⊥	⊥	⊥	⊥	⊥	3.001	3.5	3.15	29.18	25.20	WQ-001
⊥	⊥	⊥	⊥	⊥	6.025	4.7	1.65	29.70	25.02	
300' N of Debris	0904	41° 40.008	070° 55.035	6.4	0.755	8.2	7.01	27.18	25.32	
removal	⊥	⊥	⊥	⊥	3.062	7.8	3.95	28.92	25.46	
⊥	⊥	⊥	⊥	⊥	5.034	22.6	1.74	29.49	25.31	SAMPLE Depth
300' N of Dredge	10:05	41° 40.011	070° 55.038	7.2	0.927	3.8	5.79	28.45	25.31	WQ-002
⊥	⊥	⊥	⊥	⊥	~~3.7~~ 3.211	3.4	4.09	29.21	25.37	
⊥	⊥	⊥	⊥	⊥	⊥ 6.012	~~6.001~~ 6.0	2.92	29.48	25.14	
300' N of Dredge	11:09	41° 40.011	070° 55.040	8.1	0.899	2.9	9.09	27.90	25.97	
+ Debris Removal	⊥	⊥	⊥	⊥	3.621	4.1	7.10	29.03	25.30	
⊥	⊥	⊥	⊥	⊥	7.131	5.9	4.33	29.63	25.06	
300' N of Dredge	12:05	41° 40.010	070° 55.037	9.1	1.158	1.5	7.72	28.18	26.00	
+ Debris Removal	⊥	⊥	⊥	⊥	4.603	2.6	6.96	29.47	25.28	
⊥	⊥	⊥	⊥	⊥	7.509	13.6	5.03	29.80	25.03	

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor Dredge + Debris Removal L/P
Dredging Description	Dredge + Debris removal
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	Partly Cloudy 10-2 kt SW / <1 ft sea

Date	23 AUG 2012
Page	2 of 2

Tide Information	
High	12:29 AM
Low	5:43 AM
High	1:03 PM
Low	6:41 PM

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Ebb REF	1330	41° 40.292	070° 54.999	8.2	0.602	2.5	10.17	27.31	26.94	
↓	↓	↓	↓	↓	3.345	3.1	9.25	28.44	26.11	WQ-003
↓	↓	↓	↓	↓	6.691	8.0	3.41	29.57	25.33	SAMPLE DEPTH
300' S of Dredge	1353	41° 39.847	070° 54.977	8.1	0.571	2.1	7.27	29.77	25.66	
↓	↓	↓	↓	↓	3.821	1.9	7.09	29.85	25.46	
↓	↓	↓	↓	↓	6.975	2.7	5.59	29.95	25.09	SAMPLE DEPTH
300' S of Debris	1430	41° 39.847	070° 54.963	7.3	1.053	1.6	7.40	29.69	25.87	WQ-004
removal	↓	↓	↓	↓	3.372	2.3	7.32	29.72	25.75	
↓	↓	↓	↓	↓	6.524	18.9	5.73	29.83	25.49	
300' S of debris	1500	41° 39.910	070° 55.079	6.2	1.191	4.7	7.02	29.59	25.84	
removal & Dredge	↓	↓	↓	↓	2.847	4.0	6.67	29.60	25.81	
↓	↓	↓	↓	↓	4.862	3.5	5.78	29.83	25.18	
300' S of Debris	1545	41° 39.909	070° 55.079	5.5	0.953	5.3	7.58	29.56	25.99	
removal + dredge	↓	↓	↓	↓	2.783	5.4	7.14	29.58	25.93	
↓	↓	↓	↓	↓	4.563	5.8	5.90	29.67	25.41	

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WJ-09-D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 29 AUGUST 2012

Weather: SUNNY / 10-15 kts / <1 ft Seas

Tides:

Low	@	12:35 AM
High	@	6:39 AM
Low	@	12:27 AM
High	@	07:09 PM

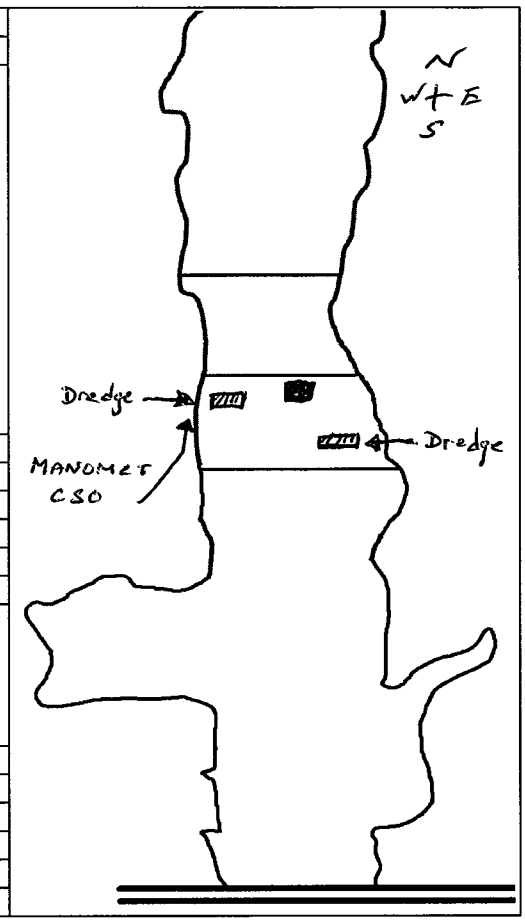
Monitoring Period:

From: 0800 To: 1600

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

Dredging Activity:

Dredging in Area P. Debris Removal in Area P. ~~Dredging in Area L was conducted during monitoring period~~ No dredging occured in Area L during the monitoring period



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Ebb REF	1.0 - 2.9	1.22 - 2.57	0.5 - 6.0
300' S of Dredge	7.8 - 11.3	1.94 - 3.53	0.4 - 6.0
300' S of Dredge	8.0 - 8.3	2.88 - 3.10	0.6 - 4.6
300's of DR + Dredge	15.0 - 23.1	2.70 - 3.12	0.3 - 4.0
300's of DR + Dredge	16.4 - 18.3	3.93 - 4.07	0.4 - 3.0
Flood Ref	3.17 - 4.19 (DO)	2.5 - 2.8 (TUR)	0.5 - 5.0
300' N of Dredge	17.9 - 24.7	5.39 - 7.01	0.2 - 2.0

Oil Sheen/Debris:

NO Sheen / SMALL amounts of debris

Wildlife Observations:

Jellyfish, Swans, Seagulls, Small fish, blue crabs

Samples Collected for Laboratory Analysis - Sample IDs:

~~TSS (1L)~~	~~Turbidity (1L)~~
~~Total PCB (2x 1L)~~	~~Dissolved PCB (2x 1L)~~
~~Toxicity (2x 10L)~~	~~Metals (500ml)~~
~~TOC (2x 40mL)~~	

Notes:

Sampling Crew: Patrick Curran, Dan Rogers

Chief Scientist Signature: [signature]

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor Area L + P
Dredging Description	Debris Removal + Dredging
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	N/A
Weather Conditions	10-15 kts / Sunny / <1 ft

Date	29 AUG 2012
Page	1 of 2

Tide Information	
High	~~07:56 AM~~ 6:39 AM
Low	12:27 PM
High	07:09 PM
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Ebb REF	0815	41° 40.283	070° 55.009	7.0	0.529	2.9	2.57	28.34	24.57	
↓	↓	↓	↓	↓	3.842	1.3	2.07	29.11	25.16	
↓	↓	↓	↓	↓	6.071	1.0	1.22	29.88	25.30	
300's of Dredge	0915	41° 39.830	070° 54.992	7.1	0.422	7.8	3.53	29.52	24.71	
↓	↓	↓	↓	↓	3.872	11.3	2.43	29.66	24.74	
↓	↓	↓	↓	↓	6.001	10.3	1.94	29.63	24.77	
300's of Dredge	1020	41° 39.829	070° 54.985	6.2	0.653	8.0	3.10	29.36	24.92	
↓	↓	↓	↓	↓	3.314	8.7	3.06	29.36	24.93	
↓	↓	↓	↓	↓	4.694	8.3	2.88	29.38	24.92	
300's of Dredge	11:12	41° 39.828	070° 54.984	5.5	0.311	15.0	3.12	29.21	25.23	
& Debris Removal	↓	↓	↓	↓	1.881	19.1	3.01	29.23	25.18	
↓	↓	↓	↓	↓	4.093	23.1	2.70	29.25	25.15	
300's of Dredge	12:18	41° 39.828	070° 54.985	4.6	0.418	16.8	3.98	29.20	25.63	
+ Debris Removal	↓	↓	↓	↓	1.290	16.4	4.07	29.21	25.64	
↓	↓	↓	↓	↓	3.010	18.3	3.93	29.20	25.58	

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912WJ-09-D-0001

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor Area L+P
Dredging Description	Dredging + Debris removal
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	Sunny / 10-15 North / <1 ft seas

Date	29 August 2012
Page	2 of 2

Tide Information	
High	6:39 AM
Low	12:27 PM
High	07:09 PM
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Flood REF	13:13	41° 39.707	070° 55.022	6.1	0.575	2.8	4.19	29.32	25.55	
↓	↓	↓	↓	↓	2.811	2.7	4.13	29.33	25.53	
↓	↓	↓	↓	↓	5.012	2.5	3.17	29.79	25.37	
300' N of Dredge	1327	41° 39.930	070° 54.982	2.9	0.263	24.7	5.39	29.02	26.49	inside of the boom
↓	↓	↓	↓	↓	1.169	17.9	7.01	29.00	26.55	" "
↓	↓	↓	↓	↓	2.000	24.1	5.43	29.18	26.11	" "
300' N of Dredge	1406	41° 39.930	070° 54.986	3.2	0.604	25.2	4.65	29.33	26.06	" "
↓	↓	↓	↓	↓	1.881	24.2	4.34	29.44	25.78	" "
↓	↓	↓	↓	↓	2.355	25.5	3.26	29.46	25.65	" "
300' N of Dredge	1505	41° 39.931	070° 54.985	3.6	0.516	8.6	5.21	29.42	26.08	" "
+ Debris Removal	↓	↓	↓	↓	1.599	8.3	5.11	29.44	25.99	" "
↓	↓	↓	↓	↓	2.687	10.1	4.02	29.61	25.52	" "
300' N of Dredge	1550	41° 39.938	070° 54.985	4.2	0.548	16.6	6.40	29.05	27.13	" "
+ Debris Removal					1.795	14.6	5.75	29.52	26.05	" "
↓					2.991	15.2	3.83	29.70	25.52	" "

Delivery Order 0010-07 June 2013
Water Quality Monitoring Summary Report W912WJ-09-D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 30 AUG 2012

Weather: Sunny / 0-5 kts / <1ft sea

Tides:

LOW	@	01:12 AM
HIGH	@	07:28 AM
LOW	@	01:14 PM
HIGH	@	07:56 PM

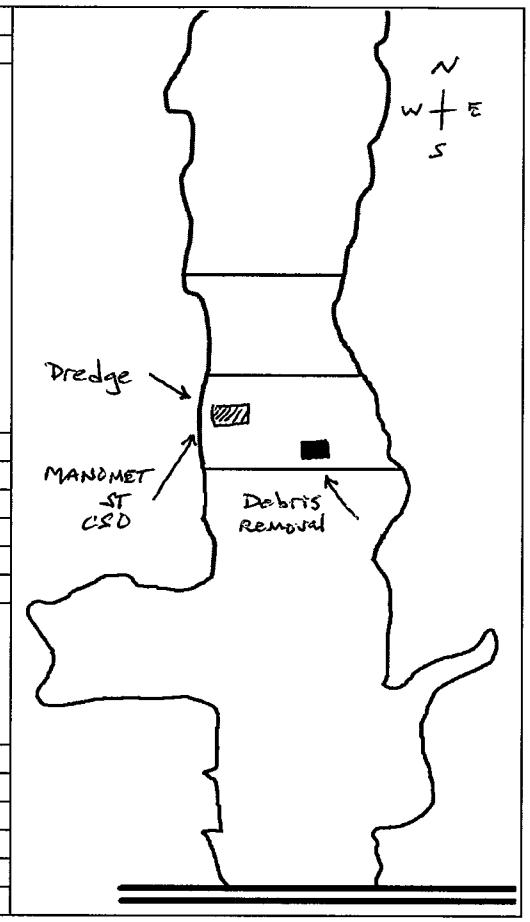
Monitoring Period:

From: 0800 To: 1600

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

Dredging Activity:

Dredging in Area L in the Manomet St. CSO vicinity. Debris Removal in Area P. DR stop @ 0858. Both activities start/stop Through-out the day. No dredging in Area P during monitoring Period



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Ebb REF	0.5-5.7	1.71-3.14	0.5-7.2
300'S of DR	1.2-2.2	2.7-2.93	0.4-8.1
300'S of Dredge	1.2-2.4	2.63-3.05	0.3-4.0
250'S of DR	1.6-19.3	2.41-2.58	0.6-6.5
Flood REF	6.4-9.9	2.15-4.55	0.2-6.0
300'N of Dredge	2.7-3.7	4.31-4.32	0.9-3.0
300'N of DR	5.2-10.2	5.96-7.06	0.5-3.6

Oil Sheen/Debris:

ND Sheen / Small Amount of debris

Wildlife Observations:

Blue Crab, Osprey, Seagull, cormorants, Jelly fish, bait fish, medium size fish

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes:

Recalibrated D.O. Sensor on YSI in AM.

Sampling Crew: Patrick Curran, Dan Rogers

Chief Scientist Signature: Patrick

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor Dredge + Debris Removal Area P+L
Dredging Description	Dredge + Debris Removal
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	Sunny / 0-5 kts N / <1 ft sea

Date	30AUG2012
Page	1 of 2

Tide Information	
High	07:29 AM
Low	01:14 PM
High	07:56 PM
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Ebb REF	0805	41° 40.284'	70° 55.010	8.4	0.553	5.7	3.14	28.59	23.87	
⊥	⊥	⊥	⊥	⊥	3.832	0.8	2.13	29.95	24.52	
⊥	⊥	⊥	⊥	⊥	7.356	0.5	1.71	29.99	24.54	
300' S of Debris Removal	0832	41° 39.877	70° 55.046	9.0	0.485	1.2	2.93	30.30	24.45	
⊥	⊥	⊥	⊥	⊥	4.071	1.3	2.97	30.30	24.43	
⊥	⊥	⊥	⊥	⊥	8.100	2.2	2.70	30.50	24.54	
300' S of Dredge	0915	41° 39.891	70° 55.089	5.1	0.353	1.0	3.05	29.47	24.11	
⊥	⊥	⊥	⊥	⊥	2.538	1.1	2.86	30.03	24.44	
⊥	⊥	⊥	⊥	⊥	4.030	2.4	2.63	30.20	24.60	
250' S of Debris Removal	11:01	41° 38.879	70° 55.034	7.4	0.686	1.6	3.58	29.75	24.70	
⊥	⊥	⊥	⊥	⊥	3.558	5.0	3.00	29.92	24.67	
⊥	⊥	⊥	⊥	⊥	6.511	19.3	2.41	30.35	24.62	
250' S of Debris Removal	12:06	41° 39.879	70° 55.033	6.5	0.445	1.8	4.29	29.78	25.33	
	⊥	⊥	⊥	⊥	2.281	4.7	3.81	29.91	25.21	
	⊥	⊥	⊥	⊥	4.012	12.7	3.01	30.01	25.17	

WOODS HOLE GROUP

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

Dredging Location	New Bedford Harbor Dredge + Debris Removal Area L + P
Dredging Description	Dredge + Debris Removal Area L + P
Survey Vessel	George Hampson
Chief Scientist	Patrick Curran
Sampling Technician	Patrick Curran
Vessel Captain	Dan Rogers
Other Personnel	NA
Weather Conditions	Sunny / 0-5 Kts North / <1 ft sea

Date	30 Aug 2012
Page	2 of 2

Tide Information	
High	07:29 AM
Low	01:14 PM
High	07:56 PM
Low	—

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Flood Ref	1325	41°39.714	70°55.009	7.0	0.716	6.7	4.55	29.96	25.58	
↓	↓	↓	↓	↓	3.048	6.4	4.10	29.94	25.48	
↓	↓	↓	↓	↓	6.015	9.9	2.15	30.25	24.72	
300' N of dredge	1335	41°40.058	70°55.047	4.2	0.947	2.7	4.32	29.80	25.76	
↓	↓	↓	↓	↓	1.887	2.7	4.31	29.80	25.75	
↓	↓	↓	↓	↓	3.007	3.3	4.31	29.80	25.73	
300' N of Debris removal	1435	41°40.059	70°55.047	5.0	0.554	5.2	7.24	29.43	26.03	
↓	↓	↓	↓	↓	2.254	5.3	7.06	29.46	26.00	
↓	↓	↓	↓	↓	3.619	10.2	5.96	29.97	25.53	
300' N of Dredge + Debris Removal	1505	41°40.058	70°55.047	5.2	0.631	5.7	6.85	29.57	26.02	
↓	↓	↓	↓	↓	2.635	5.6	6.50	29.57	25.99	
↓	↓	↓	↓	↓	4.030	6.2	5.17	29.70	25.96	
300' N of Dredge + Debris Removal	1550	41°40.059	70°55.048	5.5	0.635	10.8	6.41	29.70	26.16	
					2.703	11.2	6.11	29.86	26.25	
					4.8	8.5	5.30	29.92	25.81	

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 9/5/12

Weather: Overcast, rain + T-storms, wind from S 10-20 mph

Tides:

L	@	0435
H	@	1146
L	@	1714
	@	

Monitoring Period:

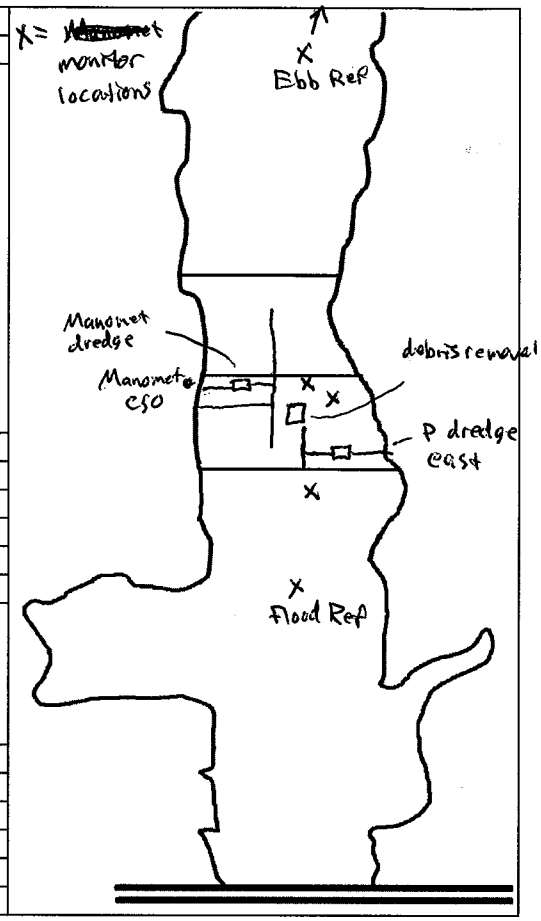
From: 0800 To: 1415

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

Dredging Activity:

AM: Dredging in Areas L + P (2 crews - near Manomet CSO and eastern shoreline)
Debris removal in Area P

PM: Dredging in Area P (east)
Debris removal in Area P



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Flood Ref	2.0-4.4	4.93-5.19	0.3-8.7
200' N of DR in P	4.2-19.0	5.35-5.41	0.5-4.5
300' N of DRG in P (east)	2.3-28.9	5.51-5.55	0.5-5.5
Ebb Ref	1.1-2.4	4.41-5.68	0.6-6.8
300' S of DR in P	2.6-6.2	4.88-5.43	0.7-7.8

Oil Sheen/Debris:
none observed

Wildlife Observations:
many cormorants, gulls, fish jumping, Osprey

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes: Lightning stopped work from 0950 - 1320, then again from 1415 - 1530. WHG did not monitor dredging near Manomet CSO. DO readings were consistent at all locations and depths. No exceedances, no samples

Sampling Crew: D. Stuart, D. Rogers

Chief Scientist Signature: Dack Stuart

WOODS HOLE GROUP

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

Dredging Location	Area P x2 (east and near Manomet CSO)
Dredging Description	Debris removal in Area P
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	D. Rogers
Vessel Captain	D. Rogers
Other Personnel	–
Weather Conditions	Overcast, rain / T-storms, strong wind from S 10-20 mph

Date	9/5/12
Page	1 of 2

Tide Information	
~~High~~	
Low	0435
High	1146
Low	1714

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1000' S of Area P	0812	41° 39.727	70° 55.006	9.5	0.34	2.3	5.19	30.61	23.99	Flood Ref
	0814				3.56	2.0	5.14	30.62	23.99	
	0816				6.12	2.2	5.12	30.65	23.99	
	0817				8.66	4.4	4.93	30.75	23.99	
200' N of Area P	0831	41° 39.972	70° 55.014	6.4	0.54	13.4	5.37	30.58	23.98	Flood
DR	0833				3.25	19.0	5.35	30.58	23.99	
	0835				4.50	5.6	5.35	30.61	23.98	
	0850				2.14	4.2	5.41	30.62	24.00	
300' N of Area	0905			4.4	0.53	2.3	5.55	30.66	24.02	
P DRG (east)	0907	41° 39.954	70° 54.990		1.54	2.2	5.51	30.69	24.02	
	0909				3.54	27.9	5.54	30.74	24.02	
0950 - 1320 = Lightning										

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W912HL-09-D-0001

WOODS HOLE GROUP

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

Dredging Location	Dredging in Area P x2 (near Mancuso CSO + eastern shore)
Dredging Description	Debris removal in Area P
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	D. Rogers
Vessel Captain	D. Rogers
Other Personnel	–
Weather Conditions	Overcast, rain/T-storms, wind from S, 10-20 mph

Date	9/5/12
Page	2 of 2

Tide Information	
~~High~~	
Low	0435
High	1146
Low	1714

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
1500' N of Area L	1327	41° 40.294	70° 55.004	7.8	0.55	2.4	5.68	28.99	24.15	Ebb Ref, ebb
Ebb Ref	1329	↓	↓	↓	2.04	2.2	5.23	29.29	24.12	↓
↓	1331	↓	↓	↓	5.05	1.4	4.73	29.95	24.07	↓
↓	1333	↓	↓	↓	6.84	1.1	4.41	30.02	24.07	↓
300' South of Area	1347	41° 39.871	70° 55.008	8.7	0.65	3.0	5.43	30.14	24.06	Ebb
P DR/75' S of	1349	↓	↓	↓	3.08	2.6	5.27	30.36	24.04	
DRG	1351	↓	↓	↓	6.06	4.3	5.04	30.56	24.03	
	1353	↓	↓	↓	7.87	6.2	4.88	30.60	24.01	
	1400	Lightning								

Delivery Order 0010-07
June 2013
Water Quality Monitoring Summary Report
W91278-09-D-0001

New Bedford Harbor Water Quality Monitoring
Daily Field Report

Date: 9/6/12

Weather: Sunny, 70's, light breeze from N

Tides:

H	@	0010
L	@	0514
H	@	1228
L	@	1757

Monitoring Period:

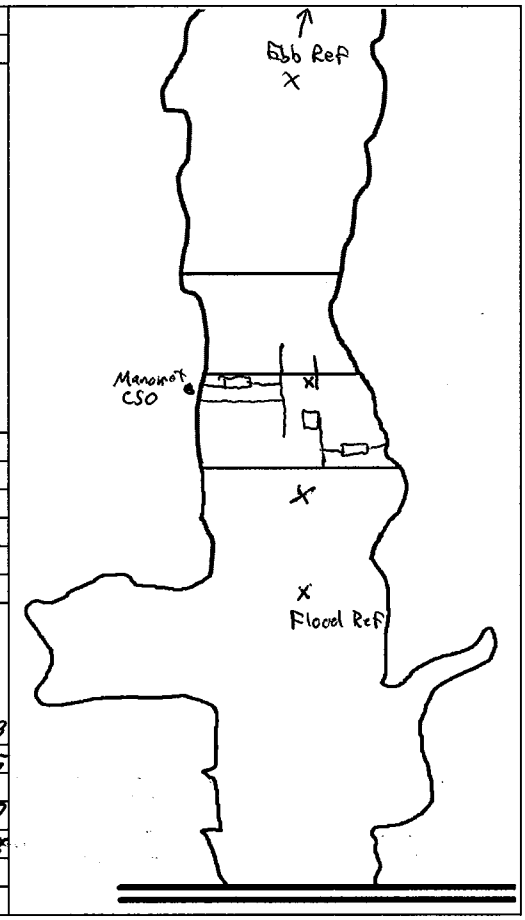
From: 0745 To: 1600

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

Dredging Activity:

AM: Dredging in Area P (east)
Debris removal in Area P

PM: Dredging in Area P (east)
Debris removal in Area P
Dredging and removal activities variable during monitoring



Turbidity Summary:

Location	Turbidity range (NTU)	DO Conc range (mg/L)	Sensor/water Depth (ft)
Flood Ref	~~2.2~~	~~4.61~~	~~0.65~~ MAB
100' S of P	1.3-1.7	1.86-4.61	0.65-7.25
250' N of PDR	2.3-37.2	1.45-5.58	0.55-5.57
EBB Ref. Stat.	3.8-4.3	1.35-6.43	0.59-6.99
300' S. of PDR	2.0-25.9	1.51-6.07	0.51-7.58

Oil Sheen/Debris:

None observed

Wildlife Observations:

Gulls, cormorants, swans, ducks, bunker, osprey

Samples Collected for Laboratory Analysis - Sample IDs:

TSS (1L)	Turbidity (1L)
Total PCB (2x 1L)	Dissolved PCB (2x 1L)
Toxicity (2x 10L)	Metals (500ml)
TOC (2x 40mL)	

Notes: Freshwater Lens (thin) over saltier water was observed.
No Samples collected, no sheens or exceedances observed

Sampling Crew: D. Stuart, D. Rogers, M. Buck

Chief Scientist Signature: Dack Stuart

WOODS HOLE GROUP

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

Dredging Location	Dredging in Area P
Dredging Description	Debris removal in Area P
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	M. Buck
Vessel Captain	D. Rogers
Other Personnel	—
Weather Conditions	Sunny, 70's, light breeze from N

Date	9/6/13
Page	1 of 2

Tide Information	
High	0010
Low	0514
High	1228
Low	1757

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Flood Ref	0750	41° 39.714	70° 55.017	7.9	0.65	2.2	4.61	21.20	22.36	Flood Ref, Flood
100' S of P	0752	↓	↓	↓	2.59	1.3	3.14	29.46	23.90	↓
↓	0753	↓	↓	↓	5.08	1.3	2.64	30.03	24.00	↓
↓	0755	↓	↓	↓	7.25	1.7	1.86	30.27	24.06	↓
250' N of P DR	0917	41° 39.980	70° 55.018	5.6	0.55	2.3	5.58	11.62	22.61	Flood.
↓	0918	↓	↓	↓	2.46	19.9	3.65	27.69	23.95	↓
↓	0919	↓	↓	↓	4.28	37.2	2.03	29.34	29.33	↓
↓	0941	↓	↓	↓	4.37	34.1	1.74	29.53	24.01	All work stopped
↓	1017	↓	↓	↓	4.79	30.2	1.45	29.59	24.01	All work stopped
↓	1042	↓	↓	6.7	4.85	21.3	1.71	29.61	24.00	All work stopped
↓	1120	↓	↓	↓	5.45	5.3	2.28	29.89	24.00	Dredging resumes
↓	1150	↓	↓	↓	5.57	5.6	2.17	29.96	24.00	
EBB Ref. Stat.	1235	41° 40.224	70° 55.012	7.6	~~7.60~~ 3.59	4.0	6.43	13.32	23.93	EBB Ref. Area
↓	1236	↓	↓	↓	3.48	4.3	2.66	29.00	24.16	↓
↓	1237	↓	↓	↓	6.99	3.8	1.35	29.61	24.16	↓

WOODS HOLE GROUP

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

Dredging Location	Dredging in Area P
Dredging Description	Debris removal in area P
Survey Vessel	George Hampson
Chief Scientist	Jack Stuart
Sampling Technician	Mitchell Buck
Vessel Captain	Dan Rodgers
Other Personnel	NA
Weather Conditions	Mostly cloudy, light breeze, 70's

Date	9/6/12
Page	2 of 2

Tide Information	
High	0010
Low	0514
High	1228
Low	1757

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
300' S of PDR	1258	41°39.840'	70°54.996	9.2	0.511	2.0	6.07	13.79	24.87	EBB
	1259			MAB ~~7.5~~	4.58	3.6	3.76	30.62	23.99	Dredging off upon arrival
	1300				7.58	3.0	3.36	30.43	23.94	EBB
	1320				4.58	2.4	3.19	30.25	23.98	
	1348				4.55	3.1	3.21	30.18	23.99	
	1410			9.0	4.56	3.0	3.24	30.00	24.01	
	1430				4.54	4.9	2.74	30.11	24.00	1412 dredging initiated
	1450				4.55	10.1	2.21	30.01	24.03	
	1524	41°39.840'	70°54.993'	7.1	4.43	12.4	2.31	32.3	24.09	Dredge off; debris active
	1544				4.42	25.9	1.55	29.58	24.10	EBB
	1601				4.42	17.4	1.51	29.27	24.15	

MAB

mooring cal + Level 2 samples

WOODS HOLE GROUP

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

Dredging Location	—
Dredging Description	—
Survey Vessel	George Hampson
Chief Scientist	D. Stuart
Sampling Technician	D. Rogers
Vessel Captain	D. Rogers
Other Personnel	
Weather Conditions	Sunny, 70's, breeze

Date	9/13/12
Page	1 of 1

Tide Information	
~~High~~ L	0004
~~Low~~ H	0617
~~High~~ L	1158
~~Low~~ H	1835

Location	Time	Latitude N	Longitude W	Water Depth (ft)	Reading Depth (ft)	Turbidity (NTU)	DO (mg/L)	Salinity (ppt)	Temp (°C)	Notes
Ebb Ref 1500'	0924	41° 40.294	70° 55.002	5.8	0.82	0.5	6.90	27.12	23.91	Ebb Sample depth = 1.00
N of Area L	0926	↓	↓	↓	2.59	0.4	5.97	~~26.98~~ 28.50	23.21	↓
↓	0928	↓	↓	↓	4.76	0.1	4.26	29.28	23.12	↓
300' N of Area L	1030	41° 40.093	70.55.047	4.9	0.96	1.8	7.84	26.14	23.86	Ebb
↓	1032	↓	↓	↓	1.95	1.3	7.50	26.16	23.85	↓
↓	1034	↓	↓	↓	4.04	11.3	5.20	29.24	23.33	↓ Sample at 3.80 ft
1000' S of	1257	41° 39.714	70° 55.017	6.7	0.80	0.7	11.12	26.62	24.33	Flood
Area P	1300	↓	↓	↓	3.74	4.4	7.52	28.70	23.68	↓ sample at 6.2 ft
Flood Ref	1303	↓	↓	↓	6.20	5.7	6.24	29.54	23.29	↓
300' S of	1320	41° 39.833	70° 55.009	8.5	0.63	1.0	12.11	26.56	24.51	Flood
Area P	1324	↓	↓	↓	4.05	0.6	7.52	28.87	23.76	↓
↓	1328	↓	↓	↓	8.12	3.4	4.90	29.74	23.09	↓ → Sample depth

APPENDIX B. CONTINUOUS IN-SITU FIXED STATION WATER QUALITY TIME SERIES DATA

(See Electronic Attachment)

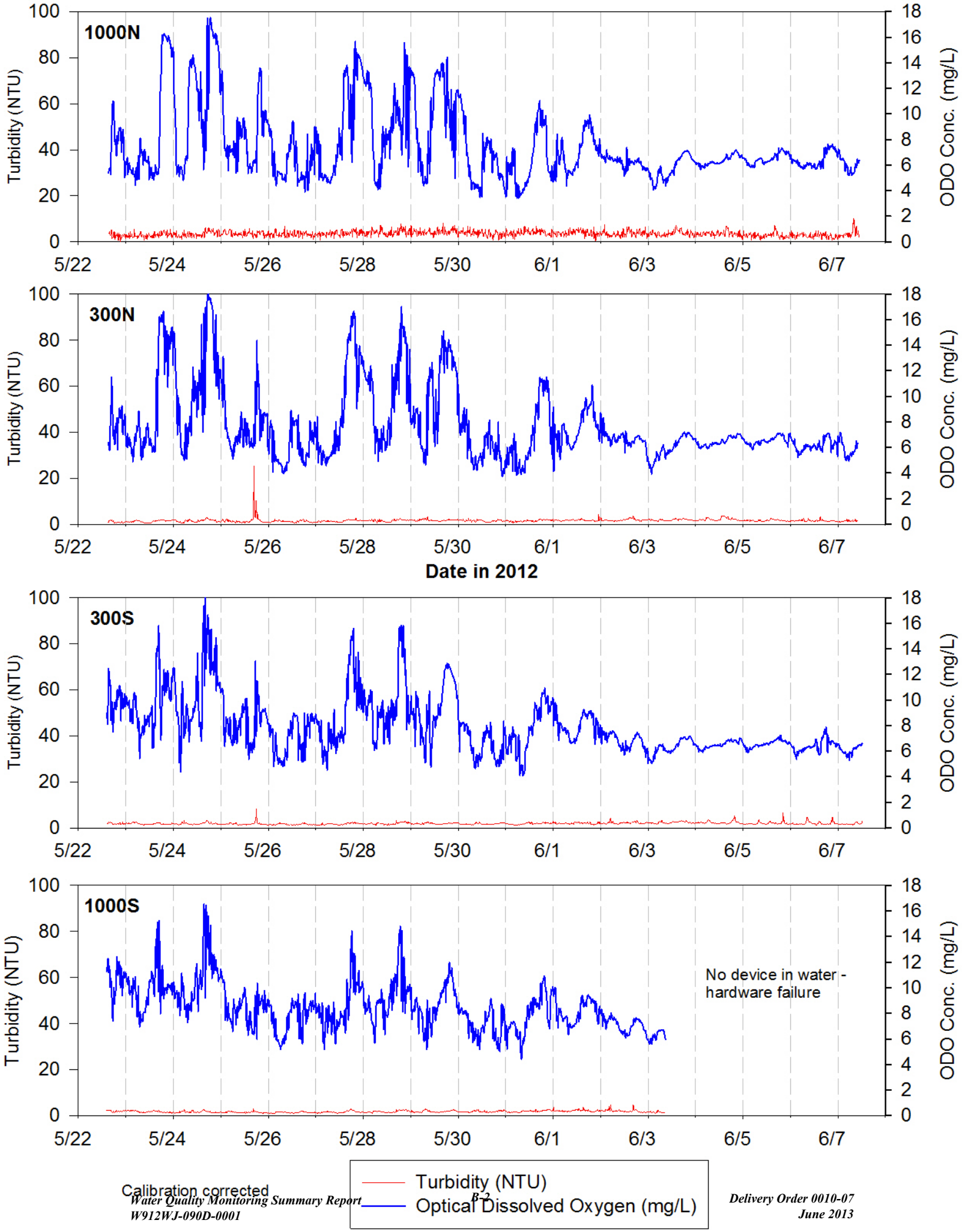
APPENDIX B CONTINUOUS *IN-SITU* FIXED STATION WATER QUALITY TIME SERIES DATA

INTRODUCTION

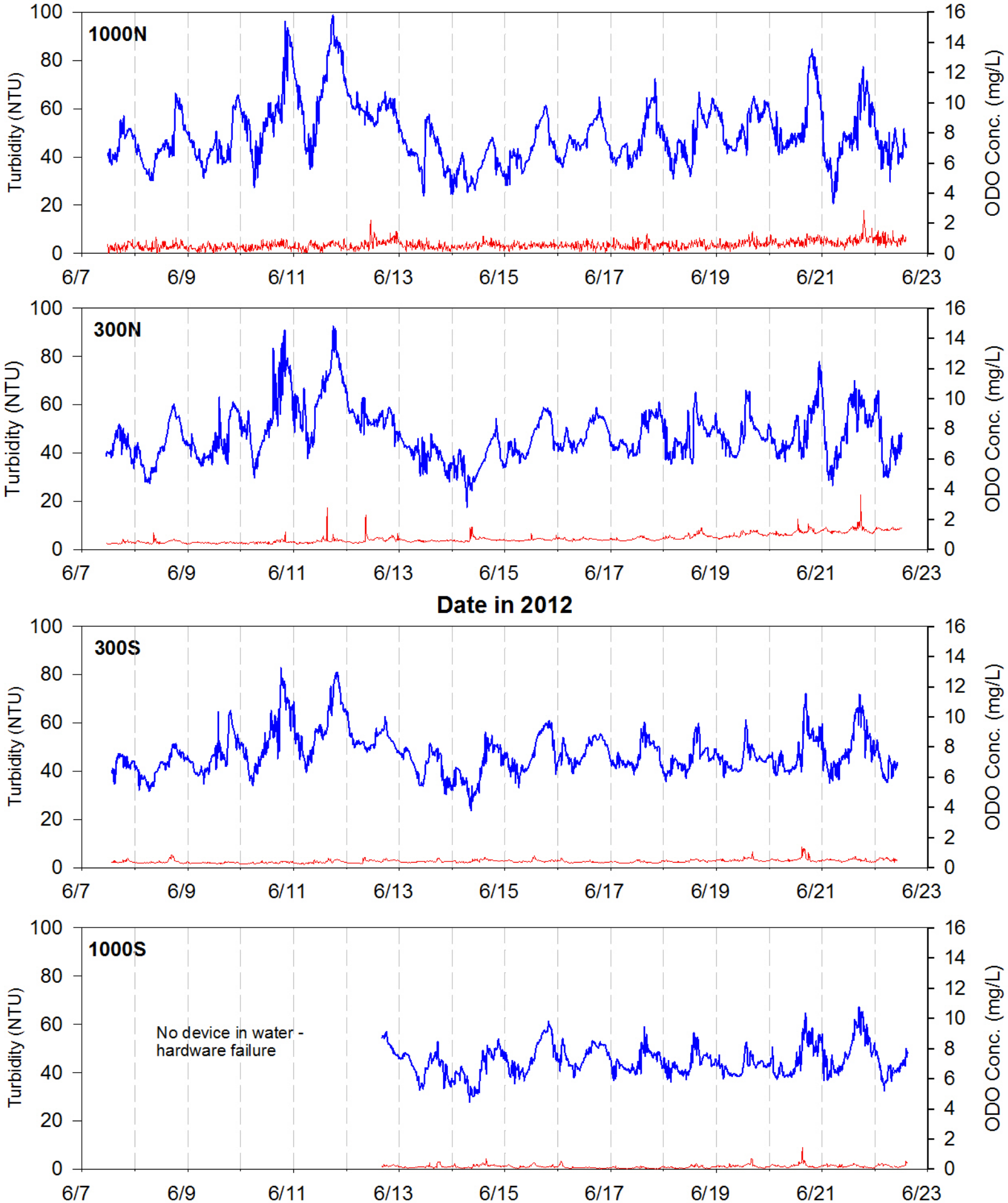
There were times when the in-situ mooring instruments received poor calibrations for 0 NTU, resulting in values of low turbidity to be recorded as negative values. This was a rare issue in the past that became more common during the 2012 season. Most datasets had ≤ 30 negative data points (out of ~1500 readings), but occasionally the number of negative data points comprised ~80% of a dataset. Rather than discarding these values for being unusable or assigning them a value of 0 NTU, a calibration correction offset of 3-10 NTU was added to each reading in order to bring negative values up to the levels typically observed at background stations (2-10 NTU).

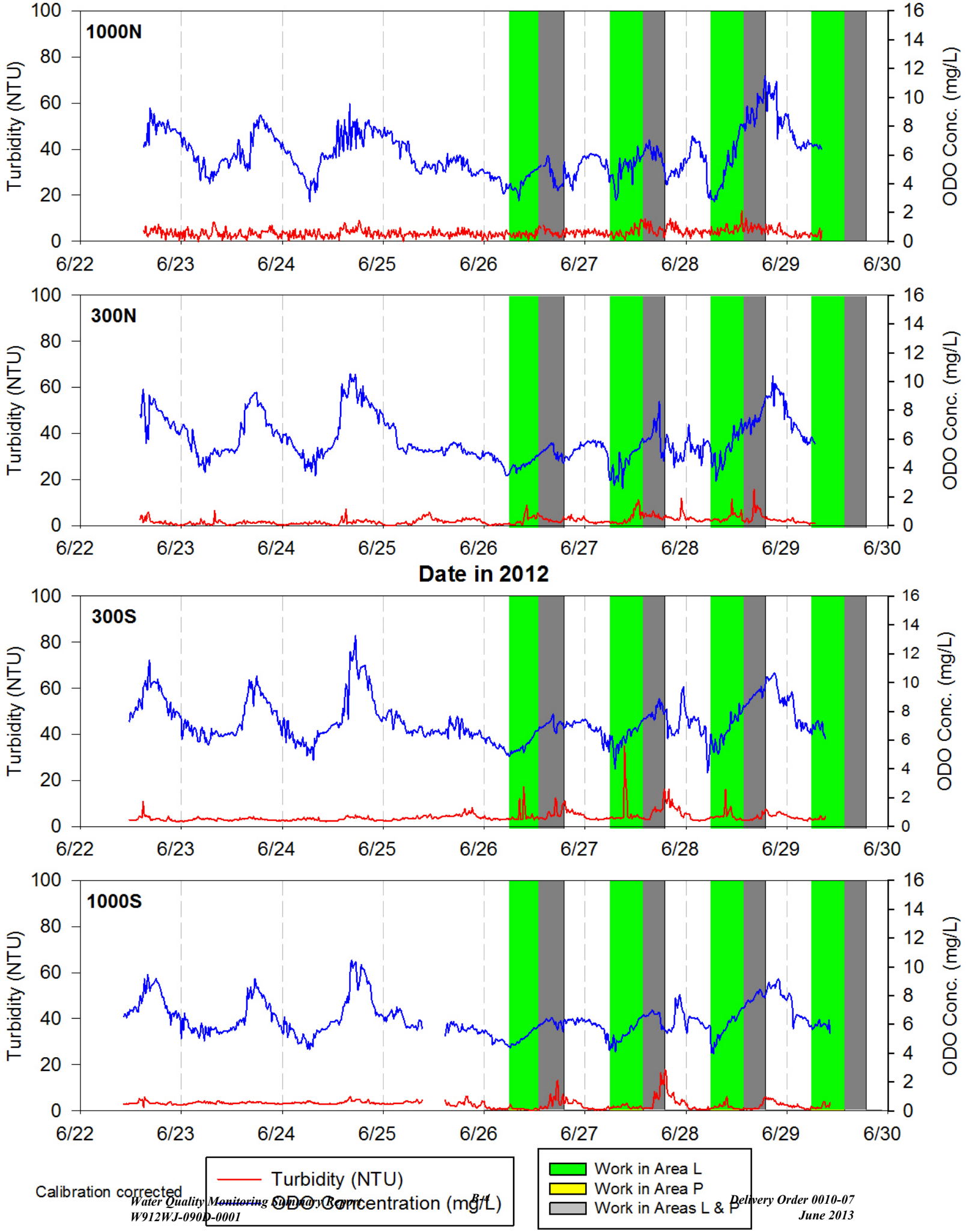
Offsets were computed by taking the absolute value of the most negative value in a dataset and adding 2 NTU. Each instrument was assigned a different offset that was specific to it, if necessary. A correction was only applied to datasets when ≥50% of data were negative.

Offsets were applied for plotting purposes only because negative values were not visible when plotted without an offset. The use of calibration correction offsets is strictly limited to figures. The turbidity values plotted in this appendix are calibration-corrected, and this is noted at the bottom of each page.

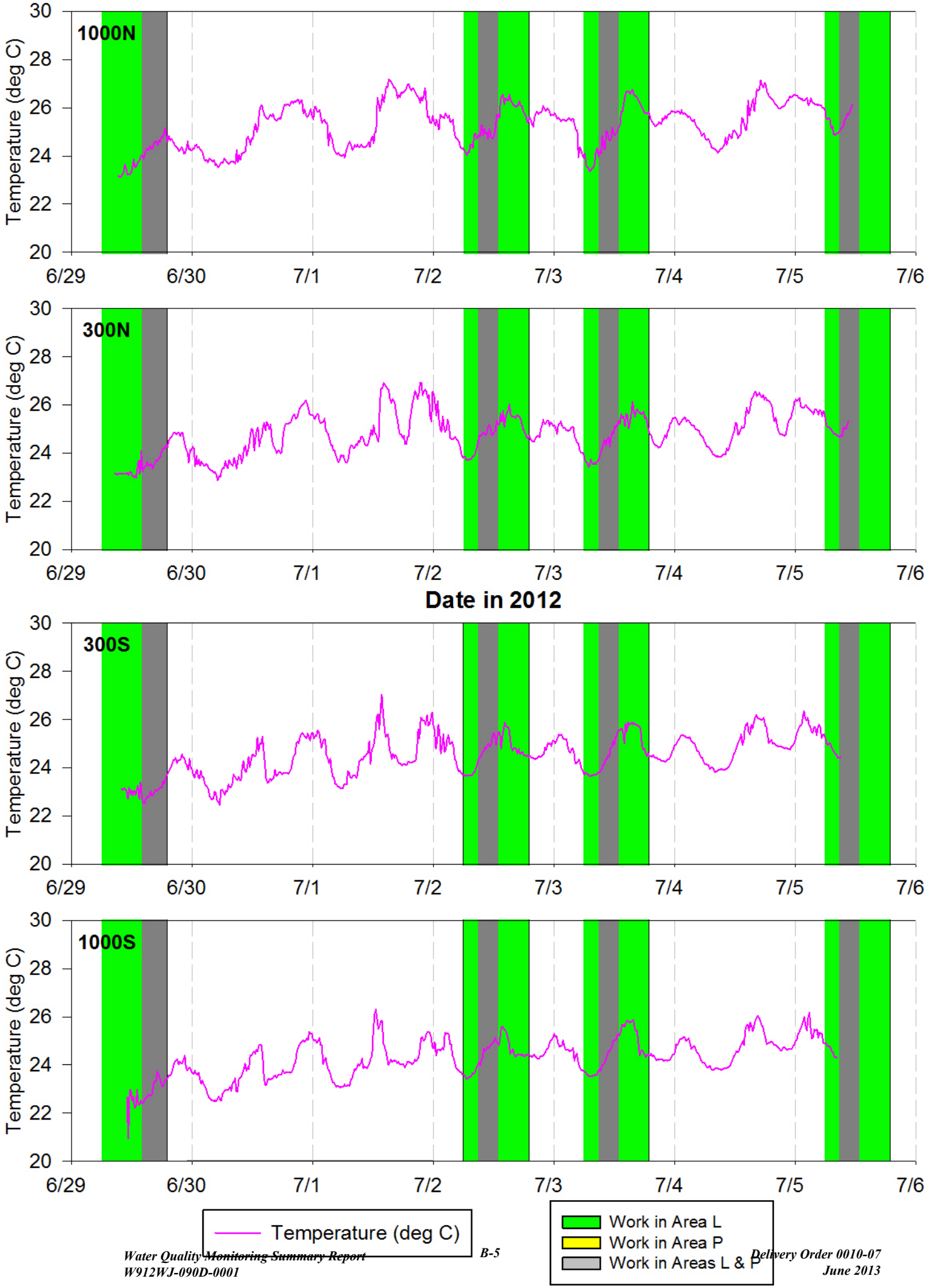


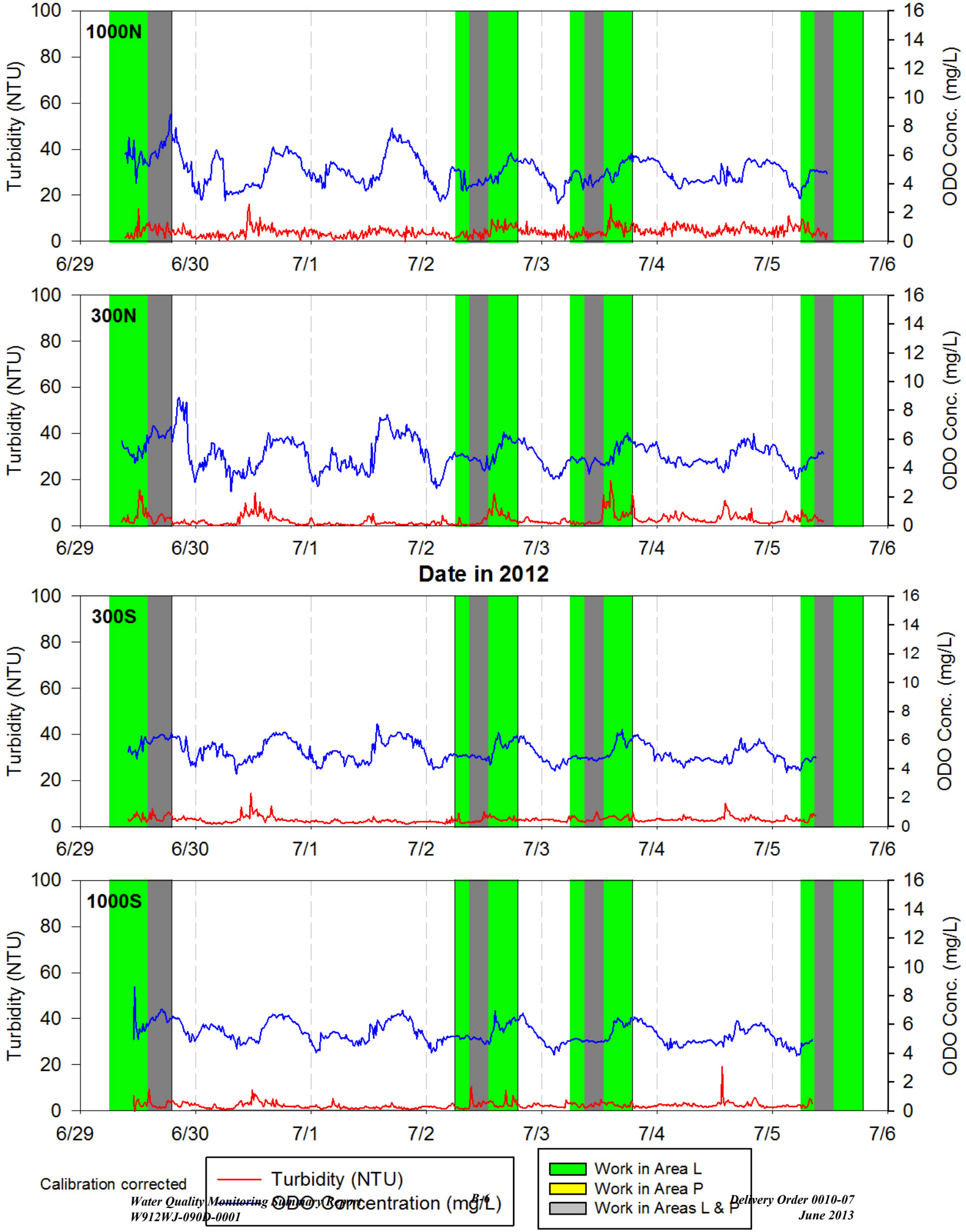
Calibration corrected

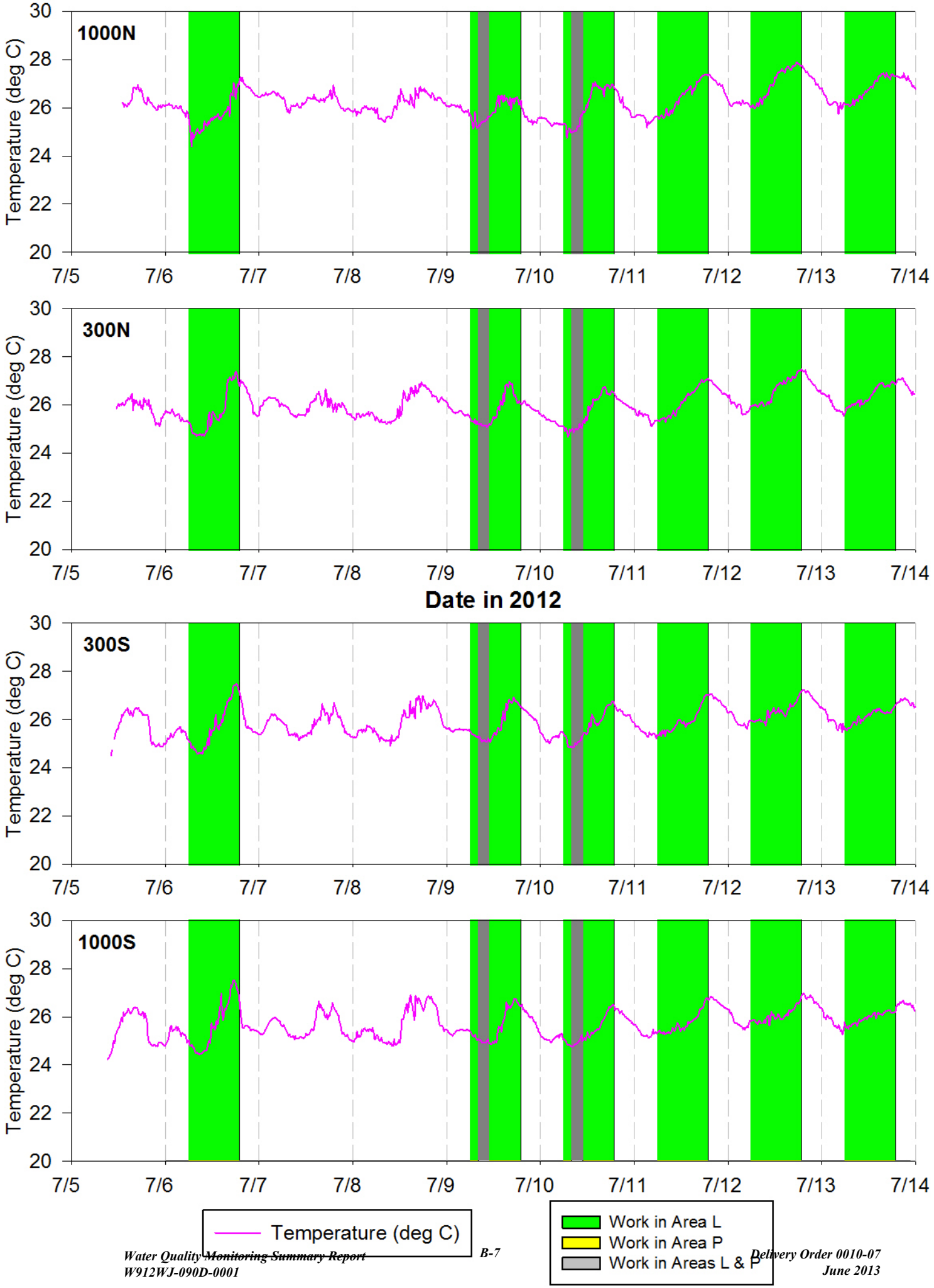

1000N
300N
300S
1000S
Turbidity (NTU)
ODO Conc. (mg/L)
Date in 2012
6/7
6/9
6/11
6/13
6/15
6/17
6/19
6/21
6/23
No device in water - hardware failure
Calibration corrected
Turbidity (NTU)
Optical Dissolved Oxygen (mg/L)

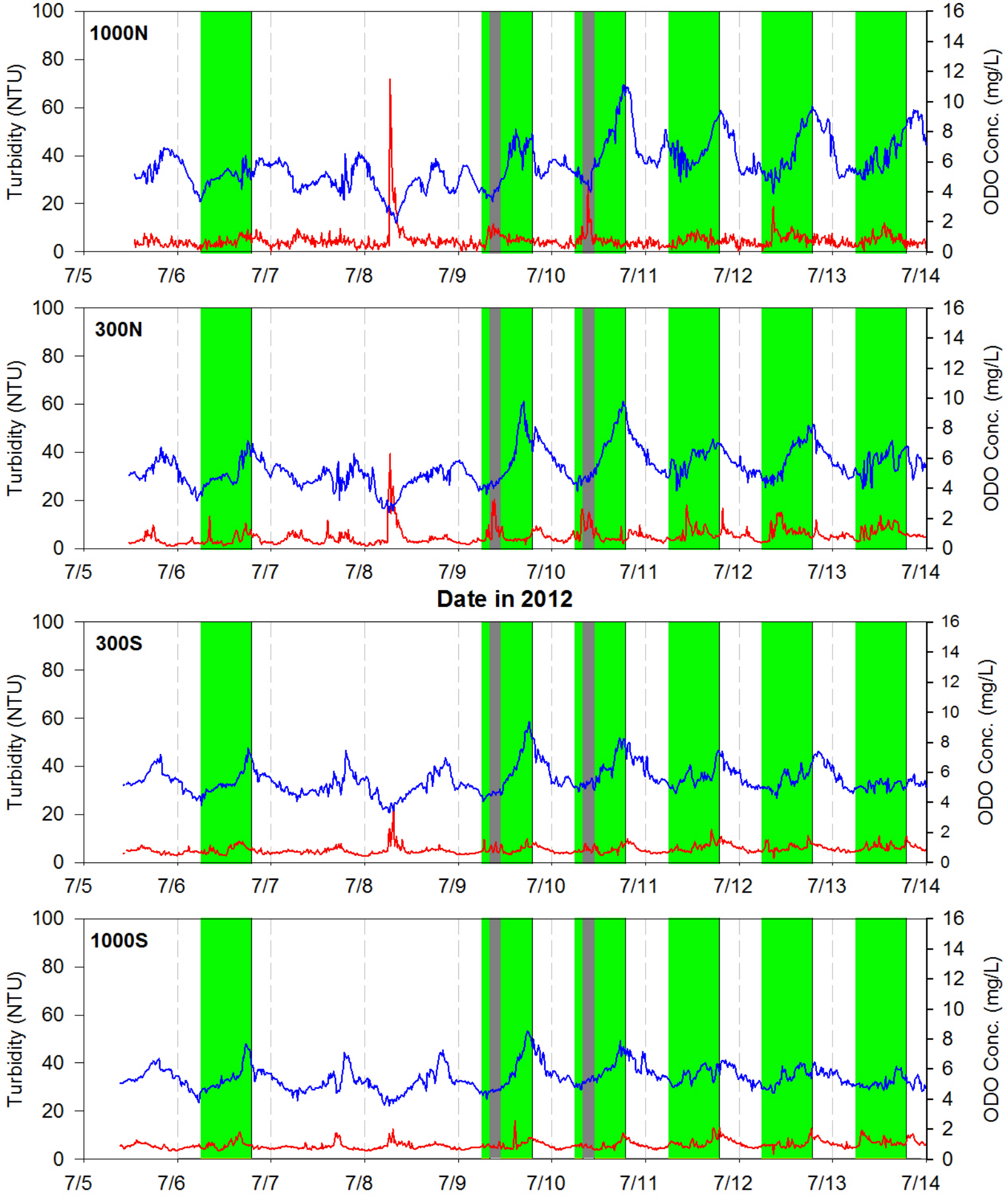


Calibration corrected

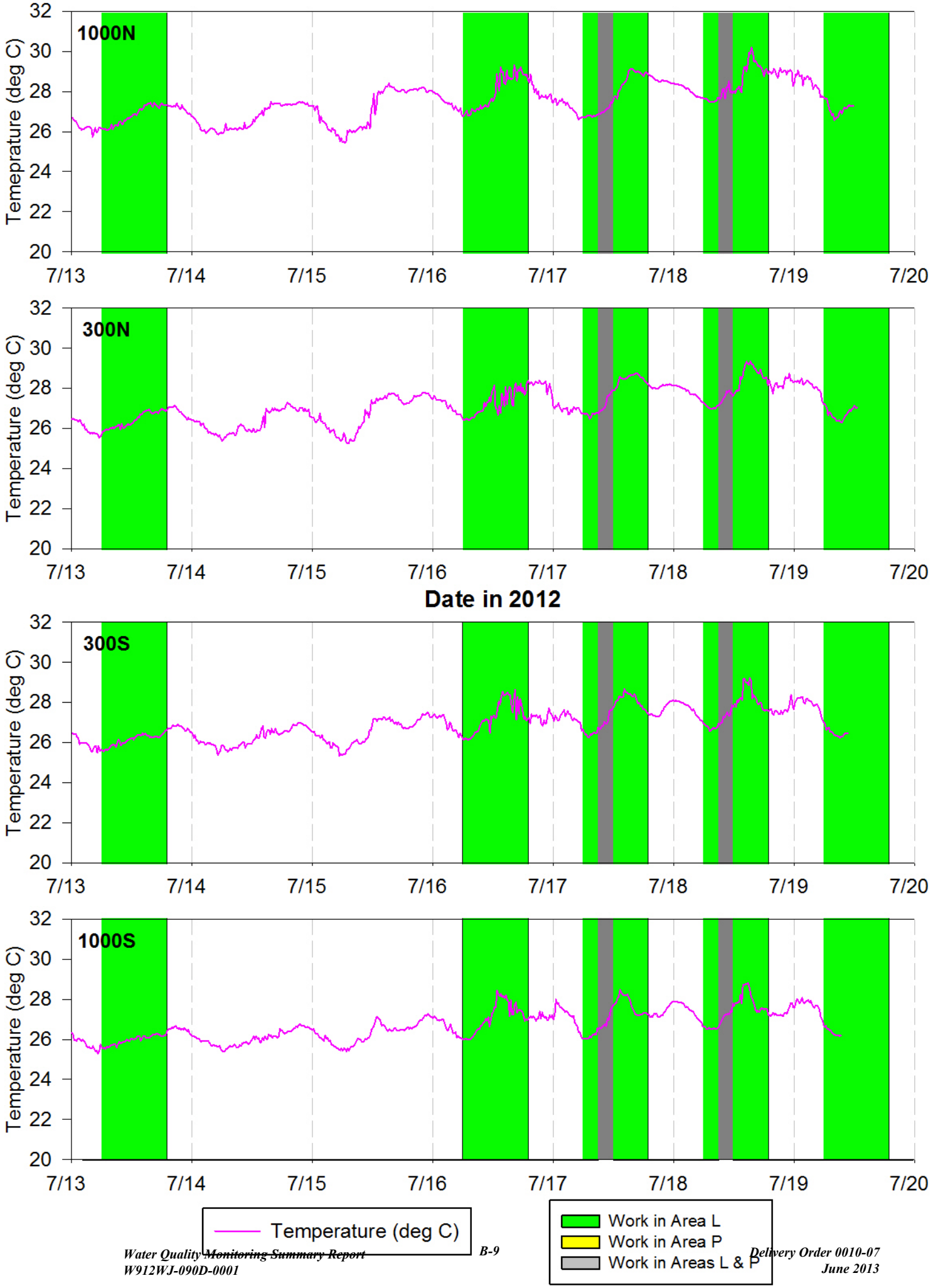

1000N
300N
300S
1000S
Temperature (deg C)
30
28
26
24
22
20
6/29
6/30
7/1
7/2
7/3
7/4
7/5
7/6
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P

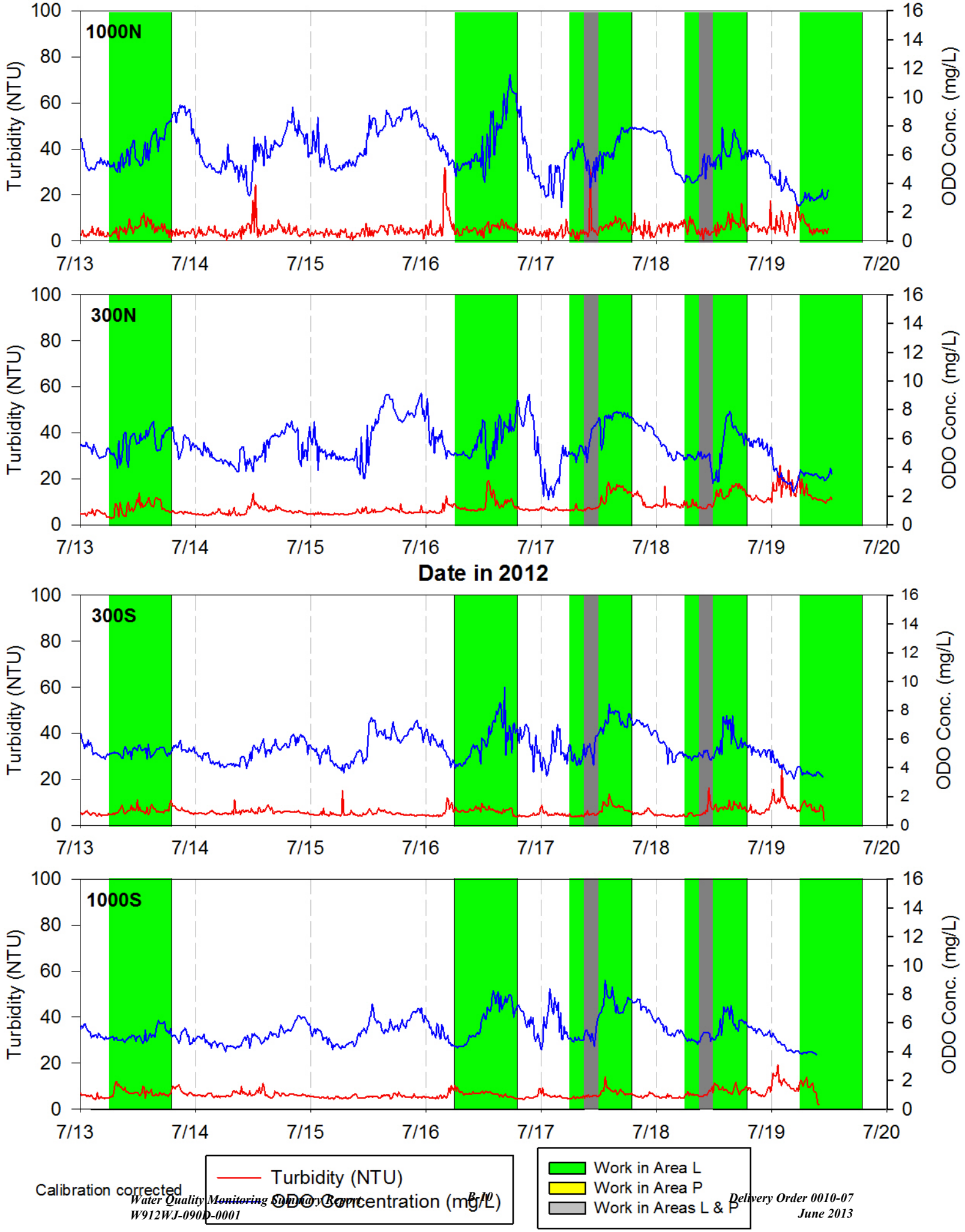

1000N
300N
300S
1000S
Turbidity (NTU)
ODO Conc. (mg/L)
Date in 2012
6/29
6/30
7/1
7/2
7/3
7/4
7/5
7/6
Calibration corrected
Turbidity (NTU)
ODO Concentration (mg/L)
Work in Area L
Work in Area P
Work in Areas L & P


1000N
300N
300S
1000S
Temperature (deg C)
30
28
26
24
22
20
7/5
7/6
7/7
7/8
7/9
7/10
7/11
7/12
7/13
7/14
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P

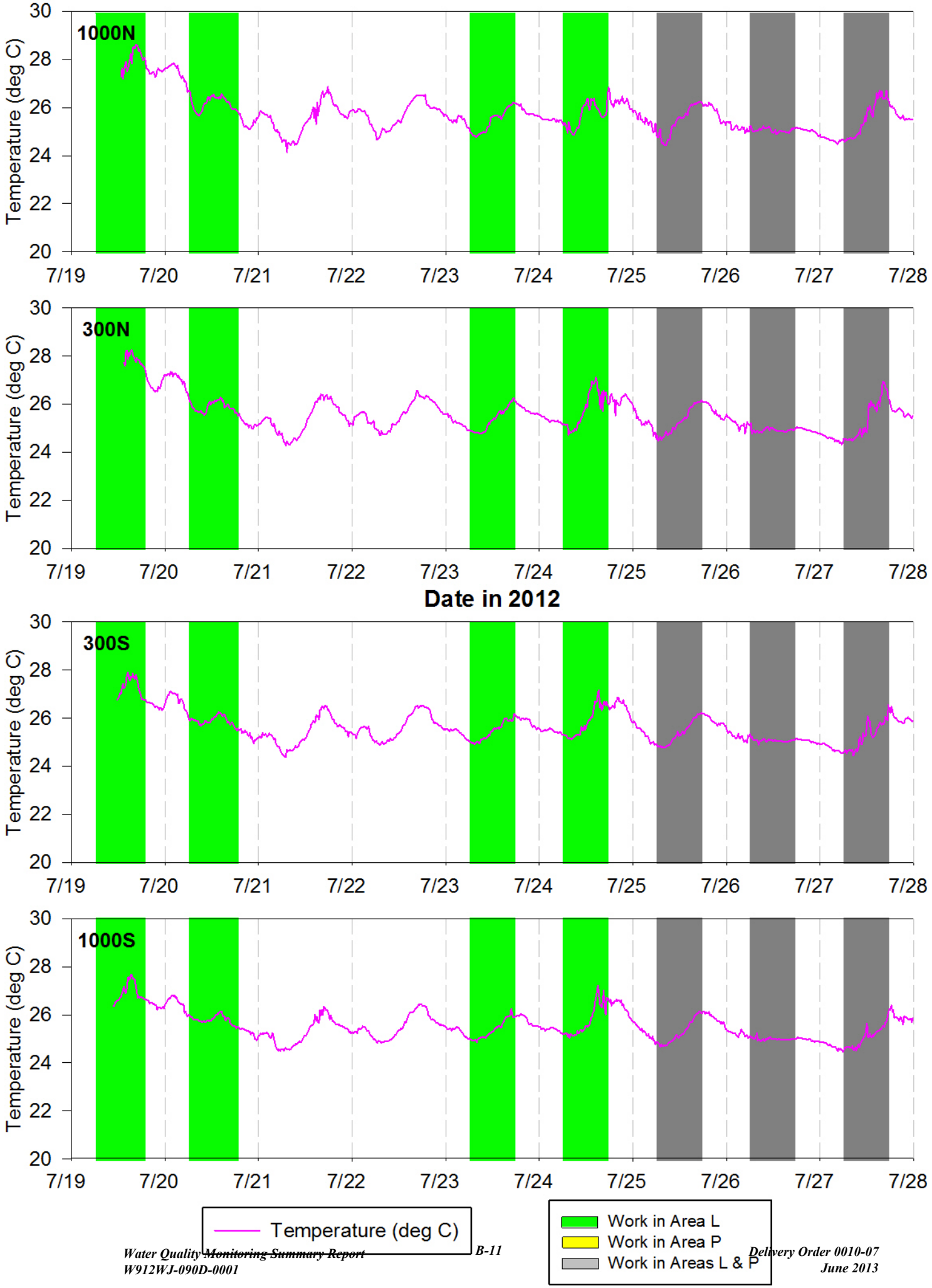


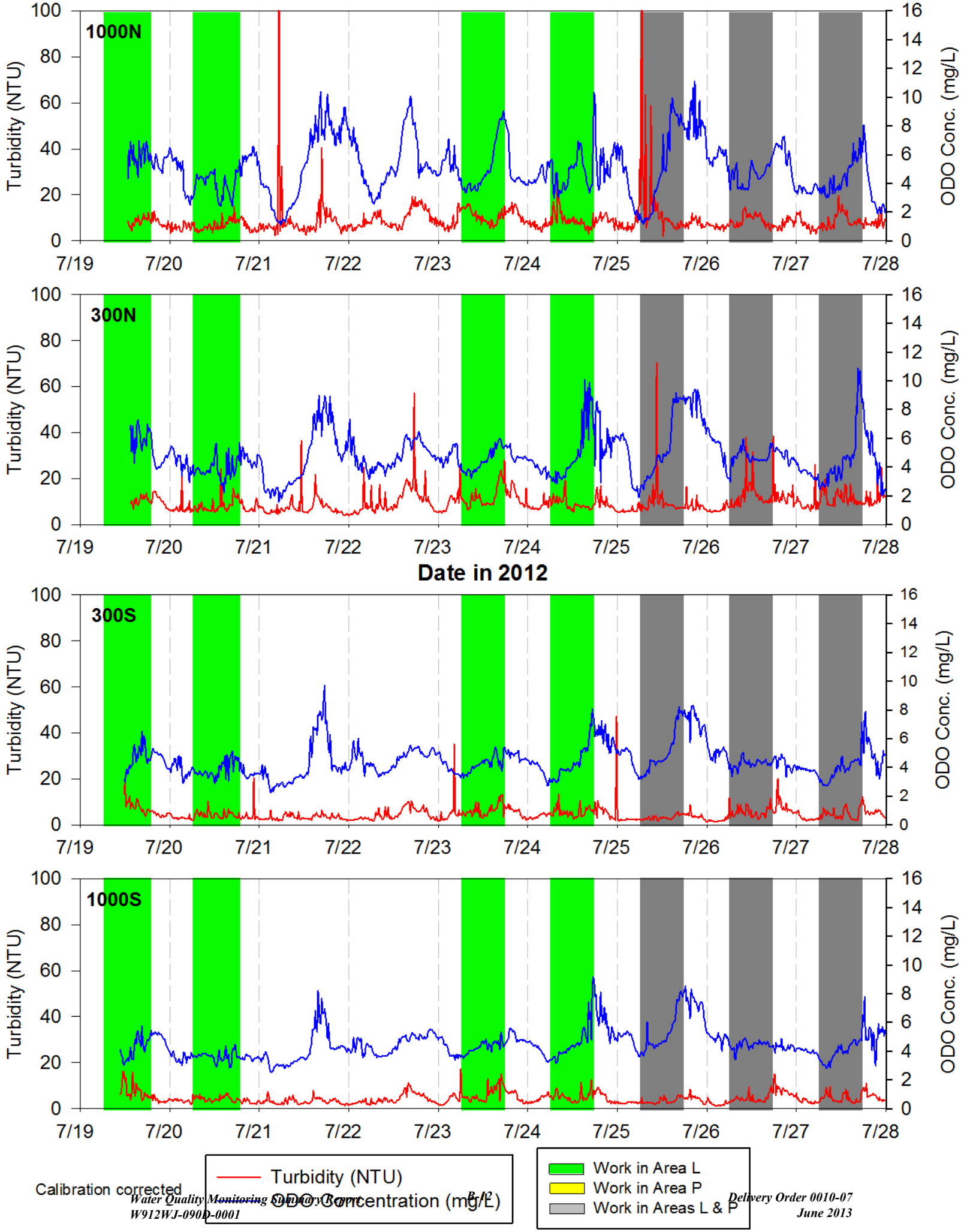
Calibration corrected


1000N
300N
300S
1000S
Temeprature (deg C)
Temperature (deg C)
32
30
28
26
24
22
20
7/13
7/14
7/15
7/16
7/17
7/18
7/19
7/20
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P

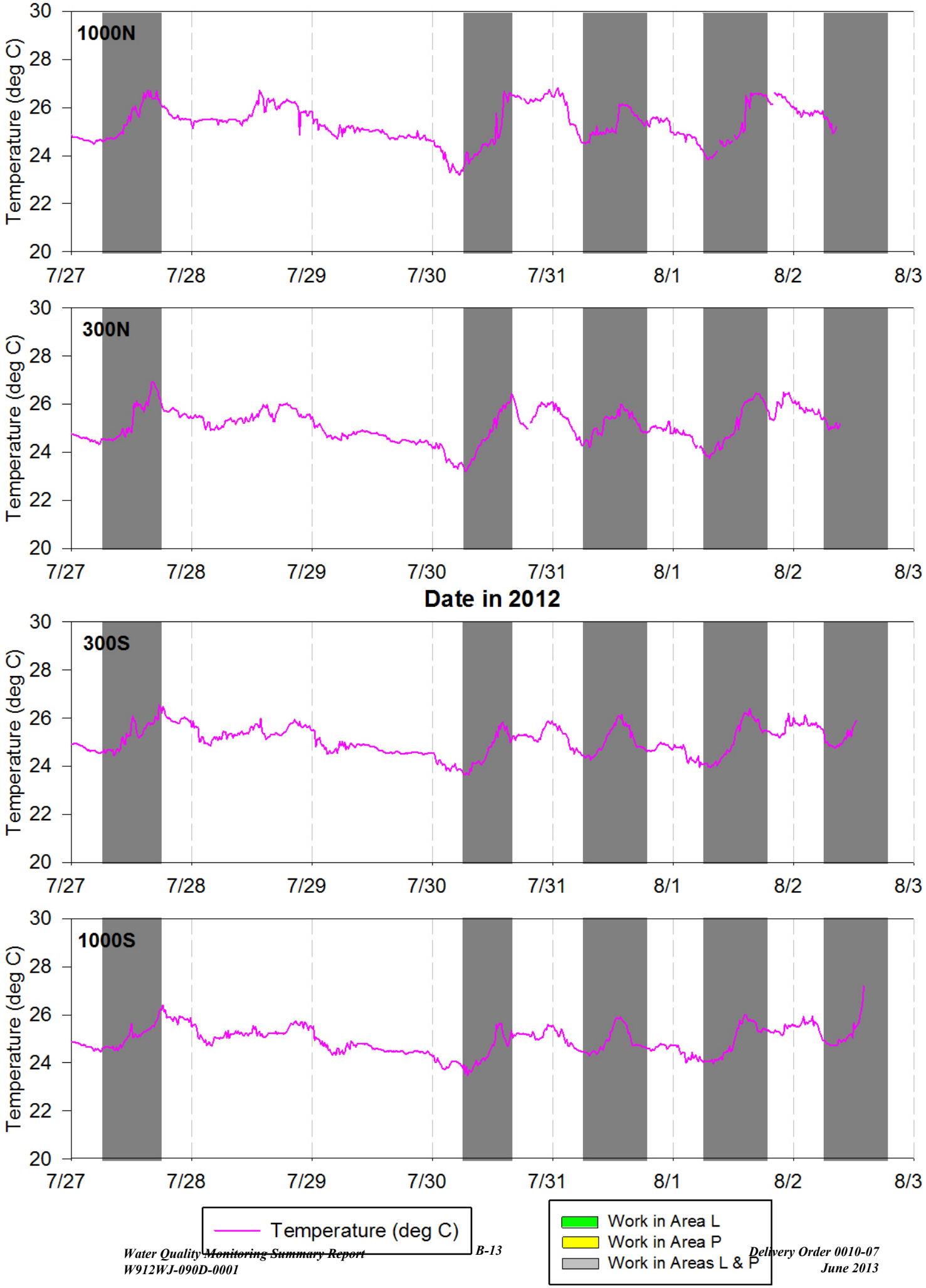


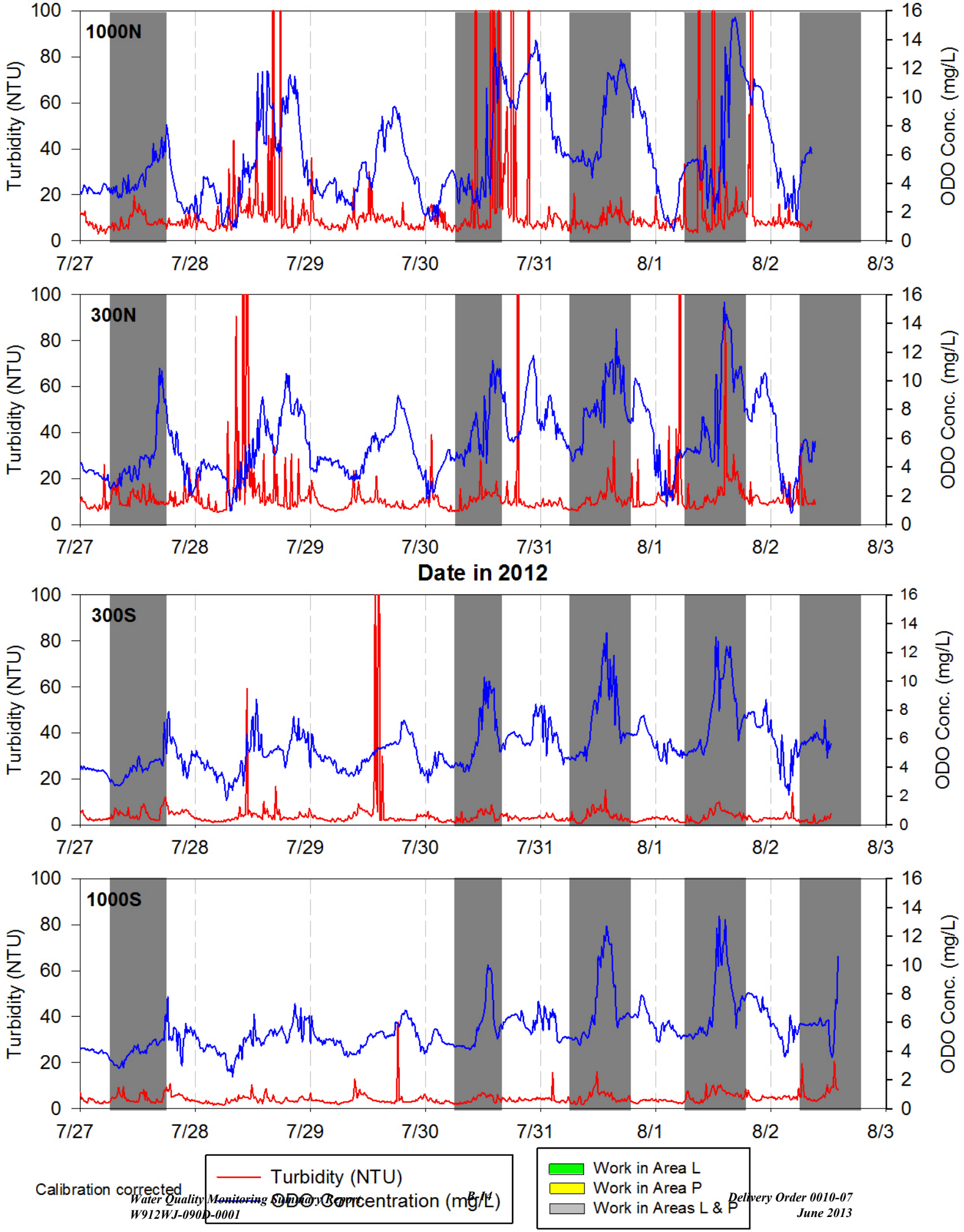
Calibration corrected


1000N
300N
300S
1000S
Temperature (deg C)
30
28
26
24
22
20
7/19
7/20
7/21
7/22
7/23
7/24
7/25
7/26
7/27
7/28
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P

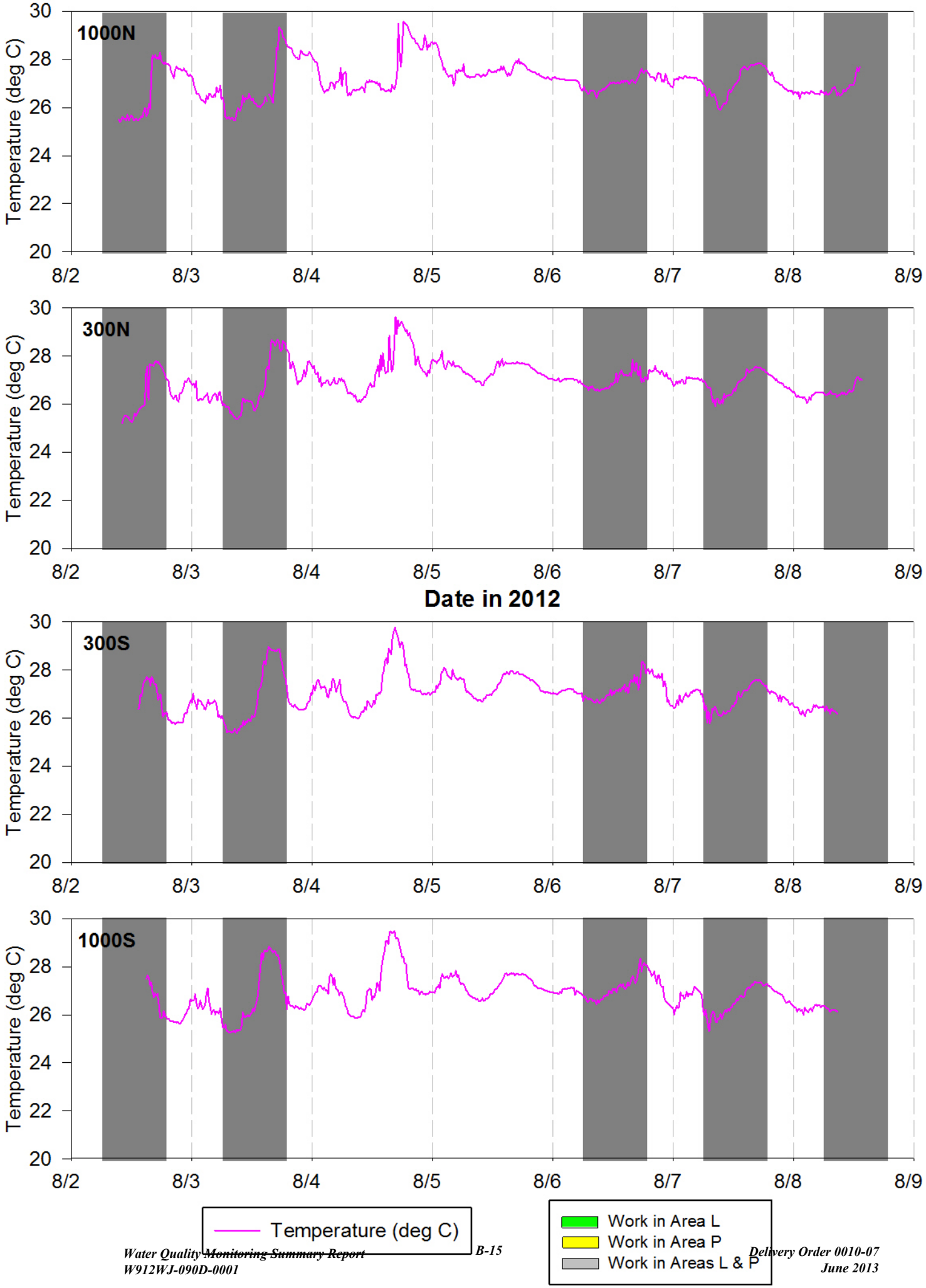


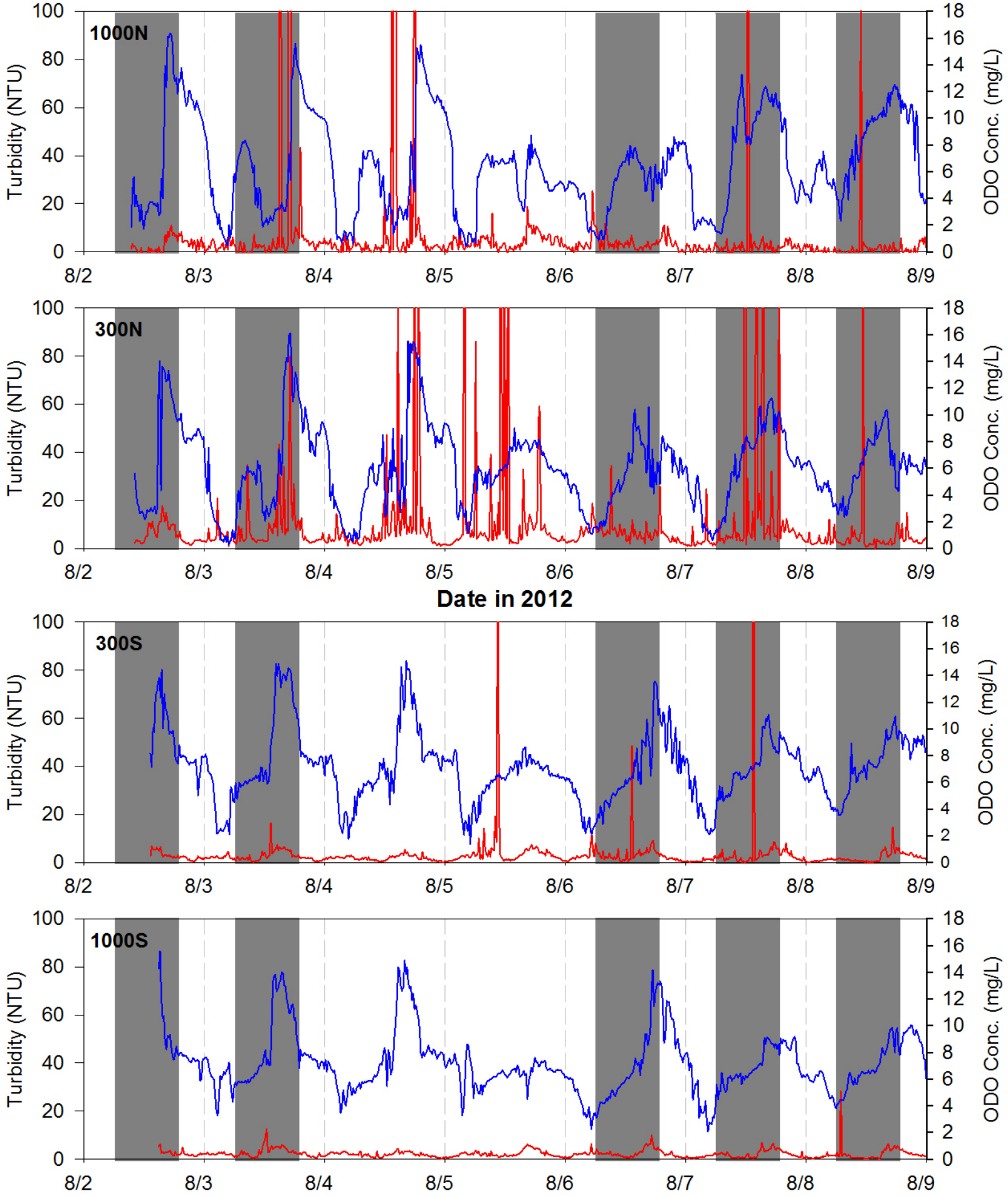
Calibration corrected


1000N
300N
300S
1000S
Temperature (deg C)
30
28
26
24
22
20
7/27
7/28
7/29
7/30
7/31
8/1
8/2
8/3
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P

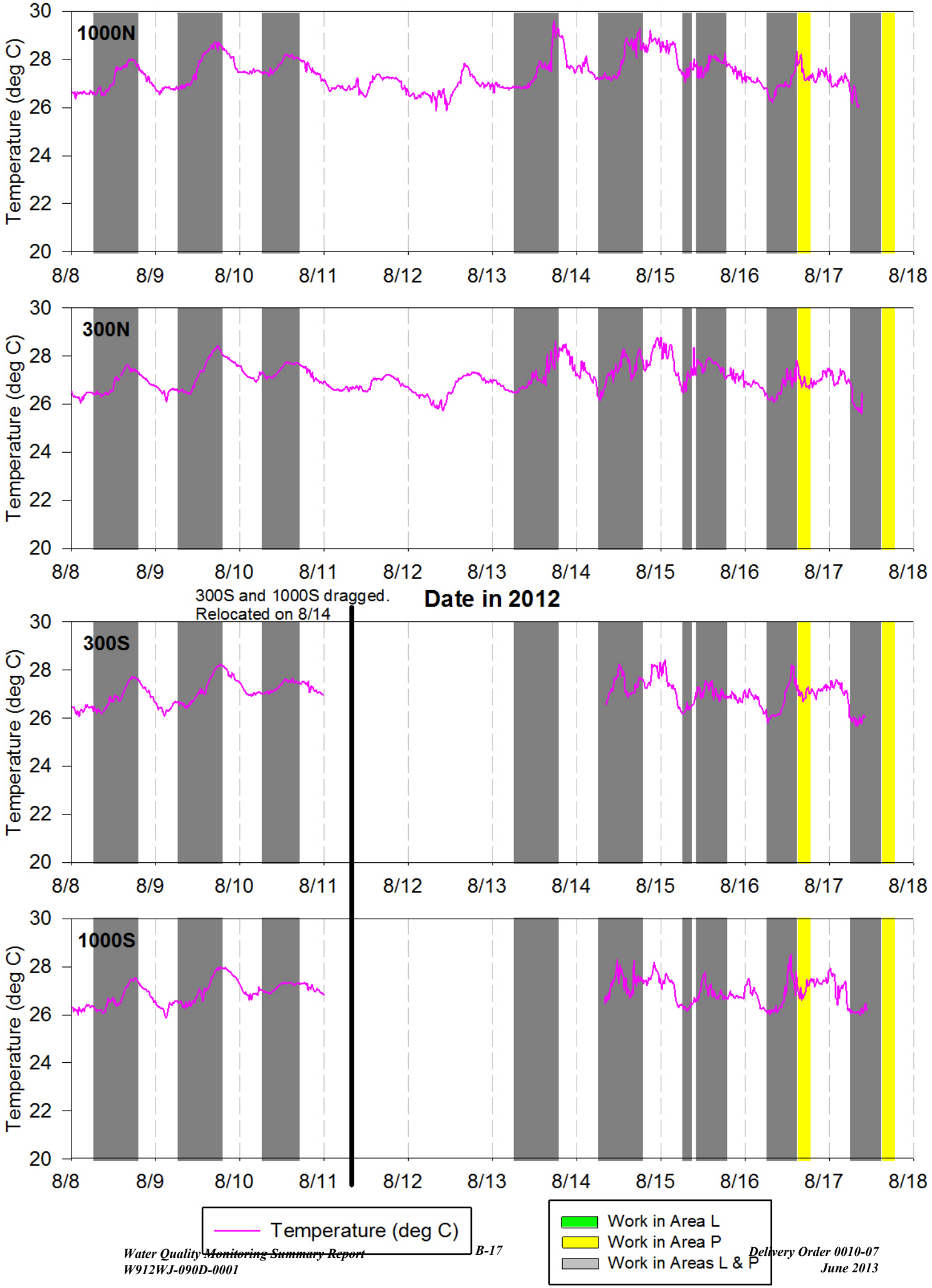


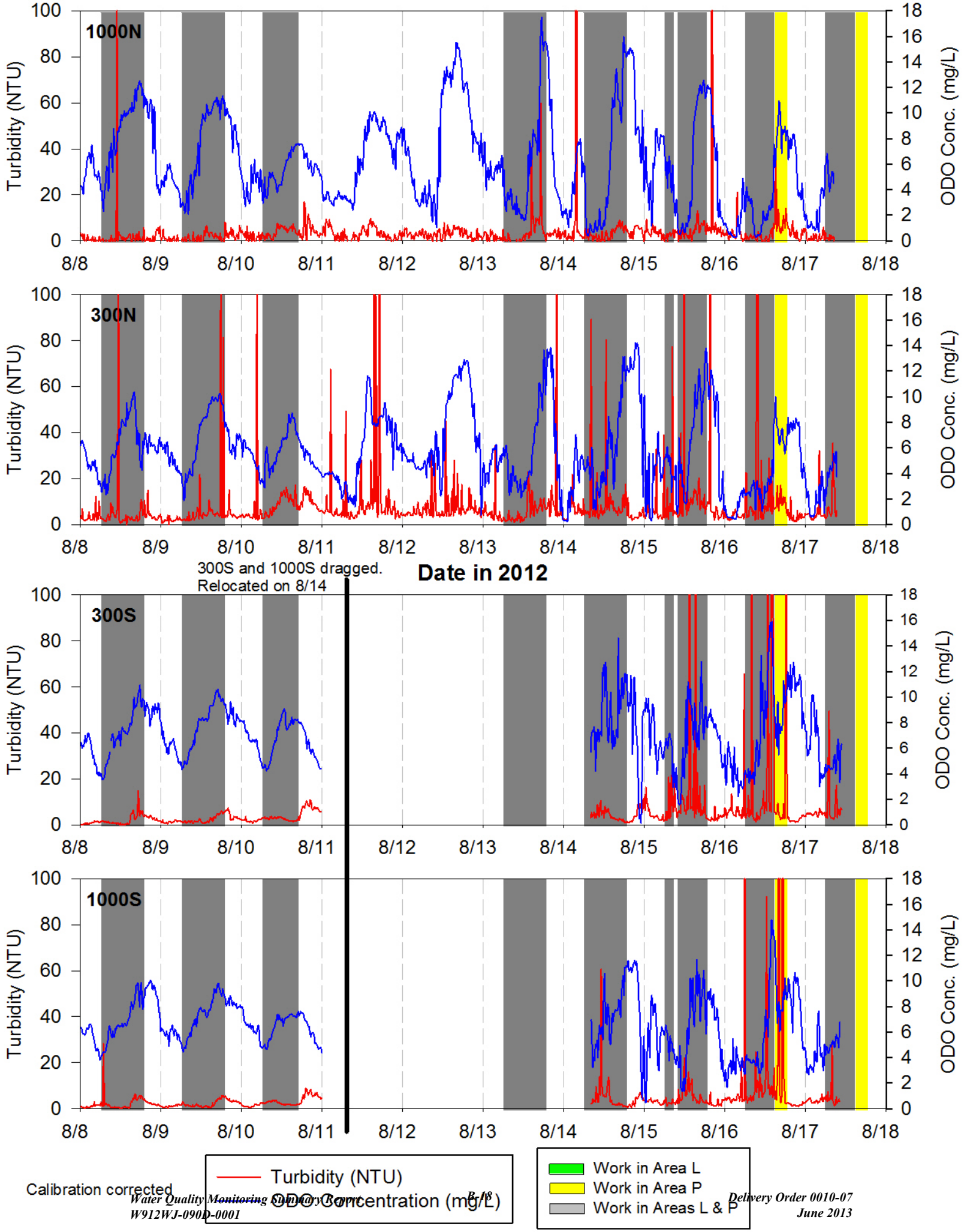
Calibration corrected

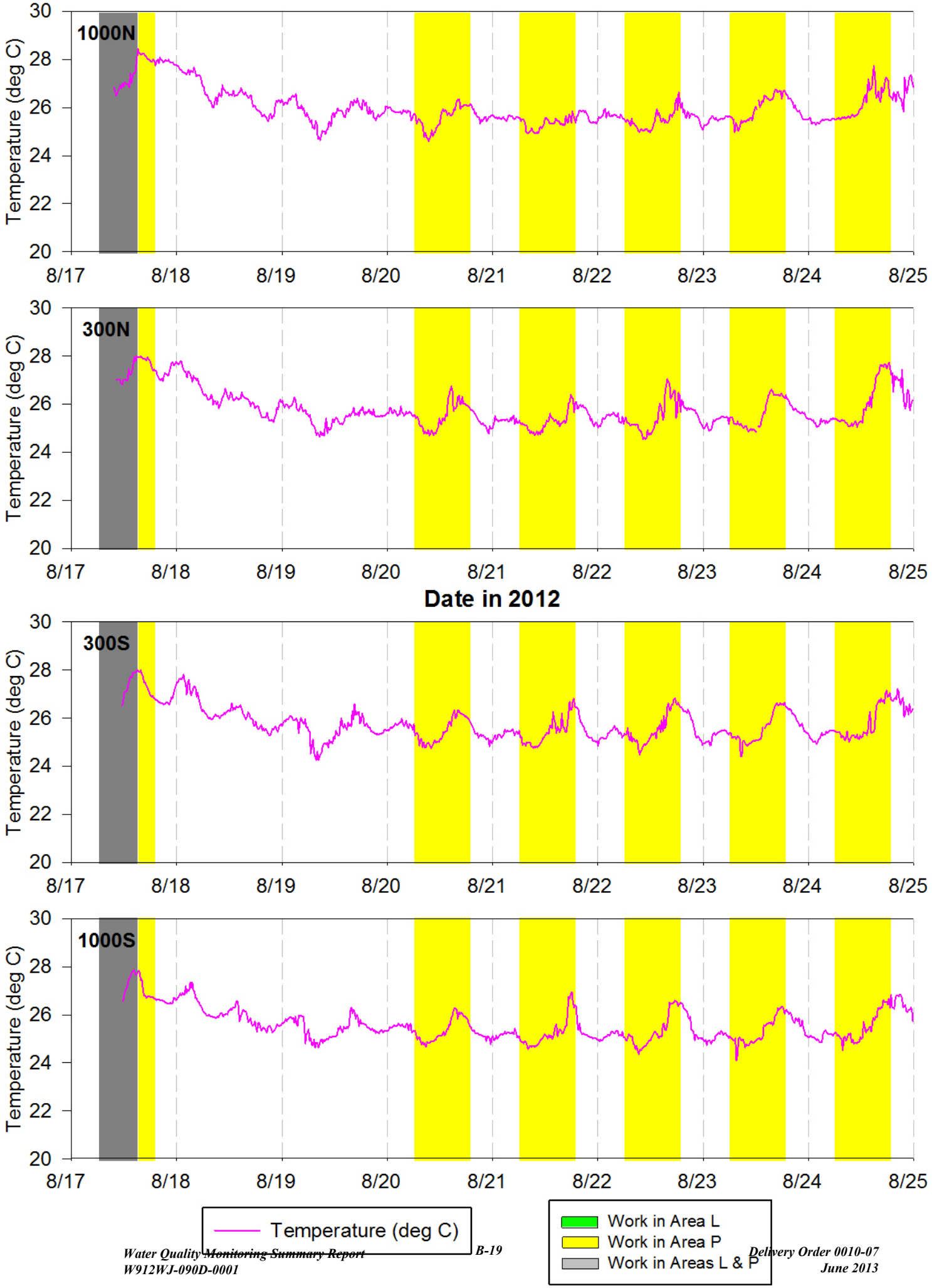

1000N
300N
300S
1000S
Temperature (deg C)
30
28
26
24
22
20
8/2
8/3
8/4
8/5
8/6
8/7
8/8
8/9
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P

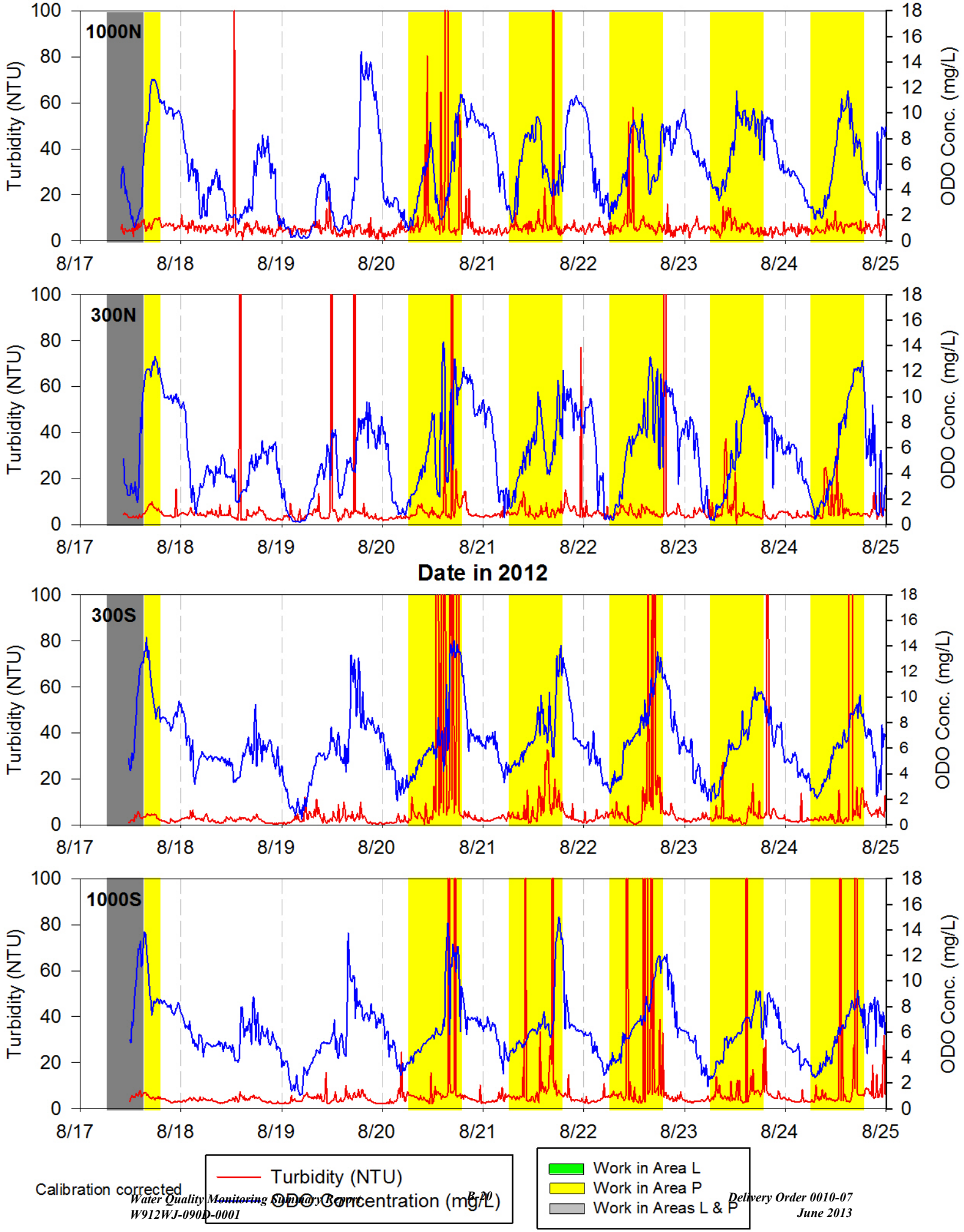


Calibration corrected

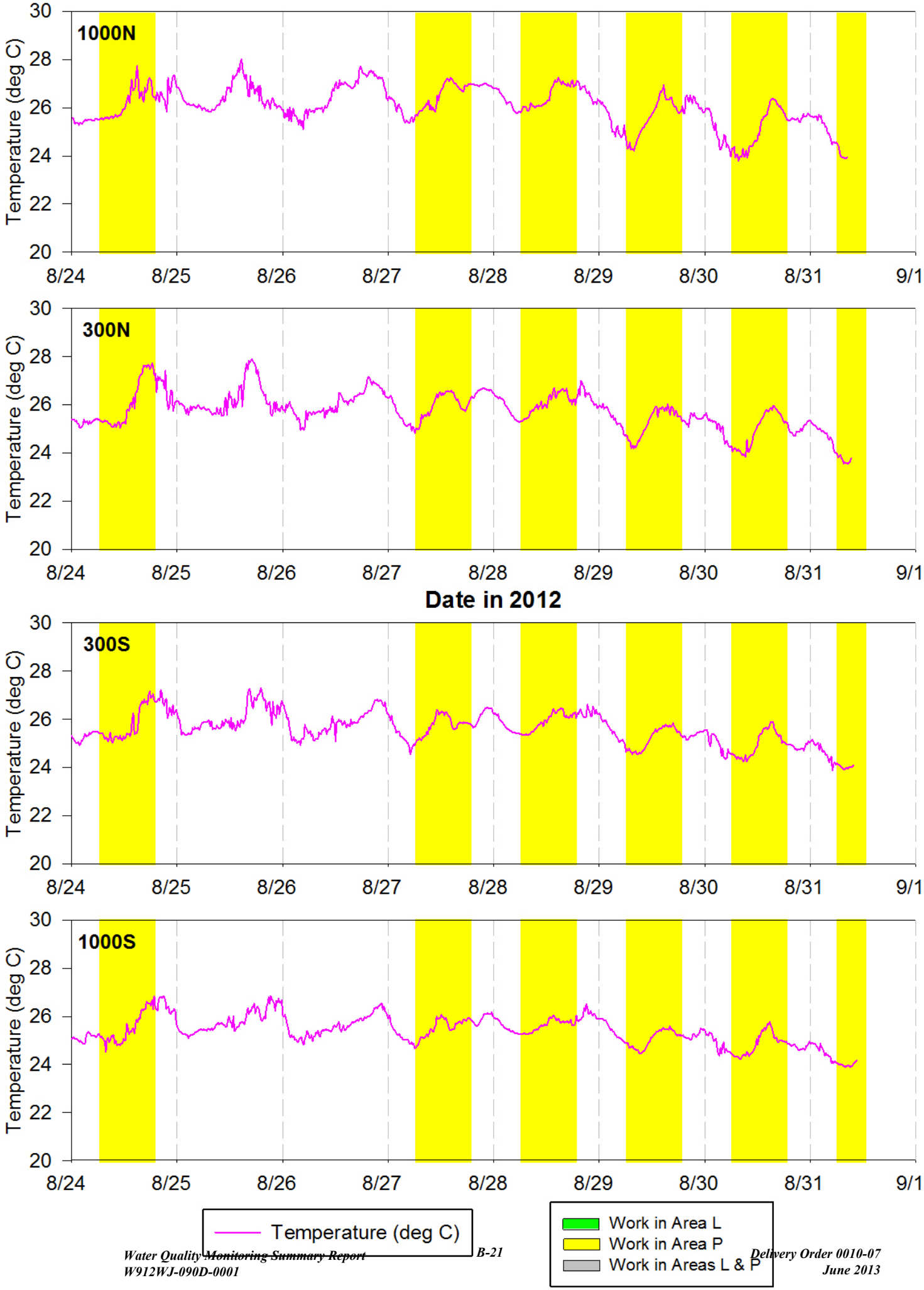

1000N
300N
300S
1000S
Temperature (deg C)
30
28
26
24
22
20
8/8
8/9
8/10
8/11
8/12
8/13
8/14
8/15
8/16
8/17
8/18
300S and 1000S dragged.
Relocated on 8/14
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P

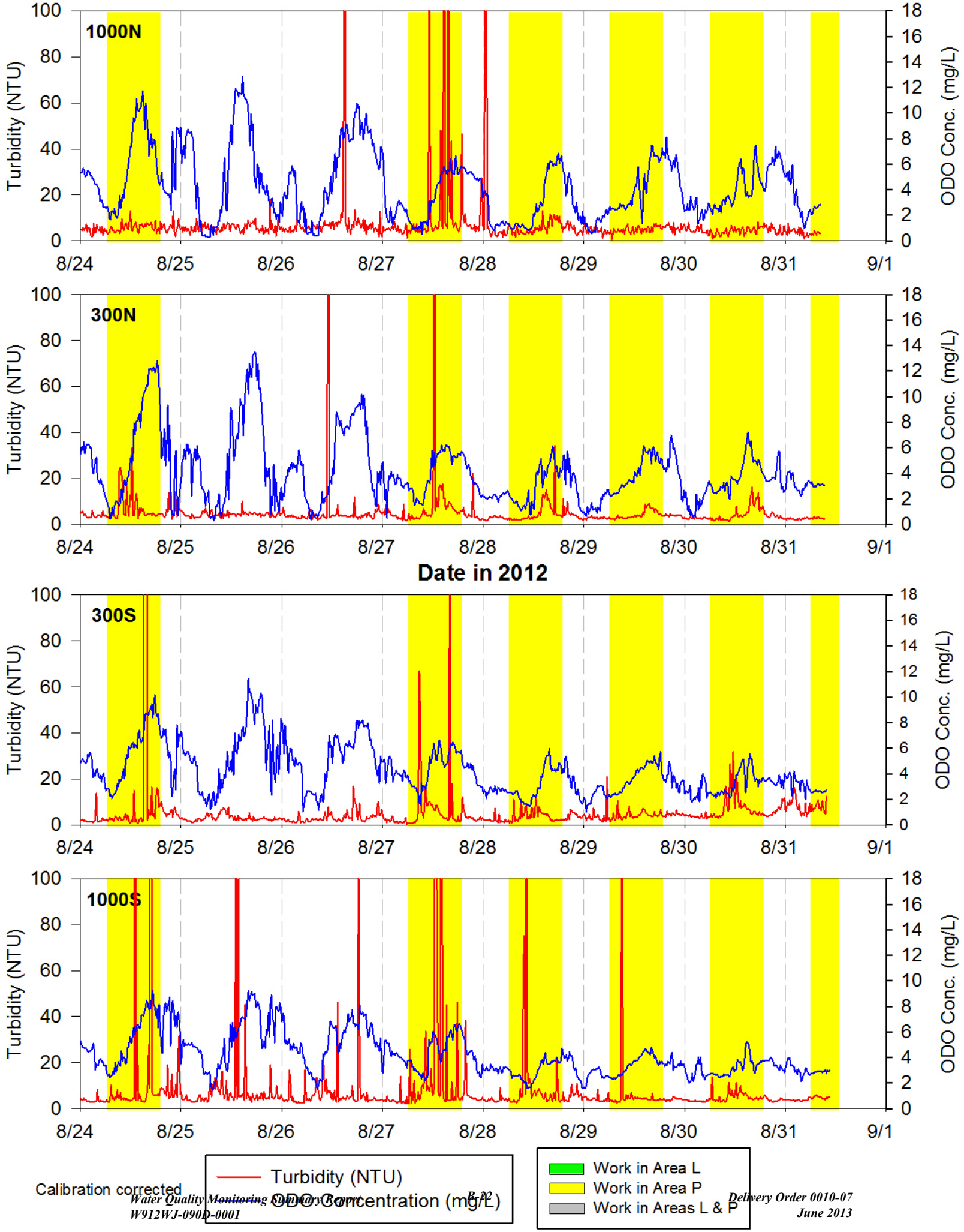

1000N
300N
300S
1000S
Turbidity (NTU)
ODO Conc. (mg/L)
8/8
8/9
8/10
8/11
8/12
8/13
8/14
8/15
8/16
8/17
8/18
300S and 1000S dragged.
Relocated on 8/14
Date in 2012
Calibration corrected
Turbidity (NTU)
ODO Concentration (mg/L)
Work in Area L
Work in Area P
Work in Areas L & P


1000N
300N
300S
1000S
Temperature (deg C)
30
28
26
24
22
20
8/17
8/18
8/19
8/20
8/21
8/22
8/23
8/24
8/25
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P

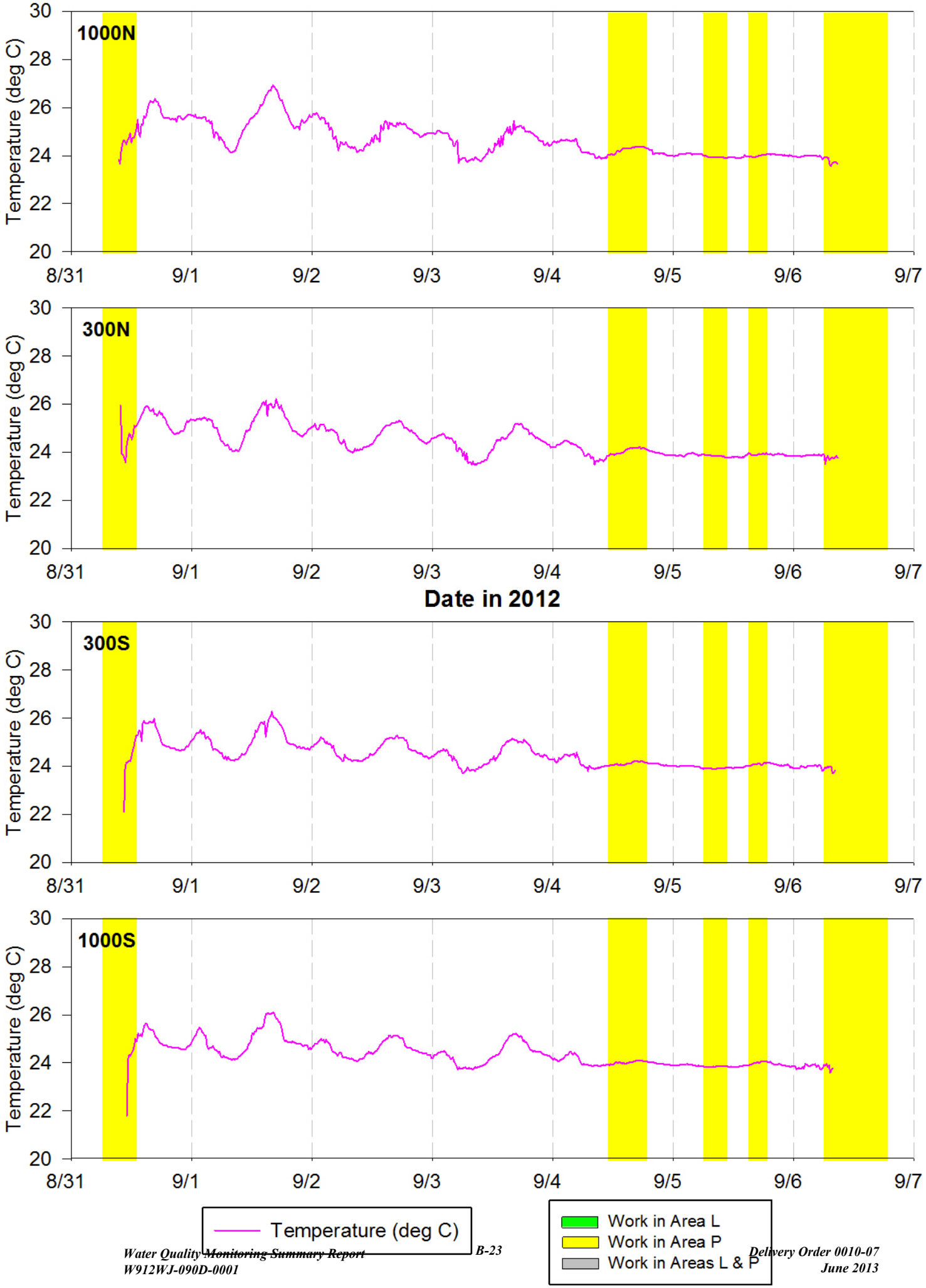


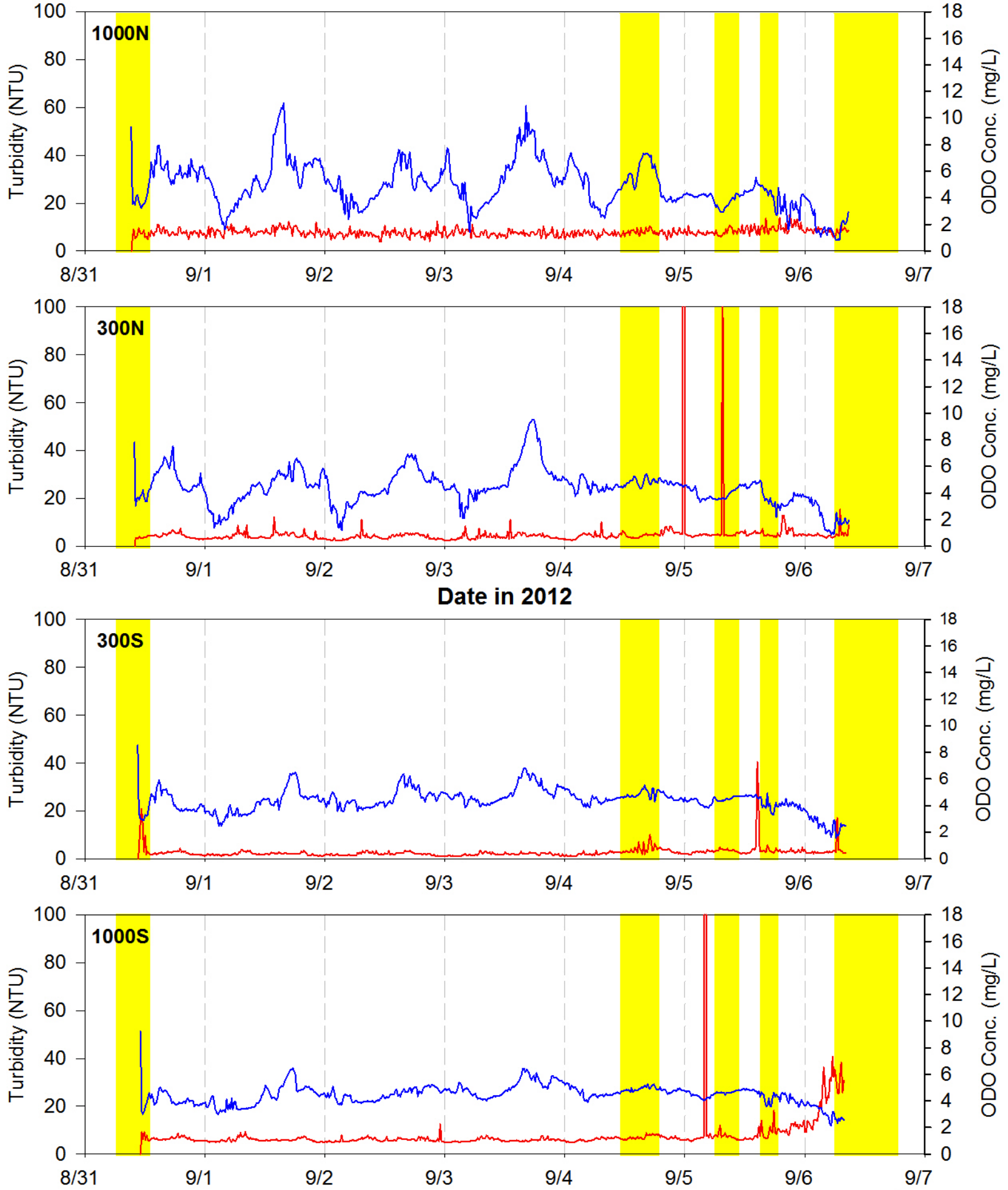
Calibration corrected

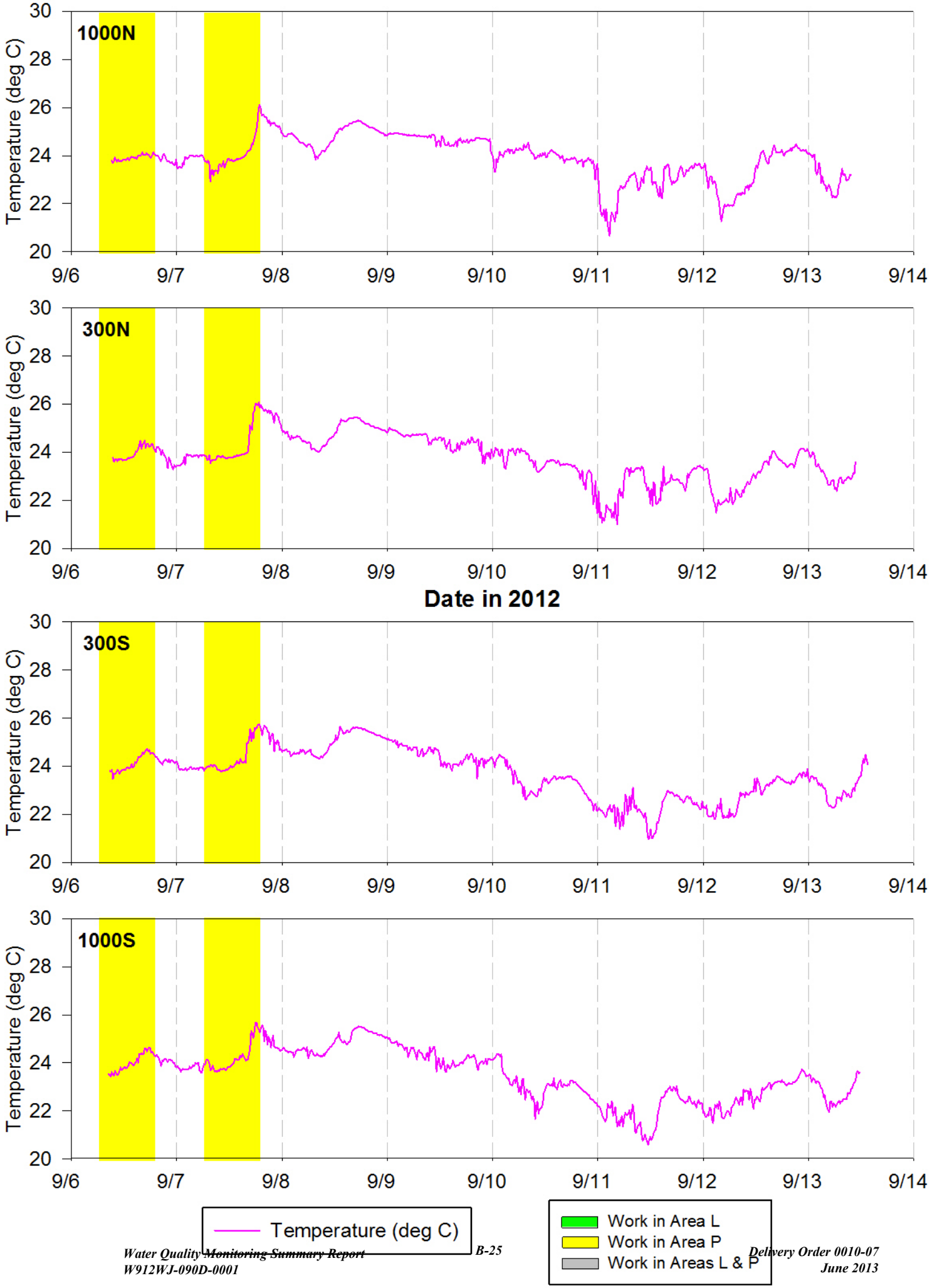

1000N
300N
300S
1000S
Temperature (deg C)
30
28
26
24
22
20
8/24
8/25
8/26
8/27
8/28
8/29
8/30
8/31
9/1
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P

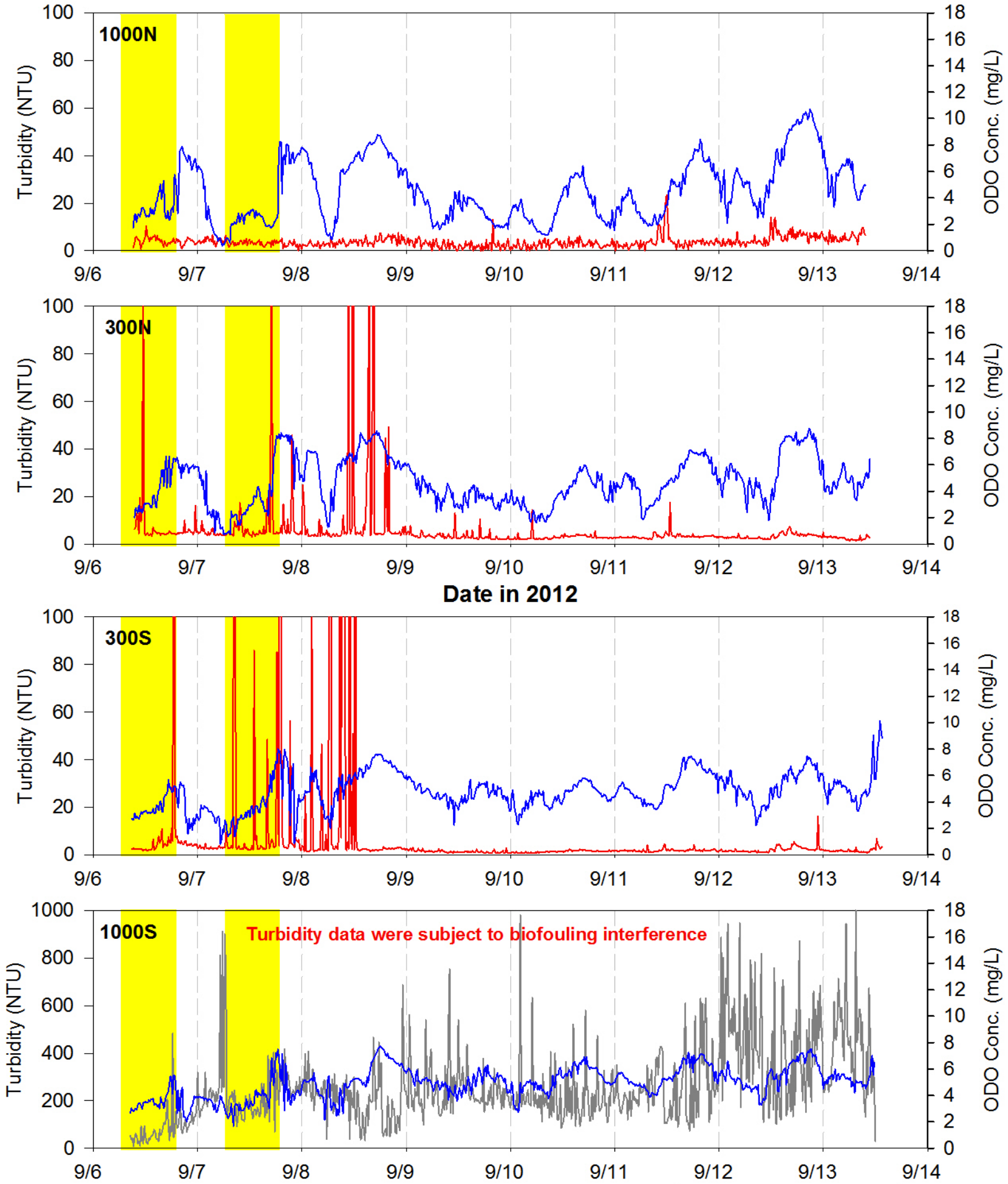


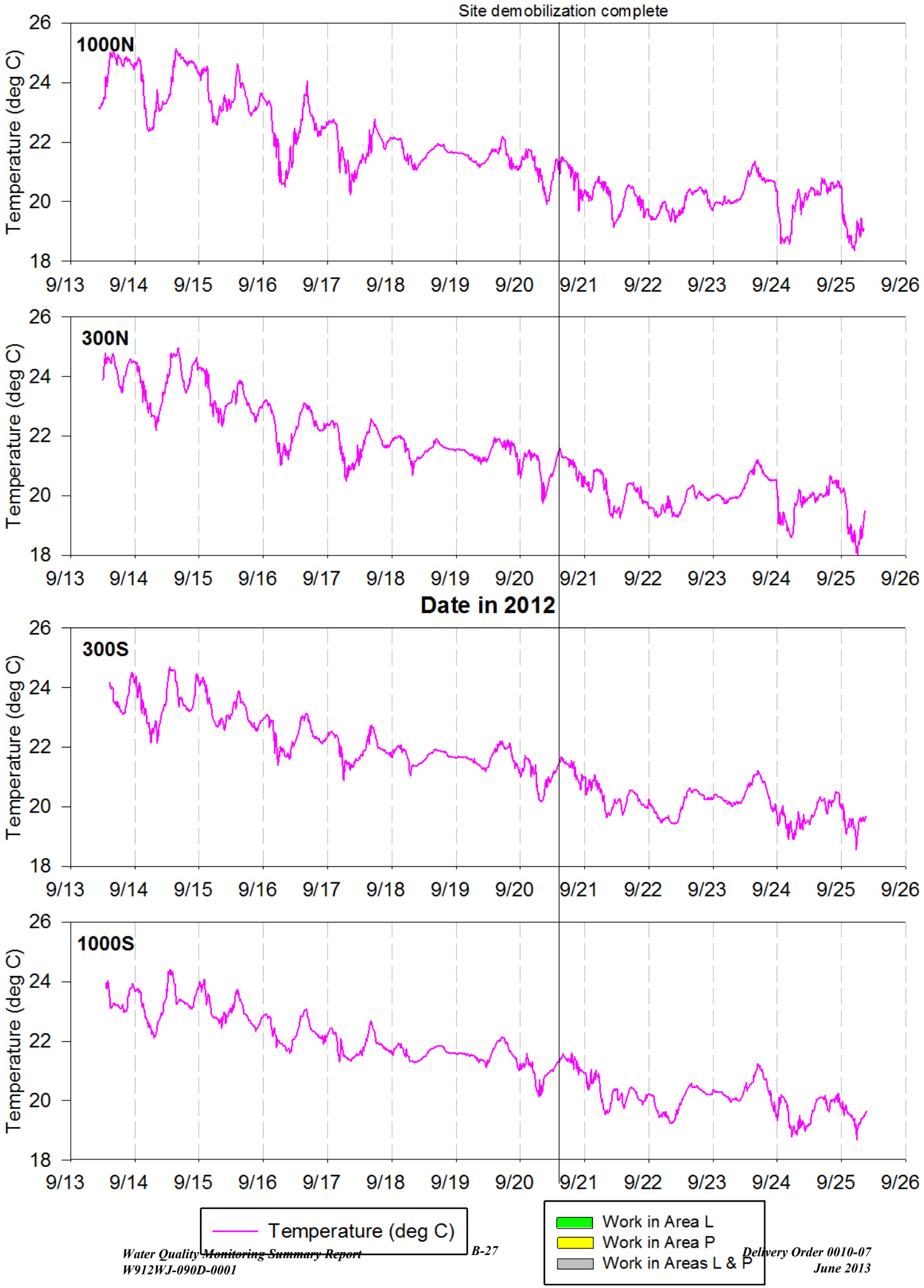
Calibration corrected

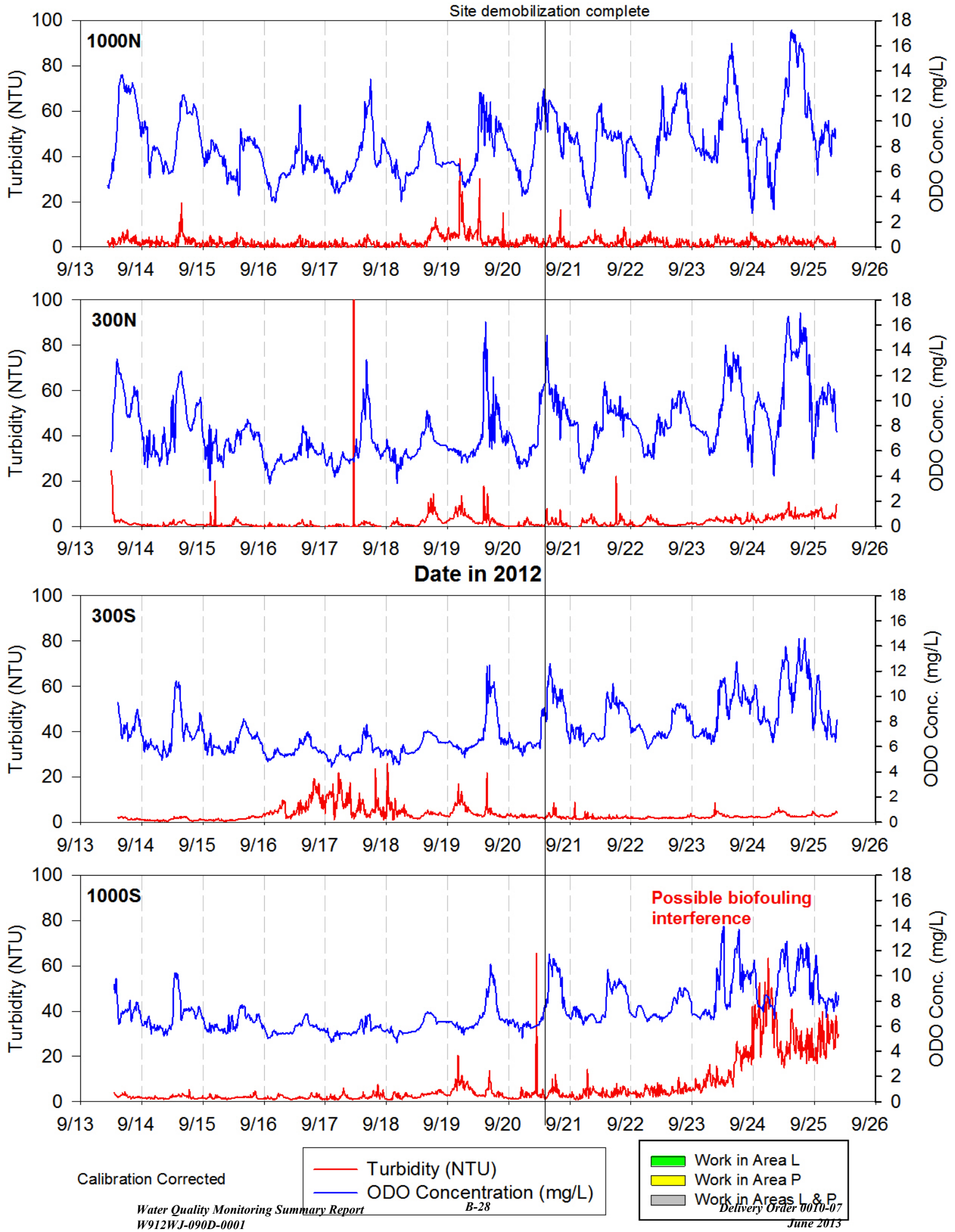

1000N
300N
300S
1000S
Temperature (deg C)
30
28
26
24
22
20
8/31
9/1
9/2
9/3
9/4
9/5
9/6
9/7
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P


1000N
300N
300S
1000S
Turbidity (NTU)
ODO Conc. (mg/L)
8/31
9/1
9/2
9/3
9/4
9/5
9/6
9/7
Date in 2012
Calibration corrected
Turbidity (NTU)
ODO Concentration (mg/L)
Work in Area L
Work in Area P
Work in Areas L & P


1000N
300N
300S
1000S
Temperature (deg C)
30
28
26
24
22
20
9/6
9/7
9/8
9/9
9/10
9/11
9/12
9/13
9/14
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P


1000N
300N
300S
1000S
Turbidity data were subject to biofouling interference
Turbidity (NTU)
ODO Conc. (mg/L)
Date in 2012
9/6
9/7
9/8
9/9
9/10
9/11
9/12
9/13
9/14
Calibration corrected
Turbidity (NTU)
ODO Concentration (mg/L)
Work in Area L
Work in Area P
Work in Areas L & P


Site demobilization complete
1000N
300N
300S
1000S
Temperature (deg C)
26
24
22
20
18
9/13
9/14
9/15
9/16
9/17
9/18
9/19
9/20
9/21
9/22
9/23
9/24
9/25
9/26
Date in 2012
Temperature (deg C)
Work in Area L
Work in Area P
Work in Areas L & P


Site demobilization complete
1000N
300N
300S
1000S
Turbidity (NTU)
ODO Conc. (mg/L)
Date in 2012
9/13
9/14
9/15
9/16
9/17
9/18
9/19
9/20
9/21
9/22
9/23
9/24
9/25
9/26
Possible biofouling interference
Calibration Corrected
Turbidity (NTU)
ODO Concentration (mg/L)
Work in Area L
Work in Area P
Work in Areas L & P

APPENDIX C. ALPHA ANALYTICAL LABORATORY REPORTS

(See Electronic Attachment)

TABLE OF CONTENTS

Introduction C-1

L1209120 ..... C-2

L1210249 ..... C-65

L1211241 ..... C-114

L1211368 ..... C-163

L1211486 ..... C-243

L1212464 ..... C-316

L1213372 ..... C-364

L1214289 ..... C-421

L1215121 ..... C-476

L1216435 ..... C-525

INTRODUCTION

Samples were analyzed at Alpha Analytical Laboratories. Upon receipt, samples were divided into sample delivery groups (SDGs), which were assigned a unique 7-digit number preceded by the letter L. One SDG typically consists of 20 samples. Below is a table summarizing which SDGs are associated with each sampling event as well as the analytes reported.

SDG	Sampling Event	Analytes Reported
L1209120	Baseline Lvl. II	Total PCBs (NOAA-18 Congeners), TSS, Turbidity, TOC
L1210249	Bi-weekly Lvl. II	Total PCBs (NOAA-18 Congeners), TSS, Turbidity, TOC
L1211241	Bi-weekly Lvl. II	Total PCBs (NOAA-18 Congeners), TSS, Turbidity, TOC
L1211368	Level I - Startup	Total PCBs (NOAA-18 Congeners), Dissolved PCBs, TSS, Turbidity, TOC, Metals (not analyzed), Toxicity
L1211486	Level I - Startup	Total PCBs (NOAA-18 Congeners), Dissolved PCBs, TSS, Turbidity, TOC, Metals (not analyzed), Toxicity
L1212464	Bi-weekly Lvl. II	Total PCBs (NOAA-18 Congeners), TSS, Turbidity, TOC
L1213372	Bi-weekly Lvl. II	Total PCBs (NOAA-18 Congeners), TSS, Turbidity, TOC
L1214289	Bi-weekly Lvl. II	Total PCBs (NOAA-18 Congeners), TSS, Turbidity, TOC
L1215121	Bi-weekly Lvl. II	Total PCBs (NOAA-18 Congeners), TSS, Turbidity, TOC
L1216435	Bi-weekly Lvl. II	Total PCBs (NOAA-18 Congeners), TSS, Turbidity, TOC

A SDG is made up of three data files. The table below, using SDG L1209120 as an example, describes the contents of each SDG file.

File name	File type	Description
L1209120_coc	.PDF	Scanned copy of the chain of custody.
L1209120_nbh	.CSV	Comma-delimited spreadsheet of analytical data, formatted for the New Bedford Harbor Database.
L1209120_pdf	.PDF	SDG laboratory report.

This Appendix document includes the SDG laboratory reports only. All other data files associated with each SDG are included as electronic attachments on the accompanying CD.

ANALYTICAL REPORT

Lab Number:	L1209120
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD WATER QUALITY
Project Number:	TO-0010-06
Report Date:	06/08/12

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), 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 WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1209120-01	WQ-TPC-001-052312	NEW BEDFORD, MA	05/23/12 09:10
L1209120-02	WQ-TSS-001-052312	NEW BEDFORD, MA	05/23/12 09:10
L1209120-03	WQ-TUR-001-052312	NEW BEDFORD, MA	05/23/12 09:10
L1209120-04	WQ-TOC-001-052312	NEW BEDFORD, MA	05/23/12 09:10
L1209120-05	WQ-TPC-002-052312	NEW BEDFORD, MA	05/23/12 09:45
L1209120-06	WQ-TSS-002-052312	NEW BEDFORD, MA	05/23/12 09:45
L1209120-07	WQ-TUR-002-052312	NEW BEDFORD, MA	05/23/12 09:45
L1209120-08	WQ-TOC-002-052312	NEW BEDFORD, MA	05/23/12 09:45
L1209120-09	WQ-TPC-002-052312-REP	NEW BEDFORD, MA	05/23/12 09:50
L1209120-10	WQ-TSS-002-052312-REP	NEW BEDFORD, MA	05/23/12 09:50
L1209120-11	WQ-TUR-002-052312-REP	NEW BEDFORD, MA	05/23/12 09:50
L1209120-12	WQ-TOC-002-052312-REP	NEW BEDFORD, MA	05/23/12 09:50
L1209120-13	WQ-TPC-003-052312	NEW BEDFORD, MA	05/23/12 10:50
L1209120-14	WQ-TSS-003-052312	NEW BEDFORD, MA	05/23/12 10:50
L1209120-15	WQ-TUR-003-052312	NEW BEDFORD, MA	05/23/12 10:50
L1209120-16	WQ-TOC-003-052312	NEW BEDFORD, MA	05/23/12 10:50
L1209120-17	WQ-TPC-004-052312	NEW BEDFORD, MA	05/23/12 10:50
L1209120-18	WQ-TSS-004-052312	NEW BEDFORD, MA	05/23/12 10:50
L1209120-19	WQ-TUR-004-052312	NEW BEDFORD, MA	05/23/12 10:50
L1209120-20	WQ-TOC-004-052312	NEW BEDFORD, MA	05/23/12 10:50
L1209120-21	EB-001-052312	NEW BEDFORD, MA	05/23/12 10:50

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120
Project Number: TO-0010-06 **Report Date:** 06/08/12

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120
Project Number: TO-0010-06 **Report Date:** 06/08/12

Case Narrative (continued)

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 whether it was the higher or lower value.

L1209120-13 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

The surrogate recoveries for WG537910-4/-5 are below the acceptance criteria for DBOB(0%)/(0%) and BZ 198 (0%)/(0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

.

Total Organic Carbon

L1209120-08, -12, -16, and -20 have elevated detection limits due to the dilution required by the sample matrix.

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: 06/08/12

ORGANICS

PCBS

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-01	Date Collected:	05/23/12 09:10
Client ID:	WQ-TPC-001-052312	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 14:59		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.02419		ug/l	0.00250	--	1
Cl3-BZ#18	0.04956		ug/l	0.00250	--	1
Cl4-BZ#52	0.02969		ug/l	0.00250	--	1
Cl4-BZ#44	0.01053		ug/l	0.00250	--	1
Cl4-BZ#66	0.00819		ug/l	0.00250	--	1
Cl5-BZ#118	0.00410		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	0.00374		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	0.00265		ug/l	0.00250	--	1
Cl7-BZ#170	0.00265		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl10-BZ#209	0.00274		ug/l	0.00250	--	1

DBOB	69	30-150
BZ 198	89	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-01	Date Collected:	05/23/12 09:10
Client ID:	WQ-TPC-001-052312	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 14:59		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.03496		ug/l	0.00250	--	1
Cl5-BZ#101	0.00599		ug/l	0.00250	--	1
Cl6-BZ#153	0.00364		ug/l	0.00250	--	1
Cl9-BZ#206	0.00296		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	69		30-150
BZ 198	89		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-05	Date Collected:	05/23/12 09:45
Client ID:	WQ-TPC-002-052312	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 17:10		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.01956		ug/l	0.00250	--	1
Cl3-BZ#18	0.03374		ug/l	0.00250	--	1
Cl4-BZ#52	0.02934		ug/l	0.00250	--	1
Cl4-BZ#44	0.00885		ug/l	0.00250	--	1
Cl4-BZ#66	0.00701		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	ND		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

DBOB	67	30-150
BZ 198	97	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-05	Date Collected:	05/23/12 09:45
Client ID:	WQ-TPC-002-052312	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 17:10		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.03463		ug/l	0.00250	--	1
Cl5-BZ#101	0.0047		ug/l	0.00250	--	1
Cl5-BZ#118	0.00283		ug/l	0.00250	--	1
Cl6-BZ#153	0.00252		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	67		30-150
BZ 198	97		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-09	Date Collected:	05/23/12 09:50
Client ID:	WQ-TPC-002-052312-REP	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 16:26		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.02005		ug/l	0.00250	--	1
Cl3-BZ#18	0.04491		ug/l	0.00250	--	1
Cl4-BZ#52	0.02667		ug/l	0.00250	--	1
Cl4-BZ#44	0.00844		ug/l	0.00250	--	1
Cl4-BZ#66	0.00632		ug/l	0.00250	--	1
Cl5-BZ#118	ND		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	ND		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

DBOB	65	30-150
BZ 198	90	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-09	Date Collected:	05/23/12 09:50
Client ID:	WQ-TPC-002-052312-REP	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 16:26		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.02863		ug/l	0.00250	--	1
Cl5-BZ#101	0.00450		ug/l	0.00250	--	1
Cl6-BZ#153	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	65		30-150
BZ 198	90		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-13	Date Collected:	05/23/12 10:50
Client ID:	WQ-TPC-003-052312	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 17:53		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.12216		ug/l	0.01250	--	5
Cl3-BZ#18	0.19855		ug/l	0.01250	--	5
Cl4-BZ#52	0.26476		ug/l	0.01250	--	5
Cl4-BZ#66	0.06180		ug/l	0.01250	--	5
Cl5-BZ#118	0.02453		ug/l	0.01250	--	5
Cl5-BZ#105	ND		ug/l	0.01250	--	5
Cl6-BZ#138	0.02396		ug/l	0.01250	--	5
Cl7-BZ#187	ND		ug/l	0.01250	--	5
Cl6-BZ#128	ND		ug/l	0.01250	--	5
Cl7-BZ#180	ND		ug/l	0.01250	--	5
Cl7-BZ#170	ND		ug/l	0.01250	--	5
Cl8-BZ#195	ND		ug/l	0.01250	--	5
Cl9-BZ#206	ND		ug/l	0.01250	--	5
Cl10-BZ#209	ND		ug/l	0.01250	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	59		30-150
BZ 198	88		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-13	Date Collected:	05/23/12 10:50
Client ID:	WQ-TPC-003-052312	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 17:53		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.25541		ug/l	0.01250	--	5
Cl4-BZ#44	0.09324		ug/l	0.01250	--	5
Cl5-BZ#101	0.05309		ug/l	0.01250	--	5
Cl6-BZ#153	0.03298		ug/l	0.01250	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	59		30-150
BZ 198	88		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-17	Date Collected:	05/23/12 10:50
Client ID:	WQ-TPC-004-052312	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 18:37		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.02270		ug/l	0.00250	--	1
Cl3-BZ#18	0.04360		ug/l	0.00250	--	1
Cl4-BZ#52	0.03210		ug/l	0.00250	--	1
Cl4-BZ#66	0.00944		ug/l	0.00250	--	1
Cl5-BZ#118	0.00429		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	ND		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

DBOB	58	30-150
BZ 198	86	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-17	Date Collected:	05/23/12 10:50
Client ID:	WQ-TPC-004-052312	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 18:37		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.03072		ug/l	0.00250	--	1
Cl4-BZ#44	0.01061		ug/l	0.00250	--	1
Cl5-BZ#101	0.00636		ug/l	0.00250	--	1
Cl6-BZ#153	0.00357		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	58		30-150
BZ 198	86		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-21	Date Collected:	05/23/12 10:50
Client ID:	EB-001-052312	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 14:15		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	ND		ug/l	0.00250	--	1
Cl3-BZ#18	ND		ug/l	0.00250	--	1
Cl3-BZ#28	ND		ug/l	0.00250	--	1
Cl4-BZ#52	ND		ug/l	0.00250	--	1
Cl4-BZ#44	ND		ug/l	0.00250	--	1
Cl4-BZ#66	ND		ug/l	0.00250	--	1
Cl5-BZ#101	ND		ug/l	0.00250	--	1
Cl5-BZ#118	ND		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	ND		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	54		30-150
BZ 198	79		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

SAMPLE RESULTS

Lab ID:	L1209120-21	Date Collected:	05/23/12 10:50
Client ID:	EB-001-052312	Date Received:	05/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	05/24/12 13:30
Analytical Date:	05/31/12 14:15		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl6-BZ#153	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	54		30-150
BZ 198	79		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 05/31/12 12:04
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 05/24/12 13:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13,17,21 Batch: WG537910-1					
Cl2-BZ#8	ND		ug/l	0.00250	--
Cl3-BZ#18	ND		ug/l	0.00250	--
Cl3-BZ#28	ND		ug/l	0.00250	--
Cl4-BZ#52	ND		ug/l	0.00250	--
Cl4-BZ#44	ND		ug/l	0.00250	--
Cl4-BZ#66	ND		ug/l	0.00250	--
Cl5-BZ#101	ND		ug/l	0.00250	--
Cl5-BZ#118	ND		ug/l	0.00250	--
Cl5-BZ#105	ND		ug/l	0.00250	--
Cl6-BZ#138	ND		ug/l	0.00250	--
Cl7-BZ#187	ND		ug/l	0.00250	--
Cl6-BZ#128	ND		ug/l	0.00250	--
Cl7-BZ#180	ND		ug/l	0.00250	--
Cl7-BZ#170	ND		ug/l	0.00250	--
Cl8-BZ#195	ND		ug/l	0.00250	--
Cl9-BZ#206	ND		ug/l	0.00250	--
Cl10-BZ#209	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	67		30-150
BZ 198	98		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 05/31/12 12:04
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 05/24/12 13:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13,17,21 Batch: WG537910-1					
Cl6-BZ#153	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	67		30-150
BZ 198	98		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06
Lab Number: L1209120
Report Date: 06/08/12

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17,21 QC Batch ID: WG537910-4 WG537910-5 QC Sample: L1209120-17
Client ID: WQ-TPC-004-052312

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Cl2-BZ#8	0.02270	100	63.423	63		63.469	63		40-140	0		30
Cl3-BZ#18	0.04360	100	61.692	62		62.115	62		40-140	1		30
Cl4-BZ#52	0.03210	100	67.584	68		70.669	71		40-140	4		30
Cl4-BZ#66	0.00944	100	63.762	64		71.025	71		40-140	11		30
Cl5-BZ#118	0.00429	100	65.652	66		74.337	74		40-140	12		30
Cl5-BZ#105	ND	100	66.367	66		77.868	78		40-140	16		30
Cl6-BZ#138	ND	100	65.542	66		74.328	74		40-140	13		30
Cl7-BZ#187	ND	100	61.362	61		67.660	68		40-140	10		30
Cl6-BZ#128	ND	100	66.924	67		76.024	76		40-140	13		30
Cl7-BZ#180	ND	100	73.172	73		82.322	82		40-140	12		30
Cl7-BZ#170	ND	100	70.577	70		81.788	82		40-140	15		30
Cl8-BZ#195	ND	100	69.715	70		78.518	78		40-140	12		30
Cl9-BZ#206	ND	100	78.952	79		90.272	90		40-140	13		30
Cl10-BZ#209	ND	100	68.930	69		78.611	79		40-140	13		30
Cl3-BZ#28	0.03072	100	70.974	71		73.987	74		40-140	4		30
Cl4-BZ#44	0.01061	100	63.011	63		65.166	65		40-140	3		30
Cl5-BZ#101	0.00636	100	61.286	61		65.930	66		40-140	7		30
Cl6-BZ#153	0.00357	100	58.712	59		64.698	65		40-140	10		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06
Lab Number: L1209120
Report Date: 06/08/12

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): 01,05,09,13,17,21 QC Batch ID: WG537910-4 WG537910-5 QC Sample: L1209120-17 Client ID: WQ-TPC-004-052312												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
BZ 198	**0**	Q	**0**	Q	30-150
DBOB	**0**	Q	**0**	Q	30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-06

Lab Number: L1209120

Report Date: 06/08/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17,21 Batch: WG537910-2 WG537910-3								
Cl2-BZ#8	63		72		40-140	14		30
Cl3-BZ#18	60		68		40-140	14		30
Cl3-BZ#28	73		80		40-140	9		30
Cl4-BZ#52	68		76		40-140	11		30
Cl4-BZ#44	67		73		40-140	8		30
Cl4-BZ#66	72		75		40-140	4		30
Cl5-BZ#101	67		71		40-140	5		30
Cl5-BZ#118	77		78		40-140	1		30
Cl5-BZ#105	83		81		40-140	2		30
Cl6-BZ#138	79		78		40-140	1		30
Cl7-BZ#187	72		71		40-140	1		30
Cl6-BZ#128	81		81		40-140	0		30
Cl7-BZ#180	87		84		40-140	3		30
Cl7-BZ#170	88		86		40-140	3		30
Cl8-BZ#195	84		84		40-140	0		30
Cl9-BZ#206	98		94		40-140	4		30
Cl10-BZ#209	84		82		40-140	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-06

Lab Number: L1209120

Report Date: 06/08/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17,21 Batch: WG537910-2 WG537910-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	59		67		30-150
BZ 198	88		86		30-150

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17,21 Batch: WG537910-2 WG537910-3								
Cl6-BZ#153	68		69		40-140	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	59		67		30-150
BZ 198	88		86		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-02
Client ID: WQ-TSS-001-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 09:10
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	2.00		mg/l	1.00	NA	1	-	05/25/12 13:40	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06
Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-03
Client ID: WQ-TUR-001-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 09:10
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	1.8		NTU	0.20	--	1	-	05/23/12 19:00	30,2130B	ML

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06
Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-04
Client ID: WQ-TOC-001-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 09:10
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	4.0		mg/l	4.0	--	8	-	06/06/12 08:10	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-06
Client ID: WQ-TSS-002-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 09:45
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	2.20		mg/l	1.00	NA	1	-	05/25/12 13:40	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06
Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-07
Client ID: WQ-TUR-002-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 09:45
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	1.8		NTU	0.20	--	1	-	05/23/12 19:00	30,2130B	ML

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-08
Client ID: WQ-TOC-002-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 09:45
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	06/06/12 08:10	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-10
Client ID: WQ-TSS-002-052312-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 09:50
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	2.80		mg/l	1.00	NA	1	-	05/25/12 13:40	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-11
Client ID: WQ-TUR-002-052312-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 09:50
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	1.6		NTU	0.20	--	1	-	05/23/12 19:00	30,2130B	ML

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-12
Client ID: WQ-TOC-002-052312-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 09:50
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	06/06/12 08:10	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-14
Client ID: WQ-TSS-003-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 10:50
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	3.50		mg/l	1.00	NA	1	-	05/25/12 13:40	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-15
Client ID: WQ-TUR-003-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 10:50
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	2.5		NTU	0.20	--	1	-	05/23/12 19:00	30,2130B	ML

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06
Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-16
Client ID: WQ-TOC-003-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 10:50
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	06/06/12 08:10	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06
Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-18
Client ID: WQ-TSS-004-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 10:50
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	1.20		mg/l	1.00	NA	1	-	05/25/12 13:40	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-19
Client ID: WQ-TUR-004-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 10:50
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	1.4		NTU	0.20	--	1	-	05/23/12 19:00	30,2130B	ML

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

SAMPLE RESULTS

Lab ID: L1209120-20
Client ID: WQ-TOC-004-052312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 05/23/12 10:50
Date Received: 05/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	06/06/12 08:10	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120

Project Number: TO-0010-06 **Report Date:** 06/08/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 02,06,10,14,18 Batch: WG538307-1										
Solids, Total Suspended	ND		mg/l	1.00	NA	1	-	05/25/12 13:40	4,160.2	ES
General Chemistry - Westborough Lab for sample(s): 03,07,11,15,19 Batch: WG540096-2										
Turbidity	ND		NTU	0.20	--	1	-	05/23/12 19:00	30,2130B	ML
General Chemistry - Westborough Lab for sample(s): 04,08,12,16,20 Batch: WG540351-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	06/06/12 08:10	1,9060	DW

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-06

Lab Number: L1209120

Report Date: 06/08/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14,18 Batch: WG538307-2								
Solids, Total Suspended	98		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 03,07,11,15,19 Batch: WG540096-1								
Turbidity	96		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16,20 Batch: WG540351-2								
Total Organic Carbon	98		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06
Lab Number: L1209120
Report Date: 06/08/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16,20 QC Batch ID: WG540351-3 QC Sample: L1209120-20 Client ID: WQ-TOC-004-052312												
Total Organic Carbon	ND	80	84	105		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14,18 QC Batch ID: WG538307-3 QC Sample: L1209120-02 Client ID: WQ-TSS-001-052312						
Solids, Total Suspended	2.00	2.10	mg/l	5		20
General Chemistry - Westborough Lab Associated sample(s): 03,07,11,15,19 QC Batch ID: WG540096-3 QC Sample: L1209120-03 Client ID: WQ-TUR-001-052312						
Turbidity	1.8	1.9	NTU	5		13
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16,20 QC Batch ID: WG540351-4 QC Sample: L1209120-20 Client ID: WQ-TOC-004-052312						
Total Organic Carbon	ND	ND	mg/l	NC		20

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

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(*)
L1209120-01C	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-01D	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-01E	Plastic 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-01F	Plastic 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-02C	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-02D	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-02E	Plastic 1000ml unpreserved	A	7	5.2	Y	Absent	A2-TSS-160(7)
L1209120-02F	Plastic 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-03C	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-03D	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-03E	Plastic 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-03F	Plastic 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-03X	Plastic 500ml unpreserved	A	7	5.2	Y	Absent	TURB-2130(2)
L1209120-04A	Vial H2SO4 preserved	A	N/A	5.2	Y	Absent	TOC-9060(28)
L1209120-04B	Vial H2SO4 preserved	A	N/A	5.2	Y	Absent	TOC-9060(28)
L1209120-04C	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-04D	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-04E	Plastic 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-04F	Plastic 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-05C	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-05D	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-05G	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-05H	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-05I	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-05J	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-05K	Plastic 1000ml unpreserved	A	7	5.2	Y	Absent	-

*Values in parentheses indicate holding time in days

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1209120-05L	Plastic 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-05X	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-05Y	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-06A	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-06B	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	-
L1209120-06X	Plastic 500ml unpreserved	A	7	5.2	Y	Absent	A2-TSS-160(7)
L1209120-07X	Plastic 500ml unpreserved	A	7	5.2	Y	Absent	TURB-2130(2)
L1209120-08X	Vial H2SO4 preserved	A	N/A	5.2	Y	Absent	TOC-9060(28)
L1209120-08Y	Vial H2SO4 preserved	A	N/A	5.2	Y	Absent	TOC-9060(28)
L1209120-09X	Amber 1000ml unpreserved	A	7	5.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-10X	Plastic 500ml unpreserved	A	7	5.2	Y	Absent	A2-TSS-160(7)
L1209120-11X	Plastic 500ml unpreserved	A	7	5.2	Y	Absent	TURB-2130(2)
L1209120-12X	Vial H2SO4 preserved	A	N/A	5.2	Y	Absent	TOC-9060(28)
L1209120-12Y	Vial H2SO4 preserved	A	N/A	5.2	Y	Absent	TOC-9060(28)
L1209120-13X	Amber 1000ml unpreserved	B	7	5.4	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-13Y	Amber 1000ml unpreserved	B	7	5.4	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-14X	Plastic 500ml unpreserved	B	7	5.4	Y	Absent	A2-TSS-160(7)
L1209120-15X	Plastic 500ml unpreserved	B	7	5.4	Y	Absent	TURB-2130(2)
L1209120-16X	Vial H2SO4 preserved	B	N/A	5.4	Y	Absent	TOC-9060(28)
L1209120-17W	Amber 1000ml unpreserved	B	7	5.4	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-17X	Amber 1000ml unpreserved	B	7	5.4	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-17Y	Amber 1000ml unpreserved	B	7	5.4	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-17Z	Amber 1000ml unpreserved	B	7	5.4	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-18X	Plastic 500ml unpreserved	B	7	5.4	Y	Absent	A2-TSS-160(7)
L1209120-19X	Plastic 500ml unpreserved	B	7	5.4	Y	Absent	TURB-2130(2)
L1209120-20S	Vial H2SO4 preserved	B	N/A	5.4	Y	Absent	TOC-9060(28)
L1209120-20T	Vial H2SO4 preserved	B	N/A	5.4	Y	Absent	TOC-9060(28)
L1209120-20U	Vial H2SO4 preserved	B	N/A	5.4	Y	Absent	TOC-9060(28)
L1209120-20V	Vial H2SO4 preserved	B	N/A	5.4	Y	Absent	TOC-9060(28)
L1209120-20W	Vial H2SO4 preserved	B	N/A	5.4	Y	Absent	TOC-9060(28)
L1209120-20X	Vial H2SO4 preserved	B	N/A	5.4	Y	Absent	TOC-9060(28)
L1209120-21X	Amber 1000ml unpreserved	B	7	5.4	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1209120-21Y	Amber 1000ml unpreserved	B	7	5.4	Y	Absent	A2-PCBCONG-8082-NOAA(7)

Container Comments

*Values in parentheses indicate holding time in days

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-06

Lab Number: L1209120
Report Date: 06/08/12

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)

Container Comments

L1209120-01E	ANALYST USED ENTIRE SAMPLE
L1209120-06X	
L1209120-10X	
L1209120-14X	
L1209120-18X	

*Values in parentheses indicate holding time in days

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1209120
Project Number:	TO-0010-06	**Report Date:**	06/08/12

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.

LFB - Laboratory Fortified Blank: 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.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

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.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL 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.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

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.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1209120
Project Number:	TO-0010-06	**Report Date:**	06/08/12

Data Qualifiers

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. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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 RL. (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 reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1209120
Project Number: TO-0010-06 **Report Date:** 06/08/12

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.

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 Analytical 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 Analytical.

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 May 10, 2012 – 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, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). 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, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. 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, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. 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 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1,1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 3060A, 6020A, 7470A, 7471B, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040B, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 245.7, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A,7471B, 7474. Organic Parameters: EPA3050B, 3540C, 3630C, 8270C, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to NJ-DEP 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, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B, SM4500H-B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

Certificate/Approval Program Summary

Last revised May 11, 2012 - 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: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D, Fecal Coliform-EC Medium 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total 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, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterolert, E.Coli 9223.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, 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), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics, Acid Extractables (Phenols), Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8082, 8330, 8151A, 8260B, 8270C, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9030B, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

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,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6010C, 6020, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9030B, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8081B, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 6010C, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050, 9065,1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, 8151A, 8015B, 8082, 8082A, 8081A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, 2540G, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C,6020, 6020A, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 8270D, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012A, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C, 3546, 3580, 3580A, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 3005A, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014. Organic Parameters: EPA 5035, 5030B, 8260B, 8015B, 8015C.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease

CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA ANALYTICAL

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: 5/23/12

ALPHA Job #: L1209120

Client Information

Client: WOODS HOLE GROUP

Address: 81 Technology Park Dr. East 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 water Quality

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: 6/7/12 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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☒ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Project-specific EDP

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB (NOAA-15 Congeners)	TSS	Turbidity	Total Organic Carbon	Sample Specific Comments	Total # Bottles
09120.1 +	WQ-TPC-001-052312	5/23/12	9:10	SW	DGS	X				Flood Ref	2
2 +	WQ-TSS-001-052312						X			Flood Ref	1
3 +	WQ-TUR-001-052312							X		Flood Ref	1
4 +	WQ-TOC-001-052312								X	Flood Ref	2
5 2	WQ-TPC-002-052312		09:45			X				Flood Sample	2
6 2	WQ-TSS-002-052312						X			Flood Sample	1
7 2	WQ-TUR-002-052312							X		Flood Sample	1
8 2	WQ-TOC-002-052312								X	Flood Sample	2
9 3	WQ-TPC-002-052312-REP		09:50			X				Flood Sample REP	2
10 3	WQ-TSS-002-052312-REP						X			Flood Sample REP	1

Container Type	A	P	P	V
Preservative	A	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Walsh	5/23/12 1520	IB	5/23/12 15:23

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.

FORM NO: 01-01 (rev. 18-Jan-2010)

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

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: 5/23/12

ALPHA Job #: L1209120

Client Information

Client: WOODS HOLE GROUP

Address: 81 Technology Park Dr East 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 Water Quality

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: 6/7/12 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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☒ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Project-specific EDD

ANALYSIS: Total PCBs (NOAA-19 Congeners); TSS; Turbidity; Total Organic Carbon

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs (NOAA-19 Congeners)	TSS	Turbidity	Total Organic Carbon	Sample Specific Comments	TOTAL # BOTTLES
09120 11 3	WQ-TUR-002-052312 REP	5/23/12	09:50	SW	DGS			X		Flood Sample REP	1
12 3	WQ-TOC-002-052312-REP		09:50						X	Flood Sample REP	2
13 4	WQ-TPC-003-052312		10:50			X				Ebb Ref	2
14 4	WQ-TSS-003-052312						X			Ebb Ref	1
15 4	WQ-TUR-003-052312							X		Ebb Ref	1
16 4	WQ-TOC-003-052312								X	Ebb Ref	2
17 5	WQ-TPC-004-052312		11:35			X				Ebb Sample	2
18 5	WQ-TSS-004-052312						X			Ebb Sample	1
19 5	WQ-TUR-004-052312							X		Ebb Sample	1
20 5	WQ-TOC-004-052312								X	Ebb Sample	2

Container Type	A	P	P	V
Preservative	A	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Walsh	5/23/12 1520	[illegible]	5/23/12 1523

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.

FORM NO: 01-01 (rev. 18-Jan-2010)

CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

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: 5/23/12

ALPHA Job #: L1209120

Client Information

Client: WOODS HOLE GROUP

Address: 81 Technology Park Dr
East 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 Water Quality

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: 6/7/12 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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☒ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Project-Specific EDD

ANALYSIS: Total PCBs (NoAA-18 consents); Total Organic Carbon

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs (NoAA-18 consents)	Total Organic Carbon	Sample Specific Comments	TOTAL # BOTTLES
09120.17	WQ-TPC-004-052312-MS	5/23/12	11:40	SW	DGS	X		Ebb Sample, MS	1
.17	WQ-TPC-004-052312-MSD	↓	↓	↓	↓	X		Ebb Sample, MSD	1
.20	WQ-TPC-004-052312-MSMSD	↓	↓	↓	↓		X	Ebb Sample MSMSD	4
.21	EB-001-052312	↓	12:00	↓	↓	X		Equipment Blank	2

Container Type	A	V
Preservative	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Walsh	5/23/12 1520	IB	5/23/12 15:23

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.

FORM NO: 01-01 (rev. 18-Jan-2010)

CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 5/23/12

ALPHA Job #: L1209120

ALPHA ANALYTICAL

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.
East 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 Water Quality
Project Location: New Bedford, MA
Project #: T0-0010
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 6/7/12 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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☒ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Project-specific EDP

ANALYSIS: Total PCB (Non-Aroclors Congeners) | TSS | Turbidity | Total Organic Carbon

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB (Non-Aroclors Congeners)	TSS	Turbidity	Total Organic Carbon	Sample Specific Comments	Total # Bottles
01	WQ-TPC-001-052312	5/23/12	9:10	SW	DGS	X				Flood Ref	2
02	WQ-TSS-001-052312						X			Flood Ref	1
03	WQ-TUR-001-052312							X		Flood Ref	1
04	WQ-TOC-001-052312								X	Flood Ref	2
05	WQ-TPC-002-052312		09:45			X				Flood Sample	2
06	WQ-TSS-002-052312						X			Flood Sample	1
07	WQ-TUR-002-052312							X		Flood Sample	1
08	WQ-TOC-002-052312								X	Flood Sample	2
09	WQ-TPC-002-052312-REP		09:50			X				Flood Sample REP	2
10	WQ-TSS-002-052312-REP						X			Flood Sample REP	1

Container Type	A	P	P	V
Preservative	A	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Walsh	5/23/12 1520	[illegible]	5/23/12 15:23
[illegible]	5/23/12	[illegible]	5/24/12 [illegible]
[illegible]	5/24/12 820	[illegible]	5/24/12 0820

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.

FORM NO: 01-01 (rev. 18-Jan-2010)

CHAIN OF CUSTODY

PAGE 2 OF 3

Date Rec'd in Lab: 5/23/12

ALPHA Job #: L1209120

ALPHA ANALYTICAL
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
East 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 Water Quality
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: 6/7/12 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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☒ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)
Project-specific EPD

ANALYSIS: Total PCBs (NEAT-8 Congeners); TSS; Turbidity; Total Organic Carbon

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs (NEAT-8 Congeners)	TSS	Turbidity	Total Organic Carbon	Sample Specific Comments	TOTAL # BOTTLES
09120.11 3	WQ-TUR-002-052312 REP	5/23/12	09:50	SW	DGS			X		Flood Sample REP	1
12 3	WQ-TOC-002-052312-REP		09:50						X	Flood Sample REP	2
13 4	WQ-TPC-003-052312		10:50			X				Ebb Ref	2
14 4	WQ-TSS-003-052312						X			Ebb Ref	1
15 4	WQ-TUR-003-052312							X		Ebb Ref	1
16 4	WQ-TOC-003-052312								X	Ebb Ref	2
17 5	WQ-TPC-004-052312		11:35			X				Ebb Sample	2
18 5	WQ-TSS-004-052312						X			Ebb Sample	1
19 5	WQ-TUR-004-052312							X		Ebb Sample	1
20 5	WQ-TOC-004-052312								X	Ebb Sample	2

Container Type	A	P	P	V
Preservative	A	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Walsh	5/23/12 1520	[illegible]	5/23/12 1529
[illegible]	5/24/12	[illegible]	5/24/12 7000
[illegible]	5/24/12 820	[illegible]	5/24/12 0820

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.

FORM NO: 01-01 (rev. 18-Jan-2010)

CHAIN OF CUSTODY

PAGE 3 OF 3

ALPHA ANALYTICAL

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: 5/23/12

ALPHA Job #: L1209120

Client Information

Client: WOODS HOLE GROUP

Address: 81 Technology Park Dr
East 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 Water Quality

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: 6/7/12 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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☒ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Project-Specific EDD

ANALYSIS: Total PCBs (NOAA-18 compounds); Total Organic Carbon

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs (NOAA-18 compounds)	Total Organic Carbon	Sample Specific Comments	TOTAL # BOTTLES
09120-17-S	WQ-TPC-004-052312-MS	5/23/12	11:40	SW	DGS	X		Ebb Sample, MS	1
-17-S	WQ-TPC-004-052312-MSD	↓	↓	↓	↓	X		Ebb Sample, MSD	1
-20-S	WQ-TPC-004-052312-MSMSD	↓	↓	↓	↓		X	Ebb Sample MS/MSD	4
-21-S	EB-001-052312	↓	12:00	↓	↓	X		Equipment Blank	2

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Container Type	A	V
Preservative	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Walsh	5/23/12 1520	[illegible]	5/23/12 15:23
[illegible]	5/23/12	[illegible]	[illegible]
[illegible]	5/24/12 820	[illegible]	5/24/12 0820

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FORM NO: 01-01 (rev. 18-Jan-2010)

CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA TECH

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: 5/23/12

ALPHA Job #: L1209120

Client Information

Client: WOODS HOLE GROUP

Address: 81 Technology Park Dr. East 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 Water Quality

Project Location: New Bedford, MA

Project #: T0-0010

Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: 6/7/12 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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☒ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

Project-specific EDP

ANALYSIS: Total PCB (Aroclors) | Total TSS (Conductivity) | Turbidity | Total Organic Carbon

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB (Aroclors)	Total TSS (Conductivity)	Turbidity	Total Organic Carbon	Sample Specific Comments	Total # Bottles
09120.1 +	WQ-TPC-001-052312	5/23/12	9:10	SW	DGS	X				Flood Ref	2
2 +	WQ-TSS-001-052312						X			Flood Ref	1
3 +	WQ-TUR-001-052312							X		Flood Ref	1
4 +	WQ-TOC-001-052312								X	Flood Ref	2
5 2	WQ-TPC-002-052312		09:45			X				Flood Sample	2
6 2	WQ-TSS-002-052312						X			Flood Sample	1
7 2	WQ-TUR-002-052312							X		Flood Sample	1
8 2	WQ-TOC-002-052312								X	Flood Sample	2
9 3	WQ-TPC-002-052312-REP		09:50			X				Flood Sample REP	2
10 3	WQ-TSS-002-052312-REP						X			Flood Sample REP	1

Container Type	A	P	P	V
Preservative	A	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	5/23/12 1520	[illegible]	5/23/12 15:23
[illegible]	5/24/12 1200	[illegible]	5/25/12 700
[illegible]	5/25/12 [illegible]	[illegible]	5/25/12 0830

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.

FORM NO: 01-01 (rev. 18-Jan-2010)

CHAIN OF CUSTODY

PAGE 2 OF 3

ALPHA ANALYTICAL

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: 5/23/12

ALPHA Job #: L1209120

Client Information

Client: WOODS HOLE GROUP

Address: 81 Technology Park Dr East Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1061

Email: DWALSH@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality

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: 6/7/12 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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☒ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

Project-specific EDD

ANALYSIS: ~~Total PCBs (Aroclors)~~, TSS, Turbidity, Total Organic Carbon

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 Date	Collection Time	Sample Matrix	Sampler's Initials	~~Total PCBs (Aroclors)~~	TSS	Turbidity	Total Organic Carbon	Sample Specific Comments	Total # Bottles
69120.11 3	WQ-TUR-002-052312 REP	5/23/12	09:50	SW	DGS			X		Flood Sample REP	1
12 3	WQ-TOC-002-052312-REP		09:50						X	Flood Sample REP	2
13 4	WQ-TPC-003-052312		10:50			X				Ebb Ref	2
14 4	WQ-TSS-003-052312						X			Ebb Ref	1
15 4	WQ-TUR-003-052312							X		Ebb Ref	1
16 4	WQ-TOC-003-052312								X	Ebb Ref	2
17 5	WQ-TPC-004-052312		11:35			X				Ebb Sample	2
18 5	WQ-TSS-004-052312						X			Ebb Sample	1
19 5	WQ-TUR-004-052312							X		Ebb Sample	1
20 5	WQ-TOC-004-052312								X	Ebb Sample	2

Container Type	A	P	P	V
Preservative	A	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Walsh	5/23/12 1500	[illegible]	5/23/12 1523
[illegible]	5/24/12 1200	[illegible]	5/25/12 730
[illegible]	5/25/12 930		

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.

FORM NO: 01-01 (rev. 18-Jan-2010)

ANALYTICAL REPORT

Lab Number:	L1210249
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD WATER QUALITY
Project Number:	TO-0010-07
Report Date:	06/21/12

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1210249-01	WQ-TPC-001-060712	NEW BEDFORD, MA	06/07/12 09:35
L1210249-02	WQ-TUR-001-060712	NEW BEDFORD, MA	06/07/12 09:35
L1210249-03	WQ-TSS-001-060712	NEW BEDFORD, MA	06/07/12 09:35
L1210249-04	WQ-TOC-001-060712	NEW BEDFORD, MA	06/07/12 09:35
L1210249-05	WQ-TPC-002-060712	NEW BEDFORD, MA	06/07/12 09:55
L1210249-06	WQ-TUR-002-060712	NEW BEDFORD, MA	06/07/12 09:55
L1210249-07	WQ-TSS-002-060712	NEW BEDFORD, MA	06/07/12 09:55
L1210249-08	WQ-TOC-002-060712	NEW BEDFORD, MA	06/07/12 09:55
L1210249-09	WQ-TPC-003-060712	NEW BEDFORD, MA	06/07/12 11:45
L1210249-10	WQ-TUR-003-060712	NEW BEDFORD, MA	06/07/12 11:45
L1210249-11	WQ-TSS-003-060712	NEW BEDFORD, MA	06/07/12 11:45
L1210249-12	WQ-TOC-003-060712	NEW BEDFORD, MA	06/07/12 11:45
L1210249-13	WQ-TPC-004-060712	NEW BEDFORD, MA	06/07/12 12:00
L1210249-14	WQ-TUR-004-060712	NEW BEDFORD, MA	06/07/12 12:00
L1210249-15	WQ-TSS-004-060712	NEW BEDFORD, MA	06/07/12 12:00
L1210249-16	WQ-TOC-004-060712	NEW BEDFORD, MA	06/07/12 12:00

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249
Project Number: TO-0010-07 **Report Date:** 06/21/12

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249
Project Number: TO-0010-07 **Report Date:** 06/21/12

Case Narrative (continued)

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 whether it was the higher or lower value.

L1210249-09 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

Total Organic Carbon

L1210249-04,-08,-12 and -16 have elevated detection limits due to the dilutions required by the sample matrices.

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: 06/21/12

ORGANICS

PCBS

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

SAMPLE RESULTS

Lab ID:	L1210249-01	Date Collected:	06/07/12 09:35
Client ID:	WQ-TPC-001-060712	Date Received:	06/08/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/12/12 11:00
Analytical Date:	06/13/12 13:12		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.01476		ug/l	0.00250	--	1
Cl3-BZ#18	0.03068		ug/l	0.00250	--	1
Cl4-BZ#52	0.03132		ug/l	0.00250	--	1
Cl4-BZ#66	0.01184		ug/l	0.00250	--	1
Cl5-BZ#118	0.00621		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	0.00472		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

DBOB	68	30-150
BZ 198	81	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

SAMPLE RESULTS

Lab ID:	L1210249-01	Date Collected:	06/07/12 09:35
Client ID:	WQ-TPC-001-060712	Date Received:	06/08/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/12/12 11:00
Analytical Date:	06/13/12 13:12		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.02450		ug/l	0.00250	--	1
Cl4-BZ#44	0.01039		ug/l	0.00250	--	1
Cl5-BZ#101	0.00763		ug/l	0.00250	--	1
Cl6-BZ#153	0.00535		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	68		30-150
BZ 198	81		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

SAMPLE RESULTS

Lab ID:	L1210249-05	Date Collected:	06/07/12 09:55
Client ID:	WQ-TPC-002-060712	Date Received:	06/08/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/12/12 11:00
Analytical Date:	06/13/12 13:56		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.02375		ug/l	0.00250	--	1
Cl3-BZ#18	0.05101		ug/l	0.00250	--	1
Cl4-BZ#52	0.05471		ug/l	0.00250	--	1
Cl4-BZ#66	0.01824		ug/l	0.00250	--	1
Cl5-BZ#118	0.00980		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	0.00733		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	57		30-150
BZ 198	83		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

SAMPLE RESULTS

Lab ID:	L1210249-05	Date Collected:	06/07/12 09:55
Client ID:	WQ-TPC-002-060712	Date Received:	06/08/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/12/12 11:00
Analytical Date:	06/13/12 13:56		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.04519		ug/l	0.00250	--	1
Cl4-BZ#44	0.01707		ug/l	0.00250	--	1
Cl5-BZ#101	0.01153		ug/l	0.00250	--	1
Cl6-BZ#153	0.00836		ug/l	0.00250	--	1

DBOB	57	30-150
BZ 198	83	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

SAMPLE RESULTS

Lab ID:	L1210249-09	Date Collected:	06/07/12 11:45
Client ID:	WQ-TPC-003-060712	Date Received:	06/08/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/12/12 11:00
Analytical Date:	06/13/12 14:39		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.05502		ug/l	0.00510	--	2
Cl3-BZ#18	0.12653		ug/l	0.00510	--	2
Cl4-BZ#52	0.11156		ug/l	0.00510	--	2
Cl4-BZ#66	0.02554		ug/l	0.00510	--	2
Cl5-BZ#118	0.00772		ug/l	0.00510	--	2
Cl5-BZ#105	ND		ug/l	0.00510	--	2
Cl6-BZ#138	ND		ug/l	0.00510	--	2
Cl7-BZ#187	ND		ug/l	0.00510	--	2
Cl6-BZ#128	ND		ug/l	0.00510	--	2
Cl7-BZ#180	ND		ug/l	0.00510	--	2
Cl7-BZ#170	ND		ug/l	0.00510	--	2
Cl8-BZ#195	ND		ug/l	0.00510	--	2
Cl9-BZ#206	ND		ug/l	0.00510	--	2
Cl10-BZ#209	ND		ug/l	0.00510	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	51		30-150
BZ 198	63		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

SAMPLE RESULTS

Lab ID:	L1210249-09	Date Collected:	06/07/12 11:45
Client ID:	WQ-TPC-003-060712	Date Received:	06/08/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/12/12 11:00
Analytical Date:	06/13/12 14:39		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.10473		ug/l	0.00510	--	2
Cl4-BZ#44	0.03196		ug/l	0.00510	--	2
Cl5-BZ#101	0.01418		ug/l	0.00510	--	2
Cl6-BZ#153	0.00897		ug/l	0.00510	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	51		30-150
BZ 198	63		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

SAMPLE RESULTS

Lab ID:	L1210249-13	Date Collected:	06/07/12 12:00
Client ID:	WQ-TPC-004-060712	Date Received:	06/08/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/12/12 11:00
Analytical Date:	06/13/12 16:07		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.02231		ug/l	0.00250	--	1
Cl3-BZ#18	0.05962		ug/l	0.00250	--	1
Cl4-BZ#52	0.05470		ug/l	0.00250	--	1
Cl4-BZ#66	0.01642		ug/l	0.00250	--	1
Cl5-BZ#118	0.00671		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	0.00536		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

DBOB	80	30-150
BZ 198	83	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

SAMPLE RESULTS

Lab ID:	L1210249-13	Date Collected:	06/07/12 12:00
Client ID:	WQ-TPC-004-060712	Date Received:	06/08/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/12/12 11:00
Analytical Date:	06/13/12 16:07		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.04544		ug/l	0.00250	--	1
Cl4-BZ#44	0.01744		ug/l	0.00250	--	1
Cl5-BZ#101	0.00978		ug/l	0.00250	--	1
Cl6-BZ#153	0.00636		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	80		30-150
BZ 198	83		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 06/12/12 16:32
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 06/12/12 11:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13 Batch: WG541537-1					
Cl2-BZ#8	ND		ug/l	0.00250	--
Cl3-BZ#18	ND		ug/l	0.00250	--
Cl3-BZ#28	ND		ug/l	0.00250	--
Cl4-BZ#52	ND		ug/l	0.00250	--
Cl4-BZ#44	ND		ug/l	0.00250	--
Cl4-BZ#66	ND		ug/l	0.00250	--
Cl5-BZ#101	ND		ug/l	0.00250	--
Cl5-BZ#118	ND		ug/l	0.00250	--
Cl5-BZ#105	ND		ug/l	0.00250	--
Cl6-BZ#138	ND		ug/l	0.00250	--
Cl7-BZ#187	ND		ug/l	0.00250	--
Cl6-BZ#128	ND		ug/l	0.00250	--
Cl7-BZ#180	ND		ug/l	0.00250	--
Cl7-BZ#170	ND		ug/l	0.00250	--
Cl8-BZ#195	ND		ug/l	0.00250	--
Cl9-BZ#206	ND		ug/l	0.00250	--
Cl10-BZ#209	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	47		30-150
BZ 198	75		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 06/12/12 16:32
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 06/12/12 11:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13 Batch: WG541537-1					
Cl6-BZ#153	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	47		30-150
BZ 198	75		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1210249

Report Date: 06/21/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG541537-2 WG541537-3								
Cl2-BZ#8	61		64		40-140	5		30
Cl3-BZ#18	59		59		40-140	0		30
Cl3-BZ#28	70		71		40-140	2		30
Cl4-BZ#52	66		71		40-140	6		30
Cl4-BZ#44	62		65		40-140	6		30
Cl4-BZ#66	66		70		40-140	7		30
Cl5-BZ#101	61		66		40-140	8		30
Cl5-BZ#118	69		74		40-140	6		30
Cl5-BZ#105	73		78		40-140	7		30
Cl6-BZ#138	70		76		40-140	7		30
Cl7-BZ#187	64		70		40-140	9		30
Cl6-BZ#128	74		79		40-140	6		30
Cl7-BZ#180	78		84		40-140	7		30
Cl7-BZ#170	80		86		40-140	6		30
Cl8-BZ#195	77		83		40-140	8		30
Cl9-BZ#206	93		96		40-140	3		30
Cl10-BZ#209	79		83		40-140	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1210249

Report Date: 06/21/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG541537-2 WG541537-3								
DBOB	55		54		30-150			
BZ 198	78		82		30-150			
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG541537-2 WG541537-3								
Cl6-BZ#153	61		66		40-140	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	55		54		30-150
BZ 198	78		82		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-02
Client ID: WQ-TUR-001-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 09:35
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	2.4		NTU	0.20	--	1	-	06/08/12 21:43	44,180.1	JO

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-03
Client ID: WQ-TSS-001-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 09:35
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	2.00		mg/l	1.00	NA	1	-	06/12/12 15:45	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-04
Client ID: WQ-TOC-001-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 09:35
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	06/19/12 10:52	1,9060	SD

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-06
Client ID: WQ-TUR-002-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 09:55
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	3.2		NTU	0.20	--	1	-	06/08/12 21:43	44,180.1	JO

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-07
Client ID: WQ-TSS-002-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 09:55
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	9.80		mg/l	1.00	NA	1	-	06/12/12 15:45	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-08
Client ID: WQ-TOC-002-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 09:55
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	06/19/12 10:52	1,9060	SD

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-10
Client ID: WQ-TUR-003-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 11:45
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	2.2		NTU	0.20	--	1	-	06/08/12 21:43	44,180.1	JO

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-11
Client ID: WQ-TSS-003-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 11:45
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	4.50		mg/l	1.00	NA	1	-	06/12/12 15:45	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-12
Client ID: WQ-TOC-003-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 11:45
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	06/19/12 10:52	1,9060	SD

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-14
Client ID: WQ-TUR-004-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 12:00
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	3.0		NTU	0.20	--	1	-	06/08/12 21:43	44,180.1	JO

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-15
Client ID: WQ-TSS-004-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 12:00
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	3.20		mg/l	1.00	NA	1	-	06/12/12 15:45	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

SAMPLE RESULTS

Lab ID: L1210249-16
Client ID: WQ-TOC-004-060712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/07/12 12:00
Date Received: 06/08/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	06/19/12 10:52	1,9060	SD

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249

Project Number: TO-0010-07 **Report Date:** 06/21/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 03,07,11,15 Batch: WG541642-1										
Solids, Total Suspended	ND		mg/l	1.00	NA	1	-	06/12/12 15:45	4,160.2	ES
General Chemistry - Westborough Lab for sample(s): 02,06,10,14 Batch: WG541684-2										
Turbidity	ND		NTU	0.20	--	1	-	06/08/12 21:43	44,180.1	JO
General Chemistry - Westborough Lab for sample(s): 04,08,12,16 Batch: WG543259-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	06/19/12 10:52	1,9060	SD

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1210249

Report Date: 06/21/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 Batch: WG541642-2								
Solids, Total Suspended	100		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 02,06,10,14 Batch: WG541684-1								
Turbidity	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 Batch: WG543259-2								
Total Organic Carbon	96		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG543259-3 QC Sample: L1210611-01 Client ID: MS Sample												
Total Organic Carbon	4.4	16	21	105		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 QC Batch ID: WG541642-3 QC Sample: L1210249-03 Client ID: WQ-TSS-001-060712						
Solids, Total Suspended	2.00	1.80	mg/l	11		20
General Chemistry - Westborough Lab Associated sample(s): 02,06,10,14 QC Batch ID: WG541684-3 QC Sample: L1210249-02 Client ID: WQ-TUR-001-060712						
Turbidity	2.4	2.4	NTU	0		13
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG543259-4 QC Sample: L1210611-01 Client ID: DUP Sample						
Total Organic Carbon	4.4	4.6	mg/l	4		20

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

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

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1210249-01C	Amber 1000ml unpreserved	A	7	4.3	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1210249-01D	Amber 1000ml unpreserved	A	7	4.3	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1210249-02X	Plastic 500ml unpreserved	A	7	4.3	Y	Absent	TURB-180(2)
L1210249-03E	Plastic 1000ml unpreserved	A	7	4.3	Y	Absent	A2-TSS-160(7)
L1210249-04A	Vial H2SO4 preserved	A	N/A	4.3	Y	Absent	TOC-9060(28)
L1210249-04B	Vial H2SO4 preserved	A	N/A	4.3	Y	Absent	TOC-9060(28)
L1210249-05C	Amber 1000ml unpreserved	A	7	4.3	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1210249-05D	Amber 1000ml unpreserved	A	7	4.3	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1210249-06X	Plastic 500ml unpreserved	A	7	4.3	Y	Absent	TURB-180(2)
L1210249-07E	Plastic 1000ml unpreserved	A	7	4.3	Y	Absent	A2-TSS-160(7)
L1210249-08A	Vial H2SO4 preserved	A	N/A	4.3	Y	Absent	TOC-9060(28)
L1210249-08B	Vial H2SO4 preserved	A	N/A	4.3	Y	Absent	TOC-9060(28)
L1210249-09C	Amber 1000ml unpreserved	A	7	4.3	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1210249-09D	Amber 1000ml unpreserved	A	7	4.3	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1210249-10X	Plastic 500ml unpreserved	A	7	4.3	Y	Absent	TURB-180(2)
L1210249-11E	Plastic 1000ml unpreserved	A	7	4.3	Y	Absent	A2-TSS-160(7)
L1210249-12A	Vial H2SO4 preserved	A	N/A	4.3	Y	Absent	TOC-9060(28)
L1210249-12B	Vial H2SO4 preserved	A	N/A	4.3	Y	Absent	TOC-9060(28)
L1210249-13C	Amber 1000ml unpreserved	A	7	4.3	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1210249-13D	Amber 1000ml unpreserved	A	7	4.3	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1210249-14X	Plastic 500ml unpreserved	A	7	4.3	Y	Absent	TURB-180(2)
L1210249-15E	Plastic 1000ml unpreserved	A	7	4.3	Y	Absent	A2-TSS-160(7)
L1210249-16A	Vial H2SO4 preserved	A	N/A	4.3	Y	Absent	TOC-9060(28)
L1210249-16B	Vial H2SO4 preserved	A	N/A	4.3	Y	Absent	TOC-9060(28)

Container Comments

*Values in parentheses indicate holding time in days

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1210249
Report Date: 06/21/12

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)

Container Comments

L1210249-03E	USED ENTIRE SAMPLE, DID QC ON THIS SAMPLE

*Values in parentheses indicate holding time in days

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1210249
Project Number:	TO-0010-07	**Report Date:**	06/21/12

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.
LFB	- Laboratory Fortified Blank: 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.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
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.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL 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.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
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.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
M	- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1210249
Project Number:	TO-0010-07	**Report Date:**	06/21/12

Data Qualifiers

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. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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 RL. (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 reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1210249
Project Number: TO-0010-07 **Report Date:** 06/21/12

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.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

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 Analytical 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 Analytical.

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 May 11, 2012 - 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: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D, Fecal Coliform-EC Medium 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total 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, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterolert, E.Coli 9223.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, 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), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics, Acid Extractables (Phenols), Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8082, 8330, 8151A, 8260B, 8270C, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9030B, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

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,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6010C, 6020, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9030B, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8081B, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 6010C, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050, 9065,1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, 8151A, 8015B, 8082, 8082A, 8081A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, 2540G, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C,6020, 6020A, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 8270D, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012A, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C, 3546, 3580, 3580A, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 3005A, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014. Organic Parameters: EPA 5035, 5030B, 8260B, 8015B, 8015C.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease

Certificate/Approval Program Summary

Last revised May 10, 2012 – 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, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). 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, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. 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, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. 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 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1,1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 3060A, 6020A, 7470A, 7471B, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040B, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 245.7, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A,7471B, 7474. Organic Parameters: EPA3050B, 3540C, 3630C, 8270C, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to NJ-DEP 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, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B, SM4500H-B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 6·8·12

ALPHA Job #: L1210249

ALPHA ANALYTICAL
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, East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality
Project Location: New Bedford, MA
Project #: TO-C010-06
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 6/22/12 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:
Project-Specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB (NOAA-18)	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
10249·1	WQ-TPC-001-060712	6/7/12	9:35	SW	DGS	X				Flood Ref	2
2	WQ-TUR-001-060712	↓	↓	↓	↓		X			↓	1
3	WQ-TSS-001-060712							X			1
4	WQ-TOC-001-060712		↓						X	↓	2
5	WQ-TPC-002-060712		9:55			X				Flood sample	2
6	WQ-TUR-002-060712		↓				X			↓	1
7	WQ-TSS-002-060712							X			1
8	WQ-TOC-002-060712		↓						X	↓	2
9	WQ-TPC-003-060712		1145			X				Ebb Ref	2
10	WQ-~~TPC~~ TUR-003-060712 DGS 6/7/12	↓	↓	↓	↓		X			↓	1
	Container Type					A	P	P	V		
	Preservative					A	A	A	D		

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Walsh	6/8/12 1200	[illegible]	6/8/12 1200
[illegible]	6/8/12 1742	Matt Moss	6/8/12 1742

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.

FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 6·8·12

ALPHA Job #: L1210249

ALPHA ANALYTICAL
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 East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality
Project Location: New Bedford, MA
Project #: TO-0010-06
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 6/22/12 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:
Project-specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs (WQ-11-18)	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
10249·11	WQ-TSS-003-060712	6/7/12	1145	SW	DGS			X		Ebb Ref	1
12	WQ-TOC-003-060712	↓	↓	↓	↓				X	↓	2
13	WQ-TPC-004-060712	↓	1200	↓	↓	X				Ebb sample	2
14	WQ-TUR-004-060712	↓	↓	↓	↓		X			↓	1
15	WQ-TSS-004-060712	↓	↓	↓	↓			X		↓	1
16	WQ-TOC-004-060712	↓	↓	↓	↓				X	↓	2

SAMPLE HANDLING
Filtration ☐ Done ☐ Not needed ☐ Lab to do
Preservation ☐ Lab to do (Please specify below)

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Stuart	6/8/12	Kali Moss	6/8/12 1742
[illegible]	6/8/12 1742		

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.

FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 6-8-12

ALPHA Job #: L1210249

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, East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality
Project Location: New Bedford, MA
Project #: TO-0010-06
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 6/22/12 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:
Project-specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB (NOAA-18)	~~Turbidity~~	TSS	~~TOC~~	Sample Specific Comments	Total # Bottles
10249-1	WQ-TPC-001-060712	6/7/12	9:35	SW	DGS	X				Flood Ref	2
2	WQ-TUR-001-060712						X				1
3	WQ-TSS-001-060712							X			1
4	WQ-TOC-001-060712								X		2
5	WQ-TPC-002-060712		9:55			X				Flood sample	2
6	WQ-TUR-002-060712						X				1
7	WQ-TSS-002-060712							X			1
8	WQ-TOC-002-060712								X		2
9	WQ-TPC-003-060712		1145			X				Ebb Ref	2
10	WQ-~~TPC~~ TUR-003-060712 DGS 6/7/12						X				1
	Container Type					A	P	P	V		
	Preservative					A	A	A	D		

SAMPLE HANDLING
Filtration ____
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	6/8/12 1200	[illegible]	6/8/12 1200
[illegible]	6/8/12 1742	Pat Moss	6/8/12 1742
Pat Moss	6/8/12	Pat Moss	6/9/12 730
Pat Moss	6/11/12 845	Shawn Hallman (ALPHA)	6/11/12 8:45

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.

Serial_No:06211213:44

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 6/8/12

ALPHA Job #: L1210249

ALPHA ANALYTICAL

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
East Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1021

Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality

Project Location: New Bedford, MA

Project #: TO-0010-06

Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 6/22/12 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:
Project-Specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs (Water-18)	~~Fecal Coliform~~	TSS	~~TOC~~	Sample Specific Comments	TOTAL # BOTTLES
10249 11	WQ-TSS-003-060712	6/7/12	1145	SW	DGS			X		Ebb Ref	1
12	WQ-TOC-003-060712	↓	↓	↓	↓				X	↓	2
13	WQ-TPC-004-060712	↓	1200	↓	↓	X				Ebb sample	2
14	WQ-TUR-004-060712	↓	↓	↓	↓		X			↓	1
15	WQ-TSS-004-060712	↓	↓	↓	↓			X		↓	1
16	WQ-TOC-004-060712	↓	↓	↓	↓				X	↓	2

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/8/12	[signature]	6/8/12
[signature]	6/8/12 1742	[signature]	6/8/12 1742
[signature]	6/8/12	[signature]	6/8/12 730
[signature]	6/11/12 845	S. Holpa (Alpha)	6/11/12 8:45

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.

ANALYTICAL REPORT

Lab Number:	L1211241
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD WATER QUALITY
Project Number:	TO-0010-07
Report Date:	07/09/12

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), 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 WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1211241-01	WQ-TPC-001-062212	NEW BEDFORD, MA	06/22/12 09:40
L1211241-02	WQ-TUR-001-062212	NEW BEDFORD, MA	06/22/12 09:40
L1211241-03	WQ-TSS-001-062212	NEW BEDFORD, MA	06/22/12 09:40
L1211241-04	WQ-TOC-001-062212	NEW BEDFORD, MA	06/22/12 09:40
L1211241-05	WQ-TPC-002-062212	NEW BEDFORD, MA	06/22/12 09:55
L1211241-06	WQ-TUR-002-062212	NEW BEDFORD, MA	06/22/12 09:55
L1211241-07	WQ-TSS-002-062212	NEW BEDFORD, MA	06/22/12 09:55
L1211241-08	WQ-TOC-002-062212	NEW BEDFORD, MA	06/22/12 09:55
L1211241-09	WQ-TPC-003-062212	NEW BEDFORD, MA	06/22/12 12:55
L1211241-10	WQ-TUR-003-062212	NEW BEDFORD, MA	06/22/12 12:55
L1211241-11	WQ-TSS-003-062212	NEW BEDFORD, MA	06/22/12 12:55
L1211241-12	WQ-TOC-003-062212	NEW BEDFORD, MA	06/22/12 12:55
L1211241-13	WQ-TPC-004-062212	NEW BEDFORD, MA	06/22/12 14:00
L1211241-14	WQ-TUR-004-062212	NEW BEDFORD, MA	06/22/12 14:00
L1211241-15	WQ-TSS-004-062212	NEW BEDFORD, MA	06/22/12 14:00
L1211241-16	WQ-TOC-004-062212	NEW BEDFORD, MA	06/22/12 14:00

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241
Project Number: TO-0010-07 **Report Date:** 07/09/12

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241
Project Number: TO-0010-07 **Report Date:** 07/09/12

Case Narrative (continued)

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 whether it was the higher or lower value.

L1211241-13 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

Total Organic Carbon

L1211241: All samples have elevated detection limits due to the dilution required by the sample matrix.

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: 07/09/12

ORGANICS

PCBS

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

SAMPLE RESULTS

Lab ID:	L1211241-01	Date Collected:	06/22/12 09:40
Client ID:	WQ-TPC-001-062212	Date Received:	06/22/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/28/12 10:00
Analytical Date:	06/28/12 18:40		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.03494		ug/l	0.00250	--	1
Cl3-BZ#18	0.04818		ug/l	0.00250	--	1
Cl4-BZ#52	0.06589		ug/l	0.00250	--	1
Cl4-BZ#66	0.02320		ug/l	0.00250	--	1
Cl5-BZ#101	0.02068		ug/l	0.00250	--	1
Cl5-BZ#118	0.01229		ug/l	0.00250	--	1
Cl5-BZ#105	0.00382		ug/l	0.00250	--	1
Cl6-BZ#138	0.00892		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

DBOB	85	30-150
BZ 198	90	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

SAMPLE RESULTS

Lab ID:	L1211241-01	Date Collected:	06/22/12 09:40
Client ID:	WQ-TPC-001-062212	Date Received:	06/22/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/28/12 10:00
Analytical Date:	06/28/12 18:40		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.06372		ug/l	0.00250	--	1
Cl4-BZ#44	0.02314		ug/l	0.00250	--	1
Cl6-BZ#153	0.01031		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	85		30-150
BZ 198	90		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

SAMPLE RESULTS

Lab ID:	L1211241-05	Date Collected:	06/22/12 09:55
Client ID:	WQ-TPC-002-062212	Date Received:	06/22/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/28/12 10:00
Analytical Date:	06/28/12 19:24		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.02428		ug/l	0.00250	--	1
Cl3-BZ#18	0.05004		ug/l	0.00250	--	1
Cl4-BZ#52	0.08104		ug/l	0.00250	--	1
Cl4-BZ#66	0.0337		ug/l	0.00250	--	1
Cl5-BZ#101	0.03128		ug/l	0.00250	--	1
Cl5-BZ#118	0.01993		ug/l	0.00250	--	1
Cl5-BZ#105	0.00627		ug/l	0.00250	--	1
Cl6-BZ#138	0.01547		ug/l	0.00250	--	1
Cl6-BZ#128	0.00432		ug/l	0.00250	--	1
Cl7-BZ#180	0.00361		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	96		30-150
DBOB	76		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

SAMPLE RESULTS

Lab ID:	L1211241-05	Date Collected:	06/22/12 09:55
Client ID:	WQ-TPC-002-062212	Date Received:	06/22/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/28/12 10:00
Analytical Date:	06/28/12 19:24		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.07051		ug/l	0.00250	--	1
Cl4-BZ#44	0.02770		ug/l	0.00250	--	1
Cl6-BZ#153	0.01712		ug/l	0.00250	--	1
Cl7-BZ#187	0.00408		ug/l	0.00250	--	1
Cl7-BZ#170	0.00271		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	96		30-150
DBOB	76		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

SAMPLE RESULTS

Lab ID:	L1211241-09	Date Collected:	06/22/12 12:55
Client ID:	WQ-TPC-003-062212	Date Received:	06/22/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/28/12 10:00
Analytical Date:	06/28/12 20:08		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.03677		ug/l	0.00250	--	1
Cl3-BZ#18	0.06682		ug/l	0.00250	--	1
Cl4-BZ#52	0.07183		ug/l	0.00250	--	1
Cl4-BZ#66	0.01749		ug/l	0.00250	--	1
Cl5-BZ#101	0.01503		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	0.00584		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

DBOB	85	30-150
BZ 198	97	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

SAMPLE RESULTS

Lab ID:	L1211241-09	Date Collected:	06/22/12 12:55
Client ID:	WQ-TPC-003-062212	Date Received:	06/22/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/28/12 10:00
Analytical Date:	06/28/12 20:08		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.08041		ug/l	0.00250	--	1
Cl4-BZ#44	0.02142		ug/l	0.00250	--	1
Cl5-BZ#118	0.0068		ug/l	0.00250	--	1
Cl6-BZ#153	0.00754		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	85		30-150
BZ 198	97		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

SAMPLE RESULTS

Lab ID:	L1211241-13	Date Collected:	06/22/12 14:00
Client ID:	WQ-TPC-004-062212	Date Received:	06/22/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/28/12 10:00
Analytical Date:	06/29/12 10:36		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.18119		ug/l	0.01250	--	5
Cl3-BZ#18	0.27549		ug/l	0.01250	--	5
Cl4-BZ#52	0.25279		ug/l	0.01250	--	5
Cl4-BZ#66	0.04285		ug/l	0.01250	--	5
Cl5-BZ#101	0.03369		ug/l	0.01250	--	5
Cl5-BZ#118	ND		ug/l	0.01250	--	5
Cl5-BZ#105	ND		ug/l	0.01250	--	5
Cl6-BZ#138	ND		ug/l	0.01250	--	5
Cl7-BZ#187	ND		ug/l	0.01250	--	5
Cl6-BZ#128	ND		ug/l	0.01250	--	5
Cl7-BZ#180	ND		ug/l	0.01250	--	5
Cl7-BZ#170	ND		ug/l	0.01250	--	5
Cl8-BZ#195	ND		ug/l	0.01250	--	5
Cl9-BZ#206	ND		ug/l	0.01250	--	5
Cl10-BZ#209	ND		ug/l	0.01250	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	84		30-150
BZ 198	92		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

SAMPLE RESULTS

Lab ID:	L1211241-13	Date Collected:	06/22/12 14:00
Client ID:	WQ-TPC-004-062212	Date Received:	06/22/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/28/12 10:00
Analytical Date:	06/29/12 10:36		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.32007		ug/l	0.01250	--	5
Cl4-BZ#44	0.06311		ug/l	0.01250	--	5
Cl6-BZ#153	0.01388		ug/l	0.01250	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	84		30-150
BZ 198	92		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 06/28/12 16:29
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 06/28/12 10:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13 Batch: WG545182-1					
Cl2-BZ#8	ND		ug/l	0.00250	--
Cl3-BZ#18	ND		ug/l	0.00250	--
Cl3-BZ#28	ND		ug/l	0.00250	--
Cl4-BZ#52	ND		ug/l	0.00250	--
Cl4-BZ#44	ND		ug/l	0.00250	--
Cl4-BZ#66	ND		ug/l	0.00250	--
Cl5-BZ#101	ND		ug/l	0.00250	--
Cl5-BZ#118	ND		ug/l	0.00250	--
Cl5-BZ#105	ND		ug/l	0.00250	--
Cl6-BZ#138	ND		ug/l	0.00250	--
Cl7-BZ#187	ND		ug/l	0.00250	--
Cl6-BZ#128	ND		ug/l	0.00250	--
Cl7-BZ#180	ND		ug/l	0.00250	--
Cl7-BZ#170	ND		ug/l	0.00250	--
Cl8-BZ#195	ND		ug/l	0.00250	--
Cl9-BZ#206	ND		ug/l	0.00250	--
Cl10-BZ#209	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
BZ 198	94		30-150
DBOB	82		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 06/28/12 16:29
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 06/28/12 10:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13 Batch: WG545182-1					
Cl6-BZ#153	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
BZ 198	94		30-150
DBOB	82		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1211241

Report Date: 07/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG545182-2 WG545182-3								
Cl2-BZ#8	78		79		40-140	2		30
Cl3-BZ#18	72		73		40-140	2		30
Cl3-BZ#28	91		90		40-140	2		30
Cl4-BZ#52	86		84		40-140	3		30
Cl4-BZ#44	80		78		40-140	2		30
Cl4-BZ#66	87		85		40-140	2		30
Cl5-BZ#101	80		78		40-140	3		30
Cl5-BZ#118	93		89		40-140	4		30
Cl5-BZ#105	98		92		40-140	6		30
Cl6-BZ#138	92		88		40-140	4		30
Cl7-BZ#187	83		82		40-140	1		30
Cl6-BZ#128	96		90		40-140	6		30
Cl7-BZ#180	100		98		40-140	3		30
Cl7-BZ#170	100		95		40-140	5		30
Cl8-BZ#195	94		92		40-140	2		30
Cl9-BZ#206	105		103		40-140	2		30
Cl10-BZ#209	91		89		40-140	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1211241

Report Date: 07/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG545182-2 WG545182-3								
DBOB	84		80		30-150			
BZ 198	100		99		30-150			
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG545182-2 WG545182-3								
Cl6-BZ#153	81		78		40-140	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	84		80		30-150
BZ 198	100		99		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-02
Client ID: WQ-TUR-001-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 09:40
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	3.5		NTU	0.40	--	1	-	06/23/12 18:00	8,180.1	SP

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-03
Client ID: WQ-TSS-001-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 09:40
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	8.60		mg/l	1.00	NA	1	-	06/26/12 15:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-04
Client ID: WQ-TOC-001-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 09:40
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	2.0	--	4	-	07/05/12 08:24	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-06
Client ID: WQ-TUR-002-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 09:55
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	4.0		NTU	0.40	--	1	-	06/23/12 18:00	8,180.1	SP

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-07
Client ID: WQ-TSS-002-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 09:55
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	11.2		mg/l	1.00	NA	1	-	06/26/12 15:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-08
Client ID: WQ-TOC-002-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 09:55
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	2.0	--	4	-	07/05/12 08:24	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-10
Client ID: WQ-TUR-003-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 12:55
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	2.3		NTU	0.40	--	1	-	06/23/12 18:00	8,180.1	SP

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-11
Client ID: WQ-TSS-003-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 12:55
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	6.70		mg/l	1.00	NA	1	-	06/26/12 15:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-12
Client ID: WQ-TOC-003-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 12:55
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	2.0	--	4	-	07/05/12 08:24	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-14
Client ID: WQ-TUR-004-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 14:00
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	5.9		NTU	0.40	--	1	-	06/23/12 18:00	8,180.1	SP

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-15
Client ID: WQ-TSS-004-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 14:00
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	10.0		mg/l	1.00	NA	1	-	06/26/12 15:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

SAMPLE RESULTS

Lab ID: L1211241-16
Client ID: WQ-TOC-004-062212
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/22/12 14:00
Date Received: 06/22/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/05/12 08:24	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241

Project Number: TO-0010-07 **Report Date:** 07/09/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 03,07,11,15 Batch: WG544669-1										
Solids, Total Suspended	ND		mg/l	1.00	NA	1	-	06/26/12 15:00	4,160.2	ES
General Chemistry - Mansfield Lab for sample(s): 02,06,10,14 Batch: WG545136-1										
Turbidity	ND		NTU	0.40	--	1	-	06/23/12 18:00	8,180.1	SP
General Chemistry - Westborough Lab for sample(s): 04,08,12,16 Batch: WG546432-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	07/05/12 08:24	1,9060	DW

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1211241

Report Date: 07/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 Batch: WG544669-2								
Solids, Total Suspended	97		-		80-120	-		20
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14 Batch: WG545136-2								
Turbidity	102		-		90-110	-		10
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 Batch: WG546432-2								
Total Organic Carbon	102		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1211241
Report Date: 07/09/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG546432-3 QC Sample: L1211241-08 Client ID: WQ-TOC-002-062212												
Total Organic Carbon	ND	64	67	105		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 QC Batch ID: WG544669-3 QC Sample: L1211241-03 Client ID: WQ-TSS-001-062212						
Solids, Total Suspended	8.60	9.20	mg/l	7		20
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14 QC Batch ID: WG545136-3 QC Sample: L1211241-02 Client ID: WQ-TUR-001-062212						
Turbidity	3.5	3.4	NTU	3		10
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG546432-4 QC Sample: L1211241-04 Client ID: WQ-TOC-001-062212						
Total Organic Carbon	ND	ND	mg/l	NC		20

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

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

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1211241-01C	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211241-01D	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211241-02A	Plastic 1000ml unpreserved	A	N/A	2.7	Y	Absent	A2-TURBIDITY-180.1(2)
L1211241-03E	Plastic 1000ml unpreserved	A	7	2.7	Y	Absent	A2-TSS-160(7)
L1211241-04A	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1211241-04B	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1211241-05C	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211241-05D	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211241-06A	Plastic 1000ml unpreserved	A	N/A	2.7	Y	Absent	A2-TURBIDITY-180.1(2)
L1211241-07E	Plastic 1000ml unpreserved	A	7	2.7	Y	Absent	A2-TSS-160(7)
L1211241-08A	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1211241-08B	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1211241-09C	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211241-09D	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211241-10A	Plastic 1000ml unpreserved	A	N/A	2.7	Y	Absent	A2-TURBIDITY-180.1(2)
L1211241-11E	Plastic 1000ml unpreserved	A	7	2.7	Y	Absent	A2-TSS-160(7)
L1211241-12A	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1211241-12B	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1211241-13C	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211241-13D	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211241-14A	Plastic 1000ml unpreserved	A	N/A	2.7	Y	Absent	A2-TURBIDITY-180.1(2)
L1211241-15E	Plastic 1000ml unpreserved	A	7	2.7	Y	Absent	A2-TSS-160(7)
L1211241-16A	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1211241-16B	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)

Container Comments

*Values in parentheses indicate holding time in days

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1211241
Report Date: 07/09/12

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)

Container Comments

L1211241-04A

*Values in parentheses indicate holding time in days

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1211241
Project Number:	TO-0010-07	**Report Date:**	07/09/12

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.

LFB - Laboratory Fortified Blank: 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.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

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.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL 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.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

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.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1211241
Project Number:	TO-0010-07	**Report Date:**	07/09/12

Data Qualifiers

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. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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 RL. (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 reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1211241
Project Number: TO-0010-07 **Report Date:** 07/09/12

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 Analytical 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 Analytical.

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 May 10, 2012 – 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, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). 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, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. 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, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. 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 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1,1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 3060A, 6020A, 7470A, 7471B, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040B, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 245.7, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A,7471B, 7474. Organic Parameters: EPA3050B, 3540C, 3630C, 8270C, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to NJ-DEP 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, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B, SM4500H-B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

Certificate/Approval Program Summary

Last revised May 11, 2012 - 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: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D, Fecal Coliform-EC Medium 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total 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, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterolert, E.Coli 9223.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, 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), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics, Acid Extractables (Phenols), Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8082, 8330, 8151A, 8260B, 8270C, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9030B, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

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,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6010C, 6020, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9030B, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8081B, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 6010C, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050, 9065,1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, 8151A, 8015B, 8082, 8082A, 8081A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, 2540G, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C,6020, 6020A, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 8270D, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012A, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C, 3546, 3580, 3580A, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 3005A, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014. Organic Parameters: EPA 5035, 5030B, 8260B, 8015B, 8015C.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1211241

ALPHA ANALYTICAL
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. East Falmouth MA 02536
Phone: 508.540.8080
Fax: 508.540 1001
Email: DStuart@WHGRP.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality
Project Location: New Bedford, MA
Project #: TO-0010-07
Project Manager: D. Walsh
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 7/6/12 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:
Project Specific EDDs

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs (NOAA18)	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
1	WQ-TPC-001-062212	6/22/12	0940	SW	EGH	X				Flood Ref	2
2	WQ-TUR-001-062212	6/22/12	0940	SW	EGH		X			Flood Ref.	1
3	WQ-TSS-001-062212	6/22/12	0940	SW	EGH			X		Flood Ref	1
4	WQ-TOC-001-062212	6/22/12	0940	SW	EGH				X	Flood Ref	2
5	WQ-TPC-002-062212	6/22/12	0955	SW	EGH	X				Flood Ref	2
6	WQ-TUR-002-062212	6/22/12	0955	SW	EGH		X			Flood Ref.	1
7	WQ-TSS-002-062212	6/22/12	0955	SW	EGH			X		Flood Ref	1
8	WQ-TOC-002-062212	6/22/12	0955	SW	EGH				X	Flood Ref	2
9	WQ-TPC-003-062212	6/22/12	1255	SW	EGH	X				ebb Ref	2
16	WQ-TUR-003-062212	6/22/12	1255	SW	EGH		X			Ebb Ref.	1
					Container Type	A	P	P	V		
					Preservative	A	A	A	D		

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/22 1645	[signature]	6/22/12 17:00

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 Terms and Conditions. See reverse side.

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1211241

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. East Falmouth, MA 02536
Phone: 508.540.8080
Fax: 508.540.1001
Email: DStuart@WHGRP.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality
Project Location: New Bedford MA
Project #: TO-0010-07
Project Manager: D. Walsh
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 7/6/12 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 NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TSS	TOC	Total PCB (WQMA18)	TUR	Sample Specific Comments	Total # Bottles
11	WQ-TSS-003-062212	06/22/12	1255	SW	EGH	X				ebb Ref	1
12	WQ-TOC-003-062212	6/22/12	1255	SW	EGH		X			ebb ref.	2
13	WQ-TPC-004-062212	6/22/12	1400	SW	EGH			X		ebb ref.	2
14	WQ-TUR-004-062212	6/22/12	1400	SW	EGH				X	ebb ref	1
15	WQ-TSS-004-062212	6/22/12	1400	SW	EGH	X				ebb ref	1
16	WQ-TOC-004-062212	6/22/12	1400	SW	EGH		X			ebb ref	2

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type	P	V	A	P
Preservative	A	D	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/22 1645	[signature]	6/22/12 17:00

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MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab:

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ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
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Client Information

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Project Name: New Bedford Water Quality
Project Location: New Bedford, MA
Project #: TO-0010-07
Project Manager: D. Walsh
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 7/6/12 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:
Project Specific EDDs

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	~~Total PCB (Aroclor)~~	~~Total Metals~~	~~TSS~~	TOC	Sample Specific Comments	Total # Bottles
1	WQ-TPC-001-062212	6/22/12	0940	SW	EGH	X				Flood Ref	2
2	WQ-TUR-001-062212	6/22/12	0940	SW	EGH		X			Flood Ref.	1
3	WQ-TSS-001-062212	6/22/12	0940	SW	EGH			X		Flood Ref	1
4	WQ-TOC-001-062212	6/22/12	0940	SW	EGH				X	Flood Ref	2
5	WQ-TPC-002-062212	6/22/12	0955	SW	EGH	X				Flood Ref	2
6	WQ-TUR-002-062212	6/22/12	0955	SW	EGH		X			Flood Ref.	1
7	WQ-TSS-002-062212	6/22/12	0955	SW	EGH			X		Flood Ref	1
8	WQ-TOC-002-062212	6/22/12	0955	SW	EGH				X	Flood Ref	2
9	WQ-TPC-003-062212	6/22/12	1255	SW	EGH	X				ebb Ref	2
10	WQ-TUR-003-062212	6/22/12	1255	SW	EGH		X			Ebb Ref.	1
	Container Type					A	P	P	V		
	Preservative					A	A	A	D		

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/22 1645	[signature]	6/22/12 17:00
[signature]	6/25/12 0915	[signature]	6/25/12 1620
[signature]	6/25/12 1050	[signature]	6/25/12 1050

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.

FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1211241

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. East Falmouth, MA 02536

Phone: 508.540.8080

Fax: 508.540.1001

Email: DStuart@WHGRP.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality

Project Location: New Bedford MA

Project #: TO-0010-07

Project Manager: D. Walsh

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 7/6/12 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 NOTE

MS/MSD (at unit cost) will be omitted unless you check here: ☐

ANALYSIS: ~~TSS~~ | TOC | ~~Total PCB Congeners (8)~~ | ~~TPC~~

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 Date	Collection Time	Sample Matrix	Sampler's Initials	~~TSS~~	TOC	~~Total PCB Congeners (8)~~	~~TPC~~								Sample Specific Comments	TOTAL # BOTTLES
11	WQ-TSS-003-062212	06/22/12	1255	SW	EGH	X											ebb ref	1
12	WQ-TOC-003-062212	6/22/12	1255	SW	EGH		X										ebb ref.	2
13	WQ-TPC-004-062212	6/22/12	1400	SW	EGH			X									ebb ref.	2
14	WQ-TUR-004-062212	6/22/12	1400	SW	EGH				X								ebb ref	1
15	WQ-TSS-004-062212	6/22/12	1400	SW	EGH	X											ebb ref	1
16	WQ-TOC-004-062212	6/22/12	1400	SW	EGH		X										ebb ref	2

Container Type	P	V	A	P
Preservative	A	D	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/22 1645	[signature]	6/22/12 1710
[signature]	6/25/12 0915	[signature]	6/25/12 0625
[signature]	6/25/12 1410	[signature]	6/25/12 1245

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.

FORM NO: 101-09 (rev. 27-SEP-10)

ANALYTICAL REPORT

Lab Number:	L1211368
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD ENV MONITORING
Project Number:	TO-0010-07
Report Date:	07/11/12

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), 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 ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1211368-01	WQ-TPC-001-062612	NEW BEDFORD, MA	06/26/12 09:15
L1211368-02	WQ-DPC-001-062612	NEW BEDFORD, MA	06/26/12 09:15
L1211368-03	WQ-MET-001-062612	NEW BEDFORD, MA	06/26/12 09:15
L1211368-04	WQ-TUR-001-062612	NEW BEDFORD, MA	06/26/12 09:15
L1211368-05	WQ-TSS-001-062612	NEW BEDFORD, MA	06/26/12 09:15
L1211368-06	WQ-TOC-001-062612	NEW BEDFORD, MA	06/26/12 09:15
L1211368-07	WQ-TPC-002-062612	NEW BEDFORD, MA	06/26/12 10:35
L1211368-08	WQ-DPC-002-062612	NEW BEDFORD, MA	06/26/12 10:35
L1211368-09	WQ-MET-002-062612	NEW BEDFORD, MA	06/26/12 10:35
L1211368-10	WQ-TUR-002-062612	NEW BEDFORD, MA	06/26/12 10:35
L1211368-11	WQ-TSS-002-062612	NEW BEDFORD, MA	06/26/12 10:35
L1211368-12	WQ-TOC-002-062612	NEW BEDFORD, MA	06/26/12 10:35
L1211368-13	WQ-TPC-002-062612-REP	NEW BEDFORD, MA	06/26/12 10:50
L1211368-14	WQ-DPC-002-062612-REP	NEW BEDFORD, MA	06/26/12 10:50
L1211368-15	WQ-MET-002-062612-REP	NEW BEDFORD, MA	06/26/12 10:50
L1211368-16	WQ-TUR-002-062612-REP	NEW BEDFORD, MA	06/26/12 10:50
L1211368-17	WQ-TSS-002-062612-REP	NEW BEDFORD, MA	06/26/12 10:50
L1211368-18	WQ-TOC-002-062612-REP	NEW BEDFORD, MA	06/26/12 10:50
L1211368-19	WQ-TPC-003-062612	NEW BEDFORD, MA	06/26/12 14:10
L1211368-20	WQ-DPC-003-062612	NEW BEDFORD, MA	06/26/12 14:10
L1211368-21	WQ-MET-003-062612	NEW BEDFORD, MA	06/26/12 14:10
L1211368-22	WQ-TUR-003-062612	NEW BEDFORD, MA	06/26/12 14:10
L1211368-23	WQ-TSS-003-062612	NEW BEDFORD, MA	06/26/12 14:10
L1211368-24	WQ-TOC-003-062612	NEW BEDFORD, MA	06/26/12 14:10
L1211368-25	WQ-TPC-004-062612	NEW BEDFORD, MA	06/26/12 14:25
L1211368-26	WQ-DPC-004-062612	NEW BEDFORD, MA	06/26/12 14:25
L1211368-27	WQ-MET-004-062612	NEW BEDFORD, MA	06/26/12 14:25
L1211368-28	WQ-TUR-004-062612	NEW BEDFORD, MA	06/26/12 14:25
L1211368-29	WQ-TSS-004-062612	NEW BEDFORD, MA	06/26/12 14:25
L1211368-30	WQ-TOC-004-062612	NEW BEDFORD, MA	06/26/12 14:25
L1211368-31	WQ-TPC-001-062612-EB	NEW BEDFORD, MA	06/26/12 14:25

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1211368-32	WQ-DPC-001-062612-EB	NEW BEDFORD, MA	06/26/12 14:25
L1211368-33	WQ-MET-001-062612-EB	NEW BEDFORD, MA	06/26/12 14:25

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368
Project Number: TO-0010-07 **Report Date:** 07/11/12

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368
Project Number: TO-0010-07 **Report Date:** 07/11/12

Case Narrative (continued)

Sample Receipt

Samples were received intact on June 26, 2012. Upon receipt, samples that were marked dissolved on the chain of custody were filtered through a 0.45 micron filter thereby creating the dissolved sample.
Equipment blank IDs were edited with client authorization to ensure unique IDs for each analysis. These IDs were created to be consistent with the nomenclature of the field samples.

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 whether it was the higher or lower value.

L1211368-07, -13, -19 and -20 have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the samples.

The WG545474-5/-6 MS/MSD recoveries, performed on L1211368-25, were outside the acceptance criteria for several compounds; 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 WG545474-8 MSD recoveries, performed on L1211368-26, are outside the acceptance criteria for several compounds; however, the associated LCS/LCSD recoveries are within criteria. No further action was required. There was a lab notation that some of this sample was lost due to a leak in the concentration apparatus.

Total Organic Carbon

L1211368: All samples have elevated detection limits due to the dilution required by the sample matrix.

Project Name:	NEW BEDFORD ENV MONITORING	**Lab Number:**	L1211368
Project Number:	TO-0010-07	**Report Date:**	07/11/12

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: Cynthia McQueen

Title: Technical Director/Representative Date: 07/11/12

ORGANICS

PCBS

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-01	Date Collected:	06/26/12 09:15
Client ID:	WQ-TPC-001-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 13:19		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.02734		ug/l	0.00250	--	1
Cl3-BZ#18	0.04734		ug/l	0.00250	--	1
Cl4-BZ#52	0.06523		ug/l	0.00250	--	1
Cl4-BZ#66	0.02233		ug/l	0.00250	--	1
Cl5-BZ#118	0.01208		ug/l	0.00250	--	1
Cl6-BZ#138	0.0089		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	64		30-150
BZ 198	86		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-01	Date Collected:	06/26/12 09:15
Client ID:	WQ-TPC-001-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 13:19		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.06249		ug/l	0.00250	--	1
Cl4-BZ#44	0.02234		ug/l	0.00250	--	1
Cl5-BZ#101	0.0155		ug/l	0.00250	--	1
Cl6-BZ#153	0.01027		ug/l	0.00250	--	1
Cl5-BZ#105	0.00313		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	64		30-150
BZ 198	86		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-02	Date Collected:	06/26/12 09:15
Client ID:	WQ-DPC-001-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 14:03		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.02779		ug/l	0.00260	--	1
Cl3-BZ#18	0.04312		ug/l	0.00260	--	1
Cl4-BZ#52	0.04457		ug/l	0.00260	--	1
Cl4-BZ#66	0.01040		ug/l	0.00260	--	1
Cl5-BZ#105	ND		ug/l	0.00260	--	1
Cl6-BZ#138	ND		ug/l	0.00260	--	1
Cl7-BZ#187	ND		ug/l	0.00260	--	1
Cl6-BZ#128	ND		ug/l	0.00260	--	1
Cl7-BZ#180	ND		ug/l	0.00260	--	1
Cl7-BZ#170	ND		ug/l	0.00260	--	1
Cl8-BZ#195	ND		ug/l	0.00260	--	1
Cl9-BZ#206	ND		ug/l	0.00260	--	1
Cl10-BZ#209	ND		ug/l	0.00260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	77		30-150
BZ 198	96		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-02	Date Collected:	06/26/12 09:15
Client ID:	WQ-DPC-001-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 14:03		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.04873		ug/l	0.00260	--	1
Cl4-BZ#44	0.01468		ug/l	0.00260	--	1
Cl5-BZ#101	0.0062		ug/l	0.00260	--	1
Cl5-BZ#118	0.00328		ug/l	0.00260	--	1
Cl6-BZ#153	ND		ug/l	0.00260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	77		30-150
BZ 198	96		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-07	Date Collected:	06/26/12 10:35
Client ID:	WQ-TPC-002-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 17:42		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.05018		ug/l	0.00500	--	2
Cl3-BZ#18	0.08155		ug/l	0.00500	--	2
Cl4-BZ#52	0.12177		ug/l	0.00500	--	2
Cl4-BZ#66	0.04175		ug/l	0.00500	--	2
Cl5-BZ#118	0.01908		ug/l	0.00500	--	2
Cl5-BZ#105	ND		ug/l	0.00500	--	2
Cl6-BZ#138	0.01541		ug/l	0.00500	--	2
Cl7-BZ#187	ND		ug/l	0.00500	--	2
Cl6-BZ#128	ND		ug/l	0.00500	--	2
Cl7-BZ#180	ND		ug/l	0.00500	--	2
Cl7-BZ#170	ND		ug/l	0.00500	--	2
Cl8-BZ#195	ND		ug/l	0.00500	--	2
Cl9-BZ#206	ND		ug/l	0.00500	--	2
Cl10-BZ#209	ND		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	57		30-150
DBOB	59		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-07	Date Collected:	06/26/12 10:35
Client ID:	WQ-TPC-002-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 17:42		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.11660		ug/l	0.00500	--	2
Cl4-BZ#44	0.04000		ug/l	0.00500	--	2
Cl5-BZ#101	0.02625		ug/l	0.00500	--	2
Cl6-BZ#153	0.01875		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	57		30-150
DBOB	59		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-08	Date Collected:	06/26/12 10:35
Client ID:	WQ-DPC-002-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 15:30		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.04992		ug/l	0.00270	--	1
Cl3-BZ#18	0.07841		ug/l	0.00270	--	1
Cl4-BZ#52	0.07069		ug/l	0.00270	--	1
Cl4-BZ#66	0.01486		ug/l	0.00270	--	1
Cl5-BZ#118	0.00395		ug/l	0.00270	--	1
Cl5-BZ#105	ND		ug/l	0.00270	--	1
Cl6-BZ#138	ND		ug/l	0.00270	--	1
Cl7-BZ#187	ND		ug/l	0.00270	--	1
Cl6-BZ#128	ND		ug/l	0.00270	--	1
Cl7-BZ#180	ND		ug/l	0.00270	--	1
Cl7-BZ#170	ND		ug/l	0.00270	--	1
Cl8-BZ#195	ND		ug/l	0.00270	--	1
Cl9-BZ#206	ND		ug/l	0.00270	--	1
Cl10-BZ#209	ND		ug/l	0.00270	--	1

DBOB	86	30-150
BZ 198	94	30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-08	Date Collected:	06/26/12 10:35
Client ID:	WQ-DPC-002-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 15:30		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.07165		ug/l	0.00270	--	1
Cl4-BZ#44	0.02329		ug/l	0.00270	--	1
Cl5-BZ#101	0.00831		ug/l	0.00270	--	1
Cl6-BZ#153	0.00336		ug/l	0.00270	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	86		30-150
BZ 198	94		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-13	Date Collected:	06/26/12 10:50
Client ID:	WQ-TPC-002-062612-REP	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/03/12 11:10		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.09341		ug/l	0.01270	--	5
Cl3-BZ#18	0.20050		ug/l	0.01270	--	5
Cl4-BZ#52	0.27470		ug/l	0.01270	--	5
Cl4-BZ#66	0.09601		ug/l	0.01270	--	5
Cl5-BZ#118	0.03998		ug/l	0.01270	--	5
Cl5-BZ#105	ND		ug/l	0.01270	--	5
Cl6-BZ#138	0.03720		ug/l	0.01270	--	5
Cl7-BZ#187	ND		ug/l	0.01270	--	5
Cl6-BZ#128	ND		ug/l	0.01270	--	5
Cl7-BZ#180	ND		ug/l	0.01270	--	5
Cl7-BZ#170	ND		ug/l	0.01270	--	5
Cl8-BZ#195	ND		ug/l	0.01270	--	5
Cl9-BZ#206	ND		ug/l	0.01270	--	5
Cl10-BZ#209	ND		ug/l	0.01270	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	65		30-150
BZ 198	90		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-13	Date Collected:	06/26/12 10:50
Client ID:	WQ-TPC-002-062612-REP	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/03/12 11:10		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.28200		ug/l	0.01270	--	5
Cl4-BZ#44	0.09245		ug/l	0.01270	--	5
Cl5-BZ#101	0.05796		ug/l	0.01270	--	5
Cl6-BZ#153	0.04469		ug/l	0.01270	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	65		30-150
BZ 198	90		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-14	Date Collected:	06/26/12 10:50
Client ID:	WQ-DPC-002-062612-REP	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 16:58		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.07553		ug/l	0.00280	--	1
Cl3-BZ#18	0.09869		ug/l	0.00280	--	1
Cl4-BZ#52	0.09838		ug/l	0.00280	--	1
Cl4-BZ#66	0.02246		ug/l	0.00280	--	1
Cl5-BZ#105	ND		ug/l	0.00280	--	1
Cl6-BZ#138	ND		ug/l	0.00280	--	1
Cl7-BZ#187	ND		ug/l	0.00280	--	1
Cl6-BZ#128	ND		ug/l	0.00280	--	1
Cl7-BZ#180	ND		ug/l	0.00280	--	1
Cl7-BZ#170	ND		ug/l	0.00280	--	1
Cl8-BZ#195	ND		ug/l	0.00280	--	1
Cl9-BZ#206	ND		ug/l	0.00280	--	1
Cl10-BZ#209	ND		ug/l	0.00280	--	1

DBOB	88	30-150
BZ 198	94	30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-14	Date Collected:	06/26/12 10:50
Client ID:	WQ-DPC-002-062612-REP	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 16:58		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.09769		ug/l	0.00280	--	1
Cl4-BZ#44	0.03324		ug/l	0.00280	--	1
Cl5-BZ#101	0.01148		ug/l	0.00280	--	1
Cl5-BZ#118	0.00524		ug/l	0.00280	--	1
Cl6-BZ#153	0.00711		ug/l	0.00280	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	88		30-150
BZ 198	94		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-19	Date Collected:	06/26/12 14:10
Client ID:	WQ-TPC-003-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/03/12 11:53		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.07183		ug/l	0.00500	--	2
Cl3-BZ#18	0.14039		ug/l	0.00500	--	2
Cl4-BZ#52	0.10713		ug/l	0.00500	--	2
Cl4-BZ#66	0.02739		ug/l	0.00500	--	2
Cl5-BZ#118	0.01034		ug/l	0.00500	--	2
Cl5-BZ#105	ND		ug/l	0.00500	--	2
Cl6-BZ#138	ND		ug/l	0.00500	--	2
Cl7-BZ#187	ND		ug/l	0.00500	--	2
Cl6-BZ#128	ND		ug/l	0.00500	--	2
Cl7-BZ#180	ND		ug/l	0.00500	--	2
Cl7-BZ#170	ND		ug/l	0.00500	--	2
Cl8-BZ#195	ND		ug/l	0.00500	--	2
Cl9-BZ#206	ND		ug/l	0.00500	--	2
Cl10-BZ#209	ND		ug/l	0.00500	--	2

DBOB	70	30-150
BZ 198	64	30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-19	Date Collected:	06/26/12 14:10
Client ID:	WQ-TPC-003-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/03/12 11:53		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.11810		ug/l	0.00500	--	2
Cl4-BZ#44	0.03174		ug/l	0.00500	--	2
Cl5-BZ#101	0.01471		ug/l	0.00500	--	2
Cl6-BZ#153	0.01028		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	70		30-150
BZ 198	64		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-20	Date Collected:	06/26/12 14:10
Client ID:	WQ-DPC-003-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/03/12 14:05		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.08555		ug/l	0.00500	--	2
Cl3-BZ#18	0.11866		ug/l	0.00500	--	2
Cl4-BZ#52	0.08186		ug/l	0.00500	--	2
Cl4-BZ#66	0.0156		ug/l	0.00500	--	2
Cl5-BZ#118	ND		ug/l	0.00500	--	2
Cl5-BZ#105	ND		ug/l	0.00500	--	2
Cl6-BZ#138	ND		ug/l	0.00500	--	2
Cl7-BZ#187	ND		ug/l	0.00500	--	2
Cl6-BZ#128	ND		ug/l	0.00500	--	2
Cl7-BZ#180	ND		ug/l	0.00500	--	2
Cl7-BZ#170	ND		ug/l	0.00500	--	2
Cl8-BZ#195	ND		ug/l	0.00500	--	2
Cl9-BZ#206	ND		ug/l	0.00500	--	2
Cl10-BZ#209	ND		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	91		30-150
BZ 198	113		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-20	Date Collected:	06/26/12 14:10
Client ID:	WQ-DPC-003-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/03/12 14:05		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.09365		ug/l	0.00500	--	2
Cl4-BZ#44	0.02345		ug/l	0.00500	--	2
Cl5-BZ#101	0.00720		ug/l	0.00500	--	2
Cl6-BZ#153	ND		ug/l	0.00500	--	2

DBOB	91	30-150
BZ 198	113	30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-25	Date Collected:	06/26/12 14:25
Client ID:	WQ-TPC-004-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 20:37		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.0223		ug/l	0.00250	--	1
Cl3-BZ#18	0.04506		ug/l	0.00250	--	1
Cl4-BZ#52	0.06534		ug/l	0.00250	--	1
Cl4-BZ#66	0.02268		ug/l	0.00250	--	1
Cl5-BZ#118	0.01314		ug/l	0.00250	--	1
Cl5-BZ#105	0.00340		ug/l	0.00250	--	1
Cl6-BZ#138	0.00928		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

DBOB	79	30-150
BZ 198	94	30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-25	Date Collected:	06/26/12 14:25
Client ID:	WQ-TPC-004-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 20:37		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.06339		ug/l	0.00250	--	1
Cl4-BZ#44	0.02316		ug/l	0.00250	--	1
Cl5-BZ#101	0.01617		ug/l	0.00250	--	1
Cl6-BZ#153	0.01088		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	79		30-150
BZ 198	94		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-26	Date Collected:	06/26/12 14:25
Client ID:	WQ-DPC-004-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 22:48		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.02472		ug/l	0.00260	--	1
Cl3-BZ#18	0.04896		ug/l	0.00260	--	1
Cl4-BZ#52	0.04204		ug/l	0.00260	--	1
Cl4-BZ#66	0.00921		ug/l	0.00260	--	1
Cl5-BZ#118	ND		ug/l	0.00260	--	1
Cl5-BZ#105	ND		ug/l	0.00260	--	1
Cl6-BZ#138	ND		ug/l	0.00260	--	1
Cl7-BZ#187	ND		ug/l	0.00260	--	1
Cl6-BZ#128	ND		ug/l	0.00260	--	1
Cl7-BZ#180	ND		ug/l	0.00260	--	1
Cl7-BZ#170	ND		ug/l	0.00260	--	1
Cl8-BZ#195	ND		ug/l	0.00260	--	1
Cl9-BZ#206	ND		ug/l	0.00260	--	1
Cl10-BZ#209	ND		ug/l	0.00260	--	1

DBOB	95	30-150
BZ 198	96	30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-26	Date Collected:	06/26/12 14:25
Client ID:	WQ-DPC-004-062612	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/02/12 22:48		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.0462		ug/l	0.00260	--	1
Cl4-BZ#44	0.01361		ug/l	0.00260	--	1
Cl5-BZ#101	0.0052		ug/l	0.00260	--	1
Cl6-BZ#153	ND		ug/l	0.00260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	95		30-150
BZ 198	96		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-31	Date Collected:	06/26/12 14:25
Client ID:	WQ-TPC-001-062612-EB	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/03/12 00:59		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	ND		ug/l	0.00250	--	1
Cl3-BZ#18	ND		ug/l	0.00250	--	1
Cl3-BZ#28	ND		ug/l	0.00250	--	1
Cl4-BZ#52	ND		ug/l	0.00250	--	1
Cl4-BZ#44	ND		ug/l	0.00250	--	1
Cl4-BZ#66	ND		ug/l	0.00250	--	1
Cl5-BZ#101	ND		ug/l	0.00250	--	1
Cl5-BZ#118	ND		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	ND		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

DBOB	71	30-150
BZ 198	89	30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-31	Date Collected:	06/26/12 14:25
Client ID:	WQ-TPC-001-062612-EB	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/03/12 00:59		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl6-BZ#153	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	71		30-150
BZ 198	89		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-32	Date Collected:	06/26/12 14:25
Client ID:	WQ-DPC-001-062612-EB	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/03/12 01:42		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	ND		ug/l	0.00260	--	1
Cl3-BZ#18	ND		ug/l	0.00260	--	1
Cl3-BZ#28	ND		ug/l	0.00260	--	1
Cl4-BZ#52	ND		ug/l	0.00260	--	1
Cl4-BZ#44	ND		ug/l	0.00260	--	1
Cl4-BZ#66	ND		ug/l	0.00260	--	1
Cl5-BZ#101	ND		ug/l	0.00260	--	1
Cl5-BZ#118	ND		ug/l	0.00260	--	1
Cl5-BZ#105	ND		ug/l	0.00260	--	1
Cl6-BZ#138	ND		ug/l	0.00260	--	1
Cl7-BZ#187	ND		ug/l	0.00260	--	1
Cl6-BZ#128	ND		ug/l	0.00260	--	1
Cl7-BZ#180	ND		ug/l	0.00260	--	1
Cl7-BZ#170	ND		ug/l	0.00260	--	1
Cl8-BZ#195	ND		ug/l	0.00260	--	1
Cl9-BZ#206	ND		ug/l	0.00260	--	1
Cl10-BZ#209	ND		ug/l	0.00260	--	1

DBOB	81	30-150
BZ 198	90	30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

SAMPLE RESULTS

Lab ID:	L1211368-32	Date Collected:	06/26/12 14:25
Client ID:	WQ-DPC-001-062612-EB	Date Received:	06/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	06/29/12 10:30
Analytical Date:	07/03/12 01:42		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl6-BZ#153	ND		ug/l	0.00260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	81		30-150
BZ 198	90		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/02/12 10:24
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 06/29/12 10:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG545474-1					
Cl2-BZ#8	ND		ug/l	0.00250	--
Cl3-BZ#18	ND		ug/l	0.00250	--
Cl3-BZ#28	ND		ug/l	0.00250	--
Cl4-BZ#52	ND		ug/l	0.00250	--
Cl4-BZ#44	ND		ug/l	0.00250	--
Cl4-BZ#66	ND		ug/l	0.00250	--
Cl5-BZ#101	ND		ug/l	0.00250	--
Cl5-BZ#118	ND		ug/l	0.00250	--
Cl5-BZ#105	ND		ug/l	0.00250	--
Cl6-BZ#138	ND		ug/l	0.00250	--
Cl7-BZ#187	ND		ug/l	0.00250	--
Cl6-BZ#128	ND		ug/l	0.00250	--
Cl7-BZ#180	ND		ug/l	0.00250	--
Cl7-BZ#170	ND		ug/l	0.00250	--
Cl8-BZ#195	ND		ug/l	0.00250	--
Cl9-BZ#206	ND		ug/l	0.00250	--
Cl10-BZ#209	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	77		30-150
BZ 198	94		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/02/12 10:24
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 06/29/12 10:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG545474-1					
Cl6-BZ#153	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	77		30-150
BZ 198	94		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/02/12 11:08
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 06/29/12 10:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG545474-2					
Cl2-BZ#8	ND		ug/l	0.00250	--
Cl3-BZ#18	ND		ug/l	0.00250	--
Cl3-BZ#28	ND		ug/l	0.00250	--
Cl4-BZ#52	ND		ug/l	0.00250	--
Cl4-BZ#44	ND		ug/l	0.00250	--
Cl4-BZ#66	ND		ug/l	0.00250	--
Cl5-BZ#101	ND		ug/l	0.00250	--
Cl5-BZ#118	ND		ug/l	0.00250	--
Cl5-BZ#105	ND		ug/l	0.00250	--
Cl6-BZ#138	ND		ug/l	0.00250	--
Cl7-BZ#187	ND		ug/l	0.00250	--
Cl6-BZ#128	ND		ug/l	0.00250	--
Cl7-BZ#180	ND		ug/l	0.00250	--
Cl7-BZ#170	ND		ug/l	0.00250	--
Cl8-BZ#195	ND		ug/l	0.00250	--
Cl9-BZ#206	ND		ug/l	0.00250	--
Cl10-BZ#209	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	60		30-150
BZ 198	80		30-150

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/02/12 11:08
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 06/29/12 10:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG545474-2					
Cl6-BZ#153	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	60		30-150
BZ 198	80		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 QC Batch ID: WG545474-5 WG545474-6 QC Sample: L1211368-25 Client ID: WQ-TPC-004-062612

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Cl2-BZ#8	0.02230	0.0505	0.07359	102		0.05971	73		40-140	21		30
Cl3-BZ#18	0.04506	0.0505	0.10090	110		0.10654	120		40-140	5		30
Cl4-BZ#52	0.06534	0.0505	0.12743	123		0.16300	**190**	Q	40-140	24		30
Cl4-BZ#66	0.02268	0.0505	0.07206	98		0.08790	127		40-140	20		30
Cl5-BZ#118	0.01314	0.0505	0.06024	93		0.06987	111		40-140	15		30
Cl5-BZ#105	0.00340	0.0505	0.05074	94		0.04868	88		40-140	4		30
Cl6-BZ#138	0.00928	0.0505	0.05455	90		0.06167	102		40-140	12		30
Cl7-BZ#187	ND	0.0505	0.04304	85		0.04084	80		40-140	5		30
Cl6-BZ#128	ND	0.0505	0.04821	95		0.04595	90		40-140	5		30
Cl7-BZ#180	ND	0.0505	0.05065	100		0.04867	95		40-140	4		30
Cl7-BZ#170	ND	0.0505	0.04991	99		0.04767	93		40-140	5		30
Cl8-BZ#195	ND	0.0505	0.04626	92		0.04390	86		40-140	5		30
Cl9-BZ#206	ND	0.0505	0.05075	100		0.04858	95		40-140	4		30
Cl10-BZ#209	ND	0.0505	0.04396	87		0.04210	82		40-140	4		30
Cl3-BZ#28	0.06339	0.0505	0.14451	**161**	Q	0.14330	**156**	Q	40-140	1		30
Cl4-BZ#44	0.02316	0.0505	0.07347	100		0.07355	98		40-140	0		30
Cl5-BZ#101	0.01617	0.0505	0.06054	88		0.06840	102		40-140	12		30
Cl6-BZ#153	0.01088	0.0505	0.05246	82		0.05822	92		40-140	10		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

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): 01-02,07-08,13-14,19-20,25-26,31-32 QC Batch ID: WG545474-5 WG545474-6 QC Sample: L1211368-25 Client ID: WQ-TPC-004-062612												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
BZ 198	94		81		30-150
DBOB	107		64		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 QC Batch ID: WG545474-7 WG545474-8 QC Sample: L1211368-26 Client ID: WQ-DPC-004-062612

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Cl2-BZ#8	0.02472	0.05	0.05399	58		0.03495	**20**	Q	40-140	**43**	Q	30
Cl3-BZ#18	0.04896	0.05	0.07743	57		0.04366	**0**	Q	40-140	**56**	Q	30
Cl4-BZ#52	0.04204	0.05	0.07871	73		0.04730	**10**	Q	40-140	**50**	Q	30
Cl4-BZ#66	0.00921	0.05	0.05015	82		0.02909	**39**	Q	40-140	**53**	Q	30
Cl5-BZ#118	ND	0.05	0.04904	98		0.02739	54		40-140	**57**	Q	30
Cl5-BZ#105	ND	0.05	0.04950	99		0.02669	53		40-140	**60**	Q	30
Cl6-BZ#138	ND	0.05	0.04742	95		0.02679	53		40-140	**56**	Q	30
Cl7-BZ#187	ND	0.05	0.04256	85		0.02456	49		40-140	**54**	Q	30
Cl6-BZ#128	ND	0.05	0.04826	96		0.02637	52		40-140	**59**	Q	30
Cl7-BZ#180	ND	0.05	0.05083	102		0.02802	55		40-140	**58**	Q	30
Cl7-BZ#170	ND	0.05	0.0510	102		0.02735	54		40-140	**60**	Q	30
Cl8-BZ#195	ND	0.05	0.04739	95		0.02703	54		40-140	**55**	Q	30
Cl9-BZ#206	ND	0.05	0.05395	108		0.02996	59		40-140	**57**	Q	30
Cl10-BZ#209	ND	0.05	0.04752	95		0.02620	52		40-140	**58**	Q	30
Cl3-BZ#28	0.04620	0.05	0.08950	87		0.04891	**5**	Q	40-140	**59**	Q	30
Cl4-BZ#44	0.01361	0.05	0.05228	77		0.03011	**33**	Q	40-140	**54**	Q	30
Cl5-BZ#101	0.00520	0.05	0.04502	80		0.02580	41		40-140	**54**	Q	30
Cl6-BZ#153	ND	0.05	0.04250	85		0.02388	47		40-140	**56**	Q	30

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

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): 01-02,07-08,13-14,19-20,25-26,31-32 QC Batch ID: WG545474-7 WG545474-8 QC Sample: L1211368-26 Client ID: WQ-DPC-004-062612												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
BZ 198	101		57		30-150
DBOB	78		43		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV MONITORING

Project Number: TO-0010-07

Lab Number: L1211368

Report Date: 07/11/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG545474-3 WG545474-4								
Cl2-BZ#8	70		70		40-140	1		30
Cl3-BZ#18	66		67		40-140	2		30
Cl3-BZ#28	83		83		40-140	0		30
Cl4-BZ#52	83		81		40-140	2		30
Cl4-BZ#44	74		73		40-140	2		30
Cl4-BZ#66	80		80		40-140	1		30
Cl5-BZ#101	74		73		40-140	2		30
Cl5-BZ#118	86		84		40-140	2		30
Cl5-BZ#105	92		90		40-140	3		30
Cl6-BZ#138	86		84		40-140	2		30
Cl7-BZ#187	78		76		40-140	3		30
Cl6-BZ#128	90		88		40-140	3		30
Cl7-BZ#180	93		93		40-140	1		30
Cl7-BZ#170	95		93		40-140	2		30
Cl8-BZ#195	90		88		40-140	3		30
Cl9-BZ#206	99		99		40-140	1		30
Cl10-BZ#209	86		85		40-140	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV MONITORING

Project Number: TO-0010-07

Lab Number: L1211368

Report Date: 07/11/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG545474-3 WG545474-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	76		72		30-150

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG545474-3 WG545474-4								
Cl6-BZ#153	75		73		40-140	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	76		72		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-04
Client ID: WQ-TUR-001-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 09:15
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	4.1		NTU	0.40	--	1	-	06/26/12 20:00	8,180.1	SP

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-05
Client ID: WQ-TSS-001-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 09:15
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	8.40		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-06
Client ID: WQ-TOC-001-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 09:15
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/10/12 08:18	1,9060	DW

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-10
Client ID: WQ-TUR-002-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 10:35
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	7.9		NTU	0.40	--	1	-	06/26/12 20:00	8,180.1	SP

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-11
Client ID: WQ-TSS-002-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 10:35
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	13.3		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-12
Client ID: WQ-TOC-002-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 10:35
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/10/12 08:18	1,9060	DW

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-16
Client ID: WQ-TUR-002-062612-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 10:50
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	7.6		NTU	0.40	--	1	-	06/26/12 20:00	8,180.1	SP

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-17
Client ID: WQ-TSS-002-062612-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 10:50
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	15.7		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-18
Client ID: WQ-TOC-002-062612-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 10:50
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/10/12 08:18	1,9060	DW

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-22
Client ID: WQ-TUR-003-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 14:10
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	4.4		NTU	0.40	--	1	-	06/26/12 20:00	8,180.1	SP

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-23
Client ID: WQ-TSS-003-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 14:10
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	5.50		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-24
Client ID: WQ-TOC-003-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 14:10
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/10/12 08:18	1,9060	DW

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-28
Client ID: WQ-TUR-004-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 14:25
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	2.9		NTU	0.40	--	1	-	06/26/12 20:00	8,180.1	SP

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-29
Client ID: WQ-TSS-004-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 14:25
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	3.20		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

SAMPLE RESULTS

Lab ID: L1211368-30
Client ID: WQ-TOC-004-062612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/26/12 14:25
Date Received: 06/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/10/12 08:18	1,9060	DW

Project Name: NEW BEDFORD ENV MONITORING **Lab Number:** L1211368

Project Number: TO-0010-07 **Report Date:** 07/11/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 04,10,16,22,28 Batch: WG545140-1										
Turbidity	ND		NTU	0.40	--	1	-	06/26/12 20:00	8,180.1	SP
General Chemistry - Mansfield Lab for sample(s): 05,11,17,23,29 Batch: WG545144-1										
Solids, Total Suspended	ND		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES
General Chemistry - Westborough Lab for sample(s): 06,12,18,24,30 Batch: WG547308-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	07/10/12 08:18	1,9060	DW

Lab Control Sample Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07
Lab Number: L1211368
Report Date: 07/11/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 04,10,16,22,28 Batch: WG545140-2								
Turbidity	102		-		90-110	-		10
General Chemistry - Mansfield Lab Associated sample(s): 05,11,17,23,29 Batch: WG545144-2								
Solids, Total Suspended	103		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 06,12,18,24,30 Batch: WG547308-2								
Total Organic Carbon	96		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 06,12,18,24,30 QC Batch ID: WG547308-3 QC Sample: L1211368-30 Client ID: WQ-TOC-004-062612												
Total Organic Carbon	ND	80	83	104		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 04,10,16,22,28 QC Batch ID: WG545140-3 QC Sample: L1211368-04 Client ID: WQ-TUR-001-062612						
Turbidity	4.1	4.0	NTU	2		10
General Chemistry - Mansfield Lab Associated sample(s): 05,11,17,23,29 QC Batch ID: WG545144-3 QC Sample: L1211368-05 Client ID: WQ-TSS-001-062612						
Solids, Total Suspended	8.40	7.70	mg/l	9		20
General Chemistry - Westborough Lab Associated sample(s): 06,12,18,24,30 QC Batch ID: WG547308-4 QC Sample: L1211368-30 Client ID: WQ-TOC-004-062612						
Total Organic Carbon	ND	ND	mg/l	NC		20

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Cooler	Custody Seal
A	Absent
D	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1211368-01C	Amber 1000ml unpreserved	A	7	5.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-01D	Amber 1000ml unpreserved	A	7	5.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-02C	Amber 1000ml unpreserved	A	7	5.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-02D	Amber 1000ml unpreserved	A	7	5.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-03A	Plastic 500ml HNO3 preserved	A	<2	5.7	Y	Absent	HOLD(14)
L1211368-04A	Plastic 1000ml unpreserved	A	7	5.7	Y	Absent	A2-TURBIDITY-180.1(2)
L1211368-05E	Plastic 1000ml unpreserved	A	N/A	5.7	Y	Absent	A2-TSS-160(7)
L1211368-06A	Vial H2SO4 preserved	A	N/A	5.7	Y	Absent	TOC-9060(28)
L1211368-06B	Vial H2SO4 preserved	A	N/A	5.7	Y	Absent	TOC-9060(28)
L1211368-07C	Amber 1000ml unpreserved	A	7	5.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-07D	Amber 1000ml unpreserved	A	7	5.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-08C	Amber 1000ml unpreserved	A	7	5.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-08D	Amber 1000ml unpreserved	A	7	5.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-09A	Plastic 500ml HNO3 preserved	A	7	5.7	Y	Absent	HOLD(14)
L1211368-10A	Plastic 1000ml unpreserved	B	7	4.8	Y	Absent	A2-TURBIDITY-180.1(2)
L1211368-11E	Plastic 1000ml unpreserved	B	N/A	4.8	Y	Absent	A2-TSS-160(7)
L1211368-12A	Vial H2SO4 preserved	B	N/A	4.8	Y	Absent	TOC-9060(28)
L1211368-12B	Vial H2SO4 preserved	B	N/A	4.8	Y	Absent	TOC-9060(28)
L1211368-13C	Amber 1000ml unpreserved	C	7	5.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-13D	Amber 1000ml unpreserved	C	7	5.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-14C	Amber 1000ml unpreserved	C	7	5.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-14D	Amber 1000ml unpreserved	C	7	5.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-15A	Plastic 500ml HNO3 preserved	C	7	5.2	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name: NEW BEDFORD ENV MONITORING
Project Number: TO-0010-07

Lab Number: L1211368
Report Date: 07/11/12

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1211368-16A	Plastic 1000ml unpreserved	C	7	5.2	Y	Absent	A2-TURBIDITY-180.1(2)
L1211368-17E	Plastic 1000ml unpreserved	C	N/A	5.2	Y	Absent	A2-TSS-160(7)
L1211368-18A	Vial H2SO4 preserved	C	N/A	5.2	Y	Absent	TOC-9060(28)
L1211368-18B	Vial H2SO4 preserved	C	N/A	5.2	Y	Absent	TOC-9060(28)
L1211368-19C	Amber 1000ml unpreserved	B	7	4.8	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-19D	Amber 1000ml unpreserved	B	7	4.8	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-20C	Amber 1000ml unpreserved	B	7	4.8	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-20D	Amber 1000ml unpreserved	B	7	4.8	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-21A	Plastic 500ml HNO3 preserved	B	7	4.8	Y	Absent	HOLD(14)
L1211368-22A	Plastic 1000ml unpreserved	B	7	4.8	Y	Absent	A2-TURBIDITY-180.1(2)
L1211368-23E	Plastic 1000ml unpreserved	B	N/A	4.8	Y	Absent	A2-TSS-160(7)
L1211368-24A	Vial H2SO4 preserved	B	N/A	4.8	Y	Absent	TOC-9060(28)
L1211368-24B	Vial H2SO4 preserved	B	N/A	4.8	Y	Absent	TOC-9060(28)
L1211368-25C	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-25D	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-25E	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-25F	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-26C	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-26D	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-26E	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-26F	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-27A	Plastic 500ml HNO3 preserved	D	7	4.7	Y	Absent	HOLD(14)
L1211368-27B	Plastic 500ml HNO3 preserved	D	7	4.7	Y	Absent	HOLD(14)
L1211368-28A	Plastic 1000ml unpreserved	D	7	4.7	Y	Absent	A2-TURBIDITY-180.1(2)
L1211368-29E	Plastic 1000ml unpreserved	D	N/A	4.7	Y	Absent	A2-TSS-160(7)
L1211368-30A	Vial H2SO4 preserved	D	N/A	4.7	Y	Absent	TOC-9060(28)
L1211368-30B	Vial H2SO4 preserved	D	N/A	4.7	Y	Absent	TOC-9060(28)
L1211368-30C	Vial H2SO4 preserved	D	N/A	4.7	Y	Absent	TOC-9060(28)
L1211368-30D	Vial H2SO4 preserved	D	N/A	4.7	Y	Absent	TOC-9060(28)
L1211368-30E	Vial H2SO4 preserved	D	N/A	4.7	Y	Absent	TOC-9060(28)
L1211368-30F	Vial H2SO4 preserved	D	N/A	4.7	Y	Absent	TOC-9060(28)
L1211368-31C	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-31D	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-32C	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-32D	Amber 1000ml unpreserved	D	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211368-33A	Plastic 500ml HNO3 preserved	D	7	4.7	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name:	NEW BEDFORD ENV MONITORING	**Lab Number:**	L1211368
Project Number:	TO-0010-07	**Report Date:**	07/11/12

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.

LFB - Laboratory Fortified Blank: 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.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

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.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL 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.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

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.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD ENV MONITORING	**Lab Number:**	L1211368
Project Number:	TO-0010-07	**Report Date:**	07/11/12

Data Qualifiers

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. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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 RL. (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 reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD ENV MONITORING	**Lab Number:**	L1211368
Project Number:	TO-0010-07	**Report Date:**	07/11/12

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 Analytical 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 Analytical.

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 May 10, 2012 – 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, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). 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, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. 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, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. 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 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1,1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 3060A, 6020A, 7470A, 7471B, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040B, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 245.7, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A,7471B, 7474. Organic Parameters: EPA3050B, 3540C, 3630C, 8270C, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to NJ-DEP 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, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B, SM4500H-B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

Certificate/Approval Program Summary

Last revised May 11, 2012 - 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: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D, Fecal Coliform-EC Medium 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total 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, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterolert, E.Coli 9223.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, 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), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics, Acid Extractables (Phenols), Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8082, 8330, 8151A, 8260B, 8270C, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9030B, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

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,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6010C, 6020, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9030B, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8081B, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 6010C, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050, 9065,1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, 8151A, 8015B, 8082, 8082A, 8081A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, 2540G, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C,6020, 6020A, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 8270D, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012A, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C, 3546, 3580, 3580A, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 3005A, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014. Organic Parameters: EPA 5035, 5030B, 8260B, 8015B, 8015C.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 4

ALPHA ANALYTICAL
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 #: L1211368

Client Information

Client: Woods Hole Group
Address: 81 Technology Park
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env Monitoring
Project Location: New Bedford, MA
Project #: TO-0010-07
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:
Project-specific EDP

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB cong	Dissolved PCB Cong	Metals (archive)	Turbidity	TSS	TOC	Sample Specific Comments (SAMPLE HANDLING: Filtration ☐ Done ☐ Not needed ☐ Lab to do; Preservation ☐ Lab to do (Please specify below))	TOTAL # BOTTLES
1	WQ-TPC-001-062612	6/26/12	0915	SW	DGS	X						Flood ~~Sample~~ Ref DGS	2
2	WQ-DPC-001-062612						X						2
3	WQ-MET-001-062612							X				1000's of Area P	1
4	WQ-TUR-001-062612								X				1
5	WQ-TSS-001-062612									X			1
6	WQ-TOC-001-062612										X		2
7	WQ-TPC-002-062612		1035			X						Flood Sample	2
8	WQ-DPC-002-062612						X						2
9	WQ-MET-002-062612							X					1
10	WQ-TUR-002-062612								X				1

Container Type	A	A	P	P	P	V
Preservative	A	A	C	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
	6/26/12 1735		6/26/12 1735

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.

FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 4

ALPHA ANALYTICAL

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 #:

Client Information

Client: Woods Hole Group
Address: 81 Technology Park
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.com

❑ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring
Project Location: New Bedford, MA
Project #: TO-0010-07
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:
Project-specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ❑

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB cong	Dissolved PCB cong	Metals (archive)	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
11	WQ-~~00~~DGS-TSS-002-062612	6/26/12	1035	SW	DGS					X		Flood Sample	1
12	WQ-TOC-002-062612	↓	↓	↓	↓						X	↓	2
13	WQ-TPC-002-062612-REP	↓	1050	↓	↓	X						Flood Sample REP	2
14	WQ-DPC-002-062612-REP	↓	↓	↓	↓		X					↓	2
15	WQ-MET-002-062612-REP	↓	↓	↓	↓			X				↓	1
16	WQ-TUR-002-062612-REP	↓	↓	↓	↓				X			↓	1
17	WQ-TSS-002-062612-REP	↓	↓	↓	↓					X		↓	1
18	WQ-TOC-002-062612-REP	↓	↓	↓	↓						X	↓	2
19	WQ-TPC-003-062612	↓	1410	↓	↓	X						Ebb Rep	2
20	WQ-DPC-003-062612	↓	↓	↓	↓		X					↓	2

Container Type	A	A	P	P	P	V
Preservative	A	A	C	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/26/12 1735	[signature]	6/26/12 1735

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FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 3 OF 4

ALPHA ANALYTICAL

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 #:

Client Information

Client: WOODS Hole Group

Address: 81 Technology Park East Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring

Project Location: New Bedford, MA

Project #: TO-0010-07

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:

Project-specific EDD

PLEASE NOTE

MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB cong	Dissolved PCB cong	Metals	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
21	WQ-~~Q~~ DGS-MET-003-062612	6/26/12	1410	SW	DGS			X					1
22	WQ-TUR-003-062612								X				1
23	WQ-TSS-003-062612									X			1
24	WQ-TOC-003-062612										X		2
25	WQ-TPC-004-062612		1425			X							2
26	WQ-DPC-004-062612						X						2
27	WQ-MET-004-062612							X					1
28	WQ-TUR-004-062612								X				1
29	WQ-TSS-004-062612									X			1
30	WQ-TOC-004-062612										X		2
	Container Type					A	A	P	P	P	V		
	Preservative					A	A	C	A	A	D		

Relinquished By:	Date/Time	Received By:	Date/Time
	6/26/12 1735		6/26/12 1735

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FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 4 OF 4

ALPHA ANALYTICAL
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 #:

Client Information

Client: WOODS Hole Group
Address: 81 Technology Park
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring
Project Location: New Bedford, MA
Project #: TO-0010-07
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:
Project-specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB Cong	Dissolved PCB Cong	Metal	Turbidity	TSS	TOC	Sample Specific Comments	TOTAL # BOTTLES
-25 31	WQ-TPC-004-062612-MS	6/26/12	1435	SW	DGS	X						Ebb sample QA	1
32	WQ-TPC-004-062612-MSD					X							1
-26 33	WQ-DPC-004-062612-MS						X						1
34	WQ-DPC-004-062612-MSD						X						1
-27 35	WQ-MET-004-062612-MSMSD							X					~~4~~ 1
-31 32 33	EB-001-062612		1515			X[2]	X[2]	X[1]				Equipment Blank	5
-30 37	WQ-TOC-004-062612-MSMSD		1435	SW	DGS					X		Ebb sample QA	4

Container Type	A	A	P	P	P	V
Preservative	A	A	C	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
	6/26/12 1735		6/26/12 1735

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FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 4

Date Rec'd in Lab:

ALPHA Job #: L1211368

ALPHA ANALYTICAL

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 East Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env Monitoring

Project Location: New Bedford, MA

Project #: TO-0010-07

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:
Project-specific EDP

PLEASE NOTE

MS/MSD (at unit cost) will be omitted unless you check here: ☐

ANALYSIS: ~~Wet Chem~~ ~~Metals~~ ~~Metals (Water)~~ ~~Metals (Sediment)~~ ~~Pest~~ TOC

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 Date	Collection Time	Sample Matrix	Sampler's Initials	TOC	Sample Specific Comments	Total # Bottles
1	WQ-TPC-001-062612	6/26/12	0915	SW	DGS	X	Flood ~~Sample~~ Ref DGS	2
2	WQ-DPC-001-062612					X		2
3	WQ-MET-001-062612					X	1000's of Area P	1
4	WQ-TUR-001-062612					X		1
5	WQ-TSS-001-062612					X		1
6	WQ-TOC-001-062612					X		2
7	WQ-TPC-002-062612		1035			X	Flood Sample	2
8	WQ-DPC-002-062612					X		2
9	WQ-MET-002-062612					X		1
10	WQ-TUR-002-062612					X		1

Container Type	A	A	P	P	P	V
Preservative	A	A	C	A	A	D

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]	6/26/12 1735	[signature]	6/26/12 1735
[signature]	6/27/12 0940	[signature]	6/27/12 1340
[signature]	6/27/12 1430	[signature]	6/27/12 1430

FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 4

Date Rec'd in Lab:

ALPHA Job #:

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
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Bivi Monitoring
Project Location: New Bedford, MA
Project #: TO-0010-07
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:
Project-specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ANALYSIS: ~~Water PCB Long~~ ~~Dissolved PCB Long~~ ~~Metals (Arsenic)~~ ~~Pesticides~~ ~~TSS~~ TOC

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 Date	Collection Time	Sample Matrix	Sampler's Initials	TOC	Sample Specific Comments	Total # Bottles
11	WQ-~~00~~ DGS-TSS-002-062612	6/26/12	1035	SW	DGS	X	Flood Sample	1
12	WQ-TOC-002-062612	↓	↓	↓	↓	X	↓	2
13	WQ-TPC-002-062612-REP	↓	1050	↓	↓	X	Flood Sample REP	2
14	WQ-DPC-002-062612-REP	↓	↓	↓	↓	X	↓	2
15	WQ-MBT-002-062612-REP	↓	↓	↓	↓	X	↓	1
16	WQ-TUR-002-062612-REP	↓	↓	↓	↓	X	↓	1
17	WQ-TSS-002-062612-REP	↓	↓	↓	↓	X	↓	1
18	WQ-TOC-002-062612-REP	↓	↓	↓	↓	X	↓	2
19	WQ-TPC-003-062612	↓	1410	↓	↓	X	Ebb Ref	2
20	WQ-DPC-003-062612	↓	↓	↓	↓	X	↓	2

Container Type	A	A	P	P	P	V
Preservative	A	A	C	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/26/12 1755	[signature]	6/26/12 1735
[signature]	6/27/12 0940	[signature]	6/27/12 1340
[signature]	6/27/12 1430	[signature]	6/27/12 1430

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FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 3 OF 4

ALPHA ANALYTICAL

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 #:

Client Information

Client: WOODS Hole Group

Address: 81 Technology Park East Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring

Project Location: New Bedford, MA

Project #: TO-0010-07

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:

Project-specific EDD

PLEASE NOTE

MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	~~Total PCB~~	~~Dissolved PCB~~	~~Metals (Extra)~~	~~Total Phosphorus~~	~~TSS~~	TOC							Sample Specific Comments	TOTAL # BOTTLES
21	WQ-Q-MET-003-062612 (DGS)	6/26/12	1410	SW	DGS			X											1
22	WQ-TUR-003-062612								X										1
23	WQ-TSS-003-062612									X									1
24	WQ-TOC-003-062612										X								2
25	WQ-TPC-004-062612		1425			X													2
26	WQ-DPC-004-062612						X												2
27	WQ-MET-004-062612							X											1
28	WQ-TUR-004-062612								X										1
29	WQ-TSS-004-062612									X									1
30	WQ-TOC-004-062612										X								2
					Container Type	A	A	P	P	P	V								
					Preservative	A	A	C	A	A	D								

SAMPLE HANDLING

Filtration ____

☐ Done

☐ Not needed

☐ Lab to do

Preservation

☐ Lab to do

(Please specify below)

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/26/12 1735	[signature]	6/26/12 1735
[signature]	6/27/12 0940	[signature]	6/27/12 1340
[signature]	6/27/12 1430	[signature]	6/27/12 1430

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FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 4 OF 4

ALPHA ANALYTICAL

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 #:

Client Information

Client: WOODS Hole Group

Address: 81 Technology Park East Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring

Project Location: New Bedford, MA

Project #: TO-0010-07

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:

Project-specific EDD

PLEASE NOTE

MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	~~Total PAH~~	~~Dissolved PAH~~	~~Metals~~	~~Pesticides~~	~~TSS~~	TOC	Sample Specific Comments	TOTAL # BOTTLES
-25 31	WQ-TPC-004-062612-MS	6/26/12	1435	SW	DGS	X						Ebb sample QA	1
32	WQ-TPC-004-062612-MSD					X							1
-26 33	WQ-DPC-004-062612-MS						X						1
34	WQ-DPC-004-062612-MSD						X						1
-27 35	WQ-MET-004-062612-MSMSD							X					~~4~~ 1
-31 32 36	EB-001-062612		1515			X[2]	X[2]	X[1]				Equipment Blank	5
-30 37	WQ-TOC-004-062612-MSMSD		1435	SW	DGS					X		Ebb sample QA	4

Container Type	A	A	P	P	P	V
Preservative	A	A	C	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
	6/26/12 1735		6/26/12 1735
	6/27/12 0840		6/27/12 1340
	6/27/12 1430		6/27/12 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 Terms and Conditions. See reverse side.

FORM NO: 101-09 (rev. 27-SEP-10)

ANALYTICAL REPORT

Lab Number:	L1211486
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dave Walsh
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD ENV. MONITORING
Project Number:	TO-0010-07
Report Date:	07/12/12

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), 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 ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1211486-01	WQ-TPC-001-062712	NEW BEDFORD, MA	06/27/12 11:00
L1211486-02	WQ-DPC-001-062712	NEW BEDFORD, MA	06/27/12 11:00
L1211486-03	WQ-MET-001-062712	NEW BEDFORD, MA	06/27/12 11:00
L1211486-04	WQ-TUR-001-062712	NEW BEDFORD, MA	06/27/12 11:00
L1211486-05	WQ-TSS-001-062712	NEW BEDFORD, MA	06/27/12 11:00
L1211486-06	WQ-TOC-001-062712	NEW BEDFORD, MA	06/27/12 11:00
L1211486-07	WQ-TPC-002-062712	NEW BEDFORD, MA	06/27/12 12:15
L1211486-08	WQ-DPC-002-062712	NEW BEDFORD, MA	06/27/12 12:15
L1211486-09	WQ-MET-002-062712	NEW BEDFORD, MA	06/27/12 12:15
L1211486-10	WQ-TUR-002-062712	NEW BEDFORD, MA	06/27/12 12:15
L1211486-11	WQ-TSS-002-062712	NEW BEDFORD, MA	06/27/12 12:15
L1211486-12	WQ-TOC-002-062712	NEW BEDFORD, MA	06/27/12 12:15
L1211486-13	WQ-TPC-003-062712	NEW BEDFORD, MA	06/27/12 15:05
L1211486-14	WQ-DPC-003-062712	NEW BEDFORD, MA	06/27/12 15:05
L1211486-15	WQ-MET-003-062712	NEW BEDFORD, MA	06/27/12 15:05
L1211486-16	WQ-TUR-003-062712	NEW BEDFORD, MA	06/27/12 15:05
L1211486-17	WQ-TSS-003-062712	NEW BEDFORD, MA	06/27/12 15:05
L1211486-18	WQ-TOC-003-062712	NEW BEDFORD, MA	06/27/12 15:05
L1211486-19	WQ-TPC-004-062712	NEW BEDFORD, MA	06/27/12 15:45
L1211486-20	WQ-DPC-004-062712	NEW BEDFORD, MA	06/27/12 15:45
L1211486-21	WQ-MET-004-062712	NEW BEDFORD, MA	06/27/12 15:45
L1211486-22	WQ-TUR-004-062712	NEW BEDFORD, MA	06/27/12 15:45
L1211486-23	WQ-TSS-004-062712	NEW BEDFORD, MA	06/27/12 15:45
L1211486-24	WQ-TOC-004-062712	NEW BEDFORD, MA	06/27/12 15:45
L1211486-25	WQ-TPC-004-062712-REP	NEW BEDFORD, MA	06/27/12 15:55
L1211486-26	WQ-DPC-004-062712-REP	NEW BEDFORD, MA	06/27/12 15:55
L1211486-27	WQ-MET-004-062712-REP	NEW BEDFORD, MA	06/27/12 15:55
L1211486-28	WQ-TUR-004-062712-REP	NEW BEDFORD, MA	06/27/12 15:55
L1211486-29	WQ-TSS-004-062712-REP	NEW BEDFORD, MA	06/27/12 15:55
L1211486-30	WQ-TOC-004-062712-REP	NEW BEDFORD, MA	06/27/12 15:55
L1211486-31	WQ-TPC-004-062712-EB	NEW BEDFORD, MA	06/27/12 16:20

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1211486-32	WQ-DPC-004-062712-EB	NEW BEDFORD, MA	06/27/12 16:20
L1211486-33	WQ-MET-004-062712-EB	NEW BEDFORD, MA	06/27/12 16:20

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486
Project Number: TO-0010-07 **Report Date:** 07/12/12

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486
Project Number: TO-0010-07 **Report Date:** 07/12/12

Case Narrative (continued)

Sample Receipt

Samples were received intact on June 27, 2012. Upon receipt, samples that were marked dissolved on the chain of custody were filtered through a 0.45 micron filter thereby creating the dissolved sample.

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 whether it was the higher or lower value.

L1211486-07, -13, -14, -19, -20, -25 and -26 have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

The WG546137-5 MS recoveries, performed on L1211486-19, were above the acceptance criteria for Cl4-BZ#52 (145%); 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 WG546137-7/-8 MS/MSD recoveries, performed on L1211486-20, were outside the acceptance criteria for several compounds; however, the associated LCS/LCSD recoveries were within criteria. The WG546137-8 MS/MSD RPDs, performed on L1211486-20, are above the acceptance criteria for Cl3-BZ#18 (34%).

Total Organic Carbon

L1211486: All samples have elevated detection limits due to the dilution required by the sample matrix.

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: 07/12/12

ORGANICS

PCBS

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-01	Date Collected:	06/27/12 11:00
Client ID:	WQ-TPC-001-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/06/12 19:52		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.03067		ug/l	0.00250	--	1
Cl3-BZ#18	0.04758		ug/l	0.00250	--	1
Cl4-BZ#52	0.06341		ug/l	0.00250	--	1
Cl4-BZ#66	0.02048		ug/l	0.00250	--	1
Cl5-BZ#118	0.01089		ug/l	0.00250	--	1
Cl6-BZ#138	0.00838		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	49		30-150
BZ 198	84		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-01	Date Collected:	06/27/12 11:00
Client ID:	WQ-TPC-001-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/06/12 19:52		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.05648		ug/l	0.00250	--	1
Cl4-BZ#44	0.0202		ug/l	0.00250	--	1
Cl5-BZ#101	0.01329		ug/l	0.00250	--	1
Cl6-BZ#153	0.00921		ug/l	0.00250	--	1
Cl5-BZ#105	0.00275		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	49		30-150
BZ 198	84		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-02	Date Collected:	06/27/12 11:00
Client ID:	WQ-DPC-001-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/06/12 20:36		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.03052		ug/l	0.00250	--	1
Cl3-BZ#18	0.04219		ug/l	0.00250	--	1
Cl4-BZ#52	0.03755		ug/l	0.00250	--	1
Cl4-BZ#66	0.00855		ug/l	0.00250	--	1
Cl5-BZ#118	ND		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	ND		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	76		30-150
BZ 198	94		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-02	Date Collected:	06/27/12 11:00
Client ID:	WQ-DPC-001-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/06/12 20:36		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.03645		ug/l	0.00250	--	1
Cl4-BZ#44	0.01173		ug/l	0.00250	--	1
Cl5-BZ#101	0.00464		ug/l	0.00250	--	1
Cl6-BZ#153	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	76		30-150
BZ 198	94		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-07	Date Collected:	06/27/12 12:15
Client ID:	WQ-TPC-002-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 11:15		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.06836		ug/l	0.00500	--	2
Cl3-BZ#18	0.15336		ug/l	0.00500	--	2
Cl4-BZ#52	0.19586		ug/l	0.00500	--	2
Cl4-BZ#66	0.06938		ug/l	0.00500	--	2
Cl5-BZ#118	0.03332		ug/l	0.00500	--	2
Cl5-BZ#105	0.00901		ug/l	0.00500	--	2
Cl6-BZ#138	0.02733		ug/l	0.00500	--	2
Cl6-BZ#128	ND		ug/l	0.00500	--	2
Cl7-BZ#180	0.00746		ug/l	0.00500	--	2
Cl8-BZ#195	ND		ug/l	0.00500	--	2
Cl9-BZ#206	ND		ug/l	0.00500	--	2
Cl10-BZ#209	ND		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	55		30-150
BZ 198	85		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-07	Date Collected:	06/27/12 12:15
Client ID:	WQ-TPC-002-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 11:15		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.16522		ug/l	0.00500	--	2
Cl4-BZ#44	0.06416		ug/l	0.00500	--	2
Cl5-BZ#101	0.03922		ug/l	0.00500	--	2
Cl6-BZ#153	0.032		ug/l	0.00500	--	2
Cl7-BZ#187	0.00765		ug/l	0.00500	--	2
Cl7-BZ#170	0.00528		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	55		30-150
BZ 198	85		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-08	Date Collected:	06/27/12 12:15
Client ID:	WQ-DPC-002-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/06/12 22:03		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.0476		ug/l	0.00260	--	1
Cl3-BZ#18	0.07583		ug/l	0.00260	--	1
Cl4-BZ#52	0.05819		ug/l	0.00260	--	1
Cl4-BZ#44	0.01938		ug/l	0.00260	--	1
Cl4-BZ#66	0.01364		ug/l	0.00260	--	1
Cl5-BZ#118	0.00356		ug/l	0.00260	--	1
Cl5-BZ#105	ND		ug/l	0.00260	--	1
Cl6-BZ#138	ND		ug/l	0.00260	--	1
Cl7-BZ#187	ND		ug/l	0.00260	--	1
Cl6-BZ#128	ND		ug/l	0.00260	--	1
Cl7-BZ#180	ND		ug/l	0.00260	--	1
Cl7-BZ#170	ND		ug/l	0.00260	--	1
Cl8-BZ#195	ND		ug/l	0.00260	--	1
Cl9-BZ#206	ND		ug/l	0.00260	--	1
Cl10-BZ#209	ND		ug/l	0.00260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	51		30-150
BZ 198	88		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-08	Date Collected:	06/27/12 12:15
Client ID:	WQ-DPC-002-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/06/12 22:03		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.0579		ug/l	0.00260	--	1
Cl5-BZ#101	0.00678		ug/l	0.00260	--	1
Cl6-BZ#153	0.00288		ug/l	0.00260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	51		30-150
BZ 198	88		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-13	Date Collected:	06/27/12 15:05
Client ID:	WQ-TPC-003-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 11:59		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.07927		ug/l	0.00500	--	2
Cl3-BZ#18	0.17395		ug/l	0.00500	--	2
Cl4-BZ#52	0.14681		ug/l	0.00500	--	2
Cl4-BZ#66	0.04161		ug/l	0.00500	--	2
Cl5-BZ#118	0.01934		ug/l	0.00500	--	2
Cl5-BZ#105	ND		ug/l	0.00500	--	2
Cl6-BZ#138	0.01509		ug/l	0.00500	--	2
Cl7-BZ#187	ND		ug/l	0.00500	--	2
Cl6-BZ#128	ND		ug/l	0.00500	--	2
Cl7-BZ#180	ND		ug/l	0.00500	--	2
Cl7-BZ#170	ND		ug/l	0.00500	--	2
Cl8-BZ#195	ND		ug/l	0.00500	--	2
Cl9-BZ#206	ND		ug/l	0.00500	--	2
Cl10-BZ#209	ND		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	45		30-150
BZ 198	86		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-13	Date Collected:	06/27/12 15:05
Client ID:	WQ-TPC-003-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 11:59		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.13037		ug/l	0.00500	--	2
Cl4-BZ#44	0.04393		ug/l	0.00500	--	2
Cl5-BZ#101	0.02555		ug/l	0.00500	--	2
Cl6-BZ#153	0.01836		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	45		30-150
BZ 198	86		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-14	Date Collected:	06/27/12 15:05
Client ID:	WQ-DPC-003-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 12:42		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.07177		ug/l	0.00500	--	2
Cl3-BZ#18	0.10316		ug/l	0.00500	--	2
Cl4-BZ#52	0.07201		ug/l	0.00500	--	2
Cl4-BZ#66	0.01245		ug/l	0.00500	--	2
Cl5-BZ#118	ND		ug/l	0.00500	--	2
Cl5-BZ#105	ND		ug/l	0.00500	--	2
Cl6-BZ#138	ND		ug/l	0.00500	--	2
Cl7-BZ#187	ND		ug/l	0.00500	--	2
Cl6-BZ#128	ND		ug/l	0.00500	--	2
Cl7-BZ#180	ND		ug/l	0.00500	--	2
Cl7-BZ#170	ND		ug/l	0.00500	--	2
Cl8-BZ#195	ND		ug/l	0.00500	--	2
Cl9-BZ#206	ND		ug/l	0.00500	--	2
Cl10-BZ#209	ND		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	51		30-150
BZ 198	95		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-14	Date Collected:	06/27/12 15:05
Client ID:	WQ-DPC-003-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 12:42		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.07838		ug/l	0.00500	--	2
Cl4-BZ#44	0.02063		ug/l	0.00500	--	2
Cl5-BZ#101	0.0063		ug/l	0.00500	--	2
Cl6-BZ#153	ND		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	51		30-150
BZ 198	95		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-19	Date Collected:	06/27/12 15:45
Client ID:	WQ-TPC-004-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 13:26		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.13240		ug/l	0.01260	--	5
Cl3-BZ#18	0.19167		ug/l	0.01260	--	5
Cl4-BZ#52	0.25017		ug/l	0.01260	--	5
Cl4-BZ#66	0.09908		ug/l	0.01260	--	5
Cl5-BZ#118	0.05012		ug/l	0.01260	--	5
Cl5-BZ#105	ND		ug/l	0.01260	--	5
Cl6-BZ#138	0.03755		ug/l	0.01260	--	5
Cl7-BZ#187	ND		ug/l	0.01260	--	5
Cl6-BZ#128	ND		ug/l	0.01260	--	5
Cl7-BZ#180	ND		ug/l	0.01260	--	5
Cl7-BZ#170	ND		ug/l	0.01260	--	5
Cl8-BZ#195	ND		ug/l	0.01260	--	5
Cl9-BZ#206	ND		ug/l	0.01260	--	5
Cl10-BZ#209	ND		ug/l	0.01260	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	65		30-150
BZ 198	90		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-19	Date Collected:	06/27/12 15:45
Client ID:	WQ-TPC-004-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 13:26		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.22968		ug/l	0.01260	--	5
Cl4-BZ#44	0.08503		ug/l	0.01260	--	5
Cl5-BZ#101	0.06218		ug/l	0.01260	--	5
Cl6-BZ#153	0.04575		ug/l	0.01260	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	65		30-150
BZ 198	90		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-20	Date Collected:	06/27/12 15:45
Client ID:	WQ-DPC-004-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 15:38		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.09390		ug/l	0.00510	--	2
Cl3-BZ#18	0.14200		ug/l	0.00510	--	2
Cl4-BZ#52	0.07586		ug/l	0.00510	--	2
Cl4-BZ#44	0.02487		ug/l	0.00510	--	2
Cl4-BZ#66	0.01876		ug/l	0.00510	--	2
Cl5-BZ#118	ND		ug/l	0.00510	--	2
Cl5-BZ#105	ND		ug/l	0.00510	--	2
Cl6-BZ#138	ND		ug/l	0.00510	--	2
Cl7-BZ#187	ND		ug/l	0.00510	--	2
Cl6-BZ#128	ND		ug/l	0.00510	--	2
Cl7-BZ#180	ND		ug/l	0.00510	--	2
Cl7-BZ#170	ND		ug/l	0.00510	--	2
Cl8-BZ#195	ND		ug/l	0.00510	--	2
Cl9-BZ#206	ND		ug/l	0.00510	--	2
Cl10-BZ#209	ND		ug/l	0.00510	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	52		30-150
BZ 198	81		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-20	Date Collected:	06/27/12 15:45
Client ID:	WQ-DPC-004-062712	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 15:38		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.08663		ug/l	0.00510	--	2
Cl5-BZ#101	0.0079		ug/l	0.00510	--	2
Cl6-BZ#153	ND		ug/l	0.00510	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	52		30-150
BZ 198	81		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-25	Date Collected:	06/27/12 15:55
Client ID:	WQ-TPC-004-062712-REP	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 17:49		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.15496		ug/l	0.01250	--	5
Cl3-BZ#18	0.19454		ug/l	0.01250	--	5
Cl4-BZ#52	0.27396		ug/l	0.01250	--	5
Cl4-BZ#66	0.10710		ug/l	0.01250	--	5
Cl5-BZ#118	0.05081		ug/l	0.01250	--	5
Cl5-BZ#105	ND		ug/l	0.01250	--	5
Cl6-BZ#138	0.03815		ug/l	0.01250	--	5
Cl7-BZ#187	ND		ug/l	0.01250	--	5
Cl6-BZ#128	ND		ug/l	0.01250	--	5
Cl7-BZ#180	ND		ug/l	0.01250	--	5
Cl7-BZ#170	ND		ug/l	0.01250	--	5
Cl8-BZ#195	ND		ug/l	0.01250	--	5
Cl9-BZ#206	ND		ug/l	0.01250	--	5
Cl10-BZ#209	ND		ug/l	0.01250	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	60		30-150
BZ 198	81		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-25	Date Collected:	06/27/12 15:55
Client ID:	WQ-TPC-004-062712-REP	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 17:49		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.25993		ug/l	0.01250	--	5
Cl4-BZ#44	0.09285		ug/l	0.01250	--	5
Cl5-BZ#101	0.06578		ug/l	0.01250	--	5
Cl6-BZ#153	0.04642		ug/l	0.01250	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	60		30-150
BZ 198	81		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-26	Date Collected:	06/27/12 15:55
Client ID:	WQ-DPC-004-062712-REP	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 18:33		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.09865		ug/l	0.00500	--	2
Cl3-BZ#18	0.15127		ug/l	0.00500	--	2
Cl4-BZ#52	0.08366		ug/l	0.00500	--	2
Cl4-BZ#66	0.01864		ug/l	0.00500	--	2
Cl5-BZ#118	ND		ug/l	0.00500	--	2
Cl5-BZ#105	ND		ug/l	0.00500	--	2
Cl6-BZ#138	ND		ug/l	0.00500	--	2
Cl7-BZ#187	ND		ug/l	0.00500	--	2
Cl6-BZ#128	ND		ug/l	0.00500	--	2
Cl7-BZ#180	ND		ug/l	0.00500	--	2
Cl7-BZ#170	ND		ug/l	0.00500	--	2
Cl8-BZ#195	ND		ug/l	0.00500	--	2
Cl9-BZ#206	ND		ug/l	0.00500	--	2
Cl10-BZ#209	ND		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	65		30-150
BZ 198	76		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-26	Date Collected:	06/27/12 15:55
Client ID:	WQ-DPC-004-062712-REP	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/09/12 18:33		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.08914		ug/l	0.00500	--	2
Cl4-BZ#44	0.02536		ug/l	0.00500	--	2
Cl5-BZ#101	0.00851		ug/l	0.00500	--	2
Cl6-BZ#153	ND		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	65		30-150
BZ 198	76		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-31	Date Collected:	06/27/12 16:20
Client ID:	WQ-TPC-004-062712-EB	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/07/12 06:48		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	ND		ug/l	0.00250	--	1
Cl3-BZ#18	ND		ug/l	0.00250	--	1
Cl3-BZ#28	ND		ug/l	0.00250	--	1
Cl4-BZ#52	ND		ug/l	0.00250	--	1
Cl4-BZ#44	ND		ug/l	0.00250	--	1
Cl4-BZ#66	ND		ug/l	0.00250	--	1
Cl5-BZ#101	ND		ug/l	0.00250	--	1
Cl5-BZ#118	ND		ug/l	0.00250	--	1
Cl5-BZ#105	ND		ug/l	0.00250	--	1
Cl6-BZ#138	ND		ug/l	0.00250	--	1
Cl7-BZ#187	ND		ug/l	0.00250	--	1
Cl6-BZ#128	ND		ug/l	0.00250	--	1
Cl7-BZ#180	ND		ug/l	0.00250	--	1
Cl7-BZ#170	ND		ug/l	0.00250	--	1
Cl8-BZ#195	ND		ug/l	0.00250	--	1
Cl9-BZ#206	ND		ug/l	0.00250	--	1
Cl10-BZ#209	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	62		30-150
BZ 198	81		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-31	Date Collected:	06/27/12 16:20
Client ID:	WQ-TPC-004-062712-EB	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/07/12 06:48		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl6-BZ#153	ND		ug/l	0.00250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	62		30-150
BZ 198	81		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-32	Date Collected:	06/27/12 16:20
Client ID:	WQ-DPC-004-062712-EB	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/07/12 07:31		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	ND		ug/l	0.00260	--	1
Cl3-BZ#18	ND		ug/l	0.00260	--	1
Cl3-BZ#28	ND		ug/l	0.00260	--	1
Cl4-BZ#52	ND		ug/l	0.00260	--	1
Cl4-BZ#44	ND		ug/l	0.00260	--	1
Cl4-BZ#66	ND		ug/l	0.00260	--	1
Cl5-BZ#101	ND		ug/l	0.00260	--	1
Cl5-BZ#118	ND		ug/l	0.00260	--	1
Cl5-BZ#105	ND		ug/l	0.00260	--	1
Cl6-BZ#138	ND		ug/l	0.00260	--	1
Cl7-BZ#187	ND		ug/l	0.00260	--	1
Cl6-BZ#128	ND		ug/l	0.00260	--	1
Cl7-BZ#180	ND		ug/l	0.00260	--	1
Cl7-BZ#170	ND		ug/l	0.00260	--	1
Cl8-BZ#195	ND		ug/l	0.00260	--	1
Cl9-BZ#206	ND		ug/l	0.00260	--	1
Cl10-BZ#209	ND		ug/l	0.00260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	62		30-150
BZ 198	75		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

SAMPLE RESULTS

Lab ID:	L1211486-32	Date Collected:	06/27/12 16:20
Client ID:	WQ-DPC-004-062712-EB	Date Received:	06/27/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/03/12 11:00
Analytical Date:	07/07/12 07:31		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl6-BZ#153	ND		ug/l	0.00260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	62		30-150
BZ 198	75		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/06/12 16:57
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 07/03/12 11:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG546137-6					
Cl2-BZ#8	ND		ug/l	0.00250	--
Cl3-BZ#18	ND		ug/l	0.00250	--
Cl3-BZ#28	ND		ug/l	0.00250	--
Cl4-BZ#52	ND		ug/l	0.00250	--
Cl4-BZ#44	ND		ug/l	0.00250	--
Cl4-BZ#66	ND		ug/l	0.00250	--
Cl5-BZ#101	ND		ug/l	0.00250	--
Cl5-BZ#118	ND		ug/l	0.00250	--
Cl5-BZ#105	ND		ug/l	0.00250	--
Cl6-BZ#138	ND		ug/l	0.00250	--
Cl7-BZ#187	ND		ug/l	0.00250	--
Cl6-BZ#128	ND		ug/l	0.00250	--
Cl7-BZ#180	ND		ug/l	0.00250	--
Cl7-BZ#170	ND		ug/l	0.00250	--
Cl8-BZ#195	ND		ug/l	0.00250	--
Cl9-BZ#206	ND		ug/l	0.00250	--
Cl10-BZ#209	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	66		30-150
BZ 198	85		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/06/12 16:57
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 07/03/12 11:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG546137-6					
Cl6-BZ#153	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	66		30-150
BZ 198	85		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07
Lab Number: L1211486
Report Date: 07/12/12

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 QC Batch ID: WG546137-4 WG546137-5 QC Sample: L1211486-19 Client ID: WQ-TPC-004-062712

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Cl2-BZ#8	0.13240	0.051	0.16602	66		0.16160	58		40-140	3		30
Cl3-BZ#18	0.19167	0.051	0.25148	117		0.24994	116		40-140	1		30
Cl4-BZ#52	0.25017	0.051	0.27528	49		0.32252	**145**	Q	40-140	16		30
Cl4-BZ#66	0.09908	0.051	0.13277	66		0.14740	97		40-140	10		30
Cl5-BZ#118	0.05012	0.051	0.08866	76		0.09224	84		40-140	4		30
Cl5-BZ#105	ND	0.051	0.05345	105		0.05115	102		40-140	4		30
Cl6-BZ#138	0.03755	0.051	0.07775	79		0.07907	83		40-140	2		30
Cl7-BZ#187	ND	0.051	0.04645	91		0.04576	92		40-140	2		30
Cl6-BZ#128	ND	0.051	0.05174	101		0.04892	98		40-140	6		30
Cl7-BZ#180	ND	0.051	0.05563	109		0.05215	104		40-140	6		30
Cl7-BZ#170	ND	0.051	0.05251	103		0.04926	98		40-140	6		30
Cl8-BZ#195	ND	0.051	0.04425	87		0.04173	83		40-140	6		30
Cl9-BZ#206	ND	0.051	0.04954	97		0.04527	90		40-140	9		30
Cl10-BZ#209	ND	0.051	0.04467	88		0.04031	81		40-140	10		30
Cl3-BZ#28	0.22968	0.051	0.25920	58		0.29006	121		40-140	11		30
Cl4-BZ#44	0.08503	0.051	0.11407	57		0.12504	80		40-140	9		30
Cl5-BZ#101	0.06218	0.051	0.09274	60		0.09863	73		40-140	6		30
Cl6-BZ#153	0.04575	0.051	0.07712	61		0.08228	73		40-140	6		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07
Lab Number: L1211486
Report Date: 07/12/12

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): 01-02,07-08,13-14,19-20,25-26,31-32 QC Batch ID: WG546137-4 WG546137-5 QC Sample: L1211486-19 Client ID: WQ-TPC-004-062712												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
DBOB	66		65		30-150
BZ 198	92		84		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 QC Batch ID: WG546137-7 WG546137-8 QC Sample: L1211486-20 Client ID: WQ-DPC-004-062712

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Cl2-BZ#8	0.09390	0.05	0.11131	**35**	Q	0.12346	58		40-140	10		30
Cl3-BZ#18	0.14200	0.05	0.11417	**0**	Q	0.16152	**39**	Q	40-140	**34**	Q	30
Cl4-BZ#52	0.07586	0.05	0.10520	59		0.11400	76		40-140	8		30
Cl4-BZ#44	0.02487	0.05	0.05911	68		0.05656	63		40-140	4		30
Cl4-BZ#66	0.01876	0.05	0.05714	77		0.05443	71		40-140	5		30
Cl5-BZ#118	ND	0.05	0.04591	92		0.04454	88		40-140	3		30
Cl5-BZ#105	ND	0.05	0.04412	88		0.04235	84		40-140	4		30
Cl6-BZ#138	ND	0.05	0.04433	89		0.04293	85		40-140	3		30
Cl7-BZ#187	ND	0.05	0.03828	76		0.03724	74		40-140	3		30
Cl6-BZ#128	ND	0.05	0.04360	87		0.04178	83		40-140	4		30
Cl7-BZ#180	ND	0.05	0.04523	90		0.04374	86		40-140	3		30
Cl7-BZ#170	ND	0.05	0.04558	91		0.04308	85		40-140	6		30
Cl8-BZ#195	ND	0.05	0.04093	82		0.03987	79		40-140	3		30
Cl9-BZ#206	ND	0.05	0.04753	95		0.04414	87		40-140	7		30
Cl10-BZ#209	ND	0.05	0.04122	82		0.03745	74		40-140	10		30
Cl3-BZ#28	0.08663	0.05	0.12360	74		0.12157	69		40-140	2		30
Cl5-BZ#101	0.0079	0.05	0.04227	69		0.04091	65		40-140	3		30
Cl6-BZ#153	ND	0.05	0.03814	76		0.03776	75		40-140	1		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07
Lab Number: L1211486
Report Date: 07/12/12

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): 01-02,07-08,13-14,19-20,25-26,31-32 QC Batch ID: WG546137-7 WG546137-8 QC Sample: L1211486-20 Client ID: WQ-DPC-004-062712												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
DBOB	58		55		30-150
BZ 198	87		84		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING

Project Number: TO-0010-07

Lab Number: L1211486

Report Date: 07/12/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG546137-2 WG546137-3								
Cl2-BZ#8	61		70		40-140	15		30
Cl3-BZ#18	58		65		40-140	12		30
Cl3-BZ#28	70		81		40-140	16		30
Cl4-BZ#52	67		78		40-140	14		30
Cl4-BZ#44	61		73		40-140	18		30
Cl4-BZ#66	66		77		40-140	15		30
Cl5-BZ#101	61		70		40-140	14		30
Cl5-BZ#118	72		81		40-140	12		30
Cl5-BZ#105	76		86		40-140	13		30
Cl6-BZ#138	72		81		40-140	12		30
Cl7-BZ#187	66		74		40-140	11		30
Cl6-BZ#128	75		85		40-140	13		30
Cl7-BZ#180	78		88		40-140	11		30
Cl7-BZ#170	78		88		40-140	11		30
Cl8-BZ#195	73		81		40-140	11		30
Cl9-BZ#206	81		91		40-140	12		30
Cl10-BZ#209	70		79		40-140	12		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING

Project Number: TO-0010-07

Lab Number: L1211486

Report Date: 07/12/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG546137-2 WG546137-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	56		64		30-150
BZ 198	75		86		30-150

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-02,07-08,13-14,19-20,25-26,31-32 Batch: WG546137-2 WG546137-3								
Cl6-BZ#153	62		70		40-140	12		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	56		64		30-150
BZ 198	75		86		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-04
Client ID: WQ-TUR-001-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 11:00
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	3.8		NTU	0.40	--	1	-	06/27/12 22:00	8,180.1	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-05
Client ID: WQ-TSS-001-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 11:00
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	7.70		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-06
Client ID: WQ-TOC-001-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 11:00
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/11/12 08:10	1,9060	DW

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-10
Client ID: WQ-TUR-002-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 12:15
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	9.5		NTU	0.40	--	1	-	06/27/12 22:00	8,180.1	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-11
Client ID: WQ-TSS-002-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 12:15
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	13.2		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-12
Client ID: WQ-TOC-002-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 12:15
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/11/12 08:10	1,9060	DW

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-16
Client ID: WQ-TUR-003-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 15:05
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	6.3		NTU	0.40	--	1	-	06/27/12 22:00	8,180.1	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-17
Client ID: WQ-TSS-003-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 15:05
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	4.60		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-18
Client ID: WQ-TOC-003-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 15:05
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/11/12 08:10	1,9060	DW

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-22
Client ID: WQ-TUR-004-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 15:45
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	15		NTU	0.40	--	1	-	06/27/12 22:00	8,180.1	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-23
Client ID: WQ-TSS-004-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 15:45
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	13.2		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-24
Client ID: WQ-TOC-004-062712
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 15:45
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/11/12 08:10	1,9060	DW

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-28
Client ID: WQ-TUR-004-062712-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 15:55
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	12		NTU	0.40	--	1	-	06/27/12 22:00	8,180.1	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-29
Client ID: WQ-TSS-004-062712-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 15:55
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	12.4		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

SAMPLE RESULTS

Lab ID: L1211486-30
Client ID: WQ-TOC-004-062712-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 06/27/12 15:55
Date Received: 06/27/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/11/12 08:10	1,9060	DW

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1211486

Project Number: TO-0010-07 **Report Date:** 07/12/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 04,10,16,22,28 Batch: WG545280-1										
Turbidity	ND		NTU	0.40	--	1	-	06/27/12 22:00	8,180.1	SP
General Chemistry - Mansfield Lab for sample(s): 05,11,17,23,29 Batch: WG545284-1										
Solids, Total Suspended	ND		mg/l	1.00	NA	1	-	06/28/12 16:00	4,160.2	ES
General Chemistry - Westborough Lab for sample(s): 06,12,18,24,30 Batch: WG547684-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	07/11/12 08:10	1,9060	DW

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING

Project Number: TO-0010-07

Lab Number: L1211486

Report Date: 07/12/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 04,10,16,22,28 Batch: WG545280-2								
Turbidity	102		-		90-110	-		10
General Chemistry - Mansfield Lab Associated sample(s): 05,11,17,23,29 Batch: WG545284-2								
Solids, Total Suspended	103		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 06,12,18,24,30 Batch: WG547684-2								
Total Organic Carbon	94		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07
Lab Number: L1211486
Report Date: 07/12/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 06,12,18,24,30 QC Batch ID: WG547684-3 QC Sample: L1211486-24 Client ID: WQ-TOC-004-062712												
Total Organic Carbon	ND	80	83	103		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 04,10,16,22,28 QC Batch ID: WG545280-3 QC Sample: L1211486-04 Client ID: WQ-TUR-001-062712						
Turbidity	3.8	3.7	NTU	3		10
General Chemistry - Mansfield Lab Associated sample(s): 05,11,17,23,29 QC Batch ID: WG545284-3 QC Sample: L1211486-05 Client ID: WQ-TSS-001-062712						
Solids, Total Suspended	7.70	7.60	mg/l	1		20
General Chemistry - Westborough Lab Associated sample(s): 06,12,18,24,30 QC Batch ID: WG547684-4 QC Sample: L1211486-24 Client ID: WQ-TOC-004-062712						
Total Organic Carbon	ND	ND	mg/l	NC		20

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

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
D	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1211486-01C	Amber 1000ml unpreserved	B	7	9.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-01D	Amber 1000ml unpreserved	B	7	9.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-02C	Amber 1000ml unpreserved	B	7	9.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-02D	Amber 1000ml unpreserved	B	7	9.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-03A	Plastic 500ml HNO3 preserved	B	<2	9.9	Y	Absent	HOLD(14)
L1211486-04A	Plastic 1000ml unpreserved	D	N/A	9.5	Y	Absent	A2-TURBIDITY-180.1(2)
L1211486-05E	Plastic 1000ml unpreserved	B	7	9.9	Y	Absent	A2-TSS-160(7)
L1211486-06A	Vial H2SO4 preserved	D	N/A	9.5	Y	Absent	TOC-9060(28)
L1211486-06B	Vial H2SO4 preserved	D	N/A	9.5	Y	Absent	TOC-9060(28)
L1211486-07C	Amber 1000ml unpreserved	D	7	9.5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-07D	Amber 1000ml unpreserved	D	7	9.5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-08C	Amber 1000ml unpreserved	D	7	9.5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-08D	Amber 1000ml unpreserved	D	7	9.5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-09A	Plastic 500ml HNO3 preserved	D	<2	9.5	Y	Absent	HOLD(14)
L1211486-10A	Plastic 1000ml unpreserved	A	NA	10.1	Y	Absent	A2-TURBIDITY-180.1(2)
L1211486-11E	Plastic 1000ml unpreserved	D	7	9.5	Y	Absent	A2-TSS-160(7)
L1211486-12A	Vial H2SO4 preserved	D	N/A	9.5	Y	Absent	TOC-9060(28)
L1211486-12B	Vial H2SO4 preserved	D	N/A	9.5	Y	Absent	TOC-9060(28)
L1211486-13C	Amber 1000ml unpreserved	A	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-13D	Amber 1000ml unpreserved	A	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-14C	Amber 1000ml unpreserved	A	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-14D	Amber 1000ml unpreserved	A	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-15A	Plastic 500ml HNO3 preserved	A	<2	10.1	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1211486
Report Date: 07/12/12

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1211486-16A	Plastic 1000ml unpreserved	A	N/A	10.1	Y	Absent	A2-TURBIDITY-180.1(2)
L1211486-17E	Plastic 1000ml unpreserved	A	7	10.1	Y	Absent	A2-TSS-160(7)
L1211486-18A	Vial H2SO4 preserved	A	N/A	10.1	Y	Absent	TOC-9060(28)
L1211486-18B	Vial H2SO4 preserved	A	N/A	10.1	Y	Absent	TOC-9060(28)
L1211486-19C	Amber 1000ml unpreserved	D	7	9.5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-19D	Amber 1000ml unpreserved	D	7	9.5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-19E	Amber 1000ml unpreserved	B	7	9.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-19F	Amber 1000ml unpreserved	B	7	9.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-20C	Amber 1000ml unpreserved	D	7	9.5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-20D	Amber 1000ml unpreserved	D	7	9.5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-20E	Amber 1000ml unpreserved	B	7	9.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-20F	Amber 1000ml unpreserved	B	7	9.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-21A	Plastic 500ml HNO3 preserved	D	<2	9.5	Y	Absent	HOLD(14)
L1211486-21B	Plastic 500ml HNO3 preserved	D	<2	9.5	Y	Absent	HOLD(14)
L1211486-22A	Plastic 1000ml unpreserved	B	N/A	9.9	Y	Absent	A2-TURBIDITY-180.1(2)
L1211486-23E	Plastic 1000ml unpreserved	D	7	9.5	Y	Absent	A2-TSS-160(7)
L1211486-24A	Vial H2SO4 preserved	D	N/A	9.5	Y	Absent	TOC-9060(28)
L1211486-24B	Vial H2SO4 preserved	D	N/A	9.5	Y	Absent	TOC-9060(28)
L1211486-24C	Vial H2SO4 preserved	D	N/A	9.5	Y	Absent	TOC-9060(28)
L1211486-24D	Vial H2SO4 preserved	D	N/A	9.5	Y	Absent	TOC-9060(28)
L1211486-24E	Vial H2SO4 preserved	D	N/A	9.5	Y	Absent	TOC-9060(28)
L1211486-24F	Vial H2SO4 preserved	D	N/A	9.5	Y	Absent	TOC-9060(28)
L1211486-25C	Amber 1000ml unpreserved	C	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-25D	Amber 1000ml unpreserved	C	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-26C	Amber 1000ml unpreserved	C	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-26D	Amber 1000ml unpreserved	C	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-27A	Plastic 500ml HNO3 preserved	C	<2	10.1	Y	Absent	HOLD(14)
L1211486-28A	Plastic 1000ml unpreserved	C	N/A	10.1	Y	Absent	A2-TURBIDITY-180.1(2)
L1211486-29E	Plastic 1000ml unpreserved	C	7	10.1	Y	Absent	A2-TSS-160(7)
L1211486-30A	Vial H2SO4 preserved	C	N/A	10.1	Y	Absent	TOC-9060(28)
L1211486-30B	Vial H2SO4 preserved	C	N/A	10.1	Y	Absent	TOC-9060(28)
L1211486-31C	Amber 1000ml unpreserved	A	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-31D	Amber 1000ml unpreserved	A	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-32C	Amber 1000ml unpreserved	A	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-32D	Amber 1000ml unpreserved	A	7	10.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1211486-33A	Plastic 500ml HNO3 preserved	A	<2	10.1	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name:	NEW BEDFORD ENV. MONITORING	**Lab Number:**	L1211486
Project Number:	TO-0010-07	**Report Date:**	07/12/12

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.
LFB	- Laboratory Fortified Blank: 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.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
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.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL 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.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
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.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
M	- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD ENV. MONITORING	**Lab Number:**	L1211486
Project Number:	TO-0010-07	**Report Date:**	07/12/12

Data Qualifiers

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. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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 RL. (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 reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD ENV. MONITORING	**Lab Number:**	L1211486
Project Number:	TO-0010-07	**Report Date:**	07/12/12

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 Analytical 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 Analytical.

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 May 10, 2012 – 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, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). 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, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. 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, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. 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 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1,1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 3060A, 6020A, 7470A, 7471B, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040B, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 245.7, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A,7471B, 7474. Organic Parameters: EPA3050B, 3540C, 3630C, 8270C, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to NJ-DEP 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, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B, SM4500H-B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

Certificate/Approval Program Summary

Last revised May 11, 2012 - 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: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D, Fecal Coliform-EC Medium 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total 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, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterolert, E.Coli 9223.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, 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), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics, Acid Extractables (Phenols), Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8082, 8330, 8151A, 8260B, 8270C, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9030B, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

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,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6010C, 6020, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9030B, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8081B, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 6010C, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050, 9065,1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, 8151A, 8015B, 8082, 8082A, 8081A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, 2540G, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C,6020, 6020A, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 8270D, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012A, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C, 3546, 3580, 3580A, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 3005A, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014. Organic Parameters: EPA 5035, 5030B, 8260B, 8015B, 8015C.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease

CHAIN OF CUSTODY

PAGE 1 OF 4

ALPHA ANALYTICAL
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 #: L1211486

Client Information

Client: WOODS Hole Group
Address: 81 Technology Park Dr
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1601
Email: DSTUART@WHGRP.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env Monitoring
Project Location: New Bedford, MA
Project #: TO-0010-07
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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required , indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Project-specific EDD

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB conc	Dissolved PCB conc	Metals (Archive)	Turbidity	TSS	TOC	Sample Specific Comments	TOTAL # BOTTLES
1	WQ-TPC-001-062712	6/27/12	1100	SW	PBC	X						Flood Reference	2
2	WQ-DPC-001-062712						X						2
3	WQ-MET-001-062712							X					1
4	WQ-TUR-001-062712								X				1
5	WQ-TSS-001-062712									X			1
6	WQ-TOC-001-062712										X		2
7	WQ-TPC-002-062712		1215			X						Flood Sample	2
8	WQ-DPC-002-06712						X						2
9	WQ-MET-002-062712							X					1
10	WQ-TUR-002-062712								X				1

Container Type	A	A	P	P	P	V
Preservative	A	A	C	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Dack Stuart	6/27/12 1800	[illegible]	6-27-12 1800

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.

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 4

Date Rec'd in Lab:

ALPHA Job #: L1211486

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
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Bmr Monitoring
Project Location: New Bedford, MA
Project #: TO-0010-07
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:
Project-specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB cong.	Dissolved PCB cong	Metals (archive)	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
11	WQ-TSS-002-062712	6/27/12	1215	SW	PBC					X		Flood Sample	1
12	WQ-TOC-002-062712	↓	↓	↓	↓						X	↓	2
13	WQ-TPC-003-062712	↓	1505	↓	↓	X						Ebb Reference	2
14	WQ-DPC-003-062712	↓	↓	↓	↓		X					↓	2
15	WQ-MET-003-062712	↓	↓	↓	↓			X				↓	1
16	WQ-TUR-003-062712	↓	↓	↓	↓				X			↓	1
17	WQ-TSS-003-062712	↓	↓	↓	↓					X		↓	1
18	WQ-TOC-003-062712	↓	↓	↓	↓						X	↓	2
19	WQ-TPC-004-062712	↓	1545	↓	↓	X						Ebb Sample	2
20	WQ-DPC-004-062712	↓	↓	↓	↓		X					↓	2
	Container Type					A	A	P	P	P	V		
	Preservative					A	A	C	A	A	D		

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/27/12 1800	[signature]	6-27-12 1800

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 3 OF 4

ALPHA ANALYTICAL
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 #: L1211486

Client Information

Client: WOODS Hole Group
Address: 81 Technology Park, East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring
Project Location: New Bedford, MA
Project #: ~~Ma~~ DES TO-0010-07
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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Project-Specific EDD

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB Cong	Dissolved B PCB cong	Metals (archive)	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
21	WQ-MET-004-062712	6/27/12	1545	SW	PBC			X				Ebb sample	1
22	WQ-TUR-004-062712								X				1
23	WQ-TSS-004-062712									X			1
24	WQ-TOC-004-062712										X		2
25	WQ-TPC-004-062712-REP		1555			X						Ebb sample Rep	2
26	WQ-DPC-004-062712-REP						X						2
27	WQ-MET-004-062712-REP							X					1
28	WQ-TUR-004-062712-REP								X				1
29	WQ-TSS-004-062712-REP									X			1
30	WQ-TOC-004-062712-REP										X		2

SAMPLE HANDLING
Filtration ☐ Done ☐ Not needed ☐ Lab to do
Preservation ☐ Lab to do (Please specify below)

Container Type	A	A	P	P	P	V
Preservative	A	A	C	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Stuart	6/27/12 1800	[signature]	6-27-12 1800

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 4 OF 4

ALPHA ANALYTICAL

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 #: L1211486

Client Information

Client: Woods Hole Group

Address: 81 Technology Park East Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring

Project Location: New Bedford, MA

Project #: TO-0010-07

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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Project-Specific EDD

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs cons	Dissolved PCB cons	Metals (archive)	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
19	WQ-TPC-004-062712-MS	6/27/12	1605	SW	PBC	X						Ebb sample QA	1
6	WQ-TPC-004-062712-MSD					X							1
-20	WQ-DPC-004-062712-MS						X						1
6	WQ-DPC-004-062712-MSD						X						1
-21	WQ-MET-004-062712-MS/MSD							X					1
-24	WQ-TOC-004-062712-MS/MSD									X			4
-31	WQ-TPC-004-062712-EB		1620			X						Equipment Blank	2
-32	WQ-DPC-004-062712-EB						X						2
-33	WQ-MET-004-062712-EB							X					1

Container Type	A	A	P	P	P	V
Preservative	A	A	C	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Stuart	6/27/12 1800	[illegible]	6-27-12 1800

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.

ANALYTICAL REPORT

Lab Number:	L1212464
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dack Stuart
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD WATER QUALITY
Project Number:	TO-0010-07
Report Date:	07/27/12

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), 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 WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1212464
Report Date: 07/27/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1212464-01	WQ-TPC-001-071212	NEW BEDFORD HARBOR, MA	07/12/12 10:10
L1212464-02	WQ-TUR-001-071212	NEW BEDFORD HARBOR, MA	07/12/12 10:10
L1212464-03	WQ-TSS-001-071212	NEW BEDFORD HARBOR, MA	07/12/12 10:10
L1212464-04	WQ-TOC-001-071212	NEW BEDFORD HARBOR, MA	07/12/12 10:10
L1212464-05	WQ-TPC-002-071212	NEW BEDFORD HARBOR, MA	07/12/12 11:10
L1212464-06	WQ-TUR-002-071212	NEW BEDFORD HARBOR, MA	07/12/12 11:10
L1212464-07	WQ-TSS-002-071212	NEW BEDFORD HARBOR, MA	07/12/12 11:10
L1212464-08	WQ-TOC-002-071212	NEW BEDFORD HARBOR, MA	07/12/12 11:10
L1212464-09	WQ-TPC-003-071212	NEW BEDFORD HARBOR, MA	07/12/12 16:00
L1212464-10	WQ-TUR-003-071212	NEW BEDFORD HARBOR, MA	07/12/12 16:00
L1212464-11	WQ-TSS-003-071212	NEW BEDFORD HARBOR, MA	07/12/12 16:00
L1212464-12	WQ-TOC-003-071212	NEW BEDFORD HARBOR, MA	07/12/12 16:00
L1212464-13	WQ-TPC-004-071212	NEW BEDFORD HARBOR, MA	07/12/12 16:30
L1212464-14	WQ-TUR-004-071212	NEW BEDFORD HARBOR, MA	07/12/12 16:30
L1212464-15	WQ-TSS-004-071212	NEW BEDFORD HARBOR, MA	07/12/12 16:30
L1212464-16	WQ-TOC-004-071212	NEW BEDFORD HARBOR, MA	07/12/12 16:30

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464
Project Number: TO-0010-07 **Report Date:** 07/27/12

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464
Project Number: TO-0010-07 **Report Date:** 07/27/12

Case Narrative (continued)

PCB Congeners by GC/ECD

L1212464-01, -05, -09, -13 have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples.

Total Organic Carbon

L1212464: All samples have elevated detection limits due to the dilution required by the sample matrix.

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: 07/27/12

ORGANICS

PCBS

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

SAMPLE RESULTS

Lab ID:	L1212464-01	Date Collected:	07/12/12 10:10
Client ID:	WQ-TPC-001-071212	Date Received:	07/12/12
Sample Location:	NEW BEDFORD HARBOR, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/18/12 11:00
Analytical Date:	07/19/12 14:54		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.03112		ug/l	0.00500	--	2
Cl3-BZ#18	0.08650		ug/l	0.00500	--	2
Cl4-BZ#52	0.11470		ug/l	0.00500	--	2
Cl4-BZ#66	0.04056		ug/l	0.00500	--	2
Cl5-BZ#118	0.02545		ug/l	0.00500	--	2
Cl6-BZ#138	0.01866		ug/l	0.00500	--	2
Cl7-BZ#187	ND		ug/l	0.00500	--	2
Cl6-BZ#128	ND		ug/l	0.00500	--	2
Cl7-BZ#180	ND		ug/l	0.00500	--	2
Cl7-BZ#170	ND		ug/l	0.00500	--	2
Cl8-BZ#195	ND		ug/l	0.00500	--	2
Cl9-BZ#206	ND		ug/l	0.00500	--	2
Cl10-BZ#209	ND		ug/l	0.00500	--	2

DBOB	68	30-150
BZ 198	84	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

SAMPLE RESULTS

Lab ID:	L1212464-01	Date Collected:	07/12/12 10:10
Client ID:	WQ-TPC-001-071212	Date Received:	07/12/12
Sample Location:	NEW BEDFORD HARBOR, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/18/12 11:00
Analytical Date:	07/19/12 14:54		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.10231		ug/l	0.00500	--	2
Cl4-BZ#44	0.03980		ug/l	0.00500	--	2
Cl5-BZ#101	0.02925		ug/l	0.00500	--	2
Cl6-BZ#153	0.02127		ug/l	0.00500	--	2
Cl5-BZ#105	0.00638		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	68		30-150
BZ 198	84		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

SAMPLE RESULTS

Lab ID:	L1212464-05	Date Collected:	07/12/12 11:10
Client ID:	WQ-TPC-002-071212	Date Received:	07/12/12
Sample Location:	NEW BEDFORD HARBOR, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/18/12 11:00
Analytical Date:	07/19/12 15:37		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.12340		ug/l	0.01280	--	5
Cl3-BZ#18	0.25925		ug/l	0.01280	--	5
Cl4-BZ#52	0.25601		ug/l	0.01280	--	5
Cl4-BZ#66	0.05860		ug/l	0.01280	--	5
Cl5-BZ#118	0.02578		ug/l	0.01280	--	5
Cl5-BZ#105	ND		ug/l	0.01280	--	5
Cl6-BZ#138	0.02130		ug/l	0.01280	--	5
Cl7-BZ#187	ND		ug/l	0.01280	--	5
Cl6-BZ#128	ND		ug/l	0.01280	--	5
Cl7-BZ#180	ND		ug/l	0.01280	--	5
Cl7-BZ#170	ND		ug/l	0.01280	--	5
Cl8-BZ#195	ND		ug/l	0.01280	--	5
Cl9-BZ#206	ND		ug/l	0.01280	--	5
Cl10-BZ#209	ND		ug/l	0.01280	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	66		30-150
BZ 198	84		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

SAMPLE RESULTS

Lab ID:	L1212464-05	Date Collected:	07/12/12 11:10
Client ID:	WQ-TPC-002-071212	Date Received:	07/12/12
Sample Location:	NEW BEDFORD HARBOR, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/18/12 11:00
Analytical Date:	07/19/12 15:37		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.24710		ug/l	0.01280	--	5
Cl4-BZ#44	0.07694		ug/l	0.01280	--	5
Cl5-BZ#101	0.03730		ug/l	0.01280	--	5
Cl6-BZ#153	0.02773		ug/l	0.01280	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	66		30-150
BZ 198	84		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

SAMPLE RESULTS

Lab ID:	L1212464-09	Date Collected:	07/12/12 16:00
Client ID:	WQ-TPC-003-071212	Date Received:	07/12/12
Sample Location:	NEW BEDFORD HARBOR, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/18/12 11:00
Analytical Date:	07/19/12 16:21		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.14977		ug/l	0.01280	--	5
Cl3-BZ#18	0.28184		ug/l	0.01280	--	5
Cl4-BZ#52	0.49092		ug/l	0.01280	--	5
Cl4-BZ#66	0.10841		ug/l	0.01280	--	5
Cl5-BZ#118	0.04229		ug/l	0.01280	--	5
Cl5-BZ#105	ND		ug/l	0.01280	--	5
Cl6-BZ#138	0.04378		ug/l	0.01280	--	5
Cl6-BZ#128	ND		ug/l	0.01280	--	5
Cl7-BZ#180	ND		ug/l	0.01280	--	5
Cl7-BZ#170	ND		ug/l	0.01280	--	5
Cl8-BZ#195	ND		ug/l	0.01280	--	5
Cl9-BZ#206	ND		ug/l	0.01280	--	5
Cl10-BZ#209	ND		ug/l	0.01280	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	69		30-150
BZ 198	86		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

SAMPLE RESULTS

Lab ID:	L1212464-09	Date Collected:	07/12/12 16:00
Client ID:	WQ-TPC-003-071212	Date Received:	07/12/12
Sample Location:	NEW BEDFORD HARBOR, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/18/12 11:00
Analytical Date:	07/19/12 16:21		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.40620		ug/l	0.01280	--	5
Cl4-BZ#44	0.14664		ug/l	0.01280	--	5
Cl5-BZ#101	0.08017		ug/l	0.01280	--	5
Cl6-BZ#153	0.06019		ug/l	0.01280	--	5
Cl7-BZ#187	0.01414		ug/l	0.01280	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	69		30-150
BZ 198	86		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

SAMPLE RESULTS

Lab ID:	L1212464-13	Date Collected:	07/12/12 16:30
Client ID:	WQ-TPC-004-071212	Date Received:	07/12/12
Sample Location:	NEW BEDFORD HARBOR, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/18/12 11:00
Analytical Date:	07/19/12 17:05		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.03782		ug/l	0.00500	--	2
Cl3-BZ#18	0.07291		ug/l	0.00500	--	2
Cl4-BZ#52	0.09924		ug/l	0.00500	--	2
Cl4-BZ#66	0.03014		ug/l	0.00500	--	2
Cl5-BZ#118	0.01679		ug/l	0.00500	--	2
Cl5-BZ#105	ND		ug/l	0.00500	--	2
Cl6-BZ#138	0.01281		ug/l	0.00500	--	2
Cl7-BZ#187	ND		ug/l	0.00500	--	2
Cl6-BZ#128	ND		ug/l	0.00500	--	2
Cl7-BZ#180	ND		ug/l	0.00500	--	2
Cl7-BZ#170	ND		ug/l	0.00500	--	2
Cl8-BZ#195	ND		ug/l	0.00500	--	2
Cl9-BZ#206	ND		ug/l	0.00500	--	2
Cl10-BZ#209	ND		ug/l	0.00500	--	2

DBOB	64	30-150
BZ 198	82	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

SAMPLE RESULTS

Lab ID:	L1212464-13	Date Collected:	07/12/12 16:30
Client ID:	WQ-TPC-004-071212	Date Received:	07/12/12
Sample Location:	NEW BEDFORD HARBOR, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/18/12 11:00
Analytical Date:	07/19/12 17:05		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.08866		ug/l	0.00500	--	2
Cl4-BZ#44	0.03401		ug/l	0.00500	--	2
Cl5-BZ#101	0.02015		ug/l	0.00500	--	2
Cl6-BZ#153	0.01505		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	64		30-150
BZ 198	82		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/19/12 09:47
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 07/18/12 11:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13 Batch: WG549201-1					
Cl2-BZ#8	ND		ug/l	0.00250	--
Cl3-BZ#18	ND		ug/l	0.00250	--
Cl3-BZ#28	ND		ug/l	0.00250	--
Cl4-BZ#52	ND		ug/l	0.00250	--
Cl4-BZ#44	ND		ug/l	0.00250	--
Cl4-BZ#66	ND		ug/l	0.00250	--
Cl5-BZ#101	ND		ug/l	0.00250	--
Cl5-BZ#118	ND		ug/l	0.00250	--
Cl5-BZ#105	ND		ug/l	0.00250	--
Cl6-BZ#138	ND		ug/l	0.00250	--
Cl7-BZ#187	ND		ug/l	0.00250	--
Cl6-BZ#128	ND		ug/l	0.00250	--
Cl7-BZ#180	ND		ug/l	0.00250	--
Cl7-BZ#170	ND		ug/l	0.00250	--
Cl8-BZ#195	ND		ug/l	0.00250	--
Cl9-BZ#206	ND		ug/l	0.00250	--
Cl10-BZ#209	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	71		30-150
BZ 198	90		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/19/12 09:47
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 07/18/12 11:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13 Batch: WG549201-1					
Cl6-BZ#153	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	71		30-150
BZ 198	90		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1212464

Report Date: 07/27/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG549201-2 WG549201-3								
Cl2-BZ#8	69		68		40-140	3		30
Cl3-BZ#18	68		66		40-140	3		30
Cl3-BZ#28	81		82		40-140	1		30
Cl4-BZ#52	81		78		40-140	4		30
Cl4-BZ#44	73		74		40-140	1		30
Cl4-BZ#66	79		80		40-140	1		30
Cl5-BZ#101	74		74		40-140	1		30
Cl5-BZ#118	86		87		40-140	1		30
Cl5-BZ#105	92		94		40-140	1		30
Cl6-BZ#138	88		88		40-140	1		30
Cl7-BZ#187	80		80		40-140	0		30
Cl6-BZ#128	93		92		40-140	2		30
Cl7-BZ#180	97		96		40-140	1		30
Cl7-BZ#170	99		96		40-140	3		30
Cl8-BZ#195	92		89		40-140	3		30
Cl9-BZ#206	101		97		40-140	4		30
Cl10-BZ#209	88		84		40-140	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1212464

Report Date: 07/27/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG549201-2 WG549201-3								
DBOB	69		62		30-150			
BZ 198	89		84		30-150			
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG549201-2 WG549201-3								
Cl6-BZ#153	77		77		40-140	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	69		62		30-150
BZ 198	89		84		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-02
Client ID: WQ-TUR-001-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 10:10
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	8.8		NTU	0.40	--	1	-	07/13/12 20:00	8,180.1	SP

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-03
Client ID: WQ-TSS-001-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 10:10
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	15.7		mg/l	1.00	NA	1	-	07/18/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-04
Client ID: WQ-TOC-001-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 10:10
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/25/12 08:14	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-06
Client ID: WQ-TUR-002-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 11:10
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	10		NTU	0.40	--	1	-	07/13/12 20:00	8,180.1	SP

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-07
Client ID: WQ-TSS-002-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 11:10
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	20.8		mg/l	1.00	NA	1	-	07/18/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-08
Client ID: WQ-TOC-002-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 11:10
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/25/12 08:14	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-10
Client ID: WQ-TUR-003-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 16:00
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	9.2		NTU	0.40	--	1	-	07/13/12 20:00	8,180.1	SP

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-11
Client ID: WQ-TSS-003-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 16:00
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	16.3		mg/l	1.00	NA	1	-	07/18/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-12
Client ID: WQ-TOC-003-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 16:00
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/25/12 08:14	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-14
Client ID: WQ-TUR-004-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 16:30
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	8.5		NTU	0.40	--	1	-	07/13/12 20:00	8,180.1	SP

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-15
Client ID: WQ-TSS-004-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 16:30
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	8.70		mg/l	1.00	NA	1	-	07/18/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1212464
Report Date: 07/27/12

SAMPLE RESULTS

Lab ID: L1212464-16
Client ID: WQ-TOC-004-071212
Sample Location: NEW BEDFORD HARBOR, MA
Matrix: Water

Date Collected: 07/12/12 16:30
Date Received: 07/12/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	07/25/12 08:14	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464

Project Number: TO-0010-07 **Report Date:** 07/27/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 02,06,10,14 Batch: WG548373-3										
Turbidity	ND		NTU	0.40	--	1	-	07/13/12 20:00	8,180.1	SP
General Chemistry - Mansfield Lab for sample(s): 03,07,11,15 Batch: WG549253-1										
Solids, Total Suspended	ND		mg/l	1.00	NA	1	-	07/18/12 16:00	4,160.2	ES
General Chemistry - Westborough Lab for sample(s): 04,08,12,16 Batch: WG550655-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	07/25/12 08:14	1,9060	DW

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1212464

Report Date: 07/27/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14 Batch: WG548373-2								
Turbidity	105		-		90-110	-		10
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 Batch: WG549253-2								
Solids, Total Suspended	97		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 Batch: WG550655-2								
Total Organic Carbon	102		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1212464
Report Date: 07/27/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG550655-4 QC Sample: L1212464-12 Client ID: WQ-TOC-003-071212												
Total Organic Carbon	ND	80	87	109		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1212464
Report Date: 07/27/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14 QC Batch ID: WG548373-1 QC Sample: L1212464-02 Client ID: WQ-TUR-001-071212						
Turbidity	8.8	8.4	NTU	5		10
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 QC Batch ID: WG549253-3 QC Sample: L1212464-03 Client ID: WQ-TSS-001-071212						
Solids, Total Suspended	15.7	15.6	mg/l	1		20
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG550655-3 QC Sample: L1212464-12 Client ID: WQ-TOC-003-071212						
Total Organic Carbon	ND	ND	mg/l	NC		20

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1212464
Report Date: 07/27/12

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(*)
L1212464-01C	Amber 1000ml unpreserved	A	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1212464-01D	Amber 1000ml unpreserved	A	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1212464-02A	Plastic 1000ml unpreserved	A	N/A	4.7	Y	Absent	A2-TURBIDITY-180.1(2)
L1212464-03E	Plastic 1000ml unpreserved	A	7	4.7	Y	Absent	A2-TSS-160(7)
L1212464-04A	Vial H2SO4 preserved	A	N/A	4.7	Y	Absent	TOC-9060(28)
L1212464-04B	Vial H2SO4 preserved	A	N/A	4.7	Y	Absent	TOC-9060(28)
L1212464-05C	Amber 1000ml unpreserved	A	7	4.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1212464-05D	Amber 1000ml unpreserved	B	7	3.8	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1212464-06A	Plastic 1000ml unpreserved	A	N/A	4.7	Y	Absent	A2-TURBIDITY-180.1(2)
L1212464-07E	Plastic 1000ml unpreserved	A	7	4.7	Y	Absent	A2-TSS-160(7)
L1212464-08A	Vial H2SO4 preserved	A	N/A	4.7	Y	Absent	TOC-9060(28)
L1212464-08B	Vial H2SO4 preserved	A	N/A	4.7	Y	Absent	TOC-9060(28)
L1212464-09C	Amber 1000ml unpreserved	B	7	3.8	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1212464-09D	Amber 1000ml unpreserved	B	7	3.8	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1212464-10A	Plastic 1000ml unpreserved	B	N/A	3.8	Y	Absent	A2-TURBIDITY-180.1(2)
L1212464-11E	Plastic 1000ml unpreserved	B	7	3.8	Y	Absent	A2-TSS-160(7)
L1212464-12A	Vial H2SO4 preserved	B	N/A	3.8	Y	Absent	TOC-9060(28)
L1212464-12B	Vial H2SO4 preserved	B	N/A	3.8	Y	Absent	TOC-9060(28)
L1212464-13C	Amber 1000ml unpreserved	B	7	3.8	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1212464-13D	Amber 1000ml unpreserved	B	7	3.8	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1212464-14A	Plastic 1000ml unpreserved	B	N/A	3.8	Y	Absent	A2-TURBIDITY-180.1(2)
L1212464-15E	Plastic 1000ml unpreserved	B	7	3.8	Y	Absent	A2-TSS-160(7)
L1212464-16A	Vial H2SO4 preserved	B	N/A	3.8	Y	Absent	TOC-9060(28)
L1212464-16B	Vial H2SO4 preserved	B	N/A	3.8	Y	Absent	TOC-9060(28)

*Values in parentheses indicate holding time in days

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1212464
Project Number:	TO-0010-07	**Report Date:**	07/27/12

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.

LFB - Laboratory Fortified Blank: 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.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

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.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL 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.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

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.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1212464
Project Number:	TO-0010-07	**Report Date:**	07/27/12

Data Qualifiers

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. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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 RL. (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 reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1212464
Project Number: TO-0010-07 **Report Date:** 07/27/12

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 Analytical 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 Analytical.

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 May 10, 2012 – 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, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). 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, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. 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, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. 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 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1,1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 3060A, 6020A, 7470A, 7471B, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040B, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 245.7, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A,7471B, 7474. Organic Parameters: EPA3050B, 3540C, 3630C, 8270C, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to NJ-DEP 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, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B, SM4500H-B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

Certificate/Approval Program Summary

Last revised May 11, 2012 - 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: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D, Fecal Coliform-EC Medium 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total 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, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterolert, E.Coli 9223.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, 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), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics, Acid Extractables (Phenols), Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8082, 8330, 8151A, 8260B, 8270C, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9030B, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

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,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1,

SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6010C, 6020, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9030B, 9040B, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8081B, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 6010C, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050, 9065,1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3550B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, 8151A, 8015B, 8082, 8082A, 8081A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, 2540G, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C,6020, 6020A, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 8270D, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012A, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C, 3546, 3580, 3580A, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 1312, 3005A, 200.7, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 3060A, 6010B, 6010C, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 3005A,3015,1312,6010B,6010C,SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X. Organic Parameters: EPA 8260B)

Solid & Hazardous Waste (Inorganic Parameters: EPA 3050B, 1311, 1312, 6010B, 6010C, 9030B, 9010B, 9012A, 9014. Organic Parameters: EPA 5035, 5030B, 8260B, 8015B, 8015C.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1212464

ALPHA ANALYTICAL
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. East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DStuart@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality
Project Location: New Bedford Harbor, MA
Project #: TO-0010-07
Project Manager: D. 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 NOTE Project Specific EDDs

MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
L1212464-01	WQ-TPC-001-071212	7/12/12	10:10	SW	PBC	X					2
-02	WQ-TUR-001-071212	7/12/12	10:10	SW	PBC		X				1
-03	WQ-TSS-001-071212	7/12/12	10:10	SW	PBC			X			1
-04	WQ-TOC-001-071212	7/12/12	10:10	SW	PBC				X		2
-05	WQ-TPC-002-071212	7/12/12	11:10	SW	PBC	X					2
-06	WQ-TUR-002-071212	7/12/12	11:10	SW	PBC		X				1
-07	WQ-~~TUR~~ TSS-002-071212	7/12/12	11:10	SW	PBC			X			1
-08	WQ-TOC-002-071212	7/12/12	11:10	SW	PBC				X		2
-09	WQ-TPC-003-071212	7/12/12	16:00	SW	PBC	X					2
-10	WQ-TUR-003-071212	7/12/12	16:00	SW	PBC		X				1
					Container Type	A	P	P	V		
					Preservative	A	A	A	D		

Relinquished By:	Date/Time	Received By:	Date/Time
Patrick Curran	7/12/12 1800	S Hofer	7/12/12 18:00

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 Terms and Conditions. See reverse side.

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1212464

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 Drive
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DStuart@WHGRP.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality
Project Location: New Bedford Harbor, MA
Project #: TO-0010-07
Project Manager: D. 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 NOTE Project Specific EDDs

MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB's	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
L1212464-11	WQ-TSS-003-071212	7/12/12	16:00	SW	PBC			X			
-12	WQ-TOC-003-071212	7/12/12	16:00	SW	PBC				X		
-13	WQ-TPC-004-071212	7/12/12	16:30	SW	PBC	X					
-14	WQ-TUR-004-071212	7/12/12	16:30	SW	PBC		X				
-15	WQ-TSS-004-071212	7/12/12	16:30	SW	PBC			X			
-16	WQ-TOC-004-071212	7/12/12	16:30	SW	PBC				X		

SAMPLE HANDLING

Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
Patrick Curran	7.12.12/18:00	S Hoffman	7/12/12 18:00

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 Terms and Conditions. See reverse side.

FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1212464

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. East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DStuart@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality
Project Location: New Bedford Harbor, MA
Project #: TO-0010-07
Project Manager: D. 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 NOTE Project Specific EDDs

MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB's	Turbidity	TSS	TOC	Sample Specific Comments	TOTAL # BOTTLES
L1212464-01	WQ-TPC-001-071212	7/12/12	10:10	SW	PBC	X					2
-02	WQ-TUR-001-071212	7/12/12	10:10	SW	PBC		X				1
-03	WQ-TSS-001-071212	7/12/12	10:10	SW	PBC			X			1
-04	WQ-TOC-001-071212	7/12/12	10:10	SW	PBC				X		2
-05	WQ-TPC-002-071212	7/12/12	11:10	SW	PBC	X					2
-06	WQ-TUR-002-071212	7/12/12	11:10	SW	PBC		X				1
-07	WQ-~~TUR~~ TSS-002-071212	7/12/12	11:10	SW	PBC			X			1
-08	WQ-TOC-002-071212	7/12/12	11:10	SW	PBC				X		2
-09	WQ-TPC-003-071212	7/12/12	16:00	SW	PBC	X					2
-10	WQ-TUR-003-071212	7/12/12	16:00	SW	PBC		X				1

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
Patrick Curran	7/12/12 1800	[illegible]	7/12/12 18:00
S Hoffman	7/13/12 09:20	[illegible]	7/13/12 1230
[illegible]	7/13/12 1320	[illegible]	7/13/12 1325

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.

FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1212464

ALPHA ANALYTICAL
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 Drive
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DStuart@WHGRP.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality
Project Location: New Bedford Harbor, MA
Project #: TO-0010-07
Project Manager: D. 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 NOTE Project Specific EDDs

MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total TCO	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
L1212464-11	WQ-TSS-003-071212	7/12/12	16:00	SW	PBC			X			
-12	WQ-TOC-003-071212	7/12/12	16:00	SW	PBC				X		
-13	WQ-TPC-004-071212	7/12/12	16:30	SW	PBC	X					
-14	WQ-TUR-004-071212	7/12/12	16:30	SW	PBC		X				
-15	WQ-TSS-004-071212	7/12/12	16:30	SW	PBC			X			
-16	WQ-TOC-004-071212	7/12/12	16:30	SW	PBC				X		

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
Patrick Curran	7/12/12 18:00	S Hoffman	7/12/12 18:00
S Hoffman	7/13/12 09:20	[illegible]	7/13/12 [illegible]
[illegible]	7/13/12 1325	[illegible]	7/13/12 1325

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.

FORM NO: 101-09 (rev. 27-SEP-10)

ANALYTICAL REPORT

Lab Number:	L1213372
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dack Stuart
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD WATER QUALITY
Project Number:	TO-0010-07
Report Date:	08/09/12

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), 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 WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1213372-01	WQ-TPC-001-072612	NEW BEDFORD, MA	07/26/12 08:40
L1213372-02	WQ-TUR-001-072612	NEW BEDFORD, MA	07/26/12 08:40
L1213372-03	WQ-TSS-001-072612	NEW BEDFORD, MA	07/26/12 08:40
L1213372-04	WQ-TOC-001-072612	NEW BEDFORD, MA	07/26/12 08:40
L1213372-05	WQ-TPC-002-072612	NEW BEDFORD, MA	07/26/12 09:15
L1213372-06	WQ-TUR-002-072612	NEW BEDFORD, MA	07/26/12 09:15
L1213372-07	WQ-TSS-002-072612	NEW BEDFORD, MA	07/26/12 09:15
L1213372-08	WQ-TOC-002-072612	NEW BEDFORD, MA	07/26/12 09:15
L1213372-09	WQ-TPC-003-072612	NEW BEDFORD, MA	07/26/12 14:35
L1213372-10	WQ-TUR-003-072612	NEW BEDFORD, MA	07/26/12 14:35
L1213372-11	WQ-TSS-003-072612	NEW BEDFORD, MA	07/26/12 14:35
L1213372-12	WQ-TOC-003-072612	NEW BEDFORD, MA	07/26/12 14:35
L1213372-13	WQ-TPC-004-072612	NEW BEDFORD, MA	07/26/12 15:25
L1213372-14	WQ-TUR-004-072612	NEW BEDFORD, MA	07/26/12 15:25
L1213372-15	WQ-TSS-004-072612	NEW BEDFORD, MA	07/26/12 15:25
L1213372-16	WQ-TOC-004-072612	NEW BEDFORD, MA	07/26/12 15:25
L1213372-17	WQ-TPC-002-072612-REP	NEW BEDFORD, MA	07/26/12 09:20
L1213372-18	WQ-TUR-002-072612-REP	NEW BEDFORD, MA	07/26/12 09:20
L1213372-19	WQ-TSS-002-072612-REP	NEW BEDFORD, MA	07/26/12 09:20
L1213372-20	WQ-TOC-002-072612-REP	NEW BEDFORD, MA	07/26/12 09:20

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372
Project Number: TO-0010-07 **Report Date:** 08/09/12

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372
Project Number: TO-0010-07 **Report Date:** 08/09/12

Case Narrative (continued)

Sample Receipt

Sample WQ-TPC-001-072612-EB that was noted on the chain of custody was not received. The matrix spike and matrix spike duplicate were cancelled at the client's request.

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 whether it was the higher or lower value.

L1213372-01, -05, -09, -13 and -17 have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples.

TOC

All samples for TOC have elevated detection limits due to the dilution required by the sample matrix.

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: 08/09/12

ORGANICS

PCBS

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

SAMPLE RESULTS

Lab ID:	L1213372-01	Date Collected:	07/26/12 08:40
Client ID:	WQ-TPC-001-072612	Date Received:	07/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/27/12 10:00
Analytical Date:	07/30/12 10:10		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.10680		ug/l	0.00500	--	2
Cl3-BZ#18	0.16685		ug/l	0.00500	--	2
Cl4-BZ#52	0.18343		ug/l	0.00500	--	2
Cl4-BZ#66	0.04051		ug/l	0.00500	--	2
Cl5-BZ#118	0.01857		ug/l	0.00500	--	2
Cl5-BZ#105	ND		ug/l	0.00500	--	2
Cl6-BZ#138	0.01472		ug/l	0.00500	--	2
Cl7-BZ#187	ND		ug/l	0.00500	--	2
Cl6-BZ#128	ND		ug/l	0.00500	--	2
Cl7-BZ#180	ND		ug/l	0.00500	--	2
Cl7-BZ#170	ND		ug/l	0.00500	--	2
Cl8-BZ#195	ND		ug/l	0.00500	--	2
Cl9-BZ#206	ND		ug/l	0.00500	--	2
Cl10-BZ#209	ND		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	87		30-150
BZ 198	92		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

SAMPLE RESULTS

Lab ID:	L1213372-01	Date Collected:	07/26/12 08:40
Client ID:	WQ-TPC-001-072612	Date Received:	07/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/27/12 10:00
Analytical Date:	07/30/12 10:10		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.16560		ug/l	0.00500	--	2
Cl4-BZ#44	0.05198		ug/l	0.00500	--	2
Cl5-BZ#101	0.02648		ug/l	0.00500	--	2
Cl6-BZ#153	0.01871		ug/l	0.00500	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	87		30-150
BZ 198	92		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

SAMPLE RESULTS

Lab ID:	L1213372-05	Date Collected:	07/26/12 09:15
Client ID:	WQ-TPC-002-072612	Date Received:	07/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/27/12 10:00
Analytical Date:	07/30/12 10:54		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.20597		ug/l	0.01280	--	5
Cl3-BZ#18	0.42216		ug/l	0.01280	--	5
Cl4-BZ#52	0.37301		ug/l	0.01280	--	5
Cl4-BZ#66	0.08814		ug/l	0.01280	--	5
Cl5-BZ#118	0.03696		ug/l	0.01280	--	5
Cl5-BZ#105	ND		ug/l	0.01280	--	5
Cl6-BZ#138	0.03345		ug/l	0.01280	--	5
Cl7-BZ#187	ND		ug/l	0.01280	--	5
Cl6-BZ#128	ND		ug/l	0.01280	--	5
Cl7-BZ#180	ND		ug/l	0.01280	--	5
Cl7-BZ#170	ND		ug/l	0.01280	--	5
Cl8-BZ#195	ND		ug/l	0.01280	--	5
Cl9-BZ#206	ND		ug/l	0.01280	--	5
Cl10-BZ#209	ND		ug/l	0.01280	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	76		30-150
BZ 198	89		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

SAMPLE RESULTS

Lab ID:	L1213372-05	Date Collected:	07/26/12 09:15
Client ID:	WQ-TPC-002-072612	Date Received:	07/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/27/12 10:00
Analytical Date:	07/30/12 10:54		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.31699		ug/l	0.01280	--	5
Cl4-BZ#44	0.11654		ug/l	0.01280	--	5
Cl5-BZ#101	0.05948		ug/l	0.01280	--	5
Cl6-BZ#153	0.04494		ug/l	0.01280	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	76		30-150
BZ 198	89		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

SAMPLE RESULTS

Lab ID:	L1213372-09	Date Collected:	07/26/12 14:35
Client ID:	WQ-TPC-003-072612	Date Received:	07/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/27/12 10:00
Analytical Date:	07/30/12 11:37		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.17591		ug/l	0.01270	--	5
Cl3-BZ#18	0.30903		ug/l	0.01270	--	5
Cl4-BZ#52	0.40610		ug/l	0.01270	--	5
Cl4-BZ#66	0.08517		ug/l	0.01270	--	5
Cl5-BZ#118	0.03584		ug/l	0.01270	--	5
Cl5-BZ#105	ND		ug/l	0.01270	--	5
Cl6-BZ#138	0.03342		ug/l	0.01270	--	5
Cl7-BZ#187	ND		ug/l	0.01270	--	5
Cl6-BZ#128	ND		ug/l	0.01270	--	5
Cl7-BZ#180	ND		ug/l	0.01270	--	5
Cl7-BZ#170	ND		ug/l	0.01270	--	5
Cl8-BZ#195	ND		ug/l	0.01270	--	5
Cl9-BZ#206	ND		ug/l	0.01270	--	5
Cl10-BZ#209	ND		ug/l	0.01270	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	76		30-150
BZ 198	86		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

SAMPLE RESULTS

Lab ID:	L1213372-09	Date Collected:	07/26/12 14:35
Client ID:	WQ-TPC-003-072612	Date Received:	07/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/27/12 10:00
Analytical Date:	07/30/12 11:37		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.32749		ug/l	0.01270	--	5
Cl4-BZ#44	0.10526		ug/l	0.01270	--	5
Cl5-BZ#101	0.05826		ug/l	0.01270	--	5
Cl6-BZ#153	0.04773		ug/l	0.01270	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	76		30-150
BZ 198	86		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

SAMPLE RESULTS

Lab ID:	L1213372-13	Date Collected:	07/26/12 15:25
Client ID:	WQ-TPC-004-072612	Date Received:	07/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/27/12 10:00
Analytical Date:	07/30/12 12:21		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.10017		ug/l	0.01280	--	5
Cl3-BZ#18	0.18976		ug/l	0.01280	--	5
Cl4-BZ#52	0.23286		ug/l	0.01280	--	5
Cl4-BZ#66	0.07115		ug/l	0.01280	--	5
Cl5-BZ#118	0.03115		ug/l	0.01280	--	5
Cl5-BZ#105	ND		ug/l	0.01280	--	5
Cl6-BZ#138	0.02570		ug/l	0.01280	--	5
Cl7-BZ#187	ND		ug/l	0.01280	--	5
Cl6-BZ#128	ND		ug/l	0.01280	--	5
Cl7-BZ#180	ND		ug/l	0.01280	--	5
Cl7-BZ#170	ND		ug/l	0.01280	--	5
Cl8-BZ#195	ND		ug/l	0.01280	--	5
Cl9-BZ#206	ND		ug/l	0.01280	--	5
Cl10-BZ#209	ND		ug/l	0.01280	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	67		30-150
BZ 198	92		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

SAMPLE RESULTS

Lab ID:	L1213372-13	Date Collected:	07/26/12 15:25
Client ID:	WQ-TPC-004-072612	Date Received:	07/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/27/12 10:00
Analytical Date:	07/30/12 12:21		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.18662		ug/l	0.01280	--	5
Cl4-BZ#44	0.06887		ug/l	0.01280	--	5
Cl5-BZ#101	0.04325		ug/l	0.01280	--	5
Cl6-BZ#153	0.03387		ug/l	0.01280	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	67		30-150
BZ 198	92		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

SAMPLE RESULTS

Lab ID:	L1213372-17	Date Collected:	07/26/12 09:20
Client ID:	WQ-TPC-002-072612-REP	Date Received:	07/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/27/12 10:00
Analytical Date:	07/30/12 13:05		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.21682		ug/l	0.01290	--	5
Cl3-BZ#18	0.38616		ug/l	0.01290	--	5
Cl4-BZ#52	0.38089		ug/l	0.01290	--	5
Cl4-BZ#66	0.09654		ug/l	0.01290	--	5
Cl5-BZ#105	ND		ug/l	0.01290	--	5
Cl6-BZ#138	0.03555		ug/l	0.01290	--	5
Cl7-BZ#187	ND		ug/l	0.01290	--	5
Cl6-BZ#128	ND		ug/l	0.01290	--	5
Cl7-BZ#180	ND		ug/l	0.01290	--	5
Cl7-BZ#170	ND		ug/l	0.01290	--	5
Cl8-BZ#195	ND		ug/l	0.01290	--	5
Cl9-BZ#206	ND		ug/l	0.01290	--	5
Cl10-BZ#209	ND		ug/l	0.01290	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	83		30-150
BZ 198	93		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

SAMPLE RESULTS

Lab ID:	L1213372-17	Date Collected:	07/26/12 09:20
Client ID:	WQ-TPC-002-072612-REP	Date Received:	07/26/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082	Extraction Date:	07/27/12 10:00
Analytical Date:	07/30/12 13:05		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.36160		ug/l	0.01290	--	5
Cl4-BZ#44	0.12268		ug/l	0.01290	--	5
Cl5-BZ#101	0.06209		ug/l	0.01290	--	5
Cl5-BZ#118	0.03613		ug/l	0.01290	--	5
Cl6-BZ#153	0.04629		ug/l	0.01290	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	83		30-150
BZ 198	93		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/27/12 16:47
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 07/27/12 10:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13,17 Batch: WG551311-1					
Cl2-BZ#8	ND		ug/l	0.00250	--
Cl3-BZ#18	ND		ug/l	0.00250	--
Cl3-BZ#28	ND		ug/l	0.00250	--
Cl4-BZ#52	ND		ug/l	0.00250	--
Cl4-BZ#44	ND		ug/l	0.00250	--
Cl4-BZ#66	ND		ug/l	0.00250	--
Cl5-BZ#101	ND		ug/l	0.00250	--
Cl5-BZ#118	ND		ug/l	0.00250	--
Cl5-BZ#105	ND		ug/l	0.00250	--
Cl6-BZ#138	ND		ug/l	0.00250	--
Cl7-BZ#187	ND		ug/l	0.00250	--
Cl6-BZ#128	ND		ug/l	0.00250	--
Cl7-BZ#180	ND		ug/l	0.00250	--
Cl7-BZ#170	ND		ug/l	0.00250	--
Cl8-BZ#195	ND		ug/l	0.00250	--
Cl9-BZ#206	ND		ug/l	0.00250	--
Cl10-BZ#209	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	68		30-150
BZ 198	83		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082
Analytical Date: 07/27/12 16:47
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 07/27/12 10:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13,17 Batch: WG551311-1					
Cl6-BZ#153	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	68		30-150
BZ 198	83		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1213372

Report Date: 08/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17 Batch: WG551311-2 WG551311-3								
Cl2-BZ#8	68		78		40-140	14		30
Cl3-BZ#18	66		76		40-140	14		30
Cl3-BZ#28	81		91		40-140	12		30
Cl4-BZ#52	76		85		40-140	12		30
Cl4-BZ#44	70		78		40-140	10		30
Cl4-BZ#66	78		83		40-140	7		30
Cl5-BZ#101	71		77		40-140	8		30
Cl5-BZ#118	83		86		40-140	4		30
Cl5-BZ#105	90		91		40-140	1		30
Cl6-BZ#138	85		86		40-140	1		30
Cl7-BZ#187	78		80		40-140	3		30
Cl6-BZ#128	91		93		40-140	2		30
Cl7-BZ#180	94		97		40-140	3		30
Cl7-BZ#170	94		93		40-140	1		30
Cl8-BZ#195	87		87		40-140	0		30
Cl9-BZ#206	98		97		40-140	1		30
Cl10-BZ#209	82		83		40-140	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1213372

Report Date: 08/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17 Batch: WG551311-2 WG551311-3								
DBOB	69		75		30-150			
BZ 198	88		85		30-150			
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17 Batch: WG551311-2 WG551311-3								
Cl6-BZ#153	75		78		40-140	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	69		75		30-150
BZ 198	88		85		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-02
Client ID: WQ-TUR-001-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 08:40
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	4.6		NTU	0.40	--	1	-	07/26/12 19:08	8,180.1	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-03
Client ID: WQ-TSS-001-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 08:40
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	8.00		mg/l	1.00	NA	1	-	07/27/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-04
Client ID: WQ-TOC-001-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 08:40
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	08/08/12 08:01	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-06
Client ID: WQ-TUR-002-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 09:15
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	7.9		NTU	0.40	--	1	-	07/26/12 19:08	8,180.1	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-07
Client ID: WQ-TSS-002-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 09:15
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	15.8		mg/l	1.00	NA	1	-	07/27/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-08
Client ID: WQ-TOC-002-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 09:15
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	08/08/12 08:01	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-10
Client ID: WQ-TUR-003-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 14:35
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	9.9		NTU	0.40	--	1	-	07/26/12 19:08	8,180.1	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-11
Client ID: WQ-TSS-003-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 14:35
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	28.0		mg/l	1.00	NA	1	-	07/27/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-12
Client ID: WQ-TOC-003-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 14:35
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	08/08/12 08:01	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-14
Client ID: WQ-TUR-004-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 15:25
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	10		NTU	0.40	--	1	-	07/26/12 19:08	8,180.1	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-15
Client ID: WQ-TSS-004-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 15:25
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	18.8		mg/l	1.00	NA	1	-	07/27/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-16
Client ID: WQ-TOC-004-072612
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 15:25
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	08/08/12 08:01	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-18
Client ID: WQ-TUR-002-072612-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 09:20
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	8.2		NTU	0.40	--	1	-	07/26/12 19:08	8,180.1	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-19
Client ID: WQ-TSS-002-072612-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 09:20
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	11.8		mg/l	1.00	NA	1	-	07/27/12 16:00	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

SAMPLE RESULTS

Lab ID: L1213372-20
Client ID: WQ-TOC-002-072612-REP
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 07/26/12 09:20
Date Received: 07/26/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	08/08/12 08:01	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 02,06,10,14,18 Batch: WG551143-1										
Turbidity	ND		NTU	0.40	--	1	-	07/26/12 19:08	8,180.1	ES
General Chemistry - Mansfield Lab for sample(s): 03,07,11,15,19 Batch: WG551241-1										
Solids, Total Suspended	ND		mg/l	1.00	NA	1	-	07/27/12 16:00	4,160.2	ES
General Chemistry - Westborough Lab for sample(s): 04,08,12,16,20 Batch: WG553621-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	08/08/12 08:01	1,9060	DW

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1213372

Report Date: 08/09/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14,18 Batch: WG551143-2								
Turbidity	100		-		90-110	-		10
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15,19 Batch: WG551241-2								
Solids, Total Suspended	103		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16,20 Batch: WG553621-2								
Total Organic Carbon	98		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1213372
Report Date: 08/09/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16,20 QC Batch ID: WG553621-4 QC Sample: L1213372-08 Client ID: WQ-TOC-002-072612												
Total Organic Carbon	ND	80	84	104		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14,18 QC Batch ID: WG551143-3 QC Sample: L1213372-02 Client ID: WQ-TUR-001-072612						
Turbidity	4.6	4.7	NTU	2		10
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15,19 QC Batch ID: WG551241-3 QC Sample: L1213372-03 Client ID: WQ-TSS-001-072612						
Solids, Total Suspended	8.00	8.10	mg/l	1		20
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16,20 QC Batch ID: WG553621-3 QC Sample: L1213372-08 Client ID: WQ-TOC-002-072612						
Total Organic Carbon	ND	ND	mg/l	NC		20

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

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
C	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1213372-01C	Amber 1000ml unpreserved	C	7	6.6	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-01D	Amber 1000ml unpreserved	C	7	6.6	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-02A	Plastic 1000ml unpreserved	C	N/A	6.6	Y	Absent	A2-TURBIDITY-180.1(2)
L1213372-03E	Plastic 1000ml unpreserved	C	7	6.6	Y	Absent	A2-TSS-160(7)
L1213372-04A	Vial H2SO4 preserved	C	N/A	6.6	Y	Absent	TOC-9060(28)
L1213372-04B	Vial H2SO4 preserved	C	N/A	6.6	Y	Absent	TOC-9060(28)
L1213372-05C	Amber 1000ml unpreserved	A	7	1.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-05D	Amber 1000ml unpreserved	C	7	6.6	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-06A	Plastic 1000ml unpreserved	A	N/A	1.9	Y	Absent	A2-TURBIDITY-180.1(2)
L1213372-07E	Plastic 1000ml unpreserved	A	7	1.9	Y	Absent	A2-TSS-160(7)
L1213372-08A	Vial H2SO4 preserved	A	N/A	1.9	Y	Absent	TOC-9060(28)
L1213372-08B	Vial H2SO4 preserved	A	N/A	1.9	Y	Absent	TOC-9060(28)
L1213372-09C	Amber 1000ml unpreserved	B	7	3.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-09D	Amber 1000ml unpreserved	B	7	3.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-10A	Plastic 1000ml unpreserved	B	N/A	3.1	Y	Absent	A2-TURBIDITY-180.1(2)
L1213372-11E	Plastic 1000ml unpreserved	B	7	3.1	Y	Absent	A2-TSS-160(7)
L1213372-12A	Vial H2SO4 preserved	B	N/A	3.1	Y	Absent	TOC-9060(28)
L1213372-12B	Vial H2SO4 preserved	B	N/A	3.1	Y	Absent	TOC-9060(28)
L1213372-13C	Amber 1000ml unpreserved	B	7	3.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-13D	Amber 1000ml unpreserved	B	7	3.1	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-13E	Amber 1000ml unpreserved	C	7	6.6	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-13F	Amber 1000ml unpreserved	C	7	6.6	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-14A	Plastic 1000ml unpreserved	B	N/A	3.1	Y	Absent	A2-TURBIDITY-180.1(2)
L1213372-15E	Plastic 1000ml unpreserved	B	7	3.1	Y	Absent	A2-TSS-160(7)

*Values in parentheses indicate holding time in days

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1213372
Report Date: 08/09/12

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1213372-16A	Vial H2SO4 preserved	B	N/A	3.1	Y	Absent	TOC-9060(28)
L1213372-16B	Vial H2SO4 preserved	B	N/A	3.1	Y	Absent	TOC-9060(28)
L1213372-17C	Amber 1000ml unpreserved	A	7	1.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-17D	Amber 1000ml unpreserved	C	7	6.6	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1213372-18A	Plastic 1000ml unpreserved	A	N/A	1.9	Y	Absent	A2-TURBIDITY-180.1(2)
L1213372-19E	Plastic 1000ml unpreserved	A	7	1.9	Y	Absent	A2-TSS-160(7)
L1213372-20A	Vial H2SO4 preserved	A	N/A	1.9	Y	Absent	TOC-9060(28)
L1213372-20B	Vial H2SO4 preserved	A	N/A	1.9	Y	Absent	TOC-9060(28)

*Values in parentheses indicate holding time in days

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372

Project Number: TO-0010-07 **Report Date:** 08/09/12

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.

LFB - Laboratory Fortified Blank: 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.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

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.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL 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.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

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.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1213372
Project Number:	TO-0010-07	**Report Date:**	08/09/12

Data Qualifiers

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. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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 RL. (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 reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1213372
Project Number: TO-0010-07 **Report Date:** 08/09/12

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 Analytical 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 Analytical.

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 August 3, 2012 – 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, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). 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, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. 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, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. 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 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B, 3020A, . Organic Parameters: EPA 3510C, 3630C, 3640A, 3660B, 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 6020A, 7471B, 9040B, 9045C. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9045D, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15, TO-10A, TO-13A-SIM.)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474, 9040C, 9045D. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15, TO-10A.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Non-Potable Water (Inorganic Parameters: 1312, 1631E, 180.1, 3020A, 6020A, 7470A, 9040B, 9050A, 2320B, 2540D, 2540G, SM4500H+-B. Organic Parameters: 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D .)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3051A, 6020A, 7471B, 7474 9040B, 9045C, 9060. Organic Parameters: EPA3050B, 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8270D, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via NJ-DEP.***

Refer to NJ-DEP 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, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

Certificate/Approval Program Summary

Last revised August 3, 2012 - 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, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total 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, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, 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), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8082, 8330, 8151A, 8260B, 8270C, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9030B, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)
*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,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010B, 6010C, 6020, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9030B, 9040B, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082, 8082A, 8081A, 8081B, 8151A, 8330, 8270C-SIM, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 6010C, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050, 9065,1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082, 8082A, 8081A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, 2540G, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012A, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C, 3546, 3580, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7471A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 245.2, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 3501., 350.2, 353.2, 420.1, 6010B, 6010C, 6020, 6020A, 7196A, 7470A, 9010B, 9030B, 9040B, Lachat 10-107-06-2-D, NJ-EPH, 2120B, 2310B, 2320B, 2340B, 2510C, 2540B, 2540C, 3500Cr-D, 436C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330, 8015B,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010B, 6010C, 6020A, 7196A, 7471A, 7471B, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 2..08, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5035, 3540C, 3546, 3550, 3580, 3630C, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab:

ALPHA Job #: L1213372

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
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: NEW BEDFORD WATER QUALITY
Project Location: NEW BEDFORD, MA
Project #: TO-0010-07
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 NOTE Project Specific EDDs
MS/MSD (at unit cost) will be omitted unless you check here: ☑

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 Date	Collection Time	Sample Matrix	Sampler's Initials	TOTAL PCBs	Turbidity	TSS	TOC	Sample Specific Comments	TOTAL # BOTTLES
1	WQ-TPC-001-072612	7/26/12	08:40	SW	PBC	X				PBC 7/26/12	2
2	WQ-TUR-001-072612	7/26/12	08:40	SW	PBC		X				1
3	WQ-TSS-001-072612	7/26/12	08:40	SW	PBC			X			1
4	WQ-TOC-001-072612	7/26/12	08:40	SW	PBC				X		2
5	WQ-TPC-002-072612	7/26/12	09:15	SW	PBC	X					2
6	WQ-TUR-002-072612	7/26/12	09:15	SW	PBC		X				1
7	WQ-TSS-002-072612	7/26/12	09:15	SW	PBC			X			1
8	WQ-TOC-002-072612	7/26/12	09:15	SW	PBC				X		2
9	WQ-TPC-003-072612	7/26/12	14:35	SW	PBC	X					2
10	WQ-TUR-003-072612	7/26/12	14:35	SW	PBC		X				1
					Container Type	A	P	P	V		
					Preservative	A	A	A	D		

Relinquished By:	Date/Time	Received By:	Date/Time
Patrick Curran	7.26.12/17:03	Sharon [illegible]	7/26/12 17:03

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.

MANSFIELD 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 #: L1213372

Client Information

Client: WOODS HOLE GROUP
Address: 81 TECHNOLOGY PARK DR
EAST FALMOUTH, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: NEW BEDFORD WATER QUALITY
Project Location: NEW BEDFORD, MA
Project #: TO-0010-07
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 NOTE Project Specific EDDs
MS/MSD (at unit cost) will be omitted unless you check here: ☒

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TOTAL PCBs	TURBIDITY	TSS	TOC	Sample Specific Comments	Total # Bottles
11	WQ-TSS-003-072612	7/26/12	14:35	SW	PBC			X		PBC 7/26/12	1
12	WQ-TOC-003-072612	7/26/12	14:35	SW	PBC				X		2
13	WQ-TPC-004-072612	7/26/12	15:25	SW	PBC	X					2
14	WQ-TUR-004-072612	7/26/12	15:25	SW	PBC		X			PBC 7/26/12	1
15	WQ-TSS-004-072612	7/26/12	15:25	SW	PBC			X		PBC 7/26/12	1
16	WQ-TOC-004-072612	7/26/12	15:25	SW	PBC				X		2
17	WQ-TPC-002-072612-REP	7/26/12	09:20	SW	PBC	X					2
18	WQ-TUR-002-072612-REP	7/26/12	09:20	SW	PBC		X			PBC/7/26/12	1
19	WQ-TSS-002-072612-REP	7/26/12	09:20	SW	PBC			X			1
20	WQ-TOC-002-072612-REP	7/26/12	09:20	SW	PBC				X		2

SAMPLE HANDLING
Filtration ____
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
PATRICK CURRAN	7/26/12 17:03	[signature]	7/26/12 17:03

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.

MANSFIELD CHAIN OF CUSTODY

PAGE 3 OF 3

Date Rec'd in Lab:

ALPHA Job #: L1213372

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.
EAST FALMOUTH, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: NEW BEDFORD WATER QUALITY
Project Location: NEW BEDFORD, MA
Project #: TO-0010-07
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:
PROJECT SPECIFIC EDD:

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☒

ANALYSIS: TOTAL PCBs; ~~FOC~~ PDC 7/26/12

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 Date	Collection Time	Sample Matrix	Sampler's Initials	TOTAL PCBs	Sample Specific Comments	TOTAL # BOTTLES
13	WQ-TPC-004-072612-MS	7/26/12	10:10	SW	PDC	X		1
↓	WQ-TPC-004-072612-MSD	7/26/12	10:10	SW	PDC	X		1
	~~WQ-TPC-004-072612-MSMSD~~	~~7/26/12~~		~~SW~~	~~PDC~~	~~X~~	PDC 7/26/12	
	WQ-TPC-001-072612-EB	7/26/12	15:50	SW	PDC	X		2

Container Type	A														
Preservative	A														

Relinquished By:	Date/Time	Received By:	Date/Time
PATRICK CURRAN	7.26.12/17:03	[signature]	7/26/12 17:03

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MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 3

ALPHA Analytical
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 #: L1213372

Client Information

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Address: 81 TECHNOLOGY PARK DR
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: NEW BEDFORD WATER QUALITY
Project Location: NEW BEDFORD, MA
Project #: TO-0010-07
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 NOTE Project Specific EDDs
MS/MSD (at unit cost) will be omitted unless you check here: ☑

ANALYSIS: ~~Total PCBs~~ Turbidity TSS TOC

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 Date	Collection Time	Sample Matrix	Sampler's Initials	~~Total PCBs~~	Turbidity	TSS	TOC								Sample Specific Comments	Total # Bottles
1	WQ-TPC-001-072612	7/26/12	08:40	SW	PBC	X										2	PBC 7/26/12	2
2	WQ-TUR-001-072612	7/26/12	08:40	SW	PBC		X											1
3	WQ-TSS-001-072612	7/26/12	08:40	SW	PBC			X										1
4	WQ-TOC-001-072612	7/26/12	08:40	SW	PBC				X									2
5	WQ-TPC-002-072612	7/26/12	09:15	SW	PBC	X												2
6	WQ-TUR-002-072612	7/26/12	09:15	SW	PBC		X											1
7	WQ-TSS-002-072612	7/26/12	09:15	SW	PBC			X										1
8	WQ-TOC-002-072612	7/26/12	09:15	SW	PBC				X									2
9	WQ-TPC-003-072612	7/26/12	14:35	SW	PBC	X												2
10	WQ-TUR-003-072612	7/26/12	14:35	SW	PBC		X											1
	Container Type					A	P	P	V									
	Preservative					A	A	A	D									

Relinquished By:	Date/Time	Received By:	Date/Time
Patrick Cugnon	7.26.12/17:03	[illegible]	7/26/12 17:03
[illegible]	7/26/12 1740	[illegible]	7/27/12 0540
[illegible]	7/27/12 0935	[illegible]	7/27/12 935

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FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 3

Date Rec'd in Lab:

ALPHA Job #: L1213372

WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193

MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

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Address: 81 TECHNOLOGY PARK DR
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Project Name: NEW BEDFORD WATER QUALITY

Project Location: NEW BEDFORD, MA

Project #: TO-0010-07

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 NOTE Project Specific EDDs

MS/MSD (at unit cost) will be omitted unless you check here: ☒

ANALYSIS: ~~Ferric Chl~~ ~~Turbidity~~ TSS TOC

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 Date	Collection Time	Sample Matrix	Sampler's Initials	~~Ferric Chl~~	~~Turbidity~~	TSS	TOC	Sample Specific Comments	Total # Bottles
11	WQ-TSS-003-072612	7/26/12	14:35	SW	PBC			X		PBC 7/26/12	1
12	WQ-TOC-003-072612	7/26/12	14:35	SW	PBC				X		2
13	WQ-TPC-004-072612	7/26/12	15:25	SW	PBC	X					2
14	WQ-TUR-004-072612	7/26/12	15:25	SW	PBC		X			PBC 7/26/12	1
15	WQ-TSS-004-072612	7/26/12	15:25	SW	PBC			X		PBC 7/26/12	1
16	WQ-TOC-004-072612	7/26/12	15:25	SW	PBC				X		2
17	WQ-TPC-002-072612-REP	7/26/12	09:20	SW	PBC	X					2
18	WQ-TUR-002-072612-REP	7/26/12	09:20	SW	PBC		X			PBC/7/26/12	1
19	WQ-TSS-002-072612-REP	7/26/12	09:20	SW	PBC			X			1
20	WQ-TOC-002-072612-REP	7/26/12	09:20	SW	PBC				X		2

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
PATRICK CURRAN	7/26/12	[illegible]	7/26/12 17:03
[illegible]	7/26/12 17:03	[illegible]	7/27/12 0810
[illegible]	7/27/12 0930	[illegible]	7/27/12 935

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.

FORM NO: 101-09 (rev. 27-SEP-10)

ANALYTICAL REPORT

Lab Number:	L1214289
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dack Stuart
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD ENV. MONITORING
Project Number:	TO-0010-07
Report Date:	08/23/12

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1214289-01	WQ-TPC-001-080812	NEW BEDFORD, MA	08/08/12 08:30
L1214289-02	WQ-TSS-001-080812	NEW BEDFORD, MA	08/08/12 08:30
L1214289-03	WQ-TUR-001-080812	NEW BEDFORD, MA	08/08/12 08:30
L1214289-04	WQ-TOC-001-080812	NEW BEDFORD, MA	08/08/12 08:30
L1214289-05	WQ-TPC-002-080812	NEW BEDFORD, MA	08/08/12 11:15
L1214289-06	WQ-TSS-002-080812	NEW BEDFORD, MA	08/08/12 11:15
L1214289-07	WQ-TUR-002-080812	NEW BEDFORD, MA	08/08/12 11:15
L1214289-08	WQ-TOC-002-080812	NEW BEDFORD, MA	08/08/12 11:15
L1214289-09	WQ-TPC-003-080812	NEW BEDFORD, MA	08/08/12 13:30
L1214289-10	WQ-TSS-003-080812	NEW BEDFORD, MA	08/08/12 13:30
L1214289-11	WQ-TUR-003-080812	NEW BEDFORD, MA	08/08/12 13:30
L1214289-12	WQ-TOC-003-080812	NEW BEDFORD, MA	08/08/12 13:30
L1214289-13	WQ-TPC-004-080812	NEW BEDFORD, MA	08/08/12 15:10
L1214289-14	WQ-TSS-004-080812	NEW BEDFORD, MA	08/08/12 15:10
L1214289-15	WQ-TUR-004-080812	NEW BEDFORD, MA	08/08/12 15:10
L1214289-16	WQ-TOC-004-080812	NEW BEDFORD, MA	08/08/12 15:10
L1214289-17	WQ-TPC-002-080812-EB	NEW BEDFORD, MA	08/08/12 15:20

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289
Project Number: TO-0010-07 **Report Date:** 08/23/12

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289
Project Number: TO-0010-07 **Report Date:** 08/23/12

Case Narrative (continued)

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 whether it was the higher or lower value.

L1214289-01, -05, -09, -13 have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples.

The WG554864-4 MS recoveries, performed on L1214289-09, were outside the acceptance criteria for Cl3-BZ#18 (37%) and Cl3-BZ#28 (149%); however, the associated LCS/LCSD recoveries were within criteria.

The WG554864-5 MSD recoveries, performed on L1214289-09, were below the acceptance criteria for Cl2-BZ#8 (38%); 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.

TOC

L1214289-12, -16 has elevated detection limits due to the dilution required by the sample matrix.

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: 08/23/12

ORGANICS

PCBS

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

SAMPLE RESULTS

Lab ID:	L1214289-01	Date Collected:	08/08/12 08:30
Client ID:	WQ-TPC-001-080812	Date Received:	08/09/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/15/12 07:53
Analytical Date:	08/16/12 13:49		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.06072		ug/l	0.00520	--	2
Cl3-BZ#18	0.13040		ug/l	0.00520	--	2
Cl4-BZ#66	0.05108		ug/l	0.00520	--	2
Cl5-BZ#118	0.02818		ug/l	0.00520	--	2
Cl6-BZ#128	ND		ug/l	0.00520	--	2
Cl6-BZ#138	0.02106		ug/l	0.00520	--	2
Cl7-BZ#170	ND		ug/l	0.00520	--	2
Cl7-BZ#180	0.00661		ug/l	0.00520	--	2
Cl8-BZ#195	ND		ug/l	0.00520	--	2
Cl9-BZ#206	ND		ug/l	0.00520	--	2
Cl10-BZ#209	ND		ug/l	0.00520	--	2

DBOB	99	30-150
BZ 198	92	30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

SAMPLE RESULTS

Lab ID:	L1214289-01	Date Collected:	08/08/12 08:30
Client ID:	WQ-TPC-001-080812	Date Received:	08/09/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/15/12 07:53
Analytical Date:	08/16/12 13:49		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.10762		ug/l	0.00520	--	2
Cl4-BZ#44	0.05253		ug/l	0.00520	--	2
Cl4-BZ#52	0.13850		ug/l	0.00520	--	2
Cl5-BZ#101	0.03808		ug/l	0.00520	--	2
Cl5-BZ#105	0.00726		ug/l	0.00520	--	2
Cl6-BZ#153	0.02655		ug/l	0.00520	--	2
Cl7-BZ#187	0.00626		ug/l	0.00520	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	99		30-150
BZ 198	92		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

SAMPLE RESULTS

Lab ID:	L1214289-05	Date Collected:	08/08/12 11:15
Client ID:	WQ-TPC-002-080812	Date Received:	08/09/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/15/12 07:53
Analytical Date:	08/16/12 14:33		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.21939		ug/l	0.01320	--	5
Cl3-BZ#18	0.43160		ug/l	0.01320	--	5
Cl4-BZ#66	0.11553		ug/l	0.01320	--	5
Cl5-BZ#105	ND		ug/l	0.01320	--	5
Cl5-BZ#118	0.05666		ug/l	0.01320	--	5
Cl6-BZ#128	ND		ug/l	0.01320	--	5
Cl6-BZ#138	0.03813		ug/l	0.01320	--	5
Cl7-BZ#170	ND		ug/l	0.01320	--	5
Cl7-BZ#180	ND		ug/l	0.01320	--	5
Cl7-BZ#187	ND		ug/l	0.01320	--	5
Cl8-BZ#195	ND		ug/l	0.01320	--	5
Cl9-BZ#206	ND		ug/l	0.01320	--	5
Cl10-BZ#209	ND		ug/l	0.01320	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	99		30-150
DBOB	96		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

SAMPLE RESULTS

Lab ID:	L1214289-05	Date Collected:	08/08/12 11:15
Client ID:	WQ-TPC-002-080812	Date Received:	08/09/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/15/12 07:53
Analytical Date:	08/16/12 14:33		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.33069		ug/l	0.01320	--	5
Cl4-BZ#44	0.13075		ug/l	0.01320	--	5
Cl4-BZ#52	0.38123		ug/l	0.01320	--	5
Cl5-BZ#101	0.07972		ug/l	0.01320	--	5
Cl6-BZ#153	0.05793		ug/l	0.01320	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	99		30-150
DBOB	96		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

SAMPLE RESULTS

Lab ID:	L1214289-09	Date Collected:	08/08/12 13:30
Client ID:	WQ-TPC-003-080812	Date Received:	08/09/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/15/12 07:53
Analytical Date:	08/16/12 15:17		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.22874		ug/l	0.01320	--	5
Cl3-BZ#18	0.33548		ug/l	0.01320	--	5
Cl4-BZ#66	0.05350		ug/l	0.01320	--	5
Cl5-BZ#105	ND		ug/l	0.01320	--	5
Cl5-BZ#118	0.01567		ug/l	0.01320	--	5
Cl6-BZ#128	ND		ug/l	0.01320	--	5
Cl6-BZ#138	ND		ug/l	0.01320	--	5
Cl7-BZ#170	ND		ug/l	0.01320	--	5
Cl7-BZ#180	ND		ug/l	0.01320	--	5
Cl7-BZ#187	ND		ug/l	0.01320	--	5
Cl8-BZ#195	ND		ug/l	0.01320	--	5
Cl9-BZ#206	ND		ug/l	0.01320	--	5
Cl10-BZ#209	ND		ug/l	0.01320	--	5

DBOB	104	30-150
BZ 198	98	30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

SAMPLE RESULTS

Lab ID:	L1214289-09	Date Collected:	08/08/12 13:30
Client ID:	WQ-TPC-003-080812	Date Received:	08/09/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/15/12 07:53
Analytical Date:	08/16/12 15:17		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.32633		ug/l	0.01320	--	5
Cl4-BZ#44	0.08969		ug/l	0.01320	--	5
Cl4-BZ#52	0.30265		ug/l	0.01320	--	5
Cl5-BZ#101	0.03570		ug/l	0.01320	--	5
Cl6-BZ#153	0.01906		ug/l	0.01320	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	104		30-150
BZ 198	98		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

SAMPLE RESULTS

Lab ID:	L1214289-13	Date Collected:	08/08/12 15:10
Client ID:	WQ-TPC-004-080812	Date Received:	08/09/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/15/12 07:53
Analytical Date:	08/17/12 11:37		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.40248		ug/l	0.02690	--	10
Cl3-BZ#18	0.83322		ug/l	0.02690	--	10
Cl4-BZ#66	0.28722		ug/l	0.02690	--	10
Cl5-BZ#105	ND		ug/l	0.02690	--	10
Cl5-BZ#118	0.14653		ug/l	0.02690	--	10
Cl6-BZ#128	ND		ug/l	0.02690	--	10
Cl6-BZ#138	0.10437		ug/l	0.02690	--	10
Cl7-BZ#170	ND		ug/l	0.02690	--	10
Cl7-BZ#180	ND		ug/l	0.02690	--	10
Cl8-BZ#195	ND		ug/l	0.02690	--	10
Cl9-BZ#206	ND		ug/l	0.02690	--	10
Cl10-BZ#209	ND		ug/l	0.02690	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	87		30-150
BZ 198	100		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

SAMPLE RESULTS

Lab ID:	L1214289-13	Date Collected:	08/08/12 15:10
Client ID:	WQ-TPC-004-080812	Date Received:	08/09/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/15/12 07:53
Analytical Date:	08/17/12 11:37		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.60120		ug/l	0.02690	--	10
Cl4-BZ#44	0.23682		ug/l	0.02690	--	10
Cl4-BZ#52	0.86662		ug/l	0.02690	--	10
Cl5-BZ#101	0.17519		ug/l	0.02690	--	10
Cl6-BZ#153	0.15411		ug/l	0.02690	--	10
Cl7-BZ#187	0.03183		ug/l	0.02690	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	87		30-150
BZ 198	100		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

SAMPLE RESULTS

Lab ID:	L1214289-17	Date Collected:	08/08/12 15:20
Client ID:	WQ-TPC-002-080812-EB	Date Received:	08/09/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/15/12 07:53
Analytical Date:	08/16/12 18:12		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	ND		ug/l	0.00260	--	1
Cl3-BZ#18	ND		ug/l	0.00260	--	1
Cl3-BZ#28	ND		ug/l	0.00260	--	1
Cl4-BZ#44	ND		ug/l	0.00260	--	1
Cl4-BZ#52	ND		ug/l	0.00260	--	1
Cl4-BZ#66	ND		ug/l	0.00260	--	1
Cl5-BZ#101	ND		ug/l	0.00260	--	1
Cl5-BZ#105	ND		ug/l	0.00260	--	1
Cl5-BZ#118	ND		ug/l	0.00260	--	1
Cl6-BZ#128	ND		ug/l	0.00260	--	1
Cl6-BZ#138	ND		ug/l	0.00260	--	1
Cl7-BZ#170	ND		ug/l	0.00260	--	1
Cl7-BZ#180	ND		ug/l	0.00260	--	1
Cl7-BZ#187	ND		ug/l	0.00260	--	1
Cl8-BZ#195	ND		ug/l	0.00260	--	1
Cl9-BZ#206	ND		ug/l	0.00260	--	1
Cl10-BZ#209	ND		ug/l	0.00260	--	1

DBOB	90	30-150
BZ 198	93	30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

SAMPLE RESULTS

Lab ID:	L1214289-17	Date Collected:	08/08/12 15:20
Client ID:	WQ-TPC-002-080812-EB	Date Received:	08/09/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/15/12 07:53
Analytical Date:	08/16/12 18:12		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl6-BZ#153	ND		ug/l	0.00260	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	90		30-150
BZ 198	93		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/16/12 10:55
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 08/15/12 07:53

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13,17 Batch: WG554864-1					
Cl2-BZ#8	ND		ug/l	0.00250	--
Cl3-BZ#18	ND		ug/l	0.00250	--
Cl3-BZ#28	ND		ug/l	0.00250	--
Cl4-BZ#44	ND		ug/l	0.00250	--
Cl4-BZ#52	ND		ug/l	0.00250	--
Cl4-BZ#66	ND		ug/l	0.00250	--
Cl5-BZ#101	ND		ug/l	0.00250	--
Cl5-BZ#105	ND		ug/l	0.00250	--
Cl5-BZ#118	ND		ug/l	0.00250	--
Cl6-BZ#128	ND		ug/l	0.00250	--
Cl6-BZ#138	ND		ug/l	0.00250	--
Cl7-BZ#170	ND		ug/l	0.00250	--
Cl7-BZ#180	ND		ug/l	0.00250	--
Cl7-BZ#187	ND		ug/l	0.00250	--
Cl8-BZ#195	ND		ug/l	0.00250	--
Cl9-BZ#206	ND		ug/l	0.00250	--
Cl10-BZ#209	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	98		30-150
BZ 198	96		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/16/12 10:55
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 08/15/12 07:53

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13,17 Batch: WG554864-1					
Cl6-BZ#153	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	98		30-150
BZ 198	96		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07
Lab Number: L1214289
Report Date: 08/23/12

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17 QC Batch ID: WG554864-4 WG554864-5 QC Sample: L1214289-09
Client ID: WQ-TPC-003-080812

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Cl2-BZ#8	0.22874	0.0532	0.25888	57		0.24852	**38**	Q	40-140	4		30
Cl3-BZ#18	0.33548	0.0532	0.35503	**37**	Q	0.36579	58		40-140	3		30
Cl3-BZ#28	0.32633	0.0532	0.40577	**149**	Q	0.39445	129		40-140	3		30
Cl4-BZ#44	0.08969	0.0532	0.14205	98		0.14226	100		40-140	0		30
Cl4-BZ#52	0.30265	0.0532	0.34356	77		0.34158	74		40-140	1		30
Cl4-BZ#66	0.05350	0.0532	0.10811	103		0.10873	105		40-140	1		30
Cl5-BZ#101	0.03570	0.0532	0.08950	101		0.08933	102		40-140	0		30
Cl5-BZ#105	ND	0.0532	0.05737	108		0.05689	108		40-140	1		30
Cl5-BZ#118	0.01567	0.0532	0.07443	110		0.07307	109		40-140	2		30
Cl6-BZ#128	ND	0.0532	0.05863	110		0.05840	111		40-140	0		30
Cl6-BZ#138	ND	0.0532	0.06822	128		0.06917	131		40-140	1		30
Cl6-BZ#153	0.01906	0.0532	0.07148	98		0.07172	100		40-140	0		30
Cl7-BZ#170	ND	0.0532	0.05919	111		0.05991	114		40-140	1		30
Cl7-BZ#180	ND	0.0532	0.06469	122		0.06345	120		40-140	2		30
Cl7-BZ#187	ND	0.0532	0.05994	113		0.05853	111		40-140	2		30
Cl8-BZ#195	ND	0.0532	0.05502	103		0.05643	107		40-140	3		30
Cl9-BZ#206	ND	0.0532	0.05972	112		0.06227	118		40-140	4		30
Cl10-BZ#209	ND	0.0532	0.05505	104		0.05707	108		40-140	4		30

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07
Lab Number: L1214289
Report Date: 08/23/12

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): 01,05,09,13,17 QC Batch ID: WG554864-4 WG554864-5 QC Sample: L1214289-09 Client ID: WQ-TPC-003-080812												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
BZ 198	106		99		30-150
DBOB	96		97		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING

Project Number: TO-0010-07

Lab Number: L1214289

Report Date: 08/23/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17 Batch: WG554864-2 WG554864-3								
Cl2-BZ#8	76		86		40-140	11		30
Cl3-BZ#18	74		80		40-140	7		30
Cl3-BZ#28	87		92		40-140	6		30
Cl4-BZ#44	83		89		40-140	6		30
Cl4-BZ#52	81		85		40-140	4		30
Cl4-BZ#66	87		92		40-140	6		30
Cl5-BZ#101	85		90		40-140	6		30
Cl5-BZ#105	92		96		40-140	4		30
Cl5-BZ#118	93		96		40-140	4		30
Cl6-BZ#128	92		95		40-140	3		30
Cl6-BZ#138	93		96		40-140	3		30
Cl7-BZ#170	90		93		40-140	3		30
Cl7-BZ#180	98		97		40-140	1		30
Cl7-BZ#187	87		90		40-140	4		30
Cl8-BZ#195	88		90		40-140	3		30
Cl9-BZ#206	95		98		40-140	4		30
Cl10-BZ#209	83		86		40-140	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING

Project Number: TO-0010-07

Lab Number: L1214289

Report Date: 08/23/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17 Batch: WG554864-2 WG554864-3								
DBOB	86		89		30-150			
BZ 198	90		91		30-150			
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13,17 Batch: WG554864-2 WG554864-3								
Cl6-BZ#153	89		92		40-140	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	86		89		30-150
BZ 198	90		91		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-02
Client ID: WQ-TSS-001-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 08:30
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	16.0		mg/l	1.00	NA	1	-	08/10/12 12:40	4,160.2	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-03
Client ID: WQ-TUR-001-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 08:30
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	8.5		NTU	0.40	--	1	-	08/10/12 13:00	8,180.1	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-04
Client ID: WQ-TOC-001-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 08:30
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	4.1		mg/l	4.0	--	8	-	08/21/12 10:25	1,9060	SD

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-06
Client ID: WQ-TSS-002-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 11:15
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	28.4		mg/l	1.00	NA	1	-	08/10/12 12:40	4,160.2	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-07
Client ID: WQ-TUR-002-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 11:15
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	12		NTU	0.40	--	1	-	08/10/12 13:00	8,180.1	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-08
Client ID: WQ-TOC-002-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 11:15
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	4.1		mg/l	4.0	--	8	-	08/21/12 10:25	1,9060	SD

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-10
Client ID: WQ-TSS-003-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 13:30
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	5.00		mg/l	1.00	NA	1	-	08/10/12 12:40	4,160.2	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-11
Client ID: WQ-TUR-003-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 13:30
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	6.8		NTU	0.40	--	1	-	08/10/12 13:00	8,180.1	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-12
Client ID: WQ-TOC-003-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 13:30
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	08/21/12 10:25	1,9060	SD

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-14
Client ID: WQ-TSS-004-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 15:10
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	44.4		mg/l	1.00	NA	1	-	08/10/12 12:40	4,160.2	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-15
Client ID: WQ-TUR-004-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 15:10
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	23		NTU	0.40	--	1	-	08/10/12 13:00	8,180.1	ES

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

SAMPLE RESULTS

Lab ID: L1214289-16
Client ID: WQ-TOC-004-080812
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/08/12 15:10
Date Received: 08/09/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	4.0	--	8	-	08/21/12 10:25	1,9060	SD

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1214289

Project Number: TO-0010-07 **Report Date:** 08/23/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 03,07,11,15 Batch: WG554034-1										
Turbidity	ND		NTU	0.40	--	1	-	08/10/12 13:00	8,180.1	ES
General Chemistry - Mansfield Lab for sample(s): 02,06,10,14 Batch: WG554035-1										
Solids, Total Suspended	ND		mg/l	1.00	NA	1	-	08/10/12 12:40	4,160.2	ES
General Chemistry - Westborough Lab for sample(s): 04,08,12,16 Batch: WG556172-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	08/21/12 10:25	1,9060	SD

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING

Project Number: TO-0010-07

Lab Number: L1214289

Report Date: 08/23/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 Batch: WG554034-2								
Turbidity	103		-		90-110	-		10
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14 Batch: WG554035-2								
Solids, Total Suspended	93		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 Batch: WG556172-2								
Total Organic Carbon	92		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG556172-3 QC Sample: L1214289-08 Client ID: WQ-TOC-002-080812												
Total Organic Carbon	4.1	64	66	97		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 QC Batch ID: WG554034-3 QC Sample: L1214289-03 Client ID: WQ-TUR-001-080812						
Turbidity	8.5	8.4	NTU	1		10
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14 QC Batch ID: WG554035-3 QC Sample: L1214289-02 Client ID: WQ-TSS-001-080812						
Solids, Total Suspended	16.0	15.0	mg/l	6		20
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG556172-4 QC Sample: L1214289-08 Client ID: WQ-TOC-002-080812						
Total Organic Carbon	4.1	4.2	mg/l	2		20

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

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

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1214289-01A	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1214289-01B	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1214289-02A	Plastic 1000ml unpreserved	A	7	5	Y	Absent	A2-TSS-160(7)
L1214289-03A	Plastic 1000ml unpreserved	A	7	5	Y	Absent	A2-TURBIDITY-180.1(2)
L1214289-04A	Vial H2SO4 preserved	A	N/A	5	Y	Absent	TOC-9060(28)
L1214289-04B	Vial H2SO4 preserved	A	N/A	5	Y	Absent	TOC-9060(28)
L1214289-05A	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1214289-05B	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1214289-06A	Plastic 1000ml unpreserved	A	7	5	Y	Absent	A2-TSS-160(7)
L1214289-07A	Plastic 1000ml unpreserved	A	7	5	Y	Absent	A2-TURBIDITY-180.1(2)
L1214289-08A	Vial H2SO4 preserved	A	N/A	5	Y	Absent	TOC-9060(28)
L1214289-08B	Vial H2SO4 preserved	A	N/A	5	Y	Absent	TOC-9060(28)
L1214289-09A	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1214289-09B	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1214289-09C	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1214289-09D	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1214289-10A	Plastic 1000ml unpreserved	A	7	5	Y	Absent	A2-TSS-160(7)
L1214289-11A	Plastic 1000ml unpreserved	A	7	5	Y	Absent	A2-TURBIDITY-180.1(2)
L1214289-12A	Vial H2SO4 preserved	A	N/A	5	Y	Absent	TOC-9060(28)
L1214289-12B	Vial H2SO4 preserved	A	N/A	5	Y	Absent	TOC-9060(28)
L1214289-13A	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1214289-13B	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1214289-14A	Plastic 1000ml unpreserved	A	7	5	Y	Absent	A2-TSS-160(7)
L1214289-15A	Plastic 1000ml unpreserved	A	7	5	Y	Absent	A2-TURBIDITY-180.1(2)
L1214289-16A	Vial H2SO4 preserved	A	N/A	5	Y	Absent	TOC-9060(28)
L1214289-16B	Vial H2SO4 preserved	A	N/A	5	Y	Absent	TOC-9060(28)
L1214289-17A	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)

*Values in parentheses indicate holding time in days

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1214289
Report Date: 08/23/12

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1214289-17B	Amber 1000ml unpreserved	A	7	5	Y	Absent	A2-PCBCONG-8082-NOAA(7)

Container Comments

L1214289-02A	CONSUMED ENTIRE SAMPLE FOR TSS

*Values in parentheses indicate holding time in days

Project Name:	NEW BEDFORD ENV. MONITORING	**Lab Number:**	L1214289
Project Number:	TO-0010-07	**Report Date:**	08/23/12

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.
LFB	- Laboratory Fortified Blank: 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.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
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.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL 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.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
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.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
M	- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD ENV. MONITORING	**Lab Number:**	L1214289
Project Number:	TO-0010-07	**Report Date:**	08/23/12

Data Qualifiers

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. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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 RL. (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 reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD ENV. MONITORING	**Lab Number:**	L1214289
Project Number:	TO-0010-07	**Report Date:**	08/23/12

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 Analytical 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 Analytical.

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 August 16, 2012 - 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, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total 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, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, 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), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8082, 8330, 8151A, 8260B, 8270C, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9030B, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)
*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,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010B, 6010C, 6020, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9030B, 9040B, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082, 8082A, 8081A, 8081B, 8151A, 8330, 8270C-SIM, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 6010C, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050, 9065,1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082, 8082A, 8081A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, 2540G, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012A, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C, 3546, 3580, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7471A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 245.2, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 3501., 350.2, 353.2, 420.1, 6010B, 6010C, 6020, 6020A, 7196A, 7470A, 9010B, 9030B, 9040B, Lachat 10-107-06-2-D, NJ-EPH, 2120B, 2310B, 2320B, 2340B, 2510C, 2540B, 2540C, 3500Cr-D, 436C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330, 8015B,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010B, 6010C, 6020A, 7196A, 7471A, 7471B, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 2..08, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5035, 3540C, 3546, 3550, 3580, 3630C, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

Certificate/Approval Program Summary

Last revised August 3, 2012 – 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, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). 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, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. 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, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. 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 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B, 3020A, . Organic Parameters: EPA 3510C, 3630C, 3640A, 3660B, 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 6020A, 7471B, 9040B, 9045C. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9045D, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15, TO-10A, TO-13A-SIM.)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474, 9040C, 9045D. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15, TO-10A.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Non-Potable Water (Inorganic Parameters: 1312, 1631E, 180.1, 3020A, 6020A, 7470A, 9040B, 9050A, 2320B, 2540D, 2540G, SM4500H+-B. Organic Parameters: 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D .)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3051A, 6020A, 7471B, 7474 9040B, 9045C, 9060. Organic Parameters: EPA3050B, 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8270D, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via NJ-DEP.***

Refer to NJ-DEP 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, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

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: 8/9/12

ALPHA Job #: L1214289

Client Information

Client: WoodS Hole Group

Address: 81 Technology Park Dr East Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring

Project Location: New Bedford, MA

Project #: TO-0010-07

Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 8/23/12 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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Project-Specific BDD

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs	TSS	Turbidity	TOC	Sample Specific Comments	Total # Bottles
14289.1	WQ-TPC-001-080812	8/8/12	08:30	SW	DGS	X				Flood Ref	2
2	WQ-TSS-001-080812						X				1
3	WQ-TUR-001-080812							X			1
4	WQ-TOC-001-080812								X		2
5	WQ-TPC-002-080812		11:15			X				Flood Sample	2
6	WQ-TSS-002-080812						X				1
7	WQ-TUR-002-080812							X			1
8	WQ-TOC-002-080812								X		2
9	WQ-TPC-003-080812		1330			X				Ebb Ref	2
10	WQ-TSS-003-080812						X				1

Container Type	A	P	P	V
Preservative	A	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible]	8/9/12 1210	[illegible]	8/9/12 1210
[illegible]	8/9/12 1830	[illegible]	8/9/12 1830

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.

FORM NO: 01-01 (rev. 18-Jan-2010)

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 8/9/12

ALPHA Job #: L1214289

ALPHA ANALYTICAL

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
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring
Project Location: New Bedford, MA
Project #: TO-0010-07
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 8/13/12 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:
Project-specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs	TSS	Turbidity	TOC	Sample Specific Comments	Total # Bottles
14289.11 B	WQ-TUR-003-080812	8/8/12	13:30	SW	DGS			X		Ebb Ref	1
12 B	WQ-TOC-003-080812								X		2
9 B	WQ-TPC-003-080812-MS					X				MS	1
9 B	WQ-TPC-003-080812-MSD					X				MSD	1
13	WQ-TPC-004-080812		15:10			X				Ebb sample	2
14	WQ-TSS-004-080812						X				1
15	WQ-TUR-004-080812							X			1
16	WQ-TOC-004-080812								X		2
17	WQ-TPC-001-080812-EB		15:20			X				Equipment Blank pump	2

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Stuart	8/9/12 1210	T. Hudell	8/9/12 1210
T. Hudell	8/9/12 1830		8/9/12 1830

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.

FORM NO: 101-09 (rev. 27-SEP-10)

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

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: 8/9/12

ALPHA Job #: L1214289

Client Information

Client: Woods Hole Group

Address: 81 Technology Park Dr East Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring

Project Location: New Bedford, MA

Project #: TO-0010-07

Project Manager: Dave Walsh

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 8/23/12 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 PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate In Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

Project-Specific BDD

ANALYSIS: Total PCBs, TSS, Turbidity, ~~TOC~~

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs	TSS	Turbidity	~~TOC~~	Sample Specific Comments	TOTAL # BOTTLES
14289.1	WQ-TPC-001-080812	8/8/12	08:30	SW	DGS	X				Flood Ref	2
2	WQ-TSS-001-080812		↓	↑	↑		X			↓	1
3	WQ-TUR-001-080812		↓					X		↓	1
4	WQ-TOC-001-080812		↓						X	↓	2
5	WQ-TPC-002-080812		11:15			X				Flood Sample	2
6	WQ-TSS-002-080812		↓				X			↓	1
7	WQ-TUR-002-080812		↓					X		↓	1
8	WQ-TOC-002-080812		↓						X	↓	2
9	WQ-TPC-003-080812		1330			X				Ebb Ref	2
10	WQ-TSS-003-080812	↓	↓	↓	↓		X			↓	1

Container Type	A	P	P	V
Preservative	A	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	8/9/12 1210	[signature]	8/9/12 1210
[signature]	8/9/12 1830	[signature]	8/9/12 1830
[signature]	8/10/12 0400	[signature]	8/10/12 0400
[signature]	8/10/12 855	[signature]	8/10/12 08:55

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.

FORM NO: 01-01 (rev. 18-Jan-2010)

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd In Lab: 8/9/12

ALPHA Job #: L1214289

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
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring
Project Location: New Bedford, MA
Project #: TO-0010-07
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 8/23/12 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:
Project-specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs	TSS	Turbidity	~~TOC~~	Sample Specific Comments	Total # Bottles
14289.11	WQ-TUR-003-080812	8/8/12	13:30	SW	DGS			X		Ebb Ref	1
12	WQ-TOC-003-080812								X		2
9	WQ-TPC-003-080812-MS					X				MS	1
9	WQ-TPC-003-080812-MSD					X				MSD	1
13	WQ-TPC-004-080812		15:10			X				Ebb sample	2
14	WQ-TSS-004-080812						X				1
15	WQ-TUR-004-080812							X			1
16	WQ-TOC-004-080812								X		2
17	WQ-TPC-001-080812-EB		15:20			X				Equipment Blank pump	2

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Stuart	8/9/12 1210	T. Hudell	8/9/12 1210
T. Hudell	8/9/12 1830	Pat Cuce	8/9/12 1830
Pat Cuce	8/10/12 0400	Pat Cuce	8/10/12 0400
Pat Cuce	8/10/12	[illegible]	8/10/12 08:55

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.

FORM NO: 101-09 (rev. 27-SEP-10)

ANALYTICAL REPORT

Lab Number:	L1215121
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dack Stuart
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD WATER QUALITY
Project Number:	TO-0010-07
Report Date:	09/04/12

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), 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 WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1215121-01	WQ-TPC-001-082312	NEW BEDFORD, MA	08/23/12 08:45
L1215121-02	WQ-TSS-001-082312	NEW BEDFORD, MA	08/23/12 08:45
L1215121-03	WQ-TUR-001-082312	NEW BEDFORD, MA	08/23/12 08:45
L1215121-04	WQ-TOC-001-082312	NEW BEDFORD, MA	08/23/12 08:45
L1215121-05	WQ-TPC-002-082312	NEW BEDFORD, MA	08/23/12 09:30
L1215121-06	WQ-TSS-002-082312	NEW BEDFORD, MA	08/23/12 09:30
L1215121-07	WQ-TUR-002-082312	NEW BEDFORD, MA	08/23/12 09:30
L1215121-08	WQ-TOC-002-082312	NEW BEDFORD, MA	08/23/12 09:30
L1215121-09	WQ-TPC-003-082312	NEW BEDFORD, MA	08/23/12 13:30
L1215121-10	WQ-TSS-003-082312	NEW BEDFORD, MA	08/23/12 13:30
L1215121-11	WQ-TUR-003-082312	NEW BEDFORD, MA	08/23/12 13:30
L1215121-12	WQ-TOC-003-082312	NEW BEDFORD, MA	08/23/12 13:30
L1215121-13	WQ-TPC-004-082312	NEW BEDFORD, MA	08/23/12 14:15
L1215121-14	WQ-TSS-004-082312	NEW BEDFORD, MA	08/23/12 14:15
L1215121-15	WQ-TUR-004-082312	NEW BEDFORD, MA	08/23/12 14:15
L1215121-16	WQ-TOC-004-082312	NEW BEDFORD, MA	08/23/12 14:15

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121
Project Number: TO-0010-07 **Report Date:** 09/04/12

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121
Project Number: TO-0010-07 **Report Date:** 09/04/12

Case Narrative (continued)

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 whether it was the higher or lower value.

L1215121-01, -05, -09, -13 have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples.

Total Organic Carbon

L1215121-08, -12, and -16 have elevated detection limits due to the dilutions required by the sample matrices.

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: 09/04/12

ORGANICS

PCBS

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

SAMPLE RESULTS

Lab ID:	L1215121-01	Date Collected:	08/23/12 08:45
Client ID:	WQ-TPC-001-082312	Date Received:	08/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/27/12 10:00
Analytical Date:	08/28/12 19:30		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.15113		ug/l	0.01260	--	5
Cl3-BZ#18	0.26526		ug/l	0.01260	--	5
Cl4-BZ#66	0.04520		ug/l	0.01260	--	5
Cl5-BZ#105	ND		ug/l	0.01260	--	5
Cl5-BZ#118	ND		ug/l	0.01260	--	5
Cl6-BZ#128	ND		ug/l	0.01260	--	5
Cl6-BZ#138	ND		ug/l	0.01260	--	5
Cl7-BZ#170	ND		ug/l	0.01260	--	5
Cl7-BZ#180	ND		ug/l	0.01260	--	5
Cl7-BZ#187	ND		ug/l	0.01260	--	5
Cl8-BZ#195	ND		ug/l	0.01260	--	5
Cl9-BZ#206	ND		ug/l	0.01260	--	5
Cl10-BZ#209	ND		ug/l	0.01260	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	87		30-150
DBOB	90		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

SAMPLE RESULTS

Lab ID:	L1215121-01	Date Collected:	08/23/12 08:45
Client ID:	WQ-TPC-001-082312	Date Received:	08/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/27/12 10:00
Analytical Date:	08/28/12 19:30		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.14732		ug/l	0.01260	--	5
Cl4-BZ#44	0.06072		ug/l	0.01260	--	5
Cl4-BZ#52	0.19016		ug/l	0.01260	--	5
Cl5-BZ#101	0.02645		ug/l	0.01260	--	5
Cl6-BZ#153	0.01376		ug/l	0.01260	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
BZ 198	87		30-150
DBOB	90		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

SAMPLE RESULTS

Lab ID:	L1215121-05	Date Collected:	08/23/12 09:30
Client ID:	WQ-TPC-002-082312	Date Received:	08/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/27/12 10:00
Analytical Date:	08/28/12 20:14		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.15979		ug/l	0.01300	--	5
Cl3-BZ#18	0.28880		ug/l	0.01300	--	5
Cl4-BZ#66	0.06502		ug/l	0.01300	--	5
Cl5-BZ#105	ND		ug/l	0.01300	--	5
Cl5-BZ#118	0.02746		ug/l	0.01300	--	5
Cl6-BZ#128	ND		ug/l	0.01300	--	5
Cl6-BZ#138	0.01835		ug/l	0.01300	--	5
Cl7-BZ#170	ND		ug/l	0.01300	--	5
Cl7-BZ#180	ND		ug/l	0.01300	--	5
Cl7-BZ#187	ND		ug/l	0.01300	--	5
Cl8-BZ#195	ND		ug/l	0.01300	--	5
Cl9-BZ#206	ND		ug/l	0.01300	--	5
Cl10-BZ#209	ND		ug/l	0.01300	--	5

DBOB	84	30-150
BZ 198	90	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

SAMPLE RESULTS

Lab ID:	L1215121-05	Date Collected:	08/23/12 09:30
Client ID:	WQ-TPC-002-082312	Date Received:	08/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/27/12 10:00
Analytical Date:	08/28/12 20:14		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.19409		ug/l	0.01300	--	5
Cl4-BZ#44	0.08634		ug/l	0.01300	--	5
Cl4-BZ#52	0.22159		ug/l	0.01300	--	5
Cl5-BZ#101	0.04190		ug/l	0.01300	--	5
Cl6-BZ#153	0.02564		ug/l	0.01300	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	84		30-150
BZ 198	90		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

SAMPLE RESULTS

Lab ID:	L1215121-09	Date Collected:	08/23/12 13:30
Client ID:	WQ-TPC-003-082312	Date Received:	08/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/27/12 10:00
Analytical Date:	08/28/12 20:58		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.15038		ug/l	0.01290	--	5
Cl3-BZ#18	0.28742		ug/l	0.01290	--	5
Cl4-BZ#66	0.04494		ug/l	0.01290	--	5
Cl5-BZ#105	ND		ug/l	0.01290	--	5
Cl5-BZ#118	0.01469		ug/l	0.01290	--	5
Cl6-BZ#128	ND		ug/l	0.01290	--	5
Cl6-BZ#138	ND		ug/l	0.01290	--	5
Cl7-BZ#170	ND		ug/l	0.01290	--	5
Cl7-BZ#180	ND		ug/l	0.01290	--	5
Cl7-BZ#187	ND		ug/l	0.01290	--	5
Cl8-BZ#195	ND		ug/l	0.01290	--	5
Cl9-BZ#206	ND		ug/l	0.01290	--	5
Cl10-BZ#209	ND		ug/l	0.01290	--	5

DBOB	87	30-150
BZ 198	91	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

SAMPLE RESULTS

Lab ID:	L1215121-09	Date Collected:	08/23/12 13:30
Client ID:	WQ-TPC-003-082312	Date Received:	08/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/27/12 10:00
Analytical Date:	08/28/12 20:58		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.21027		ug/l	0.01290	--	5
Cl4-BZ#44	0.06627		ug/l	0.01290	--	5
Cl4-BZ#52	0.19380		ug/l	0.01290	--	5
Cl5-BZ#101	0.02677		ug/l	0.01290	--	5
Cl6-BZ#153	0.01679		ug/l	0.01290	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	87		30-150
BZ 198	91		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

SAMPLE RESULTS

Lab ID:	L1215121-13	Date Collected:	08/23/12 14:15
Client ID:	WQ-TPC-004-082312	Date Received:	08/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/27/12 10:00
Analytical Date:	08/28/12 17:19		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.06011		ug/l	0.00256	--	1
Cl3-BZ#18	0.10642		ug/l	0.00256	--	1
Cl4-BZ#66	0.02743		ug/l	0.00256	--	1
Cl5-BZ#118	0.01242		ug/l	0.00256	--	1
Cl6-BZ#128	ND		ug/l	0.00256	--	1
Cl6-BZ#138	0.00844		ug/l	0.00256	--	1
Cl7-BZ#170	ND		ug/l	0.00256	--	1
Cl7-BZ#180	ND		ug/l	0.00256	--	1
Cl7-BZ#187	ND		ug/l	0.00256	--	1
Cl8-BZ#195	ND		ug/l	0.00256	--	1
Cl9-BZ#206	ND		ug/l	0.00256	--	1
Cl10-BZ#209	ND		ug/l	0.00256	--	1

DBOB	110	30-150
BZ 198	98	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

SAMPLE RESULTS

Lab ID:	L1215121-13	Date Collected:	08/23/12 14:15
Client ID:	WQ-TPC-004-082312	Date Received:	08/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/27/12 10:00
Analytical Date:	08/28/12 17:19		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.05687		ug/l	0.00256	--	1
Cl4-BZ#44	0.03371		ug/l	0.00256	--	1
Cl4-BZ#52	0.08844		ug/l	0.00256	--	1
Cl5-BZ#101	0.01745		ug/l	0.00256	--	1
Cl5-BZ#105	0.00284		ug/l	0.00256	--	1
Cl6-BZ#153	0.01066		ug/l	0.00256	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	110		30-150
BZ 198	98		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

SAMPLE RESULTS

Lab ID:	L1215121-13	Date Collected:	08/23/12 14:15
Client ID:	WQ-TPC-004-082312	Date Received:	08/23/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	08/27/12 10:00
Analytical Date:	08/28/12 21:41		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#18	0.11973		ug/l	0.01280	--	5

DBOB	97	30-150
BZ 198	91	30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/28/12 12:56
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 08/27/12 10:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13 Batch: WG557182-1					
Cl2-BZ#8	ND		ug/l	0.00250	--
Cl3-BZ#18	ND		ug/l	0.00250	--
Cl3-BZ#28	ND		ug/l	0.00250	--
Cl4-BZ#44	ND		ug/l	0.00250	--
Cl4-BZ#52	ND		ug/l	0.00250	--
Cl4-BZ#66	ND		ug/l	0.00250	--
Cl5-BZ#101	ND		ug/l	0.00250	--
Cl5-BZ#105	ND		ug/l	0.00250	--
Cl5-BZ#118	ND		ug/l	0.00250	--
Cl6-BZ#128	ND		ug/l	0.00250	--
Cl6-BZ#138	ND		ug/l	0.00250	--
Cl7-BZ#170	ND		ug/l	0.00250	--
Cl7-BZ#180	ND		ug/l	0.00250	--
Cl7-BZ#187	ND		ug/l	0.00250	--
Cl8-BZ#195	ND		ug/l	0.00250	--
Cl9-BZ#206	ND		ug/l	0.00250	--
Cl10-BZ#209	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	97		30-150
BZ 198	99		30-150

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/28/12 12:56
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 08/27/12 10:00

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13 Batch: WG557182-1					
Cl6-BZ#153	ND		ug/l	0.00250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	97		30-150
BZ 198	99		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1215121

Report Date: 09/04/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG557182-2 WG557182-3								
Cl2-BZ#8	86		85		40-140	2		30
Cl3-BZ#18	82		82		40-140	0		30
Cl3-BZ#28	96		96		40-140	0		30
Cl4-BZ#44	91		91		40-140	1		30
Cl4-BZ#52	90		88		40-140	2		30
Cl4-BZ#66	93		95		40-140	2		30
Cl5-BZ#101	91		93		40-140	2		30
Cl5-BZ#105	96		100		40-140	3		30
Cl5-BZ#118	97		100		40-140	3		30
Cl6-BZ#128	98		102		40-140	4		30
Cl6-BZ#138	97		101		40-140	4		30
Cl7-BZ#170	95		99		40-140	5		30
Cl7-BZ#180	103		107		40-140	4		30
Cl7-BZ#187	93		97		40-140	4		30
Cl8-BZ#195	93		99		40-140	6		30
Cl9-BZ#206	101		107		40-140	6		30
Cl10-BZ#209	90		96		40-140	6		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1215121

Report Date: 09/04/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG557182-2 WG557182-3								
DBOB	92		96		30-150			
BZ 198	100		102		30-150			
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG557182-2 WG557182-3								
Cl6-BZ#153	92		97		40-140	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	92		96		30-150
BZ 198	100		102		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-02
Client ID: WQ-TSS-001-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 08:45
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	20.4		mg/l	1.00	NA	1	-	08/28/12 19:30	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-03
Client ID: WQ-TUR-001-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 08:45
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	10		NTU	0.40	--	1	-	08/23/12 19:00	8,180.1	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-04
Client ID: WQ-TOC-001-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 08:45
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	10		mg/l	10	--	20	-	08/28/12 08:23	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-06
Client ID: WQ-TSS-002-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 09:30
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	12.0		mg/l	1.00	NA	1	-	08/28/12 19:30	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-07
Client ID: WQ-TUR-002-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 09:30
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	8.6		NTU	0.40	--	1	-	08/23/12 19:00	8,180.1	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-08
Client ID: WQ-TOC-002-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 09:30
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	10	--	20	-	08/28/12 08:23	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-10
Client ID: WQ-TSS-003-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 13:30
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	3.20		mg/l	1.00	NA	1	-	08/28/12 19:30	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-11
Client ID: WQ-TUR-003-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 13:30
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	3.8		NTU	0.40	--	1	-	08/23/12 19:00	8,180.1	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-12
Client ID: WQ-TOC-003-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 13:30
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	10	--	20	-	08/28/12 08:23	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-14
Client ID: WQ-TSS-004-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 14:15
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	5.50		mg/l	1.00	NA	1	-	08/28/12 19:30	4,160.2	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-15
Client ID: WQ-TUR-004-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 14:15
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	4.4		NTU	0.40	--	1	-	08/23/12 19:00	8,180.1	ES

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

SAMPLE RESULTS

Lab ID: L1215121-16
Client ID: WQ-TOC-004-082312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 08/23/12 14:15
Date Received: 08/23/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	10	--	20	-	08/28/12 08:23	1,9060	DW

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121

Project Number: TO-0010-07 **Report Date:** 09/04/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 04,08,12,16 Batch: WG557293-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	08/28/12 08:23	1,9060	DW
General Chemistry - Mansfield Lab for sample(s): 03,07,11,15 Batch: WG557899-1										
Turbidity	ND		NTU	0.40	--	1	-	08/23/12 19:00	8,180.1	ES
General Chemistry - Mansfield Lab for sample(s): 02,06,10,14 Batch: WG557900-1										
Solids, Total Suspended	ND		mg/l	1.00	NA	1	-	08/28/12 19:30	4,160.2	ES

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY

Project Number: TO-0010-07

Lab Number: L1215121

Report Date: 09/04/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 Batch: WG557293-2								
Total Organic Carbon	94		-		90-110	-		
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 Batch: WG557899-2								
Turbidity	102		-		90-110	-		10
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14 Batch: WG557900-2								
Solids, Total Suspended	94		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07
Lab Number: L1215121
Report Date: 09/04/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG557293-4 QC Sample: L1215121-04 Client ID: WQ-TOC-001-082312												
Total Organic Carbon	10	80	83	91		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG557293-3 QC Sample: L1215121-04 Client ID: WQ-TOC-001-082312						
Total Organic Carbon	10	11	mg/l	10		20
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 QC Batch ID: WG557899-3 QC Sample: L1215121-03 Client ID: WQ-TUR-001-082312						
Turbidity	10	10	NTU	0		10
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14 QC Batch ID: WG557900-3 QC Sample: L1215121-02 Client ID: WQ-TSS-001-082312						
Solids, Total Suspended	20.4	19.5	mg/l	5		20

Project Name: NEW BEDFORD WATER QUALITY
Project Number: TO-0010-07

Lab Number: L1215121
Report Date: 09/04/12

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
C	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1215121-01A	Amber 1000ml unpreserved	C	7	2.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1215121-01B	Amber 1000ml unpreserved	C	7	2.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1215121-02A	Plastic 1000ml unpreserved	C	7	2.9	Y	Absent	A2-TSS-160(7)
L1215121-03A	Plastic 1000ml unpreserved	C	N/A	2.9	Y	Absent	A2-TURBIDITY-180.1(2)
L1215121-04A	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1215121-04B	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1215121-05A	Amber 1000ml unpreserved	C	7	2.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1215121-05B	Amber 1000ml unpreserved	C	7	2.9	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1215121-06A	Plastic 1000ml unpreserved	B	7	2.4	Y	Absent	A2-TSS-160(7)
L1215121-07A	Plastic 1000ml unpreserved	C	N/A	2.9	Y	Absent	A2-TURBIDITY-180.1(2)
L1215121-08A	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1215121-08B	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1215121-09A	Amber 1000ml unpreserved	B	7	2.4	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1215121-09B	Amber 1000ml unpreserved	B	7	2.4	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1215121-10A	Plastic 1000ml unpreserved	B	7	2.4	Y	Absent	A2-TSS-160(7)
L1215121-11A	Plastic 1000ml unpreserved	A	N/A	2.7	Y	Absent	A2-TURBIDITY-180.1(2)
L1215121-12A	Vial H2SO4 preserved	B	N/A	2.4	Y	Absent	TOC-9060(28)
L1215121-12B	Vial H2SO4 preserved	B	N/A	2.4	Y	Absent	TOC-9060(28)
L1215121-13A	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1215121-13B	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1215121-14A	Plastic 1000ml unpreserved	A	7	2.7	Y	Absent	A2-TSS-160(7)
L1215121-15A	Plastic 1000ml unpreserved	A	N/A	2.7	Y	Absent	A2-TURBIDITY-180.1(2)
L1215121-16A	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)
L1215121-16B	Vial H2SO4 preserved	A	N/A	2.7	Y	Absent	TOC-9060(28)

*Values in parentheses indicate holding time in days

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1215121
Project Number:	TO-0010-07	**Report Date:**	09/04/12

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.
LFB	- Laboratory Fortified Blank: 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.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
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.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL 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.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
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.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
M	- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD WATER QUALITY	**Lab Number:**	L1215121
Project Number:	TO-0010-07	**Report Date:**	09/04/12

Data Qualifiers

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. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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 RL. (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 reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: NEW BEDFORD WATER QUALITY **Lab Number:** L1215121
Project Number: TO-0010-07 **Report Date:** 09/04/12

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 Analytical 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 Analytical.

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 August 3, 2012 – 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, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). 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, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. 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, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. 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 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B, 3020A, . Organic Parameters: EPA 3510C, 3630C, 3640A, 3660B, 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 6020A, 7471B, 9040B, 9045C. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9045D, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15, TO-10A, TO-13A-SIM.)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474, 9040C, 9045D. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15, TO-10A.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Non-Potable Water (Inorganic Parameters: 1312, 1631E, 180.1, 3020A, 6020A, 7470A, 9040B, 9050A, 2320B, 2540D, 2540G, SM4500H+-B. Organic Parameters: 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D .)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3051A, 6020A, 7471B, 7474 9040B, 9045C, 9060. Organic Parameters: EPA3050B, 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8270D, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via NJ-DEP.***

Refer to NJ-DEP 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, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

Certificate/Approval Program Summary

Last revised August 16, 2012 - 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, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total 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, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, 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), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8082, 8330, 8151A, 8260B, 8270C, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9030B, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

*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,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010B, 6010C, 6020, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9030B, 9040B, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082, 8082A, 8081A, 8081B, 8151A, 8330, 8270C-SIM, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 6010C, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050, 9065,1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082, 8082A, 8081A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, 2540G, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012A, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C, 3546, 3580, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7471A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 245.2, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 3501., 350.2, 353.2, 420.1, 6010B, 6010C, 6020, 6020A, 7196A, 7470A, 9010B, 9030B, 9040B, Lachat 10-107-06-2-D, NJ-EPH, 2120B, 2310B, 2320B, 2340B, 2510C, 2540B, 2540C, 3500Cr-D, 436C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330, 8015B,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010B, 6010C, 6020A, 7196A, 7471A, 7471B, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 2..08, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5035, 3540C, 3546, 3550, 3580, 3630C, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

CHAIN OF CUSTODY

PAGE ____ OF ____

ALPHA ANALYTICAL

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 #: L1215121

Client Information

Client: Woods Hole Group

Address: 81 Technology Park Dr. East Falmouth, MA 02536

Phone: 508-540-8080

Fax: 508-540-1001

Email: DWALSH@WHGRP.com

[X] These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Water Quality

Project Location: New Bedford, MA

Project #: TO-0010

Project Manager: Dave Walsh

ALPHA Quote #: —

Turn-Around Time

[X] Standard [ ] RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

[ ] FAX [X] EMAIL

[X] 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 PROTO

[ ] Yes [X] No Are MCP Analytical Methods Required?

[ ] Yes [X] No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)

[ ] Yes [X] No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ANALYSIS: Total PCB; TSS; Turbidity; Total Organic Carbon

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCB	TSS	Turbidity	Total Organic Carbon	Total # Bottles	Sample Specific Comments
1	WQ-TPC-001-082312	8/23/12	0845	SW	PBC	X					Flood Ref
2	WQ-TSS-001-082312	8/23/12	0845	SW	PBC		X				Flood Ref
3	WQ-TUR-001-082312	8/23/12	0845	SW	PBC			X			Flood Ref
4	WQ-TOC-001-082312	8/23/12	0845	SW	PBC				X		Flood Ref
5	WQ-TPC-002-082312	8/23/12	0930	SW	PBC	X					300' N
6	WQ-TSS-002-082312	8/23/12	0930	SW	PBC		X				300' N
7	~~WQ-TSS~~ WQ-TUR-002-082312	8/23/12	0930	SW	PBC			X			300' N
8	WQ-TOC-002-082312	8/23/12	0930	SW	PBC				X		300' N
9	WQ-TPC-003-082312	8/23/12	1330	SW	PBC	X					
10	WQ-TSS-003-082312	8/23/12	1330	SW	PBC		X				

Container Type	A	P	P	V
Preservative	A	A	A	D

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Patricia Curran	8/23/12 1645	[signature]	8/23/12 1645
[signature]	8/23/12 1715	[signature]	8/23/12 172
[signature]	8/23/12 1830	[signature]	8/23/12 1830

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.

FORM NO: 01-01 (rev. 18-Jan-2010)

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1215121

ALPHA ANALYTICAL
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 East 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 Water Quality
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 NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	~~Total PCB~~	~~TSS~~	Turbidity	Total Organic Carbon	Sample Specific Comments	TOTAL # BOTTLES
11	WQ-TOR-003-082312	8/23/12	1330	SW	PBC			X			
12	WQ-TOC-003-082312	8/23/12	1330	SW	PBC				X		
13	WQ-TR-004-082312	8/23/12	1415	SW	PBC	X					
14	WQ-TSS-004-082312	8/23/12	1415	SW	PBC		X				
15	WQ-TUR-004-082312	8/23/12	1415	SW	PBC			X			
16	WQ-TOC-004-082312	8/23/12	1415	SW	PBC				X		
Container Type						A	P	P	V		
Preservative						A	A	A	D		

Relinquished By:	Date/Time	Received By:	Date/Time
Patrick Curran	8/23/12 1645	[illegible]	8/23/12 1645
[illegible]	8/23/12 1715	[illegible]	8/23/12 1700
[illegible]	8/23/12 1830	[illegible]	8/23/12 1830

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.

FORM NO: 101-09 (rev. 27-SEP-10)

ANALYTICAL REPORT

Lab Number:	L1216435
Client:	Woods Hole Group 81 Technology Park Drive East Falmouth, MA 02536
ATTN:	Dack Stuart
Phone:	(508) 540-8080
Project Name:	NEW BEDFORD ENV. MONITORING
Project Number:	TO-0010-07
Report Date:	09/28/12

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), 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 ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1216435-01	WQ-TPC-001-091312	NEW BEDFORD, MA	09/13/12 09:30
L1216435-02	WQ-TUR-001-091312	NEW BEDFORD, MA	09/13/12 09:30
L1216435-03	WQ-TSS-001-091312	NEW BEDFORD, MA	09/13/12 09:30
L1216435-04	WQ-TOC-001-091312	NEW BEDFORD, MA	09/13/12 09:30
L1216435-05	WQ-TPC-002-091312	NEW BEDFORD, MA	09/13/12 10:40
L1216435-06	WQ-TUR-002-091312	NEW BEDFORD, MA	09/13/12 10:40
L1216435-07	WQ-TSS-002-091312	NEW BEDFORD, MA	09/13/12 10:40
L1216435-08	WQ-TOC-002-091312	NEW BEDFORD, MA	09/13/12 10:40
L1216435-09	WQ-TPC-003-091312	NEW BEDFORD, MA	09/13/12 13:05
L1216435-10	WQ-TUR-003-091312	NEW BEDFORD, MA	09/13/12 13:05
L1216435-11	WQ-TSS-003-091312	NEW BEDFORD, MA	09/13/12 13:05
L1216435-12	WQ-TOC-003-091312	NEW BEDFORD, MA	09/13/12 13:05
L1216435-13	WQ-TPC-004-091312	NEW BEDFORD, MA	09/13/12 13:30
L1216435-14	WQ-TUR-004-091312	NEW BEDFORD, MA	09/13/12 13:30
L1216435-15	WQ-TSS-004-091312	NEW BEDFORD, MA	09/13/12 13:30
L1216435-16	WQ-TOC-004-091312	NEW BEDFORD, MA	09/13/12 13:30

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435
Project Number: TO-0010-07 **Report Date:** 09/28/12

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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435
Project Number: TO-0010-07 **Report Date:** 09/28/12

Case Narrative (continued)

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 whether it was the higher or lower value.

Total Organic Carbon

L1216435-04, -08, -12, and -16 have elevated detection limits due to the dilution required by the sample matrix.

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: 09/28/12

ORGANICS

PCBS

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

SAMPLE RESULTS

Lab ID:	L1216435-01	Date Collected:	09/13/12 09:30
Client ID:	WQ-TPC-001-091312	Date Received:	09/14/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	09/18/12 09:13
Analytical Date:	09/18/12 20:16		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.09791		ug/l	0.00100	--	1
Cl3-BZ#18	0.16335		ug/l	0.00100	--	1
Cl5-BZ#118	0.00932		ug/l	0.00100	--	1
Cl6-BZ#138	0.00644		ug/l	0.00100	--	1
Cl7-BZ#180	0.00155		ug/l	0.00100	--	1
Cl7-BZ#170	0.00193		ug/l	0.00100	--	1
Cl8-BZ#195	ND		ug/l	0.00100	--	1
Cl9-BZ#206	ND		ug/l	0.00100	--	1
Cl10-BZ#209	ND		ug/l	0.00100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	97		30-150
BZ 198	95		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

SAMPLE RESULTS

Lab ID:	L1216435-01	Date Collected:	09/13/12 09:30
Client ID:	WQ-TPC-001-091312	Date Received:	09/14/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	09/18/12 09:13
Analytical Date:	09/18/12 20:16		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.17074		ug/l	0.00100	--	1
Cl4-BZ#52	0.16303		ug/l	0.00100	--	1
Cl4-BZ#44	0.04865		ug/l	0.00100	--	1
Cl4-BZ#66	0.02628		ug/l	0.00100	--	1
Cl5-BZ#101	0.01687		ug/l	0.00100	--	1
Cl6-BZ#153	0.00924		ug/l	0.00100	--	1
Cl5-BZ#105	0.00172		ug/l	0.00100	--	1
Cl7-BZ#187	0.00210		ug/l	0.00100	--	1
Cl6-BZ#128	0.00125		ug/l	0.00100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	97		30-150
BZ 198	95		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

SAMPLE RESULTS

Lab ID:	L1216435-05	Date Collected:	09/13/12 10:40
Client ID:	WQ-TPC-002-091312	Date Received:	09/14/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	09/18/12 09:13
Analytical Date:	09/18/12 21:00		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.09999		ug/l	0.00100	--	1
Cl3-BZ#18	0.17981		ug/l	0.00100	--	1
Cl4-BZ#66	0.03517		ug/l	0.00100	--	1
Cl5-BZ#118	0.01278		ug/l	0.00100	--	1
Cl6-BZ#138	0.00905		ug/l	0.00100	--	1
Cl7-BZ#180	0.00216		ug/l	0.00100	--	1
Cl7-BZ#170	0.00235		ug/l	0.00100	--	1
Cl8-BZ#195	ND		ug/l	0.00100	--	1
Cl9-BZ#206	ND		ug/l	0.00100	--	1
Cl10-BZ#209	ND		ug/l	0.00100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	94		30-150
BZ 198	95		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

SAMPLE RESULTS

Lab ID:	L1216435-05	Date Collected:	09/13/12 10:40
Client ID:	WQ-TPC-002-091312	Date Received:	09/14/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	09/18/12 09:13
Analytical Date:	09/18/12 21:00		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.18223		ug/l	0.00100	--	1
Cl4-BZ#52	0.19921		ug/l	0.00100	--	1
Cl4-BZ#44	0.06201		ug/l	0.00100	--	1
Cl5-BZ#101	0.02342		ug/l	0.00100	--	1
Cl6-BZ#153	0.01378		ug/l	0.00100	--	1
Cl5-BZ#105	0.00247		ug/l	0.00100	--	1
Cl7-BZ#187	0.00279		ug/l	0.00100	--	1
Cl6-BZ#128	0.00162		ug/l	0.00100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	94		30-150
BZ 198	95		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

SAMPLE RESULTS

Lab ID:	L1216435-09	Date Collected:	09/13/12 13:05
Client ID:	WQ-TPC-003-091312	Date Received:	09/14/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	09/18/12 09:13
Analytical Date:	09/18/12 21:44		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.09585		ug/l	0.00100	--	1
Cl3-BZ#18	0.19735		ug/l	0.00100	--	1
Cl6-BZ#138	0.02343		ug/l	0.00100	--	1
Cl6-BZ#128	0.00627		ug/l	0.00100	--	1
Cl7-BZ#180	0.0050		ug/l	0.00100	--	1
Cl7-BZ#170	0.00481		ug/l	0.00100	--	1
Cl8-BZ#195	ND		ug/l	0.00100	--	1
Cl9-BZ#206	ND		ug/l	0.00100	--	1
Cl10-BZ#209	ND		ug/l	0.00100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	110		30-150
BZ 198	101		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

SAMPLE RESULTS

Lab ID:	L1216435-09	Date Collected:	09/13/12 13:05
Client ID:	WQ-TPC-003-091312	Date Received:	09/14/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	09/18/12 09:13
Analytical Date:	09/18/12 21:44		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.19710		ug/l	0.00100	--	1
Cl4-BZ#52	0.18868		ug/l	0.00100	--	1
Cl4-BZ#44	0.07104		ug/l	0.00100	--	1
Cl4-BZ#66	0.05937		ug/l	0.00100	--	1
Cl5-BZ#101	0.04311		ug/l	0.00100	--	1
Cl5-BZ#118	0.03239		ug/l	0.00100	--	1
Cl6-BZ#153	0.03042		ug/l	0.00100	--	1
Cl5-BZ#105	0.00740		ug/l	0.00100	--	1
Cl7-BZ#187	0.00647		ug/l	0.00100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	110		30-150
BZ 198	101		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

SAMPLE RESULTS

Lab ID:	L1216435-13	Date Collected:	09/13/12 13:30
Client ID:	WQ-TPC-004-091312	Date Received:	09/14/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	09/18/12 09:13
Analytical Date:	09/18/12 22:28		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl2-BZ#8	0.08495		ug/l	0.00100	--	1
Cl3-BZ#18	0.16694		ug/l	0.00100	--	1
Cl6-BZ#138	0.01674		ug/l	0.00100	--	1
Cl7-BZ#180	0.00359		ug/l	0.00100	--	1
Cl8-BZ#195	ND		ug/l	0.00100	--	1
Cl9-BZ#206	ND		ug/l	0.00100	--	1
Cl10-BZ#209	ND		ug/l	0.00100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	93		30-150
BZ 198	96		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

SAMPLE RESULTS

Lab ID:	L1216435-13	Date Collected:	09/13/12 13:30
Client ID:	WQ-TPC-004-091312	Date Received:	09/14/12
Sample Location:	NEW BEDFORD, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	09/18/12 09:13
Analytical Date:	09/18/12 22:28		
Analyst:	JW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
Cl3-BZ#28	0.17910		ug/l	0.00100	--	1
Cl4-BZ#52	0.15237		ug/l	0.00100	--	1
Cl4-BZ#44	0.05992		ug/l	0.00100	--	1
Cl4-BZ#66	0.04686		ug/l	0.00100	--	1
Cl5-BZ#101	0.03257		ug/l	0.00100	--	1
Cl5-BZ#118	0.02297		ug/l	0.00100	--	1
Cl6-BZ#153	0.02211		ug/l	0.00100	--	1
Cl5-BZ#105	0.00531		ug/l	0.00100	--	1
Cl7-BZ#187	0.00464		ug/l	0.00100	--	1
Cl6-BZ#128	0.00307		ug/l	0.00100	--	1
Cl7-BZ#170	0.00362		ug/l	0.00100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	93		30-150
BZ 198	96		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 09/18/12 17:22
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 09/18/12 09:13

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13 Batch: WG561391-1					
Cl2-BZ#8	ND		ug/l	0.00100	--
Cl3-BZ#18	ND		ug/l	0.00100	--
Cl3-BZ#28	ND		ug/l	0.00100	--
Cl4-BZ#52	ND		ug/l	0.00100	--
Cl4-BZ#44	ND		ug/l	0.00100	--
Cl4-BZ#66	ND		ug/l	0.00100	--
Cl5-BZ#101	ND		ug/l	0.00100	--
Cl5-BZ#118	ND		ug/l	0.00100	--
Cl5-BZ#105	ND		ug/l	0.00100	--
Cl6-BZ#138	ND		ug/l	0.00100	--
Cl7-BZ#187	ND		ug/l	0.00100	--
Cl6-BZ#128	ND		ug/l	0.00100	--
Cl7-BZ#180	ND		ug/l	0.00100	--
Cl7-BZ#170	ND		ug/l	0.00100	--
Cl8-BZ#195	ND		ug/l	0.00100	--
Cl9-BZ#206	ND		ug/l	0.00100	--
Cl10-BZ#209	ND		ug/l	0.00100	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	98		30-150
BZ 198	101		30-150

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 09/18/12 17:22
Analyst: JW

Extraction Method: EPA 3510C
Extraction Date: 09/18/12 09:13

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01,05,09,13 Batch: WG561391-1					
Cl6-BZ#153	ND		ug/l	0.00100	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	98		30-150
BZ 198	101		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING

Project Number: TO-0010-07

Lab Number: L1216435

Report Date: 09/28/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG561391-2 WG561391-3								
Cl2-BZ#8	89		88		40-140	1		30
Cl3-BZ#18	87		88		40-140	0		30
Cl3-BZ#28	99		99		40-140	0		30
Cl4-BZ#52	93		92		40-140	1		30
Cl4-BZ#44	95		94		40-140	1		30
Cl4-BZ#66	99		98		40-140	2		30
Cl5-BZ#101	94		93		40-140	1		30
Cl5-BZ#118	110		108		40-140	2		30
Cl5-BZ#105	110		110		40-140	0		30
Cl6-BZ#138	106		106		40-140	0		30
Cl7-BZ#187	101		101		40-140	0		30
Cl6-BZ#128	106		107		40-140	1		30
Cl7-BZ#180	98		100		40-140	2		30
Cl7-BZ#170	102		105		40-140	3		30
Cl8-BZ#195	104		104		40-140	0		30
Cl9-BZ#206	105		110		40-140	5		30
Cl10-BZ#209	99		99		40-140	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING

Project Number: TO-0010-07

Lab Number: L1216435

Report Date: 09/28/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG561391-2 WG561391-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	100		98		30-150
BZ 198	106		106		30-150

PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01,05,09,13 Batch: WG561391-2 WG561391-3								
Cl6-BZ#153	103		103		40-140	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
DBOB	100		98		30-150
BZ 198	106		106		30-150

INORGANICS
&
MISCELLANEOUS

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-02
Client ID: WQ-TUR-001-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 09:30
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	2.6		NTU	0.40	--	1	-	09/13/12 19:00	8,180.1	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-03
Client ID: WQ-TSS-001-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 09:30
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	68.0		mg/l	1.00	NA	1	-	09/20/12 16:00	4,160.2	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-04
Client ID: WQ-TOC-001-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 09:30
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	5.0	--	10	-	09/27/12 07:50	1,9060	DW

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-06
Client ID: WQ-TUR-002-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 10:40
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	3.3		NTU	0.40	--	1	-	09/13/12 19:00	8,180.1	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-07
Client ID: WQ-TSS-002-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 10:40
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	40.7		mg/l	1.00	NA	1	-	09/20/12 16:00	4,160.2	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-08
Client ID: WQ-TOC-002-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 10:40
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	5.0	--	10	-	09/27/12 07:50	1,9060	DW

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-10
Client ID: WQ-TUR-003-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 13:05
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	7.1		NTU	0.40	--	1	-	09/13/12 19:00	8,180.1	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-11
Client ID: WQ-TSS-003-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 13:05
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	48.7		mg/l	1.00	NA	1	-	09/20/12 16:00	4,160.2	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-12
Client ID: WQ-TOC-003-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 13:05
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	5.0	--	10	-	09/27/12 07:50	1,9060	DW

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-14
Client ID: WQ-TUR-004-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 13:30
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Turbidity	5.2		NTU	0.40	--	1	-	09/13/12 19:00	8,180.1	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-15
Client ID: WQ-TSS-004-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 13:30
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total Suspended	58.3		mg/l	1.00	NA	1	-	09/20/12 16:00	4,160.2	SP

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

SAMPLE RESULTS

Lab ID: L1216435-16
Client ID: WQ-TOC-004-091312
Sample Location: NEW BEDFORD, MA
Matrix: Water

Date Collected: 09/13/12 13:30
Date Received: 09/14/12
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Total Organic Carbon	ND		mg/l	5.0	--	10	-	09/27/12 07:50	1,9060	DW

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435

Project Number: TO-0010-07 **Report Date:** 09/28/12

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 02,06,10,14 Batch: WG560935-3										
Turbidity	ND		NTU	0.40	--	1	-	09/13/12 19:00	8,180.1	SP
General Chemistry - Mansfield Lab for sample(s): 03,07,11,15 Batch: WG562084-1										
Solids, Total Suspended	ND		mg/l	1.00	NA	1	-	09/20/12 16:00	4,160.2	SP
General Chemistry - Westborough Lab for sample(s): 04,08,12,16 Batch: WG563547-1										
Total Organic Carbon	ND		mg/l	0.50	--	1	-	09/27/12 07:50	1,9060	DW

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING

Project Number: TO-0010-07

Lab Number: L1216435

Report Date: 09/28/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14 Batch: WG560935-2								
Turbidity	103		-		90-110	-		10
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 Batch: WG562084-2								
Solids, Total Suspended	89		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 Batch: WG563547-2								
Total Organic Carbon	91		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07
Lab Number: L1216435
Report Date: 09/28/12

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG563547-4 QC Sample: L1216998-07 Client ID: MS Sample												
Total Organic Carbon	150	256	410	102		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 02,06,10,14 QC Batch ID: WG560935-1 QC Sample: L1216435-02 Client ID: WQ-TUR-001-091312						
Turbidity	2.6	2.6	NTU	0		10
General Chemistry - Mansfield Lab Associated sample(s): 03,07,11,15 QC Batch ID: WG562084-3 QC Sample: L1216435-03 Client ID: WQ-TSS-001-091312						
Solids, Total Suspended	68.0	66.5	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 04,08,12,16 QC Batch ID: WG563547-3 QC Sample: L1216998-05 Client ID: DUP Sample						
Total Organic Carbon	11	11	mg/l	0		20

Project Name: NEW BEDFORD ENV. MONITORING
Project Number: TO-0010-07

Lab Number: L1216435
Report Date: 09/28/12

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(*)
L1216435-01A	Amber 1000ml unpreserved	A	7	2.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1216435-01B	Amber 1000ml unpreserved	A	7	2.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1216435-02A	Plastic 1000ml unpreserved	A	N/A	2.2	Y	Absent	A2-TURBIDITY-180.1(2)
L1216435-03A	Plastic 1000ml unpreserved	A	7	2.2	Y	Absent	A2-TSS-160(7)
L1216435-04A	Vial H2SO4 preserved	A	N/A	2.2	Y	Absent	TOC-9060(28)
L1216435-04B	Vial H2SO4 preserved	A	N/A	2.2	Y	Absent	TOC-9060(28)
L1216435-05A	Amber 1000ml unpreserved	A	7	2.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1216435-05B	Amber 1000ml unpreserved	A	7	2.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1216435-06A	Plastic 1000ml unpreserved	A	N/A	2.2	Y	Absent	A2-TURBIDITY-180.1(2)
L1216435-07A	Plastic 1000ml unpreserved	A	7	2.2	Y	Absent	A2-TSS-160(7)
L1216435-08A	Vial H2SO4 preserved	A	N/A	2.2	Y	Absent	TOC-9060(28)
L1216435-08B	Vial H2SO4 preserved	A	N/A	2.2	Y	Absent	TOC-9060(28)
L1216435-09A	Amber 1000ml unpreserved	A	7	2.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1216435-09B	Amber 1000ml unpreserved	A	7	2.2	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1216435-10A	Plastic 1000ml unpreserved	A	N/A	2.2	Y	Absent	A2-TURBIDITY-180.1(2)
L1216435-11A	Plastic 1000ml unpreserved	A	7	2.2	Y	Absent	A2-TSS-160(7)
L1216435-12A	Vial H2SO4 preserved	B	N/A	2.3	Y	Absent	TOC-9060(28)
L1216435-12B	Vial H2SO4 preserved	B	N/A	2.3	Y	Absent	TOC-9060(28)
L1216435-13A	Amber 1000ml unpreserved	B	7	2.3	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1216435-13B	Amber 1000ml unpreserved	B	7	2.3	Y	Absent	A2-PCBCONG-8082-NOAA(7)
L1216435-14A	Plastic 1000ml unpreserved	B	N/A	2.3	Y	Absent	A2-TURBIDITY-180.1(2)
L1216435-15A	Plastic 1000ml unpreserved	B	7	2.3	Y	Absent	A2-TSS-160(7)
L1216435-16A	Vial H2SO4 preserved	B	N/A	2.3	Y	Absent	TOC-9060(28)
L1216435-16B	Vial H2SO4 preserved	B	N/A	2.3	Y	Absent	TOC-9060(28)

*Values in parentheses indicate holding time in days

Project Name:	NEW BEDFORD ENV. MONITORING	**Lab Number:**	L1216435
Project Number:	TO-0010-07	**Report Date:**	09/28/12

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.
LFB	- Laboratory Fortified Blank: 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.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
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.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL 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.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

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. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
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.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
M	- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

Report Format: Data Usability Report

Project Name:	NEW BEDFORD ENV. MONITORING	**Lab Number:**	L1216435
Project Number:	TO-0010-07	**Report Date:**	09/28/12

Data Qualifiers

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. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. 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 RL. (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 reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: NEW BEDFORD ENV. MONITORING **Lab Number:** L1216435
Project Number: TO-0010-07 **Report Date:** 09/28/12

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 Analytical 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 Analytical.

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 August 3, 2012 – 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, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). 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, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. 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, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. 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 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B, 3020A, . Organic Parameters: EPA 3510C, 3630C, 3640A, 3660B, 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 6020A, 7471B, 9040B, 9045C. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9045D, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15, TO-10A, TO-13A-SIM.)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474, 9040C, 9045D. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15, TO-10A.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Non-Potable Water (Inorganic Parameters: 1312, 1631E, 180.1, 3020A, 6020A, 7470A, 9040B, 9050A, 2320B, 2540D, 2540G, SM4500H+-B. Organic Parameters: 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D .)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3051A, 6020A, 7471B, 7474 9040B, 9045C, 9060. Organic Parameters: EPA3050B, 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8270D, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via NJ-DEP.***

Refer to NJ-DEP 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, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

Certificate/Approval Program Summary

Last revised August 16, 2012 - 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, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total 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, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, 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), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 2540C, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, 9010B, 9040B, 9030B, 7470A, 7196A, 2340B, EPA 200.7, 6010B, 200.8, 6020, 245.1, 1311, 1312, 3005A, Enterolert, 9223D, 9222D. Organic Parameters: 608, 624, 625, 8081A, 8082, 8330, 8151A, 8260B, 8270C, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014A, 9030B, 9040B, 9045C, 6010B, 7471A, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260B, 8270C, 8330, 8151A, 8081A, 8082, 3540C, 3546, 3580A, 3630C, 5030B, 5035.)

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, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)
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,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010B, 6010C, 6020, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9030B, 9040B, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260B, 8270C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082, 8082A, 8081A, 8081B, 8151A, 8330, 8270C-SIM, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 6010C, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050, 9065,1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3630C, 5030B, 5035, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082, 8082A, 8081A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500Cl-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 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, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, 2540G, EPA 120.1, SM2510B, SM2520B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9014, 9012A, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6010C, 6020, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 3015, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 625, 608, 8081A, 8081B, 8151A, 8330, 8082, 8082A, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, EPA 6010B, 6010C, 7196A, 7471A, 7471B, 9012A, 9014, 9065, 9050A, EPA 1311, 1312, 3005A, 3050B, 9010B, 9040C, 9045D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8015B, 8015C, 8081A, 8081B, 8151A, 8330, 8082 8082A, 3540C, 3546, 3580, 3580A, 5030B, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7471A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: 200.7, 200.8, 245.2, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 3501., 350.2, 353.2, 420.1, 6010B, 6010C, 6020, 6020A, 7196A, 7470A, 9010B, 9030B, 9040B, Lachat 10-107-06-2-D, NJ-EPH, 2120B, 2310B, 2320B, 2340B, 2510C, 2540B, 2540C, 3500Cr-D, 436C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8330, 8015B,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010B, 6010C, 6020A, 7196A, 7471A, 7471B, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3630C, 5035, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260B, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NJ-DEP.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commisson on Environmental Quality Certificate/Lab ID: T104704476-09-1. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S2¯D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.2, 2320B, 4500F-C, 4500F-C, 4500NO3-F, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 2..08, 245.1, 300.0, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 9010B, 9040B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9030B, 9010B, 9012A, 9014 9040B, 9045C, 9050A, 9065. Organic Parameters: EPA 5035, 3540C, 3546, 3550, 3580, 3630C, 8260B, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.
Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1. 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:
EPA 8260B: Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnapthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, Chloride in a soil matrix, TKN in a soil matrix, NO2 in a soil matrix, NO3 in a soil matrix, SO4 in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1216435

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
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Env. Monitoring
Project Location: New Bedford, MA
Project #: TO-0010-07
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:
Project-Specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
1	WQ-TPC-001-091312	9/13/12	9:30	SW	DS	X				Ebb Ref	2
2	WQ-TUR-001-091312						X				1
3	WQ-TSS-001-091312							X			1
4	WQ-TOC-001-091312								X		2
5	WQ-TPC-002-091312		10:40			X				Ebb sample	2
6	WQ-TUR-002-091312						X				1
7	WQ-TSS-002-091312							X			1
8	WQ-TOC-002-091312								X		2
9	WQ-TPC-003-091312		13:05							Flood Ref	2
10	WQ-TUR-003-091312										1

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Stuart	9/14/11 10:15	[illegible]	9/14/12 1015
[illegible]	9/14/12 1405	[illegible]	9/14/12 1405

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.

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab:

ALPHA Job #: L1216435

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
East Falmouth, MA 02536
Phone: 508-540-8080
Fax: 508-540-1001
Email: DSTUART@WHGRP.COM

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Project Location: New Bedford, MA
Project #: TO-0010-07
Project Manager: Dave Walsh
ALPHA Quote #:

Turn-Around Time

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Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

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PLEASE NOTE
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ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs	Turbidity	TSS	TOC	Sample Specific Comments	Total # Bottles
11	WQ-TSS-003-091312	9/13/12	13:05	SW	DS			X		Flood Rep	1
12	WQ-TOC-003-091312	↓	↓	↓	↓				X	↓	2
13	WQ-TPC-004-091312	↓	13:30	↓	↓	X				Flood sample	3
14	WQ-TUR-004-091312	↓	↓	↓	↓		X			↓	1
	~~WQ-TSS-091312~~										
15	WQ-TSS-004-091312	↓	13:30	↓	↓			X		↓	1
16	WQ-TOC-004-091312	↓	↓	↓	↓				X	↓	2

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	9/14/12 1015	[signature]	9/14/12 1015
[signature]	9/14/12 1405	[signature]	9/14/12 1405

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.

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 2

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Project Information

Project Name: New Bedford Env. Monitoring
Project Location: New Bedford, MA
Project #: TO-0001d-07
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:
Project-Specific EDD

PLEASE NOTE
MS/MSD (at unit cost) will be omitted unless you check here: ☐

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	~~Total PCBs~~	~~Turbidity~~	~~TSS~~	TOC	Sample Specific Comments	Total # Bottles
1	WQ-TPC-001-091312	9/13/12	9:30	SW	DS	X				Ebb Ref	2
2	WQ-TUR-001-091312						X				1
3	WQ-TSS-001-091312							X			1
4	WQ-TOC-001-091312								X		2
5	WQ-TPC-002-091312		10:40			X				Ebb sample	2
6	WQ-TUR-002-091312						X				1
7	WQ-TSS-002-091312							X			1
8	WQ-TOC-002-091312								X		2
9	WQ-TPC-003-091312		13:05							Flood Ref	2
10	WQ-TUR-003-091312										1

Container Type	A	P	P	V
Preservative	A	A	A	D

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

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
[illegible]	9/14/11 10:15	[illegible]	9/14/12 1015
[illegible]	9/14/12 1405	[illegible]	9/14/12 1405
[illegible]	9/14/12 1540	[illegible]	9/14/12 1635
[illegible]	9/14/12 1740	[illegible]	9/14/12 1740

FORM NO: 101-09 (rev. 27-SEP-10)

MANSFIELD CHAIN OF CUSTODY

PAGE 2 OF 2

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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

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☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: New Bedford Eur Monitoring

Project Location: New Bedford, MA

Project #: TO-0010-07

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:

Project-Specific EDD

PLEASE NOTE

MS/MSD (at unit cost) will be omitted unless you check here: ☐

ANALYSIS: Total PCBs, Total Metals, TSS, TOC

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 Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs	Total Metals	TSS	TOC	Sample Specific Comments	TOTAL # BOTTLES
11	WQ-TSS-003-091312	9/13/12	13:05	SW	DS			X		Flood Rep	1
12	WQ-TOC-003-091312	↓	↓	↓	↓				X	↓	2
13	WQ-TPC-004-091312	↓	13:30	↓	↓	X		↓	↓	Flood sample	3
14	WQ-TMR-004-091312	↓	↓	↓	↓	↓	X	↓	↓	↓	1
	~~WQ-TSS-091312~~										
15	WQ-TSS-004-091312	↓	13:30	↓	↓	↓	↓	X	↓	↓	1
16	WQ-TOC-004-091312	↓	↓	↓	↓	↓	↓	↓	X	↓	2

Container Type	A	P	P	V
Preservative	A	A	A	D

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Stuart	9/14/12 1015	[illegible]	9/14/12 1015
[illegible]	9/14/12 1405	[illegible]	9/14/12 1405
[illegible]	9/14/12 1540	[illegible]	9/14/12 1635
T. [illegible]	9/14/12 1740	Tom [illegible]	9/14/12 1740

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.

FORM NO: 101-09 (rev. 27-SEP-10)

SDMS REPOSITORY TARGET SHEET

US EPA New England
Superfund Document Management System /
RCRA Document Management System
Native Files Target Sheet

SDMS Document ID #:_540300_____

Site Name: _New Bedford_____

File Type(s) Attached (examples: Excel file or .jpg):

_.csv_____

Document Type this Target Sheet Represents:

[ ] Map [ ] Photograph [ ] Graph/Chart

[ ] Video [ ] Compact Disc [X] Other (Specify below)

Description or Comments:
_Spreadsheets for Alpha Analytical Laboratory Reports_____
_____

To view the attached files, open the "Attachment Panel"

by clicking the paper clip - - in the left side panel of this window.

** Please note to view attachments the software corresponding with the specified file type is necessary. **

For any additional assistance please contact the EPA New England Office of Site Remediation and Restoration Records and Information Center-
Telephone (617) 918 1440

APPENDIX D. ENVIROSYSTEMS, INC. LABORATORY REPORTS

(See Electronic Attachment)

TABLE OF CONTENTS

Introduction D-1

Reference # 22301 (SDG L1211368) D-2

Reference # 22302 (SDG L1211486) D-48

INTRODUCTION

Toxicity samples were analyzed at Envirosystems, Inc. (ESI) laboratories. Each batch of samples was assigned a reference number upon receipt at ESI. Below is a table summarizing which ESI reference numbers are associated with each sampling event and Alpha Analytical SDG number.

ESI Reference Number	Sampling Event	SDG
22301	Level I - Startup	L1211368
22302	Level I - Startup	L1211486

This Appendix document includes the ESI laboratory reports only. This document and its constituent reports are included as electronic attachments on the accompanying CD.

Biomonitoring of Surface Water Samples
New Bedford Harbor, New Bedford, Massachusetts

June 26, 2012 Sampling Event
NED ACOE Task Order Number: TO-0010-07

1.0 INTRODUCTION

This report provides a summary of data generated from acute and chronic exposure assays evaluating surface water samples collected from New Bedford Harbor in New Bedford, Massachusetts. Toxicity tests were conducted on four grab surface water samples collected on June 26, 2012 from specified areas in the harbor. Samples were collected in the vicinity of dredging operations under the supervision of Woods Hole Group, Inc. personnel from the East Falmouth, Massachusetts office and were evaluated "As Received" without additional dilutions. Testing was based on programs and protocols developed by the US EPA (2002) and included the following assays; 48 hour acute and 7 day chronic assays conducted with the mysid shrimp, *Americamysis bahia*, and 60 minute chronic fertilization assays conducted with the purple sea urchin, *Arbacia punctulata*. Assay design included a laboratory control treatment. All 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. See Section 4.0 for a list of references.

2.2 Test Species

A. bahia were obtained from cultures maintained by Aquatic Research Organisms (ARO), Hampton, New Hampshire. At the start of the assays the mysids were <5 days old for the acute evaluation and 7 days old for the chronic evaluation. Juveniles were fed ≤24 hour old brine shrimp on a daily basis. Water temperature, salinity, and pH were monitored on a daily basis. Organisms were 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.

2.3 Surface Water Samples and Laboratory Control Water

Four grab surface water samples were collected by Woods Hole Group, Inc. staff on June 26, 2012 in New Bedford Harbor. Samples were placed in 10 L polyethylene cubitainers for shipment to the laboratory. Sample receipt information is shown in Table 1.

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). When necessary, the salinity of samples for the *A. bahia* assays were adjusted to 25±2‰ while samples used for the *A. punctulata* assays were adjusted to 30±2‰ using commercial sea salts. Samples with "as received" salinity above these levels or within ±2‰ of either 30‰ or 25‰ were not adjusted. A summary of "As Received" data are presented 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.

2.4 Bioassays

2.4.1 *Americamysis bahia* Acute Exposure Bioassay

The endpoint for the 48 hour *A. bahia* bioassay was survival (acute). The static acute toxicity test was conducted at 25±1°C with a photoperiod of 16:8 hours light:dark. Test chambers for the acute assay 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 all replicates and pH, temperature, and salinity were measured daily in one replicate of each test treatment. Specific conductance was measured in one replicate of each test concentration at the start of the assay. Mysids were fed ≤24 hour old *Artemia* nauplii during the assay.

2.4.2 *Americamysis bahia* Chronic Exposure Bioassay

Endpoints for the 7 day *A. bahia* bioassays were survival and growth. Chronic exposure screening assays were conducted in a static renewal test mode with renewals made at 24-hour intervals. The assays were conducted at a temperature of 25±1°C with a photoperiod of 16:8 hours light:dark. Mysids were maintained in 300 mL beakers containing 200 mL of test solution. Approximately 150 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 daily from a single replicate of the "old" test solution. All water quality parameters were recorded from a single replicate of the "new" test solution. 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 104°C. Foils were weighed to the nearest 0.01 mg. Mean dry biomass 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.

2.4.3 *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.

2.5 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 $\propto$ <0.05. The laboratory control was used for both assays to determine whether there were significant reductions in survival or fertilization as compared to the site samples. If survival in the acute assay was greater than 90%, then a determination of "not significant" was made based on direct observation.

2.6 Quality Control

As part of the laboratory quality control program, standard reference toxicant assays are completed on a regular basis for each test species. These results, summarized in Table 3, provide relative health and response data while allowing for comparison with historic data sets.

3.0 RESULTS SUMMARY

Tables 4 and 5 provide summaries of survival, growth and fertilization endpoints and associated statistical analyses for *A. bahia* and *A. punctulata* for the June 26, 2012 sampling events. Support data, including copies of laboratory bench sheets, are provided in Appendix A.

3.1 *Americamysis bahia* Acute Exposure Bioassay

Minimum test acceptability criteria for the acute exposure bioassay require ≥90% survival in the control concentration. Achievement of these results indicate that healthy test organisms were used. See Table 4 for test acceptability and data summary.

3.2 *Americamysis bahia* Chronic Exposure Bioassay

Minimum test acceptability criteria for the chronic exposure bioassay require ≥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 5 for test acceptability and data summary.

3.3 *Arbacia punctulata* Chronic Fertilization Bioassay

Protocol specifies a 70% to 90% fertilization rate for *Arbacia punculata* (EPA 2002). Achievement of these results indicate that healthy test organisms were used. See Table 5 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 Dredge Monitoring. June 26, 2012.

Field ID	ESI Code	Type of Sample	Matrix	Collection		Receipt	
				Date	Time	Date	Time
WQ-TOX-001-062612	22301-001	Grab	Water	06/26/12	0915	06/26/12	1950
WQ-TOX-002-062612	22301-002	Grab	Water	06/26/12	1035	06/26/12	1950
WQ-TOX-003-062612	22301-003	Grab	Water	06/26/12	1410	06/26/12	1950
WQ-TOX-004-062612	22301-004	Grab	Water	06/26/12	1425	06/26/12	1950

Table 2. Summary of "As Received" Sample Physical and Chemical Characteristics.
New Bedford Harbor Dredge Monitoring. June 26, 2012.

Field ID	ESI Code	Ammonia* (mg/L)	pH (SU)	Salinity (‰)	Total Residual Chlorine (mg/L)
WQ-TOX-001-062612	22301-001	0.13	7.61	30	<0.02
WQ-TOX-002-062612	22301-002	0.13	7.61	30	<0.02
WQ-TOX-003-062612	22301-003	0.1	7.64	29	<0.02
WQ-TOX-004-062612	22301-004	<0.1	7.80	30	<0.02

COMMENTS:
* Ammonia samples were sub-sampled at ESI on June 27, 2012.

Table 3. Reference Toxicant Summary.
New Bedford Harbor Dredge Monitoring. June 26, 2012.

Date	Endpoint		Value	Historic Mean/ Central Tendency	Acceptable Range	Reference Toxicant
A. bahia						
06/27/12	Survival	LC-50 - 48 Hr	23.3	21.3	15.7 - 26.9	SDS (mg/L)
06/27/12	Survival	C-NOEC	15.0	15.0	10.0 - 25.0	SDS (mg/L)
06/27/12	Growth	C-NOEC	15.0	10.0	5.0 - 15.0	SDS (mg/L)
A. punctulata						
06/27/12	Fertilization	C-NOEC	<1**	10.0	5.0 - 20.0	Copper (µg/L)
06/27/12	Fertilization	IC-25	8.5	31.2	0 - 71.4	Copper (µg/L)

Mean and Acceptable Ranges based on most recent 20 reference toxicant assays (NELAP standard)

** Normal Acceptance Limits for the NOEC endpoint are set at ±1 concentration surrounding the central tendency. The NOEC for this series of reference toxicant assays is outside of acceptable range. However, as the IC-25 endpoint for the assay was within the acceptable limits of ±2 Standard Deviations of historic mean the reference toxicant evaluation was considered to be acceptable.

Table 4. Summary of Acute Exposure Assay: *A. bahia*.
New Bedford Harbor Dredge Monitoring. June 26, 2012.

Field ID	ESI Code	Percent Survival	Significant Difference vs. Lab?
Laboratory Control	22301-000	90.0%	-
WQ-TOX-001-062612	22301-001	100.0%	No
WQ-TOX-002-062612	22301-002	97.5%	No
WQ-TOX-003-062612	22301-003	97.5%	No
WQ-TOX-004-062612	22301-004	97.5%	No

Table 5. Summary of Chronic Exposure Assays: *A. bahia* and *A. punctulata*. **New Bedford Harbor Dredge Monitoring. June 26, 2012.**

Sample ID	ESI Code	Reps	Mean	Min	Max	CV	Significant Difference vs Lab?
Americamysis bahia				Survival			
Laboratory Control	22301-000		92.5%	80.0%	100.0%	11.2%	-
WQ-TOX-001-062612	22301-001		92.5%	80.0%	100.0%	11.2%	No
WQ-TOX-002-062612	22301-002	8	85.0%	60.0%	100.0%	20.9%	No
WQ-TOX-003-062612	22301-003		87.5%	80.0%	100.0%	11.8%	No
WQ-TOX-004-062612	22301-004		82.5%	60.0%	100.0%	20.2%	No
Americamysis bahia				Growth - Biomass			
Laboratory Control	22301-000		0.359	0.266	0.416	13.5%	-
WQ-TOX-001-062612	22301-001		0.390	0.342	0.462	11.5%	No
WQ-TOX-002-062612	22301-002	8	0.331	0.230	0.402	21.4%	No
WQ-TOX-003-062612	22301-003		0.393	0.246	0.498	18.9%	No
WQ-TOX-004-062612	22301-004		0.379	0.260	0.500	26.4%	No
Americamysis bahia				Growth - Dry Weight			
Laboratory Control	22301-000	8	0.392	0.266	0.470	16.6%	-
Arbacia punctulata				Portion Fertilized			
Laboratory Control	22301-000		93.7%	92.6%	95.0%	1.3%	-
WQ-TOX-001-062612	22301-001		71.8%	67.0%	78.0%	7.2%	Yes
WQ-TOX-002-062612	22301-002	4	64.3%	59.0%	67.3%	6.0%	Yes
WQ-TOX-003-062612	22301-003		67.5%	63.0%	76.0%	8.8%	Yes
WQ-TOX-004-062612	22301-004		62.0%	60.0%	66.0%	4.6%	Yes

APPENDIX A

SUPPORT DATA

Contents	# Pages
Methods Summary	1
Study 22301: Sample Date June 26, 2012	
A. bahia Bench Sheets & Statistical Analysis Report and Organisms Culture Sheets	22
A. punctulata Bench Sheets and Statistical Analysis Report	7
Water Quality Bench Sheets, Dilution Prep Sheets and Meter Use Records	6
Analytical Chemistry Report	1
Sample Receipt Records	1
Chain of Custody and Organism Shipping Information	1
Total Appendix Pages	39

METHODS USED IN NPDES PERMIT BIOMONITORING TESTING

Parameter	Method
Acute Exposure Bioassays:	
Ceriodaphnia dubia	EPA-821-R-02-012 2002.0
Daphnia pulex	EPA-821-R-02-012 2021.0
Pimephales promelas	EPA-821-R-02-012 2000.0
Americamysis bahia	EPA-821-R-02-012 2007.0
Menidia beryllina	EPA-821-R-02-012 2006.0
Cyprinodon variegatus	EPA-821-R-02-012 2004.0
Chronic Exposure Bioassays:	
Ceriodaphnia dubia	EPA-821-R-02-013 1002.0
Pimephales promelas	EPA-821-R-02-013 1000.0
Cyprinodon variegatus	EPA-821-R-02-014 1004.0
Menidia beryllina	EPA-821-R-02-014 1006.0
Americamysis bahia	EPA-821-R-02-014 1007.0
Arbacia punctulata	EPA-821-R-02-014 1008.0
Champia parvula	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 20th Edition - Method 2340 B
Wet Chemistries:	
Alkalinity	EPA 310.2
Chlorine, Residual	Standard Methods 20th Edition - Method 4500CLD
Total Organic Carbon	Standard Methods 20th Edition - Method 5310C
Specific Conductance	Standard Methods 20th Edition - Method 2510B
Nitrogen - Ammonia	Standard Methods 20th Edition - Method 4500NH3G
pH	Standard Methods 20th Edition - Method 4500H+B
Solids, Total (TS)	Standard Methods 20th Edition - Method 2540 B
Solids, Total Dissolved (TDS)	Standard Methods 20th Edition - Method 2540 C
Solids, Total Suspended (TSS)	Standard Methods 20th Edition - Method 2540 D
Dissolved Oxygen	Standard Methods 20th Edition - Method 4500-O G

Please visit our web site at www.envirosystems.com for a copy of our NH NELAP Accreditation and Massachusetts State Certification.

25±2ppt

ACUTE BIOASSAY DATA SUMMARY

STUDY: 22301

CLIENT: Woods Hole Group

TEST ORGANISM: *A. bahia*

SAMPLE: New Bedford Harbor

ORGANISM SUPPLIER/BATCH/AGE: *See Organism Culture Sheet*

"AS RECEIVED" EFFLUENT AND DILUENT CHEMISTRIES

	TRC	TS/TSS	AMM	TOC	T.METAL	SAL	pH	S/C
EFF	<0.02					See	As Received	
DIL	/					Bench sheet		

CONC	REP	SURVIVAL 0	SURVIVAL 24	SURVIVAL 48	DO (mg/L) 0	DO (mg/L) 24	DO (mg/L) 48	pH (SU) 0	pH (SU) 24	pH (SU) 48	TEMP (°C) 0	TEMP (°C) 24	TEMP (°C) 48	SALINITY (ppt) 0	SALINITY (ppt) 24	SALINITY (ppt) 48	S/C (µmhos/cm) 0
LAB	A	10	10	10	7.51	6.0	6.2	8.16	7.78	7.73	25	25	24	30	29	30	45500
	B	10	7	7	7.1	6.3	6.4										
	C	10	10	9	7.1	6.8	6.2										
	D	10	10	10	7.1	6.9	6.4										
-001	A	10	10	10	6.70	6.8	6.5	7.59	7.75	7.77	25	25	24	30	30	31	46400
	B	10	10	10	6.0	6.7	6.5										
	C	10	10	10	6.0	6.7	6.6										
	D	10	10	10	6.0	6.9	6.7										
-002	A	10	10	10	5.96	6.9	6.7	7.55	7.76	7.80	25	25	24	30	30	30	46100
	B	10	9	9	5.6	7.0	6.8										
	C	10	10	10	5.6	6.9	6.9										
	D	10	10	10	5.6	6.9	6.8										
-003	A	10	10	10	~~6.2~~ 5.6	6.9	6.9	7.57	7.77	7.77	25	25	24	29	29	30	44580
	B	10	9	9	5.6	6.8	6.8										
	C	10	10	10	5.6	6.8	6.7										
	D	10	10	10	5.6	6.7	6.7										
DATE		6/27/12	6/28	6/29	6/27/12	6/28	6/29										
TIME		1635	1615	1510	1615	1555	1600										
INITIALS		CS	LB	CS	[illegible]	LB	CS										

ACUTE BIOASSAY DATA SUMMARY

STUDY: 22301 | SAMPLE: New Bedford Harbor

CLIENT: Woods Hole Group | TEST ORGANISM: *A. bahia*

CONC	REP	SURVIVAL 0	SURVIVAL 24	SURVIVAL 48	DO (mg/L) 0	DO (mg/L) 24	DO (mg/L) 48	pH (SU) 0	pH (SU) 24	pH (SU) 48	TEMP (°C) 0	TEMP (°C) 24	TEMP (°C) 48	SALINITY (ppt) 0	SALINITY (ppt) 24	SALINITY (ppt) 48	S/C (µmhos/cm) 0
-004	A	10	10	10	~~6.3~~ 5.8	6.7	6.1	7.73	7.78	7.71	25	25	24	30	31	31	46700
	B	10	10	10	5.8	6.9	6.0										
	C	10	9	9	5.8	6.9	6.2										
	D	10	10	10	5.8	6.7	6.3										
	A																
	B																
	C																
	D																
	A																
	B																
	C																
	D																
	A																
	B																
	C																
	D																
DATE		6/27/12	6/28	6/29	6/27/12	6/28	6/29										
TIME		1635	1615	1510	1615	1555	1605										
INITIALS		CS	LB	CS	—	LB	CS										

CETIS Summary Report

Report Date: 18 Jul-12 14:30 (p 1 of 1)
Test Code: 22301Ab | 03-3156-4506

Americamysis 48-Hr Survival Test — **EnviroSystems, Inc.**

Batch ID:	15-9483-4660	**Test Type:**	Survival (48h)	**Analyst:**	
Start Date:	27 Jun-12 16:35	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Not Applicable
Ending Date:	29 Jun-12 15:10	**Species:**	Americamysis bahia	**Brine:**	Not Applicable
Duration:	47h	**Source:**	ARO - Aquatic Research Organisms, NH	**Age:**	<5 d

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
22301-000	17-7234-2795	27 Jun-12 15:30	27 Jun-12 15:30	65m	Woods Hole Group	Ecological Risk Asse
22301-001	03-3321-0693	26 Jun-12 09:15	26 Jun-12 19:50	31h (4 °C)		
22301-002	15-7908-4037	26 Jun-12 10:35	26 Jun-12 19:50	30h (4 °C)		
22301-003	17-7972-2026	26 Jun-12 14:10	26 Jun-12 19:50	26h (4 °C)		
22301-004	07-9876-7611	26 Jun-12 14:25	26 Jun-12 19:50	26h (4 °C)		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
22301-000	Surface Water	New Bedford Harbor Monitoring O	Laboratory Control; 22301-000		
22301-001	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-001-062612; 22301-001		
22301-002	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-002-062612; 22301-002		
22301-003	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-003-062612; 22301-003		
22301-004	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-004-062612; 22301-004		

Sample Code	vs	Sample Code	P-Value	Alpha	Decision	Analysis ID	Method
22301-000		22301-001	0.9039	0.05	Non-Significant Effect	16-6021-1573	Equal Variance t Two-Sample Test
		22301-002	0.8175	0.05	Non-Significant Effect	11-1277-8366	Equal Variance t Two-Sample Test
		22301-003	0.8175	0.05	Non-Significant Effect	10-1662-2552	Equal Variance t Two-Sample Test
		22301-004	0.8175	0.05	Non-Significant Effect	06-2600-1592	Equal Variance t Two-Sample Test

48h Proportion Survived Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	0.9	0.847	0.953	0.7	1	0.0707	0.141	15.7%	0.0%
22301-001	4	1	1	1	1	1	0	0	0.0%	-11.1%
22301-002	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	-8.33%
22301-003	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	-8.33%
22301-004	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	-8.33%

48h Proportion Survived Detail

Conc-NA	Rep 1	Rep 2	Rep 3	Rep 4
22301-000	1	0.7	0.9	1
22301-001	1	1	1	1
22301-002	1	0.9	1	1
22301-003	1	0.9	1	1
22301-004	1	1	0.9	1

Americamysis 48-Hr Survival Test — **EnviroSystems, Inc.**

Analysis ID:	16-6021-1573	**Endpoint:**	48h Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:29	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 48h proportion survived endpoint	14.2%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-001	-1.47	1.94	6	0.193	0.9039	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.04260716	0.04260716	1	2.16	0.1922	Non-Significant Effect
Error	0.1184677	0.01974462	6			
Total	0.1610749	0.06235179	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	5.13	13.7	0.0642	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.791	0.645	0.0231	Normal Distribution

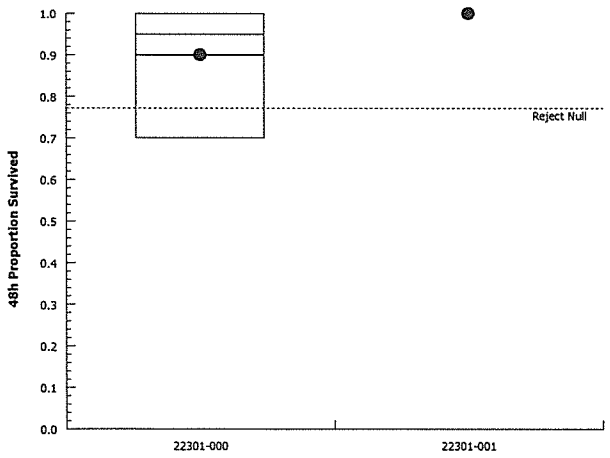
48h Proportion Survived Summary

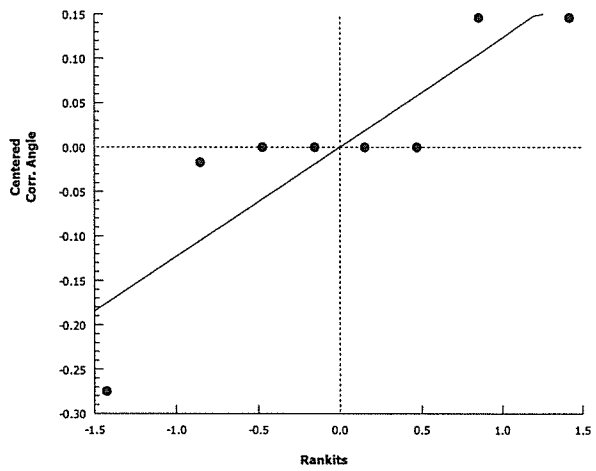
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	0.9	0.846	0.954	0.7	1	0.0707	0.141	15.7%	0.0%
22301-001	4	1	1	1	1	1	0	0	0.0%	-11.1%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	1.27	1.19	1.34	0.991	1.41	0.0994	0.199	15.7%	0.0%
22301-001	4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	-11.5%

Graphics





Americamysis 48-Hr Survival Test — **EnviroSystems, Inc.**

Analysis ID:	11-1277-8366	**Endpoint:**	48h Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:29	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 48h proportion survived endpoint	15.7%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-002	-0.98	1.94	6	0.209	0.8175	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.02214034	0.02214034	1	0.96	0.3650	Non-Significant Effect
Error	0.1383872	0.02306454	6			
Total	0.1605276	0.04520489	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	5.95	47.5	0.1772	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.883	0.645	0.2016	Normal Distribution

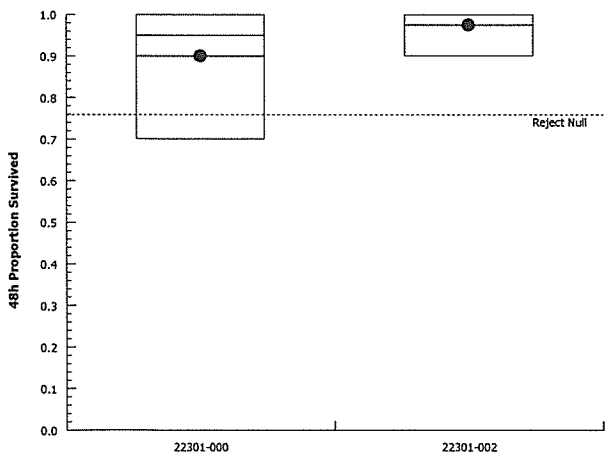
48h Proportion Survived Summary

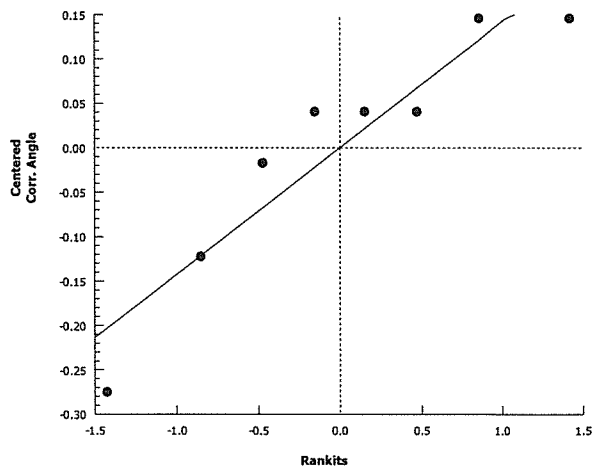
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	0.9	0.846	0.954	0.7	1	0.0707	0.141	15.7%	0.0%
22301-002	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	-8.33%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	1.27	1.19	1.34	0.991	1.41	0.0994	0.199	15.7%	0.0%
22301-002	4	1.37	1.34	1.4	1.25	1.41	0.0407	0.0815	5.94%	-8.31%

Graphics





Americamysis 48-Hr Survival Test — **EnviroSystems, Inc.**

Analysis ID:	10-1662-2552	**Endpoint:**	48h Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:29	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 48h proportion survived endpoint	15.7%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-003	-0.98	1.94	6	0.209	0.8175	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.02214034	0.02214034	1	0.96	0.3650	Non-Significant Effect
Error	0.1383872	0.02306454	6			
Total	0.1605276	0.04520489	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	5.95	47.5	0.1772	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.883	0.645	0.2016	Normal Distribution

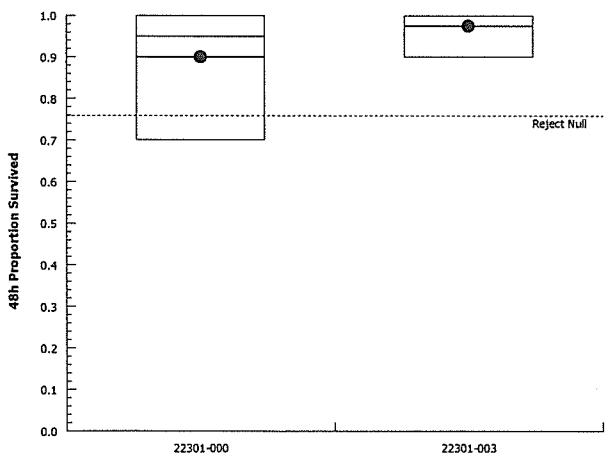
48h Proportion Survived Summary

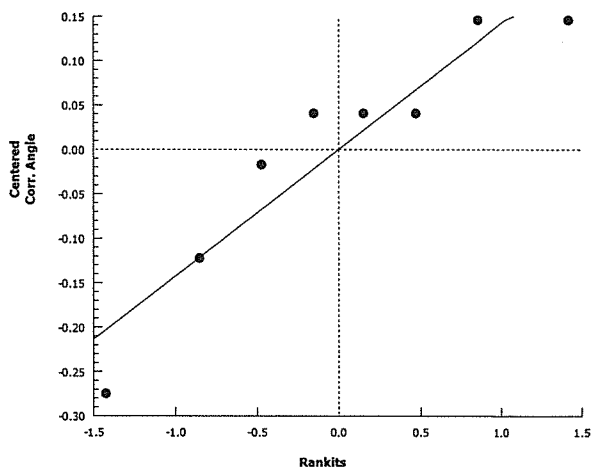
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	0.9	0.846	0.954	0.7	1	0.0707	0.141	15.7%	0.0%
22301-003	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	-8.33%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	1.27	1.19	1.34	0.991	1.41	0.0994	0.199	15.7%	0.0%
22301-003	4	1.37	1.34	1.4	1.25	1.41	0.0407	0.0815	5.94%	-8.31%

Graphics





CETIS Analytical Report

Report Date: 18 Jul-12 14:29 (p 1 of 4)
Test Code: 22301Ab | 03-3156-4506

Americamysis 48-Hr Survival Test — **EnviroSystems, Inc.**

Analysis ID:	06-2600-1592	**Endpoint:**	48h Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:29	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 48h proportion survived endpoint	15.7%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-004	-0.98	1.94	6	0.209	0.8175	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.02214034	0.02214034	1	0.96	0.3650	Non-Significant Effect
Error	0.1383872	0.02306454	6			
Total	0.1605276	0.04520489	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	5.95	47.5	0.1772	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.883	0.645	0.2016	Normal Distribution

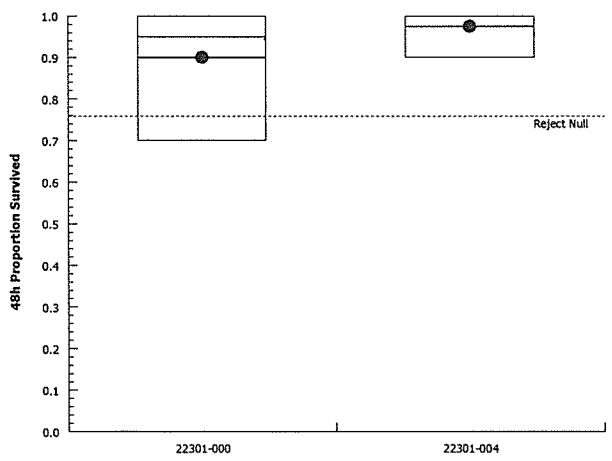
48h Proportion Survived Summary

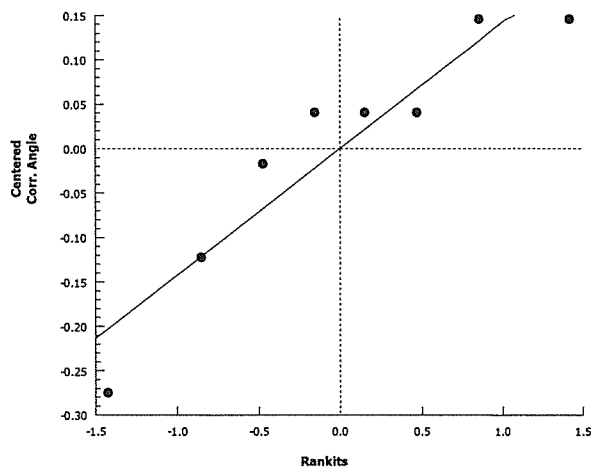
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	0.9	0.846	0.954	0.7	1	0.0707	0.141	15.7%	0.0%
22301-004	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	-8.33%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	1.27	1.19	1.34	0.991	1.41	0.0994	0.199	15.7%	0.0%
22301-004	4	1.37	1.34	1.4	1.25	1.41	0.0407	0.0815	5.94%	-8.31%

Graphics





Aquatic Research Organisms

DATA SHEET

rec. 6/27/12

I. Organism History

Species: AMERICAMYSIS bahia

Source: Lab reared ✓ Hatchery reared ____ Field collected ____

Hatch date: 6-24-12 Receipt date: ____

Lot number: 062412MS Strain: ____

Brood origination: FLORIDA

II. Water Quality

Temperature: 25 °C Salinity: ~28 ppt D.O.: — ppm

pH: 7.8 su Hardness: — ppm Alkalinity: — ppm

III. Culture Conditions

Freshwater ____ Saltwater ✓ Other ____

Recirculating ✓ Flow through ____ Static renewal ____

DIET: Flake food ✓ Phytoplankton ____ Trout chow ____

Artemia ✓ Rotifers ____ YCT ____ Other Encap. Shrimp Diet

Prophylactic treatments: ____

Comments: ____

IV. Shipping Information

Client: ESI # of Organisms: 740 + ~~2401~~

Carrier: ____ Date shipped: 6-27-12

Biologist: Mark Rosengard

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650 AROFISH@AOL.COM
WWW.AROFISH.US

Americamysis bahia 7 DAY CHRONIC ASSAY
SURVIVAL & OLD WATER QUALITIES

STUDY: 22301	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	~~4~~5	4	4	5.5	5.7	5.6	5.9	4.6	5.3	5.1
	B	5	5	5	5	5	5	5	5	5.4	5.7	5.6	5.7	4.8	5.3	5.2
	C	5	5	5	5	5	5	5	5	6.0	5.8	5.7	5.6	5.1	4.7	5.2
	D	5	5	5	5	5	5	5	5	6.0	5.8	5.6	5.5	5.2	5.4	5.3
	E	5	5	5	5	5	5	5	5	5.9	6.0	5.6	5.5	5.3	5.4	5.4
	F	5	5	5	5	5	5	5	5	6.0	6.1	5.7	5.6	5.4	5.1	5.4
	G	5	5	5	4	4	4	4	4	6.0	6.1	5.8	5.6	5.4	5.2	5.4
	H	5	5	5	4	4	4	4	4	6.0	6.0	5.7	5.5	5.5	5.1	5.4
-001	A	5	~~4~~5	5	5	4	4	4	4	6.1	5.9	5.6	5.6	4.4	4.9	5.5
	B	5	5	5	5	5	5	4	4	6.0	5.9	5.6	5.4	4.8	4.9	5.1
	C	5	5	5	5	5	5	5	5	6.0	6.0	5.5	5.3	4.8	5.1	5.3
	D	5	5	5	5	5	5	5	5	6.2	6.0	5.5	5.3	5.0	5.3	5.4
	E	5	5	5	5	5	5	5	5	6.0	6.0	5.7	5.4	4.5	5.8	5.4
	F	5	5	5	5	5	5	5	5	5.8	6.1	5.7	5.5	5.1	5.3	5.4
	G	5	5	5	4	4	4	4	4	6.0	6.1	5.6	5.6	5.1	5.2	5.4
	H	5	5	5	~~4~~5	5	5	5	5	6.0	6.1	5.5	5.6	5.1	5.1	5.4
-002	A	5	4	4	4	4	4	4	4	5.6	6.0	5.7	5.6	5.2	5.5	5.5
	B	5	4	4	4	4	3	3	3	5.9	6.0	5.7	5.5	5.0	5.2	5.4
	C	5	5	4	4	4	4	4	4	5.9	6.1	5.7	5.5	4.9	5.5	5.5
	D	5	5	5	5	5	5	5	5	5.9	6.1	5.6	5.5	5.1	5.5	5.5
	E	5	5	5	5	5	5	5	5	6.0	6.1	5.7	5.6	5.2	5.7	5.6
	F	5	5	5	5	5	5	5	5	5.6	5.8	5.6	5.5	5.3	5.4	5.5
	G	5	5	5	5	5	5	5	5	5.5	5.7	5.6	5.5	5.5	5.4	5.4
	H	5	5	5	4	3	3	3	3	5.8	5.6	5.8	5.4	5.7	5.6	5.6
INC TEMP:		26	26	26	26	26	26	26	26							
DATE:		6/27	6/28/12	6/29	6/30	7/1	7/2/12	7/3/12	7/4							
TIME:		1040	1405	1215	0925	1200	0945	0945	1105							
INITIALS:		ND	ne	CS	UB	SJ	—	ND	UB							

Americamysis bahia 7 DAY CHRONIC ASSAY
SURVIVAL & OLD WATER QUALITIES

STUDY: 22301	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	4	4	4	4	4	4	4	5.6	5.7	5.7	5.1	5.5	5.6	5.5
	B	5	5	4	4	4	4	4	4	5.8	5.8	5.6	5.2	5.3	5.6	5.5
	C	5	5	4	4	4	4	4	4	5.7	5.5	5.6	5.3	5.1	5.4	5.5
	D	5	4/5	4/5	5	4/5	5	5	5	5.6	5.6	5.6	5.3	5.1	5.3	5.4
	E	5	5	5	5	5	4	4	4	5.6	5.7	5.7	5.3	4.6	5.3	5.4
	F	5	5	5	5	5	5	5	4	5.6	5.6	5.6	5.3	4.6	5.0	5.4
	G	5	5	5	5	5	5	5	5	5.7	5.8	5.6	5.4	4.7	4.9	5.3
	H	5	5	5	5	5	5	5	5	5.7	5.8	5.6	5.6	5.1	5.1	5.4
-004	A	5	5	5	5	4	4	3	3	5.5	5.9	5.7	5.7	5.1	5.5	5.5
	B	5	5	5	5	5	4	4	3	5.5	6.0	5.8	5.7	5.0	5.6	5.5
	C	5	5	5	5	5	5	5	5	5.6	6.0	5.8	5.6	5.0	5.4	5.5
	D	5	5	5	5	5	5	5	5	5.8	6.0	5.6	5.8	5.2	5.4	5.5
	E	5	5	5	5	5	5	4	4	5.7	6.0	5.7	5.8	4.5	5.4	5.4
	F	5	5	4	4	4	4	4	4	5.7	6.0	5.7	5.8	4.8	5.4	5.4
	G	5	5	5	5	5	5	5	5	5.8	5.9	5.7	5.8	5.0	5.4	5.2
	H	5	5	5	5	5	5	4	4	5.4	5.9	5.7	5.7	5.3	5.4	5.4
INC TEMP:		26	26	26	26	26	26	26	26							
DATE:		6/27/12	6/28/12	6/29	6/30	7/1	7/2/12	7/3/12	7/4							
TIME:		1640	1405	~~1205~~ 1215	0925	1200	0945	0945	1105							
INITIALS:		NJ	M	CS	LB	SJ	M	ND	LB							

(3) CS 6/29

Larval Fish Dry Weight Summary Sheet

Study:	22301	
Client:	Woods Hole Group	
Date/Time/Init:	07/06/12 0900 CS	7/3/12 1615 JM
Conc	Fish and Foil (mg)	Tare Wt (mg)
Lab A	211.26	209.38
Lab B	210.68	208.6
Lab C	210.03	207.98
Lab D	210.4	209.07
Lab E	211.22	209.35
Lab F	209.81	208.09
Lab G	211.26	209.44
Lab H	210.13	208.51
001A	210.77	209.06
001B	212.2	210.45
001C	211.55	209.65
001D	212.24	209.97
001E	210.81	208.86
001F	211.75	209.44
001G	212.17	210.31
001H	211.76	209.91
002A	210.81	208.97
002B	211.82	210.51
002C	209.9	208.75
002D	211.88	209.93
002E	211.95	210
002F	211.4	209.39
002G	212.08	210.31
002H	211.74	210.48
003A	210.5	209.27
003B	210.42	208.42
003C	211.11	209.15
003D	210.74	208.42
003E	211.71	209.75
003F	210.95	208.98
003G	211.24	208.75
003H	211.87	210.07
004A	210.05	208.67
004B	210.2	208.84
004C	211.27	208.77
004D	211.8	209.31
004E	210.25	208.39
004F	210.71	208.66
004G	211.05	208.83
004H	210.13	208.83

CETIS Summary Report

Report Date:	18 Jul-12 14:45 (p 1 of 2)
Test Code:	22301Ab7d | 16-1826-8413

Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Batch ID:	10-3349-0781	**Test Type:**	Growth-Survival-Fec (7d)	**Analyst:**	
Start Date:	27 Jun-12 16:40	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Not Applicable
Ending Date:	04 Jul-12 11:05	**Species:**	Mysidopsis bahia	**Brine:**	Not Applicable
Duration:	6d 18h	**Source:**	ARO - Aquatic Research Organisms, NH	**Age:**	7 d

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
22301-000	17-7234-2795	27 Jun-12 15:30	27 Jun-12 15:30	70m	Woods Hole Group	Ecological Risk Asse
22301-001	03-3321-0693	26 Jun-12 09:15	26 Jun-12 19:50	31h (4 °C)		
22301-002	15-7908-4037	26 Jun-12 10:35	26 Jun-12 19:50	30h (4 °C)		
22301-003	17-7972-2026	26 Jun-12 14:10	26 Jun-12 19:50	26h (4 °C)		
22301-004	07-9876-7611	26 Jun-12 14:25	26 Jun-12 19:50	26h (4 °C)		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
22301-000	Surface Water	New Bedford Harbor Monitoring O	Laboratory Control; 22301-000		
22301-001	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-001-062612; 22301-001		
22301-002	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-002-062612; 22301-002		
22301-003	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-003-062612; 22301-003		
22301-004	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-004-062612; 22301-004		

Sample Code	vs	Sample Code	P-Value	Alpha	Decision	Analysis ID	Method
22301-000		22301-001	0.4796	0.05	Non-Significant Effect	17-2786-4772	Wilcoxon Rank Sum Two-Sample Test
		22301-001	0.8956	0.05	Non-Significant Effect	12-4736-7975	Equal Variance t Two-Sample Test
		22301-001	0.8659	0.05	Non-Significant Effect	05-0188-2990	Equal Variance t Two-Sample Test
		22301-002	0.1652	0.05	Non-Significant Effect	10-5690-4183	Equal Variance t Two-Sample Test
		22301-002	0.1839	0.05	Non-Significant Effect	01-1102-9460	Equal Variance t Two-Sample Test
		22301-002	0.5003	0.05	Non-Significant Effect	21-2547-3986	Equal Variance t Two-Sample Test
		22301-003	0.2209	0.05	Non-Significant Effect	09-8303-3059	Wilcoxon Rank Sum Two-Sample Test
		22301-003	0.8512	0.05	Non-Significant Effect	15-8816-2644	Equal Variance t Two-Sample Test
		22301-003	0.9401	0.05	Non-Significant Effect	17-0274-3337	Equal Variance t Two-Sample Test
		22301-004	0.0884	0.05	Non-Significant Effect	01-7176-1994	Equal Variance t Two-Sample Test
		22301-004	0.6882	0.05	Non-Significant Effect	08-0752-8993	Equal Variance t Two-Sample Test
		22301-004	0.9721	0.05	Non-Significant Effect	16-1582-0470	Equal Variance t Two-Sample Test

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
01-7176-1994	7d Proportion Survived	Control Resp	0.925	0.8 - NL	Yes	Passes Acceptability Criteria
09-8303-3059	7d Proportion Survived	Control Resp	0.925	0.8 - NL	Yes	Passes Acceptability Criteria
10-5690-4183	7d Proportion Survived	Control Resp	0.925	0.8 - NL	Yes	Passes Acceptability Criteria
17-2786-4772	7d Proportion Survived	Control Resp	0.925	0.8 - NL	Yes	Passes Acceptability Criteria
01-1102-9460	Mean Dry Biomass-mg	Control Resp	0.359	0.2 - NL	Yes	Passes Acceptability Criteria
08-0752-8993	Mean Dry Biomass-mg	Control Resp	0.359	0.2 - NL	Yes	Passes Acceptability Criteria
12-4736-7975	Mean Dry Biomass-mg	Control Resp	0.359	0.2 - NL	Yes	Passes Acceptability Criteria
15-8816-2644	Mean Dry Biomass-mg	Control Resp	0.359	0.2 - NL	Yes	Passes Acceptability Criteria
01-1102-9460	Mean Dry Biomass-mg	PMSD	0.149	0.11 - 0.37	Yes	Passes Acceptability Criteria
08-0752-8993	Mean Dry Biomass-mg	PMSD	0.193	0.11 - 0.37	Yes	Passes Acceptability Criteria
12-4736-7975	Mean Dry Biomass-mg	PMSD	0.114	0.11 - 0.37	Yes	Passes Acceptability Criteria
15-8816-2644	Mean Dry Biomass-mg	PMSD	0.154	0.11 - 0.37	Yes	Passes Acceptability Criteria

Mysidopsis 7-d Survival, Growth and Fecundity Test — EnviroSystems, Inc.

7d Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.925	0.886	0.964	0.8	1	0.0366	0.104	11.2%	0.0%
22301-001	8	0.925	0.886	0.964	0.8	1	0.0366	0.104	11.2%	0.0%
22301-002	8	0.85	0.784	0.916	0.6	1	0.0627	0.177	20.9%	8.11%
22301-003	8	0.875	0.836	0.914	0.8	1	0.0366	0.104	11.8%	5.41%
22301-004	8	0.825	0.763	0.887	0.6	1	0.059	0.167	20.2%	10.8%

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.359	0.341	0.377	0.266	0.416	0.0172	0.0485	13.5%	0.0%
22301-001	8	0.39	0.373	0.407	0.342	0.462	0.0158	0.0447	11.5%	-8.56%
22301-002	8	0.331	0.305	0.357	0.23	0.402	0.025	0.0708	21.4%	7.86%
22301-003	8	0.393	0.365	0.421	0.246	0.498	0.0263	0.0745	18.9%	-9.46%
22301-004	8	0.379	0.342	0.416	0.26	0.5	0.0354	0.1	26.4%	-5.5%

Mean Dry Weight-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.392	0.368	0.417	0.266	0.47	0.023	0.0651	16.6%	0.0%
22301-001	8	0.423	0.409	0.438	0.37	0.465	0.0135	0.0382	9.03%	-7.83%
22301-002	8	0.393	0.373	0.412	0.287	0.46	0.0188	0.0533	13.6%	-0.01%
22301-003	8	0.45	0.423	0.478	0.307	0.5	0.0262	0.0741	16.5%	-14.7%
22301-004	8	0.457	0.435	0.479	0.325	0.513	0.0208	0.0589	12.9%	-16.5%

7d Proportion Survived Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
22301-000	0.8	1	1	1	1	1	0.8	0.8
22301-001	0.8	0.8	1	1	1	1	0.8	1
22301-002	0.8	0.6	0.8	1	1	1	1	0.6
22301-003	0.8	0.8	0.8	1	0.8	0.8	1	1
22301-004	0.6	0.6	1	1	0.8	0.8	1	0.8

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
22301-000	0.376	0.416	0.41	0.266	0.374	0.344	0.364	0.324
22301-001	0.342	0.35	0.38	0.454	0.39	0.462	0.372	0.37
22301-002	0.368	0.262	0.23	0.39	0.39	0.402	0.354	0.252
22301-003	0.246	0.4	0.392	0.464	0.392	0.394	0.498	0.36
22301-004	0.276	0.272	0.5	0.498	0.372	0.41	0.444	0.26

Mean Dry Weight-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
22301-000	0.47	0.416	0.41	0.266	0.374	0.344	0.455	0.405
22301-001	0.428	0.438	0.38	0.454	0.39	0.462	0.465	0.37
22301-002	0.46	0.437	0.287	0.39	0.39	0.402	0.354	0.42
22301-003	0.307	0.5	0.49	0.464	0.49	0.493	0.498	0.36
22301-004	0.46	0.453	0.5	0.498	0.465	0.513	0.444	0.325

Mysidopsis 7-d Survival, Growth and Fecundity Test — EnviroSystems, Inc.

Analysis ID:	17-2786-4772	**Endpoint:**	7d Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:44	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d proportion survived endpoint	10.1%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
22301-000		22301-001	68		14	2	0.4796	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.2126546	0.01518962	14			
Total	0.2126546	0.01518962	15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1	8.89	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.621	0.841	<0.0001	Non-normal Distribution

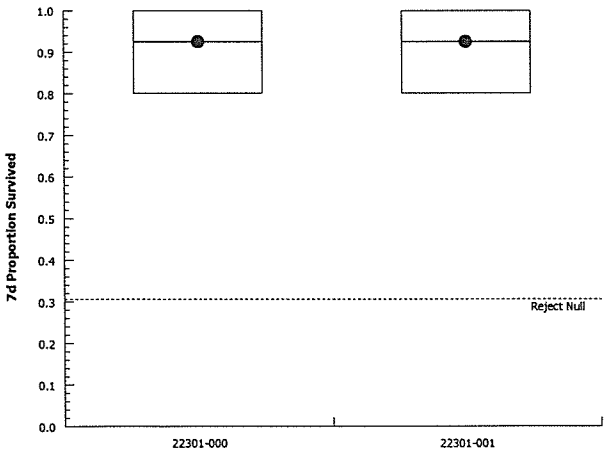
7d Proportion Survived Summary

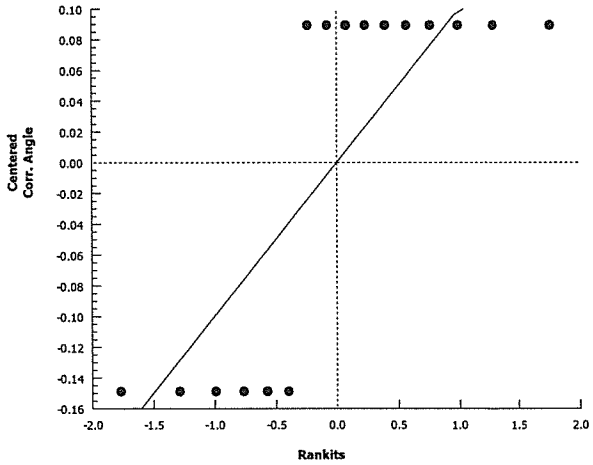
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.925	0.886	0.964	0.8	1	0.0366	0.104	11.2%	0.0%
22301-001	8	0.925	0.886	0.964	0.8	1	0.0366	0.104	11.2%	0.0%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	1.26	1.21	1.3	1.11	1.35	0.0436	0.123	9.81%	0.0%
22301-001	8	1.26	1.21	1.3	1.11	1.35	0.0436	0.123	9.81%	0.0%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	12-4736-7975	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:44	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoint	1.4%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-001	-1.32	1.76	14	0.0411	0.8956	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.003782504	0.003782504	1	1.74	0.2087	Non-Significant Effect
Error	0.03049543	0.002178245	14			
Total	0.03427794	0.005960749	15			

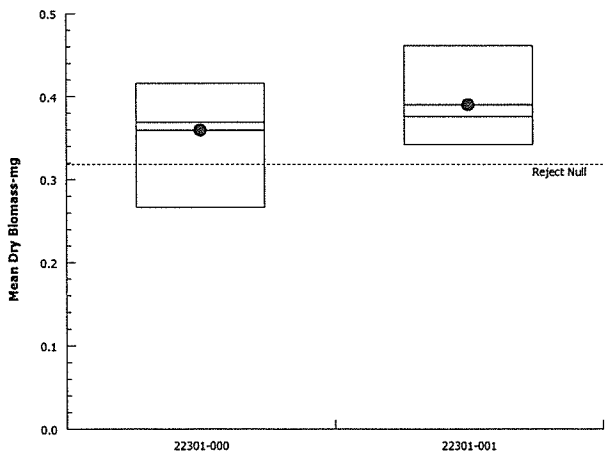
Distributional Tests

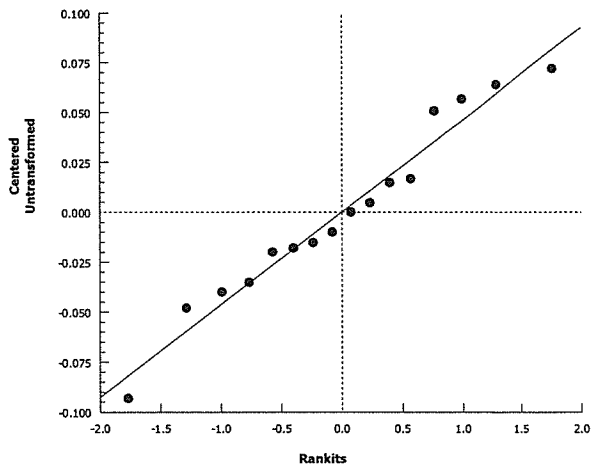
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1.18	8.89	0.8353	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.964	0.841	0.7334	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.359	0.341	0.378	0.266	0.416	0.0172	0.0485	13.5%	0.0%
22301-001	8	0.39	0.373	0.407	0.342	0.462	0.0158	0.0447	11.5%	-8.56%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — EnviroSystems, Inc.

Analysis ID:	10-5690-4183	**Endpoint:**	7d Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:44	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d proportion survived endpoint	13.5%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-002	1.01	1.76	14	0.149	0.1652	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.02892358	0.02892358	1	1.02	0.3305	Non-Significant Effect
Error	0.3983415	0.02845296	14			
Total	0.4272651	0.05737655	15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	2.75	8.89	0.2060	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.863	0.841	0.0214	Normal Distribution

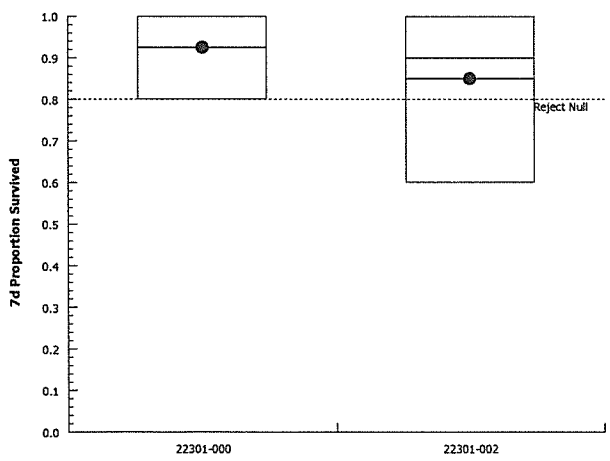
7d Proportion Survived Summary

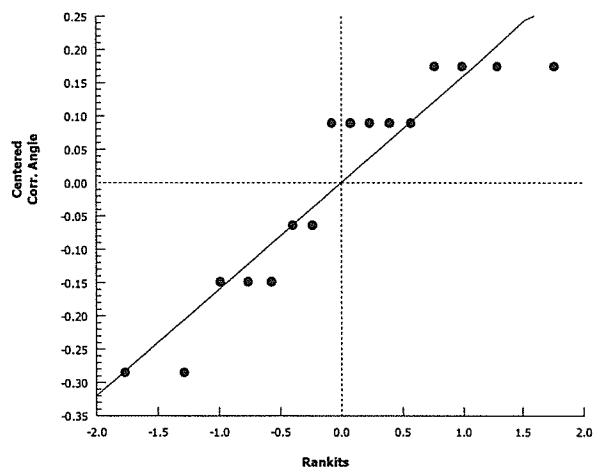
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.925	0.886	0.964	0.8	1	0.0366	0.104	11.2%	0.0%
22301-002	8	0.85	0.783	0.917	0.6	1	0.0627	0.177	20.9%	8.11%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	1.26	1.21	1.3	1.11	1.35	0.0436	0.123	9.81%	0.0%
22301-002	8	1.17	1.09	1.25	0.886	1.35	0.0722	0.204	17.4%	6.77%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	01-1102-9460	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:44	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoint	14.9%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-002	0.931	1.76	14	0.0535	0.1839	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.003191935	0.003191935	1	0.866	0.3678	Non-Significant Effect
Error	0.05159112	0.00368508	14			
Total	0.05478306	0.006877015	15			

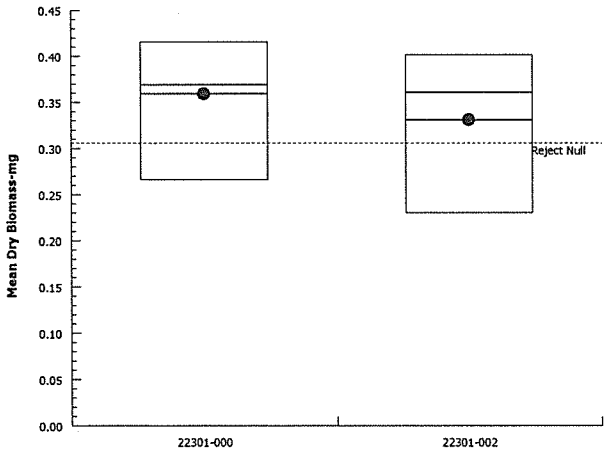
Distributional Tests

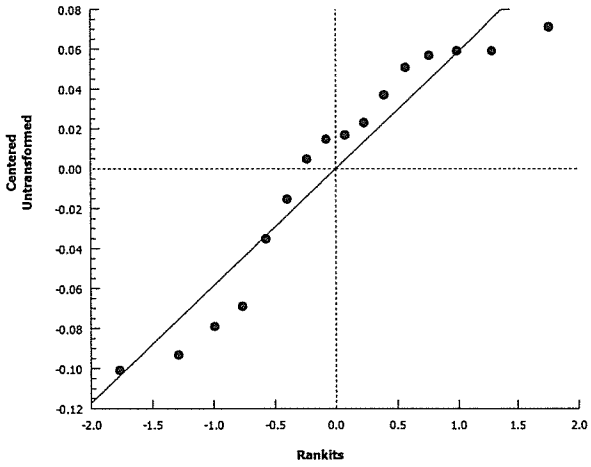
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	2.13	8.89	0.3401	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.896	0.841	0.0702	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.359	0.341	0.378	0.266	0.416	0.0172	0.0485	13.5%	0.0%
22301-002	8	0.331	0.304	0.358	0.23	0.402	0.025	0.0708	21.4%	7.86%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	09-8303-3059	**Endpoint:**	7d Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:44	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d proportion survived endpoint	0.1%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
22301-000		22301-003	60		14	2	0.2209	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.01417698	0.01417698	1	0.933	0.3504	Non-Significant Effect
Error	0.2126546	0.01518962	14			
Total	0.2268316	0.02936659	15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1	8.89	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.814	0.841	0.0042	Non-normal Distribution

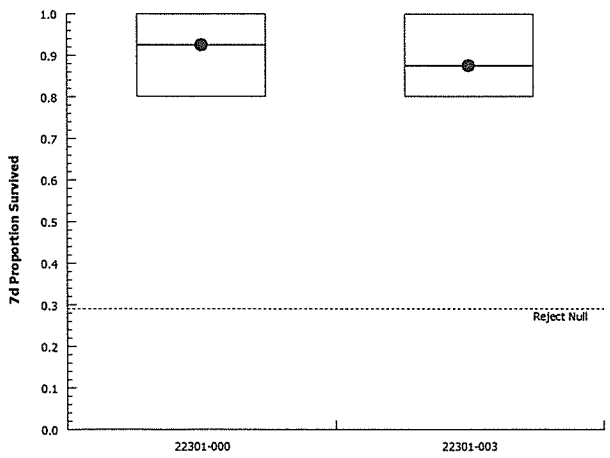
7d Proportion Survived Summary

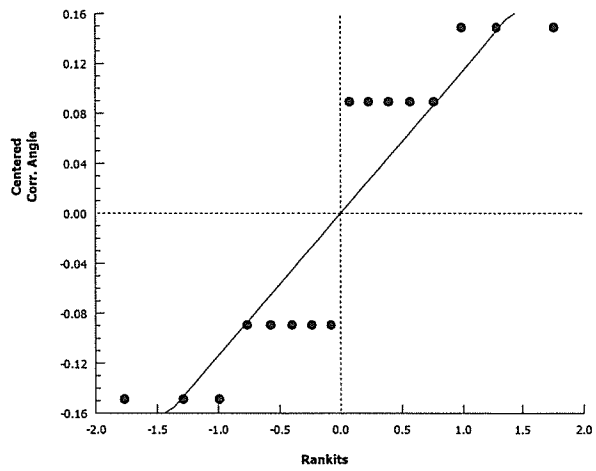
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.925	0.886	0.964	0.8	1	0.0366	0.104	11.2%	0.0%
22301-003	8	0.875	0.836	0.914	0.8	1	0.0366	0.104	11.8%	5.41%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	1.26	1.21	1.3	1.11	1.35	0.0436	0.123	9.81%	0.0%
22301-003	8	1.2	1.15	1.24	1.11	1.35	0.0436	0.123	10.3%	4.74%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	15-8816-2644	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:44	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoint	5.4%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-003	-1.08	1.76	14	0.0554	0.8512	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.004624313	0.004624313	1	1.17	0.2976	Non-Significant Effect
Error	0.05530384	0.003950274	14			
Total	0.05992815	0.008574587	15			

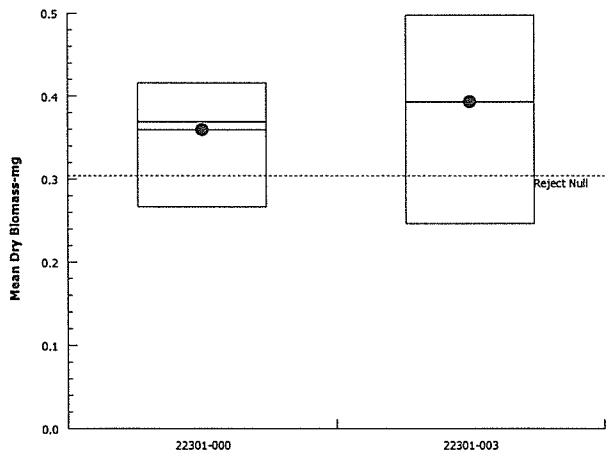
Distributional Tests

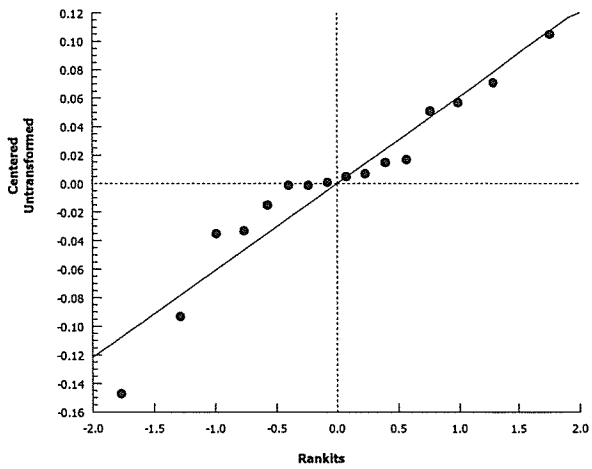
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	2.35	8.89	0.2812	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.937	0.841	0.3155	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.359	0.341	0.378	0.266	0.416	0.0172	0.0485	13.5%	0.0%
22301-003	8	0.393	0.365	0.422	0.246	0.498	0.0263	0.0745	18.9%	-9.46%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	01-7176-1994	**Endpoint:**	7d Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:44	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d proportion survived endpoint	12.9%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-004	1.42	1.76	14	0.142	0.0884	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.05271749	0.05271749	1	2.02	0.1769	Non-Significant Effect
Error	0.3649307	0.02606647	14			
Total	0.4176481	0.07878397	15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	2.43	8.89	0.2638	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.906	0.841	0.1006	Normal Distribution

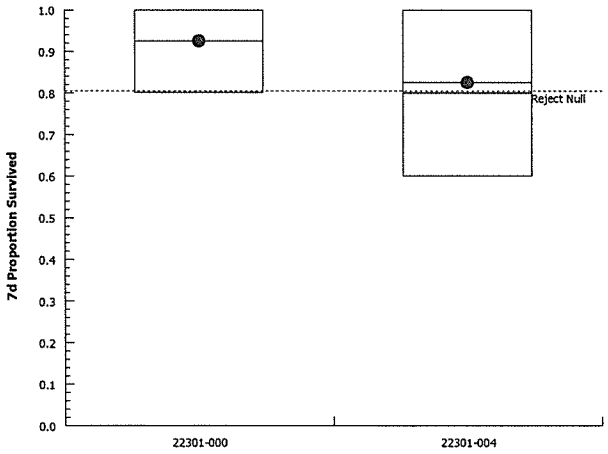
7d Proportion Survived Summary

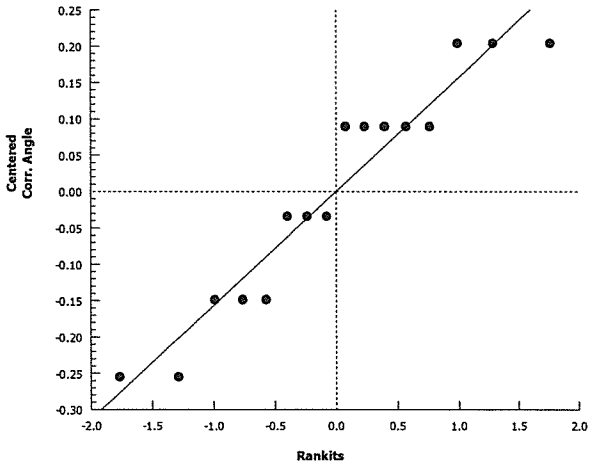
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.925	0.886	0.964	0.8	1	0.0366	0.104	11.2%	0.0%
22301-004	8	0.825	0.762	0.888	0.6	1	0.059	0.167	20.2%	10.8%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	1.26	1.21	1.3	1.11	1.35	0.0436	0.123	9.81%	0.0%
22301-004	8	1.14	1.07	1.21	0.886	1.35	0.068	0.192	16.8%	9.14%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — EnviroSystems, Inc.

Analysis ID:	08-0752-8993	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.0
Analyzed:	18 Jul-12 14:44	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoint	9.3%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-004	-0.502	1.76	14	0.0693	0.6882	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.001560464	0.001560464	1	0.252	0.6236	Non-Significant Effect
Error	0.08674344	0.006195961	14			
Total	0.08830391	0.007756425	15			

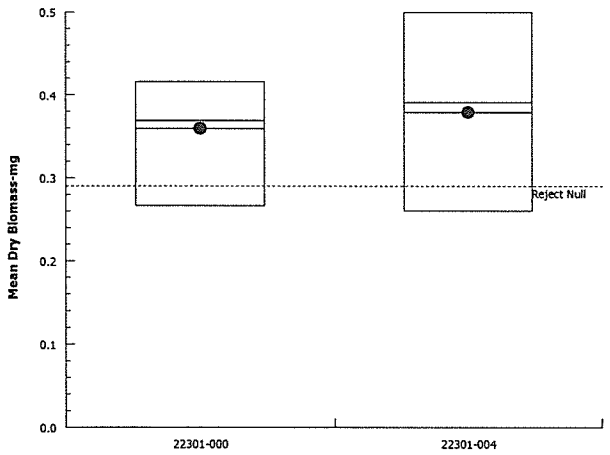
Distributional Tests

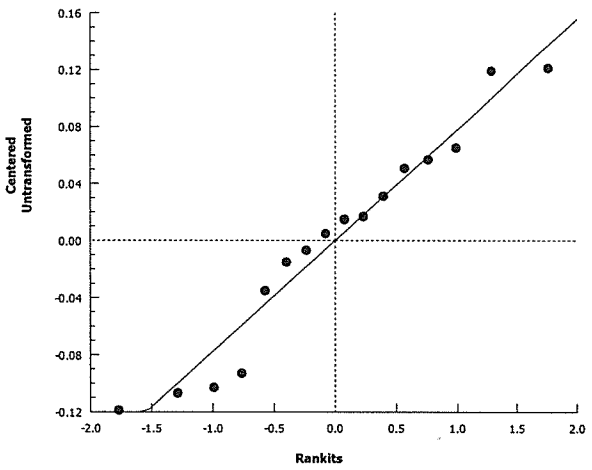
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	4.26	8.89	0.0750	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.942	0.841	0.3731	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	8	0.359	0.341	0.378	0.266	0.416	0.0172	0.0485	13.5%	0.0%
22301-004	8	0.379	0.341	0.417	0.26	0.5	0.0354	0.1	26.4%	-5.5%

Graphics





Aquatic Research Organisms

DATA SHEET

rec. 6/27/12

I. Organism History

Species: AMERICAMYSIS bahia

Source: Lab reared ✓ Hatchery reared ____ Field collected ____

Hatch date: 6-20-12 Receipt date: ____

Lot number: 062012MS Strain: ____

Brood origination: FLORIDA

II. Water Quality

Temperature: 25 °C Salinity: ~28 ppt D.O.: — ppm

pH: 7.8 su Hardness: — ppm Alkalinity: — ppm

III. Culture Conditions

Freshwater ____ Saltwater ✓ Other ____

Recirculating ✓ Flow through ____ Static renewal ____

DIET: Flake food ✓ Phytoplankton ____ Trout chow ____

Artemia ✓ Rotifers ____ YCT ____ Other: Encap. Shrimp Diet

Prophylactic treatments: ____

Comments: ____

IV. Shipping Information

Client: EST # of Organisms: ~~240+~~ 480+

Carrier: ____ Date shipped: 6-27-12

Biologist: Mark Rosengrant

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650 AROFISH@AOL.COM
WWW.AROFISH.US

Arbacia punctulata Chronic Fertilization Assay
Water Quality and Gamete Preparation Data

STUDY: 22301	CLIENT: Woods Hole Group	LOCATION: New Bedford	DATE: 6/27/12 INITIALS: LB

SALINITY ADJUSTMENT RECORD: 1000 mL -001 + 0 g SALT

SALINITY ADJUSTMENT RECORD: 1000 mL -002 + 0 g SALT

SALINITY ADJUSTMENT RECORD: 1000 mL -003 + 0 g SALT

SALINITY ADJUSTMENT RECORD: 1000 mL -004 + 0 g SALT

SALINITY ADJUSTED SAMPLE	D.O. (mg/L)	pH (SU)	SPEC COND (µmhos)	TEMP (°C)	SALINITY (ppt)
Lab Control	7.1	8.17	44780	21	29
-001	5.7	7.61	46250	21	30
-002	5.4	7.54	46040	21	30
-003	5.6	7.57	44660	21	29
-004	6.0	7.73	46700	21	30

METERS USED

DO meter # 24 DO probe # 90 pH meter # 1097 pH probe # 103 S/C meter # YS130E S/C probe # YS130E

SALINITY meter # YS130E

DATE & INITIALS FOR GAMETE PREPARATION: 6/27/12 LB

SPERM DILUTIONS:

HEMACYTOMETER COUNT, E: 115 X 10^4 = SPM SOLUTION E = 1.15×10^6

SPERM CONCENTRATIONS:
SOLUTION E X 40 = SOLUTION A = 4.60×10^7 SPM
SOLUTION E X 20 = SOLUTION B = 2.30×10^7 SPM
SOLUTION E X 5 = SOLUTION C = 5.75×10^6 SPM

FINAL COUNTS:

FINAL SPERM COUNT: 4.60×10^7
FINAL EGG COUNT: 2700

TEST TIMES:

SPERM COLLECTED: 1415
EGGS COLLECTED: 1415
SPERM ADDED: 1445
EGGS ADDED: 1545
FIXATIVE ADDED: 1605

See ESI SOP #1412 for additional information

Arbacia punctulata Chronic Fertilization Assay

SAMPLE USE RECORD

STUDY: 22301	CLIENT: Woods Hole Group - New Bedford	
SPECIES: *A. punctulata*		
	Day: 0	
SAMPLE	Volume Used (mL)	ESI Cube ID
Lab Control	100	30ppt
-001	↓	001
-002	↓	002
-003	↓	003
-004	↓	004
INITIALS:	UB	
TIME:	1300	
DATE:	6/27/12	

FERTILIZATION COUNTS

STUDY	CLIENT Woods Hole Group	LOCATION New Bedford		DATE INITIALS
	REPLICATE VIAL			
	1	2	3	4
SAMPLE	FERT/TOTAL	FERT/TOTAL	FERT/TOTAL	FERT/TOTAL
Lab Control	96/101	100/108	103/111	98/104
-001	67/100	74/100	68/100	78/100
-002	68/101	59/100	67/100	64/100
-003	63/100	76/100	67/100	64/100
-004	66/100	60/100	62/100	60/100

CETIS Summary Report

Report Date:	19 Jul-12 09:20 (p 1 of 1)
Test Code:	22301Ap1 | 16-2999-1196

Arbacia Sperm Cell Fertilization Test — **EnviroSystems, Inc.**

Batch ID:	12-6418-8707	**Test Type:**	Fertilization	**Analyst:**	
Start Date:	27 Jun-12 14:45	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Not Applicable
Ending Date:	27 Jun-12 16:05	**Species:**	Arbacia punctulata	**Brine:**	Not Applicable
Duration:	80m	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
22301-000	17-7234-2795	27 Jun-12 14:00	27 Jun-12 14:00	45m	Woods Hole Group	Ecological Risk Asse
22301-001	03-3321-0693	26 Jun-12 09:15	26 Jun-12 19:50	30h (4 °C)		
22301-002	15-7908-4037	26 Jun-12 10:35	26 Jun-12 19:50	28h (4 °C)		
22301-003	17-7972-2026	26 Jun-12 14:10	26 Jun-12 19:50	25h (4 °C)		
22301-004	07-9876-7611	26 Jun-12 14:25	26 Jun-12 19:50	24h (4 °C)		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
22301-000	Surface Water	New Bedford Harbor Monitoring O	Laboratory Control; 22301-000		
22301-001	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-001-062612; 22301-001		
22301-002	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-002-062612; 22301-002		
22301-003	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-003-062612; 22301-003		
22301-004	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-004-062612; 22301-004		

Sample Code	vs	Sample Code	P-Value	Alpha	Decision	Analysis ID	Method
22301-000		22301-001	<0.0001	0.05	Significant Effect	08-7122-2950	Equal Variance t Two-Sample Test
		22301-002	<0.0001	0.05	Significant Effect	08-6851-7634	Equal Variance t Two-Sample Test
		22301-003	<0.0001	0.05	Significant Effect	00-4748-3970	Equal Variance t Two-Sample Test
		22301-004	<0.0001	0.05	Significant Effect	10-2164-2607	Equal Variance t Two-Sample Test

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
00-4748-3970	Proportion Fertilized	Control Resp	0.937	0.7 - 1	Yes	Passes Acceptibility Criteria
08-6851-7634	Proportion Fertilized	Control Resp	0.937	0.7 - 1	Yes	Passes Acceptibility Criteria
08-7122-2950	Proportion Fertilized	Control Resp	0.937	0.7 - 1	Yes	Passes Acceptibility Criteria
10-2164-2607	Proportion Fertilized	Control Resp	0.937	0.7 - 1	Yes	Passes Acceptibility Criteria
00-4748-3970	Proportion Fertilized	PMSD	0.0386	NL - 0.25	No	Passes Acceptibility Criteria
08-6851-7634	Proportion Fertilized	PMSD	0.0251	NL - 0.25	No	Passes Acceptibility Criteria
08-7122-2950	Proportion Fertilized	PMSD	0.0348	NL - 0.25	No	Passes Acceptibility Criteria
10-2164-2607	Proportion Fertilized	PMSD	0.0201	NL - 0.25	No	Passes Acceptibility Criteria

Proportion Fertilized Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	0.937	0.932	0.941	0.926	0.95	0.00588	0.0118	1.26%	0.0%
22301-001	4	0.718	0.698	0.737	0.67	0.78	0.0259	0.0519	7.23%	23.4%
22301-002	4	0.643	0.629	0.658	0.59	0.673	0.0193	0.0386	6.0%	31.3%
22301-003	4	0.675	0.653	0.697	0.63	0.76	0.0296	0.0592	8.76%	27.9%
22301-004	4	0.62	0.609	0.631	0.6	0.66	0.0141	0.0283	4.56%	33.8%

Proportion Fertilized Detail

Conc-NA	Rep 1	Rep 2	Rep 3	Rep 4
22301-000	0.95	0.926	0.928	0.942
22301-001	0.67	0.74	0.68	0.78
22301-002	0.673	0.59	0.67	0.64
22301-003	0.63	0.76	0.67	0.64
22301-004	0.66	0.6	0.62	0.6

Arbacia Sperm Cell Fertilization Test — **EnviroSystems, Inc.**

Analysis ID:	08-7122-2950	**Endpoint:**	Proportion Fertilized	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 9:18	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes proportion fertilized endpoint	3.48%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-001	9.68	1.94	6	0.0614	<0.0001	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.1866916	0.1866916	1	93.6	<0.0001	Significant Effect
Error	0.01196621	0.001994369	6			
Total	0.1986578	0.188686	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	5.67	47.5	0.1878	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.96	0.645	0.8071	Normal Distribution

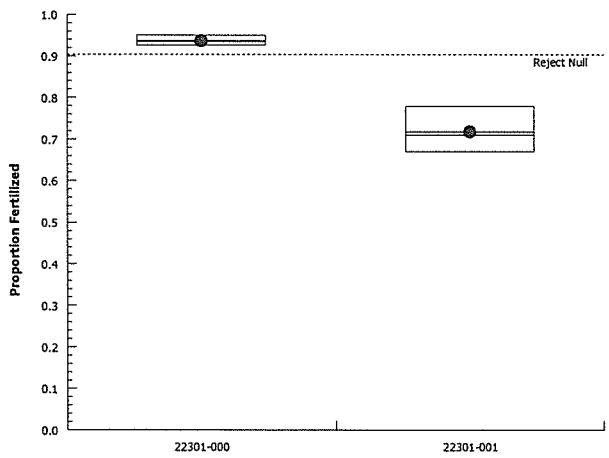
Proportion Fertilized Summary

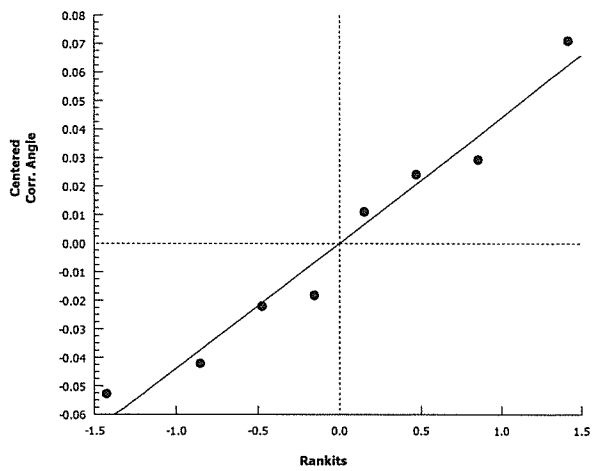
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	0.937	0.932	0.941	0.926	0.95	0.00588	0.0118	1.26%	0.0%
22301-001	4	0.718	0.698	0.737	0.67	0.78	0.0259	0.0519	7.23%	23.4%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	1.32	1.31	1.33	1.3	1.35	0.0122	0.0244	1.86%	0.0%
22301-001	4	1.01	0.99	1.03	0.959	1.08	0.0291	0.0582	5.76%	23.2%

Graphics





Arbacia Sperm Cell Fertilization Test — **EnviroSystems, Inc.**

Analysis ID:	08-6851-7634	**Endpoint:**	Proportion Fertilized	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 9:18	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes proportion fertilized endpoint	2.51%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-002	16.5	1.94	6	0.0456	<0.0001	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.2981575	0.2981575	1	271	<0.0001	Significant Effect
Error	0.006601444	0.001100241	6			
Total	0.3047589	0.2992577	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	2.68	47.5	0.4393	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.908	0.645	0.3378	Normal Distribution

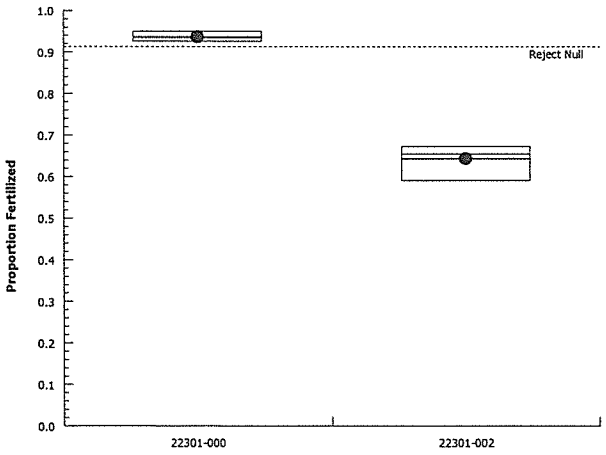
Proportion Fertilized Summary

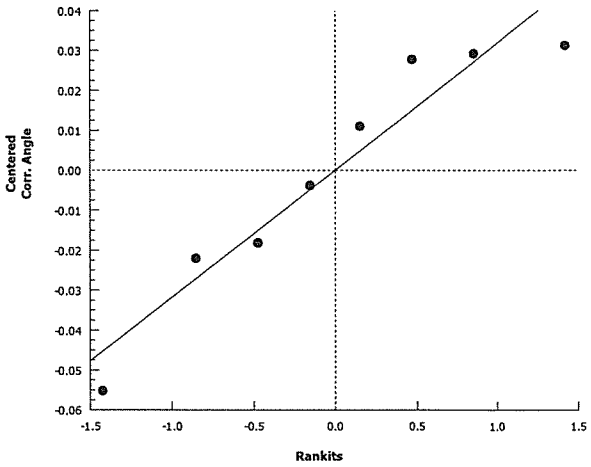
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	0.937	0.932	0.941	0.926	0.95	0.00588	0.0118	1.26%	0.0%
22301-002	4	0.643	0.629	0.658	0.59	0.673	0.0193	0.0386	6.0%	31.3%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	1.32	1.31	1.33	1.3	1.35	0.0122	0.0244	1.86%	0.0%
22301-002	4	0.931	0.916	0.946	0.876	0.962	0.02	0.04	4.3%	29.3%

Graphics





Arbacia Sperm Cell Fertilization Test — **EnviroSystems, Inc.**

Analysis ID:	00-4748-3970	**Endpoint:**	Proportion Fertilized	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 9:19	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes proportion fertilized endpoint	3.86%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-003	10.2	1.94	6	0.0672	<0.0001	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.2474288	0.2474288	1	103	<0.0001	Significant Effect
Error	0.014367	0.002394499	6			
Total	0.2617958	0.2498233	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	7.01	47.5	0.1439	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.899	0.645	0.2814	Normal Distribution

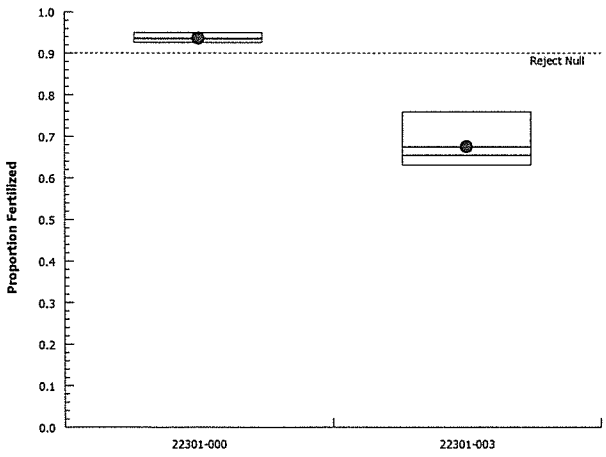
Proportion Fertilized Summary

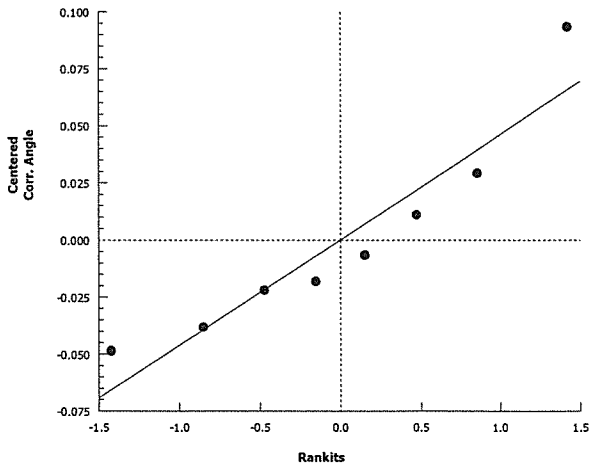
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	0.937	0.932	0.941	0.926	0.95	0.00588	0.0118	1.26%	0.0%
22301-003	4	0.675	0.652	0.698	0.63	0.76	0.0296	0.0592	8.76%	27.9%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	1.32	1.31	1.33	1.3	1.35	0.0122	0.0244	1.86%	0.0%
22301-003	4	0.965	0.941	0.99	0.917	1.06	0.0324	0.0647	6.71%	26.7%

Graphics





CETIS Analytical Report

Report Date: 19 Jul-12 09:20 (p 1 of 4)
Test Code: 22301Ap1 | 16-2999-1196

Arbacia Sperm Cell Fertilization Test — **EnviroSystems, Inc.**

Analysis ID:	10-2164-2607	**Endpoint:**	Proportion Fertilized	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 9:19	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes proportion fertilized endpoint	2.01%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22301-000		22301-004	21.5	1.94	6	0.0371	<0.0001	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.336942	0.336942	1	463	<0.0001	Significant Effect
Error	0.004370985	0.0007284975	6			
Total	0.341313	0.3376705	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1.44	47.5	0.7725	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.846	0.645	0.0867	Normal Distribution

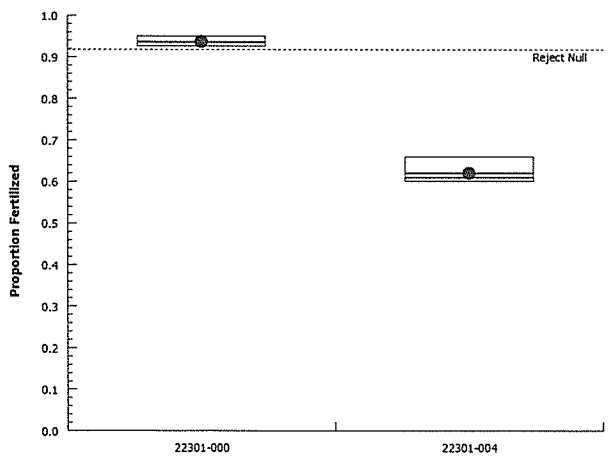
Proportion Fertilized Summary

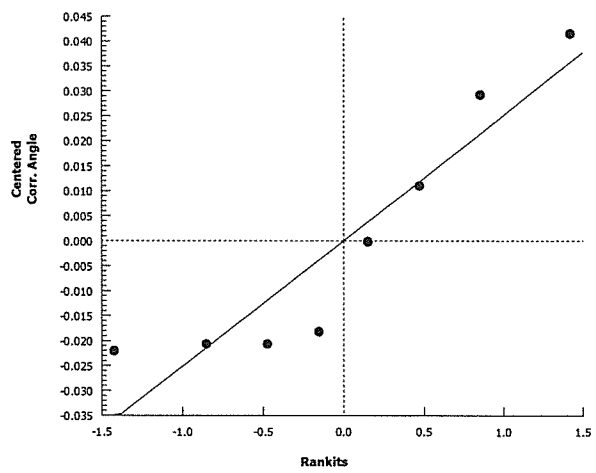
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	0.937	0.932	0.941	0.926	0.95	0.00588	0.0118	1.26%	0.0%
22301-004	4	0.62	0.609	0.631	0.6	0.66	0.0141	0.0283	4.56%	33.8%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22301-000	4	1.32	1.31	1.33	1.3	1.35	0.0122	0.0244	1.86%	0.0%
22301-004	4	0.907	0.896	0.918	0.886	0.948	0.0147	0.0293	3.23%	31.2%

Graphics





SALTWATER ASSAYS

A. bahia, A. punctulata

STUDY: 22301	LOCATION: New Bedford Harbor				
CHEMISTRY	Lab Salt Control	-001	-002	-003	-004
AMMONIA		-005	-006	-007	-008
AS RECEIVED WATER QUALITIES	Lab Salt Control (E3) 6/27	-001	(E3) 6/27 -002	-003	-004
SALINITY (ppt)	~~29.7~~ 30	29.7	~~28.6~~ 29.7	28.6	30.4
pH (SU)	8.16	7.61	7.61	7.64	7.80
TRC (mg/L)	<0.02	<0.02	<0.02	<0.02	<0.02
DO (mg/L)	~~5.8~~ 7.1	~~5.7~~ 5.8	5.7	6.0	6.1
S/C (µmhos/cm)	~~46050~~	(E3) 6/27 ~~45870~~ 46050	~~44280~~ 45870	44280	46740
WQ STATION USED	1	1	1	1	1
INITIALS					
A. bahia SALINITY ADJUSTMENT RECORD	Lab Salt Control	-001	-002	-003	-004
SAMPLE (mLs)	(E3) 6/27				
SEA SALT (g)					
DATE:	All Samples tested		As Received		
TIME:					
INITIALS:					

Sample ID	ESI Cube ID
-001	-001
-002	-002
-003	-003
-004	-004

Americamysis bahia 7 DAY CHRONIC ASSAY
NEW WATER QUALITIES

STUDY:	CLIENT:	LOCATION:	LAB CONTROL:
22301	Woods Hole Group	NEW BEDFORD	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	7.1	6.7	6.9	6.8	7.0	7.0	30	29	28	28	28	29	29
-001	A	6.0	6.3	6.4	6.5	6.5	7.5	7.0	30	30	30	30	30	30	30
-002	A	5.6	6.1	6.3	6.4	6.4	7.8	7.0	30	30	30	30	30	30	29
-003	A	5.6	6.1	6.1	6.4	6.4	7.8	7.2	29	29	29	29	29	29	29
-004	A	5.8	6.7	6.6	6.9	6.4	8.0	7.2	30	31	30	30	30	30	30

		NEW pH (SU)							NEW TEMPERATURE (°C)						
CONC	REP	0	1 (6/28)	2	3	4	5	6	0	1	2	3	4	5	6
LAB	A	8.16	8.11	7.99	8.08	8.01	8.00	8.06	25	24	24	24	25	24	24
-001	A	7.59	~~8.13~~ 7.62	7.58	7.60	7.59	7.52	7.64	25	26	24	24	25	24	24
-002	A	7.55	~~7.62~~ 7.58	7.56	7.56	7.49	7.51	7.62	25	26	24	24	25	24	24
-003	A	7.57	7.60	7.56	7.55	7.48	7.48	7.63	25	26	24	24	26	24	24
-004	A	7.73	7.73	7.72	7.70	7.66	7.66	7.70	25	25	24	24	26	24	24
INC TEMP:		26	26	26	26	26	26	26							
DATE:		6/27/12	6/28/12	6/29	6/30	7/1	7/2/12	7/3/12							
TIME:		1615	1535	1235	1000	1225	1205	1035							
INIT:		[illegible]	[illegible]	CS	LB	SJ	[illegible]	ND							

WATER QUALITY METERS USED NEW WATER QUALITIES								
	0	1	2	3	4	5	6	7
Water Quality Station #		1	1	1	1	2	1	
Initials		[illegible]	~~[illegible]~~ CS	LB	SJ	[illegible]	ND	
Date	6/27/12	6/28/12	6/29/12	6/30	7/1	7/2/12	7/3/12	

(3) CS 6/29

Americamysis bahia 7 DAY CHRONIC ASSAY
OLD WATER QUALITIES

STUDY: 22301	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	30	30	28	29	29	29	30	8.00	7.84	7.89	7.81	7.79	7.81	7.78
-001	A	31	31	30	31	31	31	31	7.86	7.78	7.79	7.75	7.60	7.64	7.73
-002	A	31	31	30	31	31	30	30	7.82	7.78	7.82	7.71	7.72	7.70	7.75
-003	A	29	30	30	30	30	29	30	7.80	7.78	7.79	7.70	7.76	7.73	7.71
-004	A	31	31	31	31	31	31	31	7.82	7.85	7.89	7.84	7.76	7.76	7.78

OLD TEMPERATURE (°C)															
Conc	Rep	1	2	3	4	5	6	7							
Control	A	24	24	24	25	24	24	24							
-001	A	24	24	24	25	24	24	24							
-002	A	24	24	24	25	24	24	24							
-003	A	24	24	24	25	24	24	24							
-004	A	24	24	24	25	24	24	24							
INC TEMP:		26	26	26	26	26	26	26							
DATE:		6/28/12	6/29	6/30	7/1	7/2/12	7/3/12	7/4							
TIME:		1335	1205	0910	1030	0930	0920	0930							
INITIALS:		[illegible]	CS	LB	SJ	[illegible]	ND	LB							

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	1	1	1	1	1	1
Initials		[illegible]	CS	LB	SJ	[illegible]	ND	LB
Date	6/27/12	6/28/12	6/29	6/30	7/1	7/2	7/3	7/4

Americamysis bahia 7 DAY CHRONIC ASSAY
SAMPLE USE RECORD

STUDY: 22301	CLIENT: Woods HoleGroup
SPECIES: *A. bahia*	TEST: chronic renewal

Sample	Day: 0 Volume Used (mL)	Day: 0 ESI Cube ID	Day: 1 Volume Used (mL)	Day: 1 ESI Cube ID	Day: 2 Volume Used (mL)	Day: 2 ESI Cube ID	Day	Date	Time	Init
Lab Control	1600	n/a	1600	n/a	1600	n/a	0	6/27/12	1530	[illegible]
-001	↓	-001	↓	-001	↓	-001	1	6/28/12	1515	[illegible]
-002	↓	-002	↓	-002	↓	-002	2	6/29	1230	CS
-003	↓	-003	↓	-003	↓	-003	3	6/30	0940	LG
-004	↓	-004	↓	-004	↓	-004	4	7/1	1220	SJ
							5	7/2/12	1050	[illegible]
							6	7/3/12	1020	[illegible]

Sample	Day: 3 Volume Used (mL)	Day: 3 ESI Cube ID	Day: 4 Volume Used (mL)	Day: 4 ESI Cube ID	Day: 5 Volume Used (mL)	Day: 5 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 Volume Used (mL)	Day: 6 ESI Cube ID
Lab Control	1600	n/a
-001	↓	001
-002	↓	002
-003	↓	003
-004	↓	004

DILUTIONS

STUDY: 22301	CLIENT: Woods Hole Group	
SPECIES: *A. bahia*		
	Sample: New Bedford Harbor	
Concentration %	Vol. Eff.(mls)	Final Vol.(mls)
Lab	800	800
-001	↓	↓
-002	↓	↓
-003	↓	↓
-004	↓	↓
INITIALS:	[illegible]	
TIME:	1530	
DATE:	6/27/12	

RECORD OF METERS USED

STUDY: 22301		CLIENT: Woods Hole Group	
A.bahia			
Exposure (Hours)			
	0	24	48
Water Quality Station #	1	2	1
Initials / Date	6/28/12	UB 6/28	CS 6/29

Water Quality Station #1		Water Quality Station #2		COMMENTS
DO meter #	24	DO meter #	23	
DO probe #	90	DO probe #	89	
pH meter #	1097	pH meter #	470	
pH probe #	103	pH probe #	106	
S/C meter #	YSI30E	S/C meter #	YSI30E	
S/C probe #	↓	S/C probe #	↓	
Salinity meter #	↓	Salinity meter #	↓	

Report No: 22301 SDG:
Project: New Bedford Environmental Monitoring

Sample ID: WQ-TOX-001-062612
Matrix: Water
Sampled: 06/27/12 1130

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	22301-005	0.13	0.1	mg/L as N	06/28/12 1501	06/28/12 1501	JLH/SM 4500-NH3 G

Sample ID: WQ-TOX-002-062612
Matrix: Water
Sampled: 06/27/12 1130

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	22301-006	0.13	0.1	mg/L as N	06/28/12 1504	06/28/12 1504	JLH/SM 4500-NH3 G

Sample ID: WQ-TOX-003-062612
Matrix: Water
Sampled: 06/27/12 1130

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	22301-007	0.1	0.1	mg/L as N	06/28/12 1505	06/28/12 1505	JLH/SM 4500-NH3 G

Sample ID: WQ-TOX-004-062612
Matrix: Water
Sampled: 06/27/12 1130

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	22301-008	ND	0.1	mg/L as N	06/28/12 1506	06/28/12 1506	JLH/SM 4500-NH3 G

Notes:

ND = Not Detected

ESI

SAMPLE RECEIPT AND CONDITION DOCUMENTATION

STUDY NO:	22301		
SDG No:			
Project:	New Bedford Environmental Monitoring		
Delivered via:	Client		
Date and Time Received:	06/26/12 1950	Date and TIme Logged into Lab:	06/26/12 0930
Recieved By:	KC	Logged into Lab by:	LB LB
Air bill / Way bill:	No	Air bill included in folder if received?	NA
Cooler on ice/packs:	No	Custody Seals present?	NA
Cooler Blank Temp (C) at arrival:	4C	Custody Seals intact?	NA
Number of COC Pages:	1		
COC Serial Number(s):			
COC Complete:	Yes	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-001-062612	22301-001	W	AB7DCR,AB48AD,AP01CR	2x10L p	4C	
WQ-TOX-002-062612	22301-002	W	AB7DCR,AB48AD,AP01CR	2x10L p	4C	
WQ-TOX-003-062612	22301-003	W	AB7DCR,AB48AD,AP01CR	2x10L p	4C	
WQ-TOX-004-062612	22301-004	W	AB7DCR,AB48AD,AP01CR	2x10L p	4C	

Notes and qualifications:

ESI
EnviroSystems, Inc.
1 Lafayette Road
P.O. Box 778
Hampton, N.H. 03843

Voice: 603-926-3345
FAX: 603-926-3521

ESI Job No: 4174 22301

CHAIN OF CUSTODY DOCUMENTATION

Client: WOODS HOLE GROUP	Contact: Dack Stuart	Project Name: New Bedford Env. monitoring	Page 1 of 1
Report to: Dack Stuart	Address: 81 Technology Park	Project Number: TO-0010-07	
Invoice to: Dack Stuart	Address: East Falmouth, MA 02536	Project Manager: Dave Walsh	
Voice: 508-540-8080	Fax: 508-540-1001	email: DGS DSTUART@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)~~ L	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: A. punctulata - 1 Hr A. bahia {7-day 48 hr
001	WQ-TOX-001-062612	6/26/12	0915	DGS	G	10×2	P	N/A	W	N	All 3 analyses
002	WQ-TOX-002-062612	6/26/12	1035	DGS	G	10×2	P	N/A	W	N	All 3 analyses
003	WQ-TOX-003-062612	6/26/12	1410	DGS	G	10×2	P	N/A	W	N	All 3 analyses
004	WQ-TOX-004-062612	6/26/12	1425	DGS	G	10×2	P	N/A	W	N	All 3 analyses

Relinquished By:	Date: 6.26.12 Time: 1450	Received By:	Date: 6/26/12 Time: 1950
Relinquished By:	Date: Time:	Received at Lab By:	Date: Time:

Comments:

Sample Delivery Group No:	Page of

COC Doc No:

Biomonitoring of Surface Water Samples
New Bedford Harbor, New Bedford, Massachusetts

June 27, 2012 Sampling Event
NED ACOE Task Order Number: TO-0010-07

1.0 INTRODUCTION

This report provides a summary of data generated from acute and chronic exposure assays evaluating surface water samples collected from New Bedford Harbor in New Bedford, Massachusetts. Toxicity tests were conducted on four grab surface water samples collected on June 27, 2012 from specified areas in the harbor. Samples were collected in the vicinity of dredging operations under the supervision of Woods Hole Group, Inc. personnel from the East Falmouth, Massachusetts office and were evaluated "As Received" without additional dilutions. Testing was based on programs and protocols developed by the US EPA (2002) and included the following assays; 48 hour acute and 7 day chronic assays conducted with the mysid shrimp, *Americamysis bahia*, and 60 minute chronic fertilization assays conducted with the purple sea urchin, *Arbacia punctulata*. Assay design included a laboratory control treatment. All 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. See Section 4.0 for a list of references.

2.2 Test Species

A. bahia were obtained from cultures maintained by Aquatic Research Organisms (ARO), Hampton, New Hampshire. At the start of the assays the mysids were <5 days old for the acute evaluation and 7 days old for the chronic evaluation. Juveniles were fed ≤24 hour old brine shrimp on a daily basis. Water temperature, salinity, and pH were monitored on a daily basis. Organisms were 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.

2.3 Surface Water Samples and Laboratory Control Water

Four grab surface water samples were collected by Woods Hole Group, Inc. staff on June 27, 2012 in New Bedford Harbor. Samples were placed in 10 L polyethylene cubitainers for shipment to the laboratory. Sample receipt information is shown in Table 1.

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). When necessary, the salinity of samples for the *A. bahia* assays were adjusted to 25±2‰ while samples used for the *A. punctulata* assays were adjusted to 30±2‰ using commercial sea salts. Samples with "as received" salinity above these levels or within ±2‰ of either 30‰ or 25‰ were not adjusted. A summary of "As Received" data are presented 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.

2.4 Bioassays

2.4.1 *Americamysis bahia* Acute Exposure Bioassay

The endpoint for the 48 hour *A. bahia* bioassay was survival (acute). The static acute toxicity test was conducted at 25±1°C with a photoperiod of 16:8 hours light:dark. Test chambers for the acute assay 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 all replicates and pH, temperature, and salinity were measured daily in one replicate of each test treatment. Specific conductance was measured in one replicate of each test concentration at the start of the assay. Mysids were fed ≤24 hour old *Artemia* nauplii during the assay.

2.4.2 *Americamysis bahia* Chronic Exposure Bioassay

Endpoints for the 7 day *A. bahia* bioassays were survival and growth. Chronic exposure screening assays were conducted in a static renewal test mode with renewals made at 24-hour intervals. The assays were conducted at a temperature of 25±1°C with a photoperiod of 16:8 hours light:dark. Mysids were maintained in 300 mL beakers containing 200 mL of test solution. Approximately 150 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 daily from a single replicate of the "old" test solution. All water quality parameters were recorded from a single replicate of the "new" test solution. 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 104°C. Foils were weighed to the nearest 0.01 mg. Mean dry biomass 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.

2.4.3 *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.

2.5 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 $\propto$ <0.05. The laboratory control was used for both assays to determine whether there were significant reductions in survival or fertilization as compared to the site samples. If survival in the acute assay was greater than 90%, then a determination of "not significant" was made based on direct observation.

2.6 Quality Control

As part of the laboratory quality control program, standard reference toxicant assays are completed on a regular basis for each test species. These results, summarized in Table 3, provide relative health and response data while allowing for comparison with historic data sets.

3.0 RESULTS SUMMARY

Tables 4 and 5 provide summaries of survival, growth and fertilization endpoints and associated statistical analyses for *A. bahia* and *A. punctulata* for the June 27, 2012 sampling events. Support data, including copies of laboratory bench sheets, are provided in Appendix A.

3.1 *Americamysis bahia* Acute Exposure Bioassay

Minimum test acceptability criteria for the acute exposure bioassay require ≥90% survival in the control concentration. Achievement of these results indicate that healthy test organisms were used. See Table 4 for test acceptability and data summary.

3.2 *Americamysis bahia* Chronic Exposure Bioassay

Minimum test acceptability criteria for the chronic exposure bioassay require ≥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 5 for test acceptability and data summary.

3.3 *Arbacia punctulata* Chronic Fertilization Bioassay

Protocol specifies a 70% to 90% fertilization rate for *Arbacia punculata* (EPA 2002). Achievement of these results indicate that healthy test organisms were used. See Table 5 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 Dredge Monitoring. June 27, 2012.

Field ID	ESI Code	Type of Sample	Matrix	Collection		Receipt	
				Date	Time	Date	Time
WQ-TOX-001-062712	22302-001	Grab	Water	06/27/12	1100	06/27/12	1945
WQ-TOX-002-062712	22302-002	Grab	Water	06/27/12	1215	06/27/12	1945
WQ-TOX-003-062712	22302-003	Grab	Water	06/27/12	1505	06/27/12	1945
WQ-TOX-004-062712	22302-004	Grab	Water	06/27/12	1545	06/27/12	1945

Table 2. Summary of "As Received" Sample Physical and Chemical Characteristics.
New Bedford Harbor Dredge Monitoring. June 27, 2012.

Field ID	ESI Code	Ammonia* (mg/L)	pH (SU)	Salinity (‰)	Total Residual Chlorine (mg/L)
WQ-TOX-001-062712	22302-001	0.1	7.62	30	<0.02
WQ-TOX-002-062712	22302-002	0.18	7.58	30	<0.02
WQ-TOX-003-062712	22302-003	0.16	7.64	29	<0.02
WQ-TOX-004-062712	22302-004	0.11	7.68	30	<0.02

COMMENTS:
* Ammonia samples were sub-sampled at ESI on June 28, 2012.

Table 3. Reference Toxicant Summary.
New Bedford Harbor Dredge Monitoring. June 27, 2012.

Date	Endpoint		Value	Historic Mean/ Central Tendency	Acceptable Range	Reference Toxicant
A. bahia						
06/27/12	Survival	LC-50 - 48 Hr	23.3	21.3	15.7 - 26.9	SDS (mg/L)
06/27/12	Survival	C-NOEC	15.0	15.0	10.0 - 25.0	SDS (mg/L)
06/27/12	Growth	C-NOEC	15.0	10.0	5.0 - 15.0	SDS (mg/L)
A. punctulata						
06/27/12	Fertilization	C-NOEC	<1**	10.0	5.0 - 20.0	Copper (µg/L)
06/27/12	Fertilization	IC-25	8.5	31.2	0 - 71.4	Copper (µg/L)

Mean and Acceptable Ranges based on most recent 20 reference toxicant assays (NELAP standard)

** Normal Acceptance Limits for the NOEC endpoint are set at ±1 concentration surrounding the central tendency. The NOEC for this series of reference toxicant assays is outside of acceptable range. However, as the IC-25 endpoint for the assay was within the acceptable limits of ±2 Standard Deviations of historic mean the reference toxicant evaluation was considered to be acceptable.

Table 4. Summary of Acute Exposure Assay: *A. bahia*.
New Bedford Harbor Dredge Monitoring. June 27, 2012.

Field ID	ESI Code	Percent Survival	Significant Difference vs. Lab?
Laboratory Control	22302-000	97.5%	-
WQ-TOX-001-062712	22302-001	100.0%	No
WQ-TOX-002-062712	22302-002	100.0%	No
WQ-TOX-003-062712	22302-003	92.5%	No
WQ-TOX-004-062712	22302-004	97.5%	No

Table 5. Summary of Chronic Exposure Assays: *A. bahia* and *A. punctulata*. **New Bedford Harbor Dredge Monitoring. June 27, 2012.**

Sample ID	ESI Code	Reps	Mean	Min	Max	CV	Significant Difference vs Lab?
Americamysis bahia				Survival			
Laboratory Control	22302-000		95.0%	80.0%	100.0%	9.8%	-
WQ-TOX-001-062712	22302-001		95.0%	80.0%	100.0%	9.8%	No
WQ-TOX-002-062712	22302-002	8	90.0%	60.0%	100.0%	16.8%	No
WQ-TOX-003-062712	22302-003		87.5%	60.0%	100.0%	17.0%	No
WQ-TOX-004-062712	22302-004		92.5%	80.0%	100.0%	11.2%	No
Americamysis bahia				Growth - Biomass			
Laboratory Control	22302-000		0.320	0.220	0.368	15.8%	-
WQ-TOX-001-062712	22302-001		0.393	0.290	0.464	15.6%	No
WQ-TOX-002-062712	22302-002	8	0.350	0.252	0.416	17.6%	No
WQ-TOX-003-062712	22302-003		0.368	0.232	0.438	19.3%	No
WQ-TOX-004-062712	22302-004		0.414	0.296	0.568	22.6%	No
Americamysis bahia				Growth - Dry Weight			
Laboratory Control	22302-000	8	0.336	0.275	0.368	9.5%	-
Arbacia punctulata				Portion Fertilized			
Laboratory Control	22302-000		88.5%	85.6%	90.0%	2.2%	-
WQ-TOX-001-062712	22302-001		88.6%	86.0%	92.0%	3.0%	No
WQ-TOX-002-062712	22302-002	4	88.3%	86.0%	91.1%	2.4%	No
WQ-TOX-003-062712	22302-003		84.5%	81.5%	86.3%	2.5%	Yes
WQ-TOX-004-062712	22302-004		91.1%	90.1%	92.2%	0.9%	No

APPENDIX A

SUPPORT DATA

Contents	# Pages
Methods Summary	1
Study 22302: Sample Date June 27, 2012	
A. bahia Bench Sheets & Statistical Analysis Report and Organisms Culture Sheets	22
A. punctulata Bench Sheets and Statistical Analysis Report	7
Water Quality Bench Sheets, Dilution Prep Sheets and Meter Use Records	6
Analytical Chemistry Report	1
Sample Receipt Records	1
Chain of Custody and Organism Shipping Information	1
Total Appendix Pages	39

METHODS USED IN NPDES PERMIT BIOMONITORING TESTING

Parameter	Method
Acute Exposure Bioassays:	
Ceriodaphnia dubia	EPA-821-R-02-012 2002.0
Daphnia pulex	EPA-821-R-02-012 2021.0
Pimephales promelas	EPA-821-R-02-012 2000.0
Americamysis bahia	EPA-821-R-02-012 2007.0
Menidia beryllina	EPA-821-R-02-012 2006.0
Cyprinodon variegatus	EPA-821-R-02-012 2004.0
Chronic Exposure Bioassays:	
Ceriodaphnia dubia	EPA-821-R-02-013 1002.0
Pimephales promelas	EPA-821-R-02-013 1000.0
Cyprinodon variegatus	EPA-821-R-02-014 1004.0
Menidia beryllina	EPA-821-R-02-014 1006.0
Americamysis bahia	EPA-821-R-02-014 1007.0
Arbacia punctulata	EPA-821-R-02-014 1008.0
Champia parvula	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 20th Edition - Method 2340 B
Wet Chemistries:	
Alkalinity	EPA 310.2
Chlorine, Residual	Standard Methods 20th Edition - Method 4500CLD
Total Organic Carbon	Standard Methods 20th Edition - Method 5310C
Specific Conductance	Standard Methods 20th Edition - Method 2510B
Nitrogen - Ammonia	Standard Methods 20th Edition - Method 4500NH3G
pH	Standard Methods 20th Edition - Method 4500H+B
Solids, Total (TS)	Standard Methods 20th Edition - Method 2540 B
Solids, Total Dissolved (TDS)	Standard Methods 20th Edition - Method 2540 C
Solids, Total Suspended (TSS)	Standard Methods 20th Edition - Method 2540 D
Dissolved Oxygen	Standard Methods 20th Edition - Method 4500-O G

Please visit our web site at www.envirosystems.com for a copy of our NH NELAP Accreditation and Massachusetts State Certification.

25±2ppt

ACUTE BIOASSAY DATA SUMMARY

STUDY: 22302

CLIENT: Woods Hole Group

TEST ORGANISM: *A. bahia*

SAMPLE: New Bedford Harbor

ORGANISM SUPPLIER/BATCH/AGE: *See Organism Culture Sheet*

"AS RECEIVED" EFFLUENT AND DILUENT CHEMISTRIES

	TRC	TS/TSS	AMM	TOC	T.METAL	SAL	pH	S/C
EFF	<0.02					See	As Received	
DIL	/					Water quality	sheet	

CONC	REP	SURVIVAL 0	SURVIVAL 24	SURVIVAL 48	DO (mg/L) 0	DO (mg/L) 24	DO (mg/L) 48	pH (SU) 0	pH (SU) 24	pH (SU) 48	TEMP (°C) 0	TEMP (°C) 24	TEMP (°C) 48	SALINITY (ppt) 0	SALINITY (ppt) 24	SALINITY (ppt) 48	S/C (µmhos/cm) 0
LAB	A	10	10	10	7.5	5.8	5.9	8.05	7.88	7.82	SJ 6/28/12 ~~24~~ 25	24	24	29	30	29	44060
	B	10	10	10	7.5	5.7	5.6										
	C	10	9	9	7.5	5.8	5.8										
	D	10	10	10	7.5	5.9	6.2										
-001	A	10	10	10	7.2	6.1	6.2	7.60	7.84	7.78	25	24	24	30	31	31	46100
	B	10	10	10	7.2	5.9	6.1										
	C	10	10	10	7.2	5.9	6.0										
	D	10	10	10	7.2	5.9	6.0										
-002	A	10	10	10	7.1	6.0	6.1	7.56	7.84	7.78	25	24	24	30	31	31	46280
	B	10	10	10	7.1	6.1	6.0										
	C	10	10	10	7.1	6.1	6.2										
	D	10	10	10	7.1	5.8	6.1										
-003	A	10	9	9	7.0	5.9	5.8	7.62	7.84	7.74	25	24	24	29	30	30	45230
	B	10	10	9	7.0	6.0	5.8										
	C	10	10	10	7.0	6.1	5.8										
	D	10	9	9	7.0	6.2	5.9										
DATE		6/28/12	6/29	6/30	6/28/12	6/29/12	6/30										
TIME		1445	1615	1245	1405	1655	~~1600~~ 1245										
INITIALS		SJ	CS	UB	SJ	—	~~CS~~ UB										

CS 6/29

ACUTE BIOASSAY DATA SUMMARY

STUDY: 22302 | SAMPLE: New Bedford Harbor

CLIENT: Woods Hole Group | TEST ORGANISM: *A. bahia*

CONC	REP	SURVIVAL 0	SURVIVAL 24	SURVIVAL 48	DO (mg/L) 0	DO (mg/L) 24	DO (mg/L) 48	pH (SU) 0	pH (SU) 24	pH (SU) 48	TEMP (°C) 0	TEMP (°C) 24	TEMP (°C) 48	SALINITY (ppt) 0	SALINITY (ppt) 24	SALINITY (ppt) 48	S/C (µmhos/cm) 0
-004	A	10	10	10	7.4	6.1	6.1	7.66	7.86	7.82	24	24	24	30	31	31	46730
	B	10	10	10	7.4	6.0	6.2										
	C	10	9	9	7.4	6.1	6.2										
	D	10	10	10	7.4	6.2	6.3										
	A																
	B																
	C																
	D																
	A																
	B																
	C																
	D																
	A																
	B																
	C																
	D																
DATE		6/28/12	6/29	6/30	6/28/12	6/28/12	6/30										
TIME		1445	1615	1245	1405	1555	1235										
INITIALS		SJ	CS	LB	SJ		LB										

CETIS Summary Report

Report Date: 19 Jul-12 11:09 (p 1 of 1)
Test Code: 22302Ab48h | 03-7088-3875

Americamysis 48-Hr Survival Test — **EnviroSystems, Inc.**

Batch ID:	04-6803-5875	**Test Type:**	Survival (48h)	**Analyst:**	
Start Date:	28 Jun-12 14:45	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Not Applicable
Ending Date:	30 Jun-12 12:45	**Species:**	Americamysis bahia	**Brine:**	Not Applicable
Duration:	46h	**Source:**	ARO - Aquatic Research Organisms, NH	**Age:**	<5 d

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
22302-000	07-9287-4257	28 Jun-12 13:25	28 Jun-12 13:25	80m	Woods Hole Group	Ecological Risk Asse
22302-001	03-7155-1741	27 Jun-12 11:00	27 Jun-12 19:45	28h (4 °C)		
22302-002	19-3683-3781	27 Jun-12 12:15	27 Jun-12 19:45	27h (4 °C)		
22302-003	15-2661-8212	27 Jun-12 15:05	27 Jun-12 19:45	24h (4 °C)		
22302-004	07-1373-5172	27 Jun-12 15:45	27 Jun-12 19:45	23h (4 °C)		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
22302-000	Surface Water	New Bedford Harbor Monitoring O	Laboratory Control; 22302-000		
22302-001	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-001-062712; 22302-001		
22302-002	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-002-062712; 22302-002		
22302-003	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-003-062712; 22302-003		
22302-004	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-004-062712; 22302-004		

Sample Code	vs	Sample Code	P-Value	Alpha	Decision	Analysis ID	Method
22302-000		22302-001	0.6571	0.05	Non-Significant Effect	15-9582-6515	Wilcoxon Rank Sum Two-Sample Test
		22302-002	0.6571	0.05	Non-Significant Effect	20-7780-7739	Wilcoxon Rank Sum Two-Sample Test
		22302-003	0.1035	0.05	Non-Significant Effect	11-8777-8331	Equal Variance t Two-Sample Test
		22302-004	0.4429	0.05	Non-Significant Effect	00-6666-3792	Wilcoxon Rank Sum Two-Sample Test

48h Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	0.0%
22302-001	4	1	1	1	1	1	0	0	0.0%	-2.56%
22302-002	4	1	1	1	1	1	0	0	0.0%	-2.56%
22302-003	4	0.925	0.906	0.944	0.9	1	0.025	0.05	5.41%	5.13%
22302-004	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	0.0%

48h Proportion Survived Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4
22302-000	1	1	0.9	1
22302-001	1	1	1	1
22302-002	1	1	1	1
22302-003	0.9	0.9	1	0.9
22302-004	1	1	0.9	1

Americamysis 48-Hr Survival Test — **EnviroSystems, Inc.**

Analysis ID:	15-9582-6515	**Endpoint:**	48h Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 9:55	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 48h proportion survived endpoint	2%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
22302-000		22302-001	20		6	1	0.6571	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.003319917	0.003319917	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.003319917	6			
Total	0.02323942	0.006639833	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	1	13.7	0.3559	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.706	0.645	0.0027	Non-normal Distribution

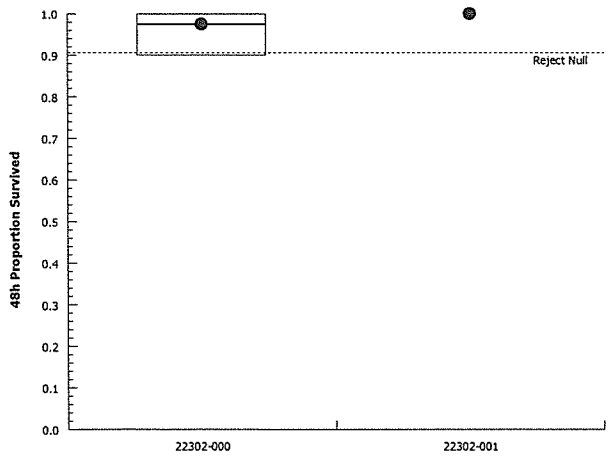
48h Proportion Survived Summary

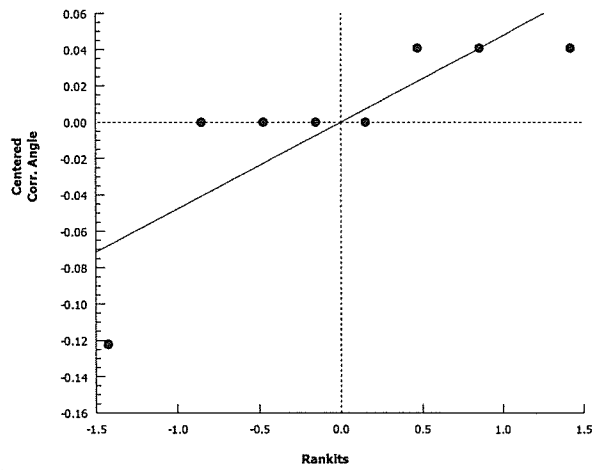
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	0.0%
22302-001	4	1	1	1	1	1	0	0	0.0%	-2.56%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	1.37	1.34	1.4	1.25	1.41	0.0407	0.0815	5.94%	0.0%
22302-001	4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	-2.97%

Graphics





Americamysis 48-Hr Survival Test — **EnviroSystems, Inc.**

Analysis ID:	20-7780-7739	**Endpoint:**	48h Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 9:55	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 48h proportion survived endpoint	5.12%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
22302-000		22302-002	20		6	1	0.6571	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.003319917	0.003319917	1	1	0.3559	Non-Significant Effect
Error	0.0199195	0.003319917	6			
Total	0.02323942	0.006639833	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	1	13.7	0.3559	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.706	0.645	0.0027	Non-normal Distribution

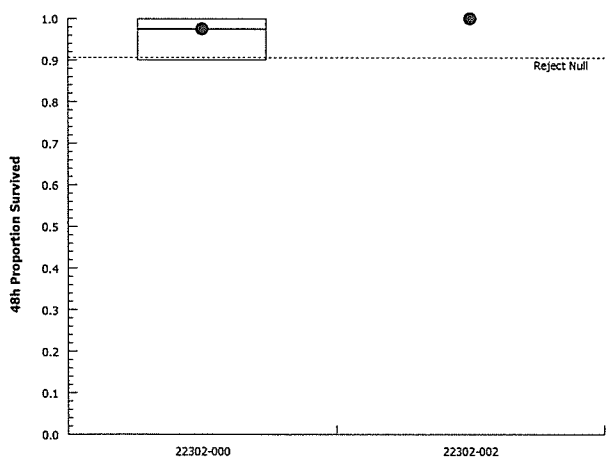
48h Proportion Survived Summary

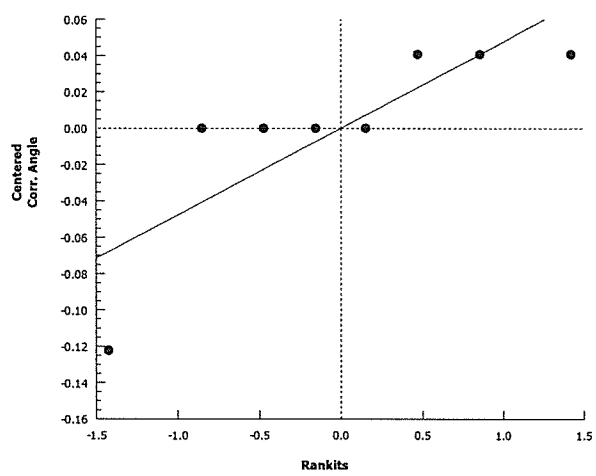
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	0.0%
22302-002	4	1	1	1	1	1	0	0	0.0%	-2.56%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	1.37	1.34	1.4	1.25	1.41	0.0407	0.0815	5.94%	0.0%
22302-002	4	1.41	1.41	1.41	1.41	1.41	0	0	0.0%	-2.97%

Graphics





Americamysis 48-Hr Survival Test — **EnviroSystems, Inc.**

Analysis ID:	11-8777-8331	**Endpoint:**	48h Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 9:55	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 48h proportion survived endpoint	7.07%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22302-000		22302-003	1.41	1.94	6	0.112	0.1035	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.01327967	0.01327967	1	2	0.2070	Non-Significant Effect
Error	0.039839	0.006639833	6			
Total	0.05311866	0.0199195	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1	47.5	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.931	0.645	0.5224	Normal Distribution

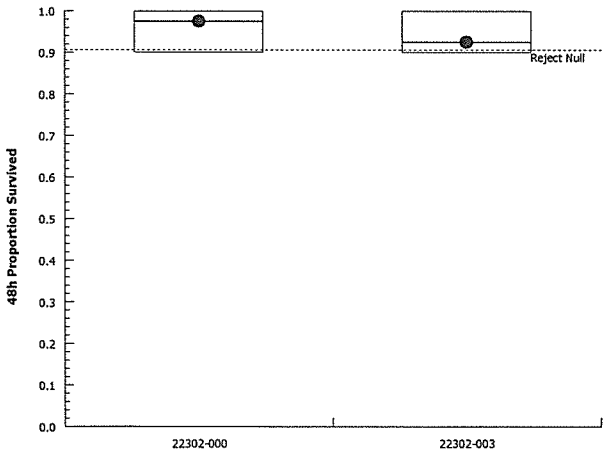
48h Proportion Survived Summary

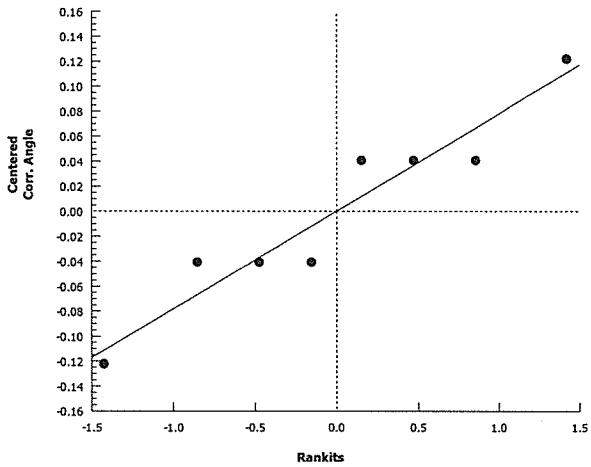
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	0.0%
22302-003	4	0.925	0.906	0.944	0.9	1	0.025	0.05	5.41%	5.13%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	1.37	1.34	1.4	1.25	1.41	0.0407	0.0815	5.94%	0.0%
22302-003	4	1.29	1.26	1.32	1.25	1.41	0.0407	0.0815	6.32%	5.94%

Graphics





CETIS Analytical Report

Report Date: 19 Jul-12 11:09 (p 1 of 4)
Test Code: 22302Ab48h | 03-7088-3875

Americamysis 48-Hr Survival Test — **EnviroSystems, Inc.**

Analysis ID:	00-6666-3792	**Endpoint:**	48h Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 9:56	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 48h proportion survived endpoint	7.07%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
22302-000		22302-004	18		6	2	0.4429	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.039839	0.006639833	6			
Total	0.039839	0.006639833	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1	47.5	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.566	0.645	<0.0001	Non-normal Distribution

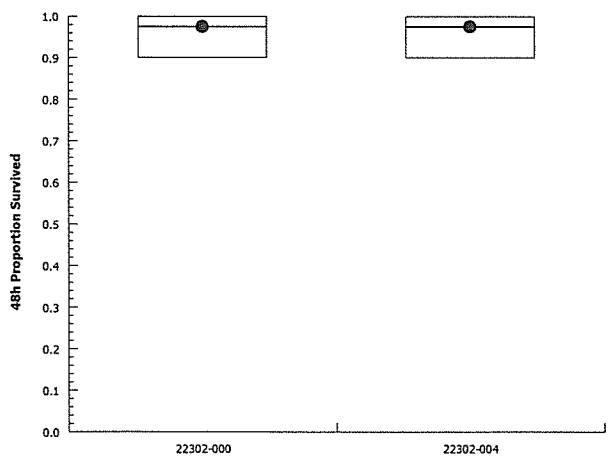
48h Proportion Survived Summary

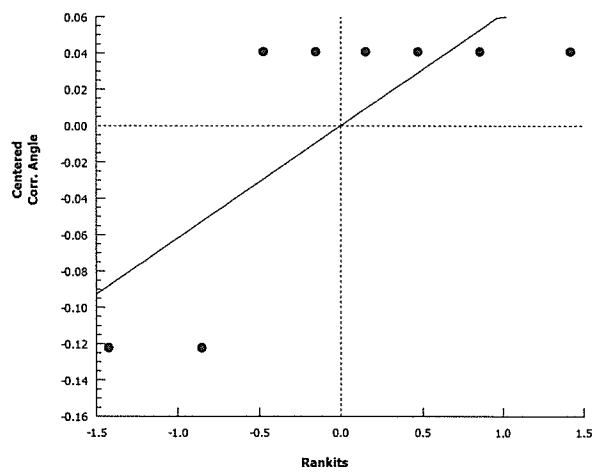
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	0.0%
22302-004	4	0.975	0.956	0.994	0.9	1	0.025	0.05	5.13%	0.0%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	1.37	1.34	1.4	1.25	1.41	0.0407	0.0815	5.94%	0.0%
22302-004	4	1.37	1.34	1.4	1.25	1.41	0.0407	0.0815	5.94%	0.0%

Graphics





Rec 6/28/12

Aquatic Research Organisms

DATA SHEET

I. Organism History

Species AMERICAMYSIS BAHIA

Source: Lab reared ✓ Hatchery reared ____ Field collected ____

Hatch date 6-26-12 Receipt date ____

Lot number 062612MS Strain ____

Brood origination FLORIDA

II. Water Quality

Temperature 25 °C Salinity ≈28 ppt D.O. — ppm

pH 7.8 su Hardness — ppm Alkalinity — ppm

III. Culture Conditions

Freshwater ____ Saltwater ✓ Other ____

Recirculating ✓ Flow through ____ Static renewal ____

DIET: Flake food ✓ Phytoplankton ____ Trout chow ____

Artemia ✓ Rotifers ____ YCT ____ Other Encap. Shrimp Diet

Prophylactic treatments: ____

Comments: ____

IV. Shipping Information

Client: EST # of Organisms 240+

Carrier: ____ Date shipped 6-28-12

Biologist: Mark Rosengrot

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650 AROFISH@AOL.COM
WWW.AROFISH.US

Americamysis bahia 7 DAY CHRONIC ASSAY
SURVIVAL & OLD WATER QUALITIES

STUDY: 22302	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	6.1	6.0	6.2	5.7	5.2	5.9
	B	5	5	5	5	5	5	5	5	6.4	6.0	5.8	6.1	5.9	5.3	5.8
	C	5	5	5	5	5	5	5	4	6.6	5.9	5.7	6.1	5.8	5.4	5.9
	D	5	5	5	5	5	5	5	5	6.6	5.9	5.7	5.7	5.7	5.4	6.0
	E	5	5	5	4	4	4	4	4	6.4	5.9	5.8	6.2	5.6	5.4	5.8
	F	5	5	5	5	5	5	5	5	6.3	6.0	5.8	6.2	5.7	5.4	5.6
	G	5	5	5	5	5	5	5	5	6.4	6.0	5.8	6.2	6.0	5.4	5.9
	H	5	5	5	5	5	5	5	5	6.5	6.0	5.9	6.1	5.9	5.5	5.8
-001	A	5	5	5	5	5	5	5	5	6.4	6.0	5.8	6.0	5.7	5.4	5.4
	B	5	5	5	5	5	5	5	5	6.2	6.0	5.7	5.8	5.9	5.3	5.5
	C	5	5	5	5	5	5	4	4	6.3	6.0	5.8	6.1	5.9	5.2	5.8
	D	5	5	5	5	5	5	5	5	6.2	6.0	5.8	6.1	5.7	5.3	5.4
	E	5	5	5	5	5	5	5	5	6.1	5.9	5.9	6.2	5.9	5.4	5.3
	F	5	5	5	5	5	5	5	5	6.1	5.8	5.9	6.3	5.5	5.4	5.4
	G	5	5	5	5	5	5	5	5	6.0	5.9	5.8	6.2	5.2	5.4	5.5
	H	5	4	4	4	4	4	4	4	6.0	5.9	5.9	~~6~~ 5.4	5.6	5.4	5.2
-002	A	5	5	5	5	5	5	5	5	5.9	5.8	5.9	5.1	5.8	5.4	5.1
	B	5	5	5	5	5	5	5	4	6.0	5.6	5.8	5.6	5.8	5.2	5.2
	C	5	5	5	5	5	5	5	5	6.1	5.9	5.7	5.6	5.7	5.3	5.3
	D	5	5	4	4	4	4	3	3	6.1	5.9	5.6	5.0	5.2	5.4	5.4
	E	5	5	5	5	5	5	5	5	6.1	5.6	5.4	5.7	5.6	5.1	4.9
	F	5	5	5	5	5	5	5	5	6.3	5.6	5.5	6.2	5.6	5.1	5.0
	G	5	5	5	5	5	5	4	4	6.3	5.5	5.5	6.1	5.5	5.1	5.1
	H	5	5	5	5	5	5	5	5	6.3	5.6	5.5	6.0	5.3	5.1	5.3
INC TEMP:		26	26	26	26	26	26	26	26							
DATE:		6/28/12	6/29/12	6/30	7/1	7/2/12	7/3/12	7/4	7/5							
TIME:		1500	1400	1020	1230	1320	~~1145~~ 1135	1205	1245							
INITIALS:		JJ	[illegible]	LB	JJ	[illegible]	ND	LB	ND							

53 ND 7/2

53 7/4/12 ND

Americamysis bahia 7 DAY CHRONIC ASSAY
SURVIVAL & OLD WATER QUALITIES

STUDY: 22302	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	6.3	5.8	5.5	6.3	5.7	5.1	5.1
	B	5	5	5	5	5	5	5	5	6.0	5.8	5.5	5.4	5.5	5.0	4.9
	C	5	5	5	5	5	5	5	5	6.2	5.7	5.5	5.6	5.5	5.0	5.1
	D	5	5	5	4	4	4	4	4	6.3	5.8	5.6	6.1	5.5	5.2	5.4
	E	5	5	5	5	5	5	5	4	6.3	5.9	5.6	6.1	5.3	5.2	5.5
	F	5	5	5	5	5	5	4	~~3~~ 4	6.2	5.8	5.7	6.1	5.3	5.3	5.5
	G	5	5	5	5	5	5	5	5	6.2	5.9	5.7	6.3	4.7	5.2	5.4
	H	5	5	5	5	5	5	4	3	6.1	5.8	5.7	5.8	5.2	5.2	5.3
-004	A	5	5	5	5	5	5	5	5	6.3	5.9	5.7	6.0	5.7	5.4	5.7
	B	5	5	5	5	5	5	5	5	6.0	5.8	5.7	6.0	5.8	5.4	5.4
	C	5	5	5	5	5	5	4	4	6.2	5.8	5.6	5.9	5.2	5.3	5.4
	D	5	5	5	4	4	4	4	4	5.9	5.8	5.6	6.1	5.2	5.3	5.5
	E	5	5	5	5	5	5	5	5	5.9	5.9	5.5	6.3	5.8	5.3	5.4
	F	5	5	5	5	5	5	5	5	6.0	5.9	5.6	6.3	5.5	5.3	5.4
	G	5	4	4 ~~5~~	4	4	4	4	4	6.0	5.8	5.6	6.2	5.7	5.3	5.4
	H	5	5	5	5	5	5	5	5	5.3	5.7	5.5	6.1	5.5	5.3	5.3
INC TEMP:		26	26	26	26	26	26	26	26							
DATE:		6/28/12	6/29/12	6/30	7/1	7/2/12	7/3/12	7/4	7/5							
TIME:		1500	1400	1020	1230	1320	1135	1205	1245							
INITIALS:		SJ	~	LB	SJ	KC	ND	LB	ND							

CETIS Summary Report

Report Date: 19 Jul-12 11:01 (p 1 of 2)
Test Code: 22302Ab7d | 01-9382-8979

Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Batch ID:	05-1745-1150	**Test Type:**	Growth-Survival-Fec (7d)	**Analyst:**	
Start Date:	28 Jun-12 15:00	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Not Applicable
Ending Date:	05 Jul-12 12:45	**Species:**	Mysidopsis bahia	**Brine:**	Not Applicable
Duration:	6d 22h	**Source:**	ARO - Aquatic Research Organisms, NH	**Age:**	7 d

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
22302-000	07-9287-4257	28 Jun-12 13:25	28 Jun-12 13:25	95m	Woods Hole Group	Ecological Risk Asse
22302-001	03-7155-1741	27 Jun-12 11:00	27 Jun-12 19:45	28h (4 °C)		
22302-002	19-3683-3781	27 Jun-12 12:15	27 Jun-12 19:45	27h (4 °C)		
22302-003	15-2661-8212	27 Jun-12 15:05	27 Jun-12 19:45	24h (4 °C)		
22302-004	07-1373-5172	27 Jun-12 15:45	27 Jun-12 19:45	23h (4 °C)		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
22302-000	Surface Water	New Bedford Harbor Monitoring O	Laboratory Control; 22302-000		
22302-001	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-001-062712; 22302-001		
22302-002	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-002-062712; 22302-002		
22302-003	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-003-062712; 22302-003		
22302-004	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-004-062712; 22302-004		

Sample Code	vs	Sample Code	P-Value	Alpha	Decision	Analysis ID	Method
22302-000		22302-001	0.4796	0.05	Non-Significant Effect	16-6030-3408	Wilcoxon Rank Sum Two-Sample Test
		22302-001	0.9891	0.05	Non-Significant Effect	08-6025-8426	Equal Variance t Two-Sample Test
		22302-001	0.9997	0.05	Non-Significant Effect	03-9522-1263	Equal Variance t Two-Sample Test
		22302-002	0.3227	0.05	Non-Significant Effect	00-4492-8044	Wilcoxon Rank Sum Two-Sample Test
		22302-002	0.8472	0.05	Non-Significant Effect	00-4098-0213	Equal Variance t Two-Sample Test
		22302-002	0.9928	0.05	Non-Significant Effect	10-1148-4344	Equal Variance t Two-Sample Test
		22302-003	0.1244	0.05	Non-Significant Effect	11-6348-7390	Equal Variance t Two-Sample Test
		22302-003	0.9268	0.05	Non-Significant Effect	14-7786-6212	Equal Variance t Two-Sample Test
		22302-003	1.0000	0.05	Non-Significant Effect	04-4048-7718	Equal Variance t Two-Sample Test
		22302-004	0.3605	0.05	Non-Significant Effect	18-9460-3674	Wilcoxon Rank Sum Two-Sample Test
		22302-004	0.9869	0.05	Non-Significant Effect	06-7206-1967	Equal Variance t Two-Sample Test
		22302-004	0.9995	0.05	Non-Significant Effect	18-7606-6625	Equal Variance t Two-Sample Test

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
00-4492-8044	7d Proportion Survived	Control Resp	0.95	0.8 - NL	Yes	Passes Acceptibility Criteria
11-6348-7390	7d Proportion Survived	Control Resp	0.95	0.8 - NL	Yes	Passes Acceptibility Criteria
16-6030-3408	7d Proportion Survived	Control Resp	0.95	0.8 - NL	Yes	Passes Acceptibility Criteria
18-9460-3674	7d Proportion Survived	Control Resp	0.95	0.8 - NL	Yes	Passes Acceptibility Criteria
00-4098-0213	Mean Dry Biomass-mg	Control Resp	0.32	0.2 - NL	Yes	Passes Acceptibility Criteria
06-7206-1967	Mean Dry Biomass-mg	Control Resp	0.32	0.2 - NL	Yes	Passes Acceptibility Criteria
08-6025-8426	Mean Dry Biomass-mg	Control Resp	0.32	0.2 - NL	Yes	Passes Acceptibility Criteria
14-7786-6212	Mean Dry Biomass-mg	Control Resp	0.32	0.2 - NL	Yes	Passes Acceptibility Criteria
00-4098-0213	Mean Dry Biomass-mg	PMSD	0.155	0.11 - 0.37	Yes	Passes Acceptibility Criteria
06-7206-1967	Mean Dry Biomass-mg	PMSD	0.207	0.11 - 0.37	Yes	Passes Acceptibility Criteria
08-6025-8426	Mean Dry Biomass-mg	PMSD	0.155	0.11 - 0.37	Yes	Passes Acceptibility Criteria
14-7786-6212	Mean Dry Biomass-mg	PMSD	0.17	0.11 - 0.37	Yes	Passes Acceptibility Criteria

Mysidopsis 7-d Survival, Growth and Fecundity Test — EnviroSystems, Inc.

7d Proportion Survived Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.95	0.915	0.985	0.8	1	0.0327	0.0926	9.75%	0.0%
22302-001	8	0.95	0.915	0.985	0.8	1	0.0327	0.0926	9.75%	0.0%
22302-002	8	0.9	0.844	0.956	0.6	1	0.0535	0.151	16.8%	5.26%
22302-003	8	0.875	0.819	0.931	0.6	1	0.0526	0.149	17.0%	7.89%
22302-004	8	0.925	0.886	0.964	0.8	1	0.0366	0.104	11.2%	2.63%

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.32	0.301	0.339	0.22	0.368	0.0179	0.0508	15.8%	0.0%
22302-001	8	0.393	0.37	0.416	0.29	0.464	0.0216	0.0612	15.6%	-22.6%
22302-002	8	0.35	0.327	0.373	0.252	0.416	0.0218	0.0615	17.6%	-9.37%
22302-003	8	0.368	0.341	0.394	0.232	0.438	0.0251	0.0711	19.3%	-14.8%
22302-004	8	0.414	0.379	0.449	0.296	0.568	0.0331	0.0935	22.6%	-29.2%

Mean Dry Weight-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.336	0.324	0.348	0.275	0.368	0.0112	0.0317	9.45%	0.0%
22302-001	8	0.412	0.398	0.426	0.362	0.464	0.0134	0.0379	9.19%	-22.7%
22302-002	8	0.391	0.374	0.408	0.325	0.472	0.0164	0.0463	11.8%	-16.5%
22302-003	8	0.419	0.408	0.43	0.382	0.45	0.0104	0.0293	6.98%	-24.8%
22302-004	8	0.444	0.419	0.469	0.37	0.568	0.0238	0.0673	15.1%	-32.3%

7d Proportion Survived Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
22302-000	1	1	0.8	1	0.8	1	1	1
22302-001	1	1	0.8	1	1	1	1	0.8
22302-002	1	0.8	1	0.6	1	1	0.8	1
22302-003	1	1	1	0.8	0.8	0.8	1	0.6
22302-004	1	1	0.8	0.8	1	1	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
22302-000	0.304	0.36	0.22	0.336	0.278	0.336	0.368	0.36
22302-001	0.376	0.462	0.33	0.382	0.426	0.464	0.412	0.29
22302-002	0.344	0.26	0.392	0.252	0.416	0.386	0.378	0.374
22302-003	0.438	0.432	0.386	0.36	0.306	0.36	0.428	0.232
22302-004	0.5	0.568	0.37	0.296	0.432	0.452	0.306	0.386

Mean Dry Weight-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
22302-000	0.304	0.36	0.275	0.336	0.347	0.336	0.368	0.36
22302-001	0.376	0.462	0.412	0.382	0.426	0.464	0.412	0.362
22302-002	0.344	0.325	0.392	0.42	0.416	0.386	0.472	0.374
22302-003	0.438	0.432	0.386	0.45	0.382	0.45	0.428	0.387
22302-004	0.5	0.568	0.462	0.37	0.432	0.452	0.382	0.386

Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	16-6030-3408	**Endpoint:**	7d Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 10:40	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d proportion survived endpoin	9.37%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
22302-000		22302-001	68		14	2	0.4796	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.1701237	0.01215169	14			
Total	0.1701237	0.01215169	15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1	8.89	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.546	0.841	<0.0001	Non-normal Distribution

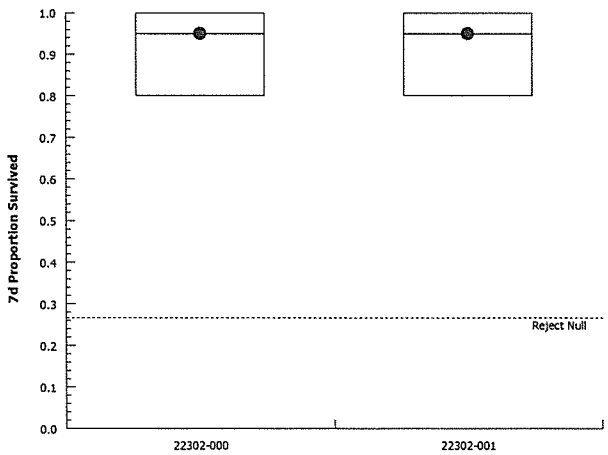
7d Proportion Survived Summary

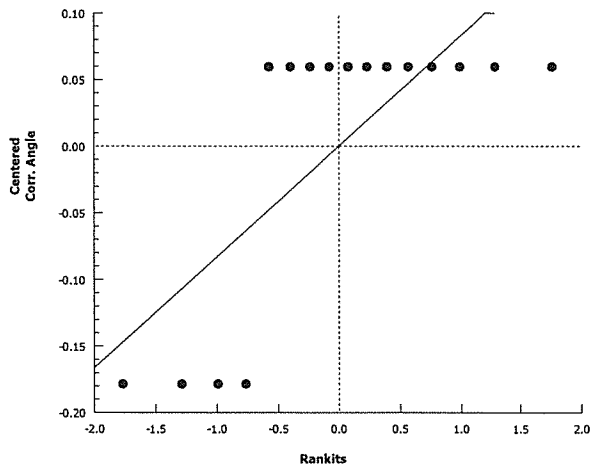
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.95	0.915	0.985	0.8	1	0.0327	0.0926	9.75%	0.0%
22302-001	8	0.95	0.915	0.985	0.8	1	0.0327	0.0926	9.75%	0.0%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	1.29	1.24	1.33	1.11	1.35	0.039	0.11	8.57%	0.0%
22302-001	8	1.29	1.24	1.33	1.11	1.35	0.039	0.11	8.57%	0.0%

Graphics





CETIS Analytical Report

Report Date: 19 Jul-12 11:04 (p 1 of 8)
Test Code: 22302Ab7d | 01-9382-8979

Mysidopsis 7-d Survival, Growth and Fecundity Test — EnviroSystems, Inc.

Analysis ID:	00-4492-8044	**Endpoint:**	7d Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 11:01	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d proportion survived endpoint	11.8%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
22302-000		22302-002	63		14	2	0.3227	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.01317937	0.01317937	1	0.615	0.4459	Non-Significant Effect
Error	0.2999586	0.02142562	14			
Total	0.313138	0.03460499	15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	2.53	8.89	0.2445	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.783	0.841	0.0016	Non-normal Distribution

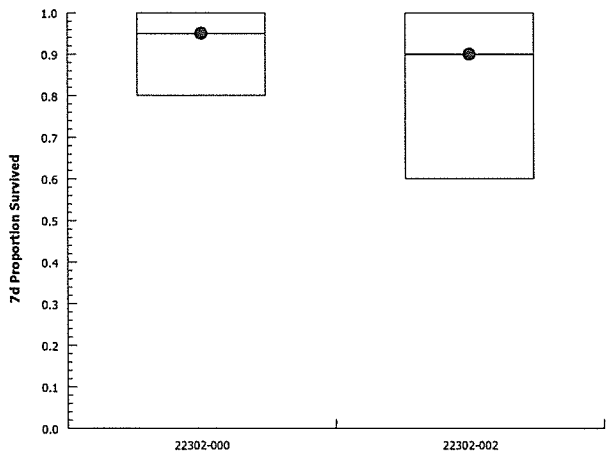
7d Proportion Survived Summary

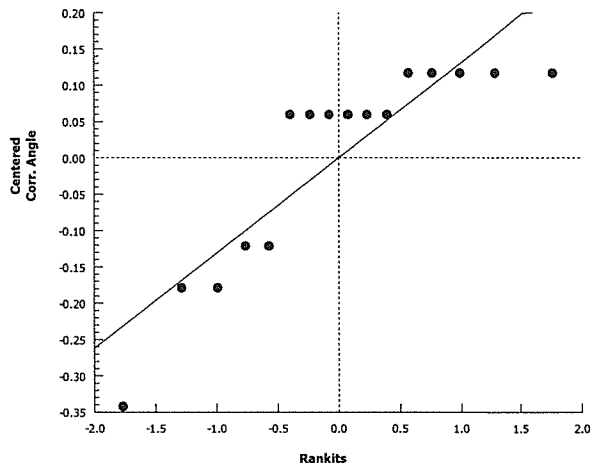
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.95	0.915	0.985	0.8	1	0.0327	0.0926	9.75%	0.0%
22302-002	8	0.9	0.842	0.958	0.6	1	0.0535	0.151	16.8%	5.26%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	1.29	1.24	1.33	1.11	1.35	0.039	0.11	8.57%	0.0%
22302-002	8	1.23	1.16	1.29	0.886	1.35	0.0619	0.175	14.3%	4.46%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	11-6348-7390	**Endpoint:**	7d Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 10:40	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d proportion survived endpoint	11.7%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22302-000		22302-003	1.2	1.76	14	0.128	0.1244	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.03039269	0.03039269	1	1.45	0.2488	Non-Significant Effect
Error	0.2938859	0.02099185	14			
Total	0.3242786	0.05138454	15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	2.45	8.89	0.2590	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.866	0.841	0.0233	Normal Distribution

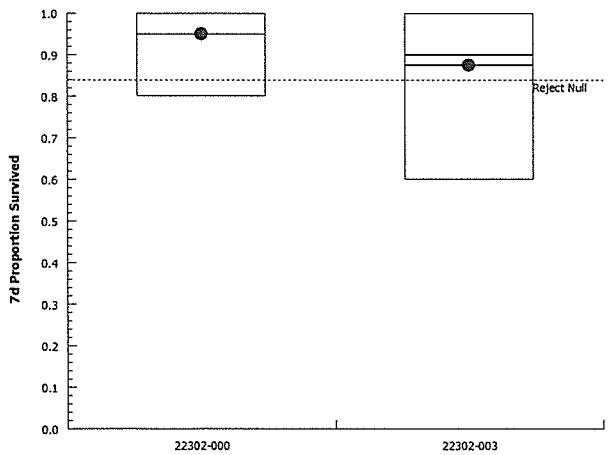
7d Proportion Survived Summary

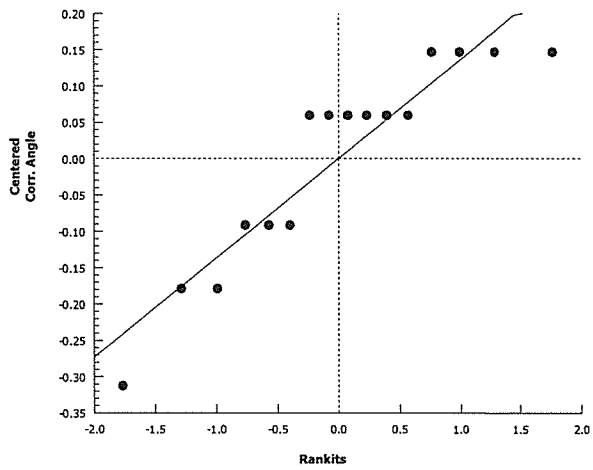
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.95	0.915	0.985	0.8	1	0.0327	0.0926	9.75%	0.0%
22302-003	8	0.875	0.818	0.932	0.6	1	0.0526	0.149	17.0%	7.89%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	1.29	1.24	1.33	1.11	1.35	0.039	0.11	8.57%	0.0%
22302-003	8	1.2	1.13	1.26	0.886	1.35	0.0611	0.173	14.4%	6.78%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	18-9460-3674	**Endpoint:**	7d Proportion Survived	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 10:40	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes 7d proportion survived endpoin	9.81%

Wilcoxon Rank Sum Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	Ties	P-Value	Decision(α:5%)
22302-000		22302-004	64		14	2	0.3605	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.003544244	0.003544244	1	0.259	0.6186	Non-Significant Effect
Error	0.1913892	0.01367065	14			
Total	0.1949334	0.0172149	15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1.25	8.89	0.7760	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.693	0.841	0.0001	Non-normal Distribution

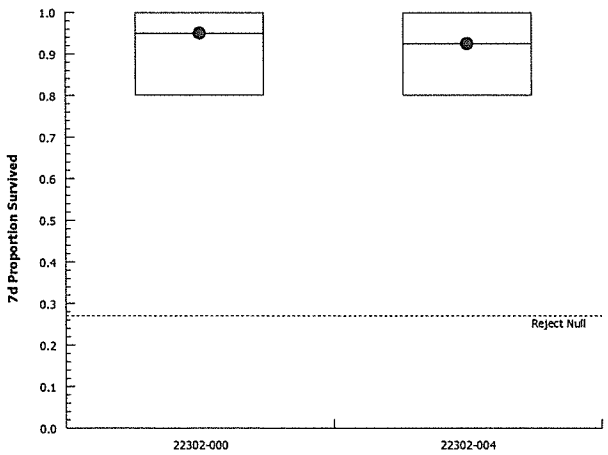
7d Proportion Survived Summary

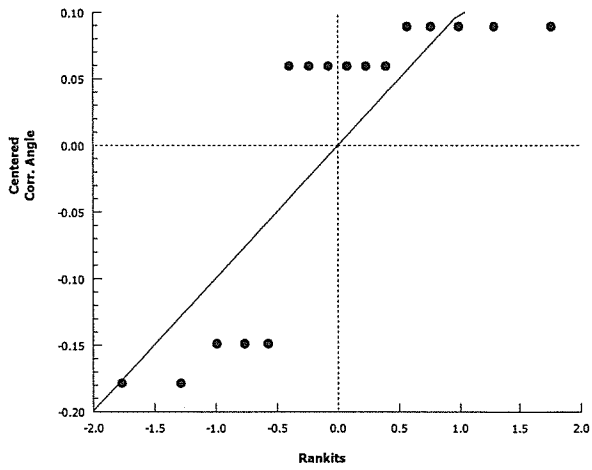
Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.95	0.915	0.985	0.8	1	0.0327	0.0926	9.75%	0.0%
22302-004	8	0.925	0.886	0.964	0.8	1	0.0366	0.104	11.2%	2.63%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	1.29	1.24	1.33	1.11	1.35	0.039	0.11	8.57%	0.0%
22302-004	8	1.26	1.21	1.3	1.11	1.35	0.0436	0.123	9.81%	2.32%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — EnviroSystems, Inc.

Analysis ID:	08-6025-8426	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 10:40	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoint	15.5%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22302-000		22302-001	-2.58	1.76	14	0.0495	0.9891	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.02102491	0.02102491	1	6.65	0.0219	Significant Effect
Error	0.04427474	0.003162481	14			
Total	0.06529965	0.0241874	15			

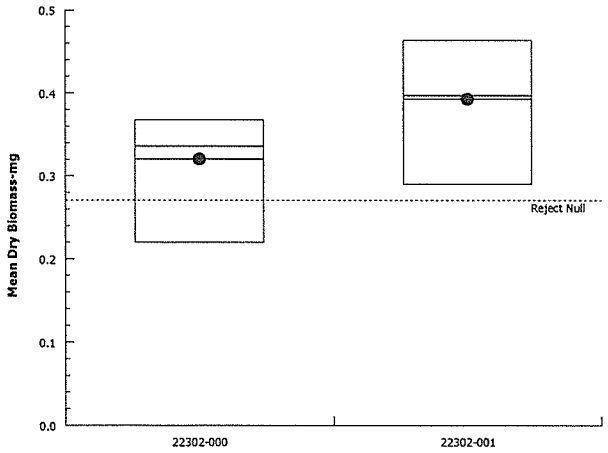
Distributional Tests

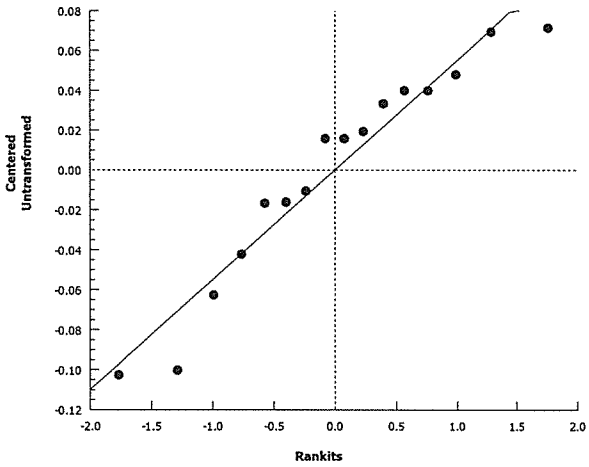
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1.45	8.89	0.6331	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.926	0.841	0.2082	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.32	0.301	0.34	0.22	0.368	0.0179	0.0508	15.8%	0.0%
22302-001	8	0.393	0.369	0.416	0.29	0.464	0.0216	0.0612	15.6%	-22.6%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	00-4098-0213	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 11:01	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoint	5.5%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22302-000		22302-002	-1.06	1.76	14	0.0497	0.8472	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.00359989	0.00359989	1	1.13	0.3055	Non-Significant Effect
Error	0.04455033	0.003182166	14			
Total	0.04815022	0.006782057	15			

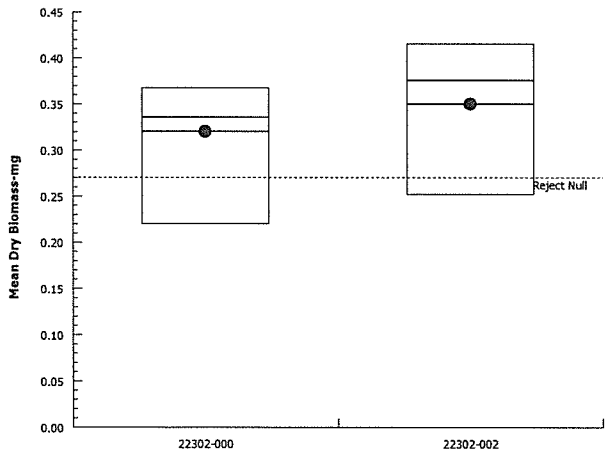
Distributional Tests

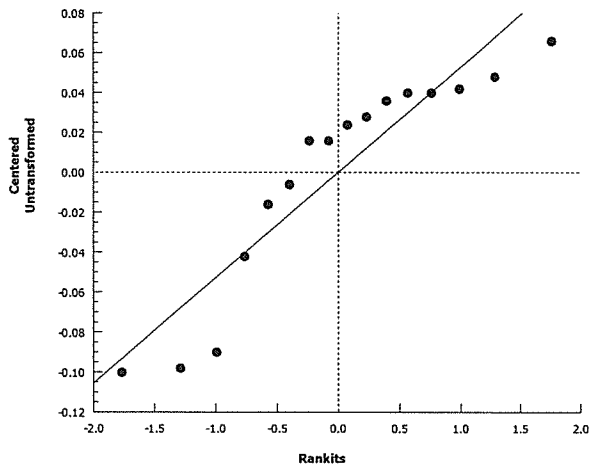
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1.47	8.89	0.6237	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.848	0.841	0.0126	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.32	0.301	0.34	0.22	0.368	0.0179	0.0508	15.8%	0.0%
22302-002	8	0.35	0.327	0.374	0.252	0.416	0.0218	0.0615	17.6%	-9.37%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	14-7786-6212	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 10:40	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoint	17.0%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22302-000		22302-003	-1.54	1.76	14	0.0544	0.9268	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.009025089	0.009025089	1	2.37	0.1464	Non-Significant Effect
Error	0.05342243	0.003815888	14			
Total	0.06244752	0.01284098	15			

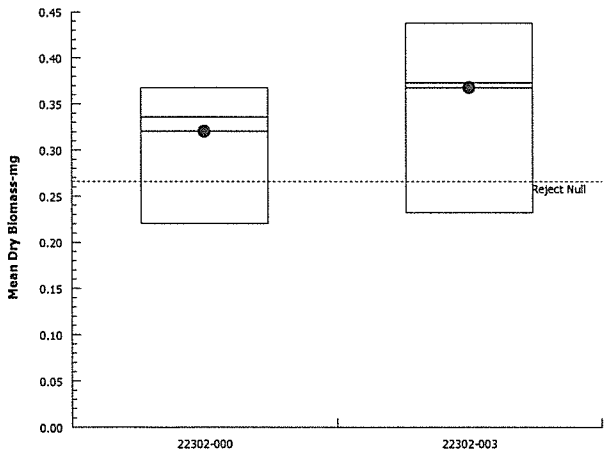
Distributional Tests

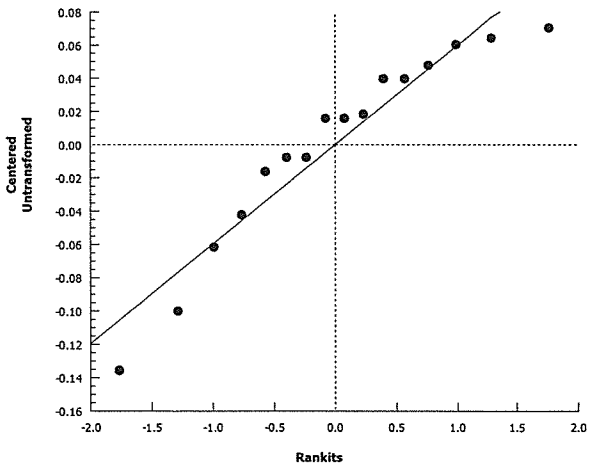
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1.96	8.89	0.3937	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.913	0.841	0.1324	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.32	0.301	0.34	0.22	0.368	0.0179	0.0508	15.8%	0.0%
22302-003	8	0.368	0.341	0.395	0.232	0.438	0.0251	0.0711	19.3%	-14.8%

Graphics





Mysidopsis 7-d Survival, Growth and Fecundity Test — **EnviroSystems, Inc.**

Analysis ID:	06-7206-1967	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 10:40	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Untransformed	0	C > T	Not Run	Sample passes mean dry biomass-mg endpoin	20.7%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22302-000		22302-004	-2.49	1.76	14	0.0662	0.9869	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.03496853	0.03496853	1	6.18	0.0262	Significant Effect
Error	0.07922273	0.005658767	14			
Total	0.1141913	0.0406273	15			

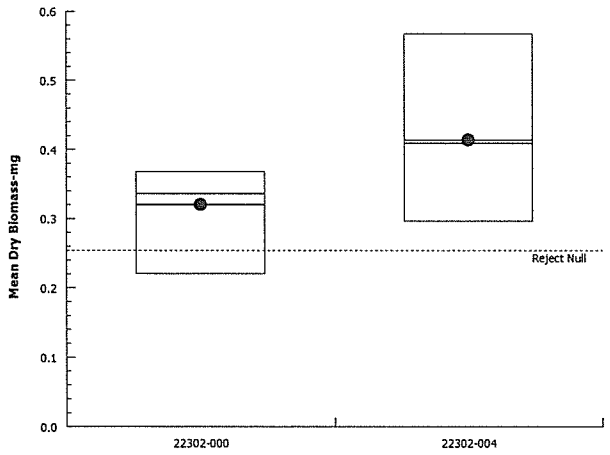
Distributional Tests

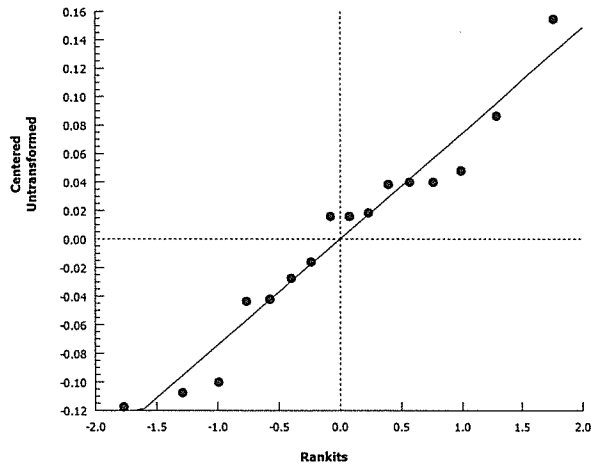
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	3.39	8.89	0.1294	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.957	0.841	0.6153	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	8	0.32	0.301	0.34	0.22	0.368	0.0179	0.0508	15.8%	0.0%
22302-004	8	0.414	0.378	0.449	0.296	0.568	0.0331	0.0935	22.6%	-29.2%

Graphics





Larval Fish Dry Weight Summary Sheet

Study:	22302	
Client:	Woods Hole Group	
Date/Time/Init:	07/06/12 1015 CS	07/05/12 0850 CS
Conc	Fish and Foil (mg)	Tare Wt (mg)
Lab A	210.36	208.84
Lab B	209.88	208.08
Lab C	210.47	209.37
Lab D	210.11	208.43
Lab E	210.94	209.55
Lab F	210.98	209.3
Lab G	211	209.16
Lab H	210.68	208.88
001A	211.99	210.11
001B	211.5	209.19
001C	210.42	208.77
001D	210.78	208.87
001E	210.79	208.66
001F	211.49	209.17
001G	210.87	208.81
001H	209.69	208.24
002A	210.28	208.56
002B	210.43	209.13
002C	210.7	208.74
002D	210.57	209.31
002E	211.22	209.14
002F	210.7	208.77
002G	210.3	208.41
002H	210.19	208.32
003A	210.57	208.38
003B	210.42	208.26
003C	210.89	208.96
003D	209.69	207.89
003E	210.53	209
003F	210.74	208.94
003G	211.25	209.11
003H	210.42	209.26
004A	211.65	209.15
004B	211.44	208.6
004C	211.54	209.69
004D	210.14	208.66
004E	211.13	208.97
004F	211.18	208.92
004G	209.69	208.16
004H	210.65	208.72

Aquatic Research Organisms

Rec 6/28/12

DATA SHEET

I. Organism History

Species AMERICAMYSIS bahia

Source: Lab reared ✓ Hatchery reared ____ Field collected ____

Hatch date 6-21-12 Receipt date ____

Lot number 062112MS Strain ____

Brood origination FLORIDA

II. Water Quality

Temperature 25 °C Salinity ≈28 ppt D.O. — ppm

pH 7.8 su Hardness — ppm Alkalinity — ppm

III. Culture Conditions

Freshwater ____ Saltwater ✓ Other ____

Recirculating ✓ Flow through ____ Static renewal ____

DIET: Flake food ✓ Phytoplankton ____ Trout chow ____

Artemia ✓ Rotifers ____ YCT ____ Other Excap Shrimp Diet

Prophylactic treatments: ____

Comments: ____

IV. Shipping Information

Client: EST # of Organisms 240+

Carrier: ____ Date shipped 6-28-12

Biologist: Mark Rosengrist

PO BOX 1271 HAMPTON NH 03843-1271 (603) 926-1650 AROFISH@AOL.COM
WWW.AROFISH.US

Arbacia punctulata Chronic Fertilization Assay
Water Quality and Gamete Preparation Data

STUDY: 22302	CLIENT: Woods Hole Group	LOCATION: New Bedford	DATE: 6/28/12 INITIALS: LB

SALINITY ADJUSTMENT RECORD: 1000 mL -001 + 0 g SALT

SALINITY ADJUSTMENT RECORD: 1000 mL -002 + 0 g SALT

SALINITY ADJUSTMENT RECORD: 1000 mL -003 + 0 g SALT

SALINITY ADJUSTMENT RECORD: 1000 mL -004 + 0 g SALT

SALINITY ADJUSTED SAMPLE	D.O. (mg/L)	pH (SU)	SPEC COND (µmhos)	TEMP (°C)	SALINITY (ppt)
Lab Control	6.8	8.16	44430	21	29
-001	6.3	7.66	46470	21	30
-002	5.9	7.58	46300	21	30
-003	6.5	7.64	45390	21	29
-004	6.9	7.68	46670	20	30

METERS USED

DO meter # 24 DO probe # 90 pH meter # 1097 pH probe # 105 S/C meter # YSI30E S/C probe # YSI30E

SALINITY meter # YSI30E

DATE & INITIALS FOR GAMETE PREPARATION: ~~LB~~ 6/28/12 LB
6/28/12

SPERM DILUTIONS:

HEMACYTOMETER COUNT, E: 110 X 10^4 = SPM SOLUTION E = 1.10×10^6

SPERM CONCENTRATIONS:

SOLUTION E X 40 = SOLUTION A = 4.40×10^7 SPM

SOLUTION E X 20 = SOLUTION B = 2.20×10^7 SPM

SOLUTION E X 5 = SOLUTION C = 5.50×10^6 SPM

FINAL COUNTS:

FINAL SPERM COUNT: 4.40×10^7

FINAL EGG COUNT: 2400

TEST TIMES:

SPERM COLLECTED: 1420

EGGS COLLECTED: 1425

SPERM ADDED: 1455

EGGS ADDED: 1555

FIXATIVE ADDED: 1615

See ESI SOP #1412 for additional information

Arbacia punctulata Chronic Fertilization Assay

SAMPLE USE RECORD

STUDY: 22302	CLIENT: Woods Hole Group New Bedford	
SPECIES: *A. punctulata*		
	Day: 0	
SAMPLE	Volume Used (mL)	ESI Cube ID
Lab Control	100	30 pp7
-001		001
-002		002
-003		003
-004		004
INITIALS:	UB	
TIME:	1345	
DATE:	6/28/12	

FERTILIZATION COUNTS

STUDY	CLIENT Woods Hole Group	LOCATION New Bedford		DATE 6/29/12 INITIALS UB
	REPLICATE VIAL			
	1	2	3	4
SAMPLE	FERT/TOTAL	FERT/TOTAL	FERT/TOTAL	FERT/TOTAL
Lab Control	89/100	101/118	100/112	90/100
-001	93/104	95/109	92/100	86/100
-002	100/113	93/106	92/107	92/101
-003	85/100	88/108	88/102	87/102
-004	91/100	91/101	91/100	94/102

CETIS Summary Report

Report Date:	19 Jul-12 10:53 (p 1 of 1)
Test Code:	22302Ap | 14-4335-1712

Arbacia Sperm Cell Fertilization Test — **EnviroSystems, Inc.**

Batch ID:	19-9051-4404	**Test Type:**	Fertilization	**Analyst:**	
Start Date:	28 Jun-12 14:55	**Protocol:**	EPA/821/R-02-014 (2002)	**Diluent:**	Not Applicable
Ending Date:	28 Jun-12 16:15	**Species:**	Arbacia punctulata	**Brine:**	Not Applicable
Duration:	80m	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
22302-000	07-9287-4257	28 Jun-12 13:25	28 Jun-12 13:25	90m	Woods Hole Group	Ecological Risk Asse
22302-001	03-7155-1741	27 Jun-12 11:00	27 Jun-12 19:45	28h (4 °C)		
22302-002	19-3683-3781	27 Jun-12 12:15	27 Jun-12 19:45	27h (4 °C)		
22302-003	15-2661-8212	27 Jun-12 15:05	27 Jun-12 19:45	24h (4 °C)		
22302-004	07-1373-5172	27 Jun-12 15:45	27 Jun-12 19:45	23h (4 °C)		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
22302-000	Surface Water	New Bedford Harbor Monitoring O	Laboratory Control; 22302-000		
22302-001	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-001-062712; 22302-001		
22302-002	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-002-062712; 22302-002		
22302-003	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-003-062712; 22302-003		
22302-004	Surface Water	New Bedford Harbor Monitoring O	WQ-TOX-004-062712; 22302-004		

Sample Code	vs	Sample Code	P-Value	Alpha	Decision	Analysis ID	Method
22302-000		22302-001	0.5532	0.05	Non-Significant Effect	00-8244-4404	Equal Variance t Two-Sample Test
		22302-002	0.4655	0.05	Non-Significant Effect	01-8482-5733	Equal Variance t Two-Sample Test
		22302-003	0.0151	0.05	Significant Effect	02-8829-4388	Equal Variance t Two-Sample Test
		22302-004	0.9778	0.05	Non-Significant Effect	01-8181-1365	Equal Variance t Two-Sample Test

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
00-8244-4404	Proportion Fertilized	Control Resp	0.885	0.7 - 1	Yes	Passes Acceptibility Criteria
01-8181-1365	Proportion Fertilized	Control Resp	0.885	0.7 - 1	Yes	Passes Acceptibility Criteria
01-8482-5733	Proportion Fertilized	Control Resp	0.885	0.7 - 1	Yes	Passes Acceptibility Criteria
02-8829-4388	Proportion Fertilized	Control Resp	0.885	0.7 - 1	Yes	Passes Acceptibility Criteria
00-8244-4404	Proportion Fertilized	PMSD	0.0382	NL - 0.25	No	Passes Acceptibility Criteria
01-8181-1365	Proportion Fertilized	PMSD	0.0237	NL - 0.25	No	Passes Acceptibility Criteria
01-8482-5733	Proportion Fertilized	PMSD	0.0326	NL - 0.25	No	Passes Acceptibility Criteria
02-8829-4388	Proportion Fertilized	PMSD	0.0297	NL - 0.25	No	Passes Acceptibility Criteria

Proportion Fertilized Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	0.885	0.877	0.892	0.856	0.9	0.00982	0.0196	2.22%	0.0%
22302-001	4	0.886	0.877	0.896	0.86	0.92	0.0133	0.0265	2.99%	-0.2%
22302-002	4	0.883	0.875	0.891	0.86	0.911	0.0106	0.0212	2.4%	0.16%
22302-003	4	0.845	0.837	0.853	0.815	0.863	0.0105	0.0209	2.48%	4.47%
22302-004	4	0.911	0.907	0.914	0.901	0.922	0.00422	0.00843	0.93%	-2.93%

Proportion Fertilized Detail

Conc-NA	Rep 1	Rep 2	Rep 3	Rep 4
22302-000	0.89	0.856	0.893	0.9
22302-001	0.894	0.872	0.92	0.86
22302-002	0.885	0.877	0.86	0.911
22302-003	0.85	0.815	0.863	0.853
22302-004	0.91	0.901	0.91	0.922

Arbacia Sperm Cell Fertilization Test — **EnviroSystems, Inc.**

Analysis ID:	00-8244-4404	**Endpoint:**	Proportion Fertilized	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 10:53	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes proportion fertilized endpoint	3.82%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22302-000		22302-001	-0.14	1.94	6	0.0507	0.5532	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.655229E-05	2.655229E-05	1	0.0195	0.8936	Non-Significant Effect
Error	0.008175974	0.001362662	6			
Total	0.008202526	0.001389215	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	2.05	47.5	0.5716	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.929	0.645	0.5057	Normal Distribution

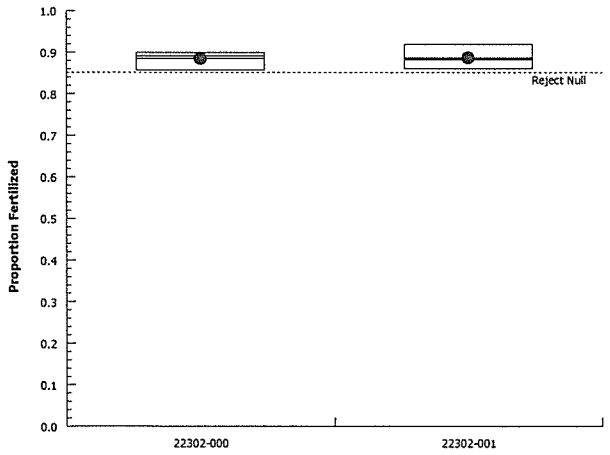
Proportion Fertilized Summary

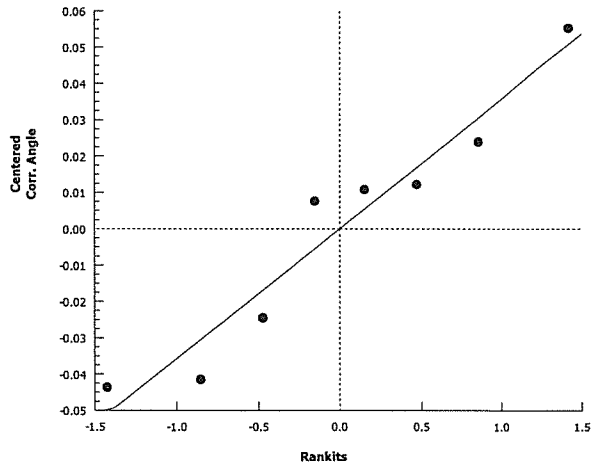
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	0.885	0.877	0.892	0.856	0.9	0.00982	0.0196	2.22%	0.0%
22302-001	4	0.886	0.876	0.897	0.86	0.92	0.0133	0.0265	2.99%	-0.2%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	1.23	1.21	1.24	1.18	1.25	0.015	0.0299	2.44%	0.0%
22302-001	4	1.23	1.21	1.25	1.19	1.28	0.0214	0.0428	3.48%	-0.3%

Graphics





Arbacia Sperm Cell Fertilization Test — **EnviroSystems, Inc.**

Analysis ID:	01-8482-5733	**Endpoint:**	Proportion Fertilized	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 10:53	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes proportion fertilized endpoint	3.26%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22302-000		22302-002	0.0902	1.94	6	0.0437	0.4655	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	8.24112E-06	8.24112E-06	1	0.00814	0.9311	Non-Significant Effect
Error	0.006075898	0.00101265	6			
Total	0.006084139	0.001020891	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1.26	47.5	0.8521	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.965	0.645	0.8604	Normal Distribution

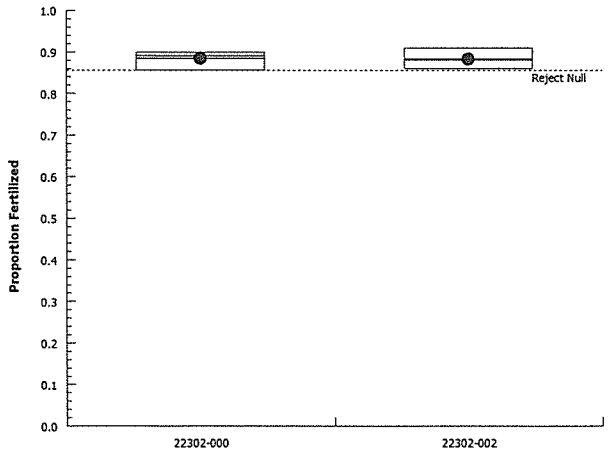
Proportion Fertilized Summary

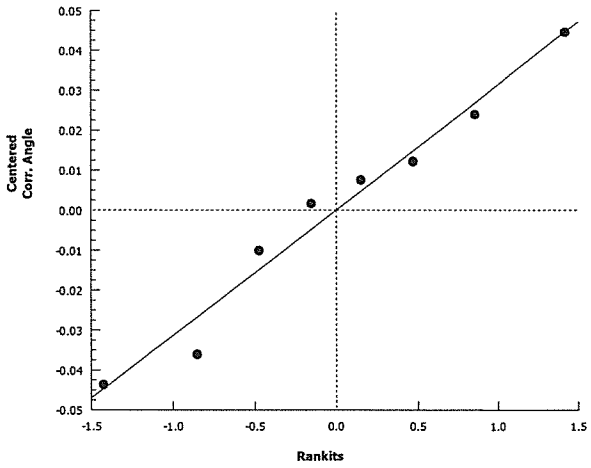
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	0.885	0.877	0.892	0.856	0.9	0.00982	0.0196	2.22%	0.0%
22302-002	4	0.883	0.875	0.891	0.86	0.911	0.0106	0.0212	2.4%	0.16%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	1.23	1.21	1.24	1.18	1.25	0.015	0.0299	2.44%	0.0%
22302-002	4	1.22	1.21	1.24	1.19	1.27	0.0168	0.0336	2.75%	0.17%

Graphics





Arbacia Sperm Cell Fertilization Test — **EnviroSystems, Inc.**

Analysis ID:	02-8829-4388	**Endpoint:**	Proportion Fertilized	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 10:53	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes proportion fertilized endpoint	2.97%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22302-000		22302-003	2.83	1.94	6	0.0401	0.0151	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.006788215	0.006788215	1	7.98	0.0301	Significant Effect
Error	0.005101502	0.0008502504	6			
Total	0.01188972	0.007638466	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	1.11	47.5	0.9333	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.775	0.645	0.0155	Normal Distribution

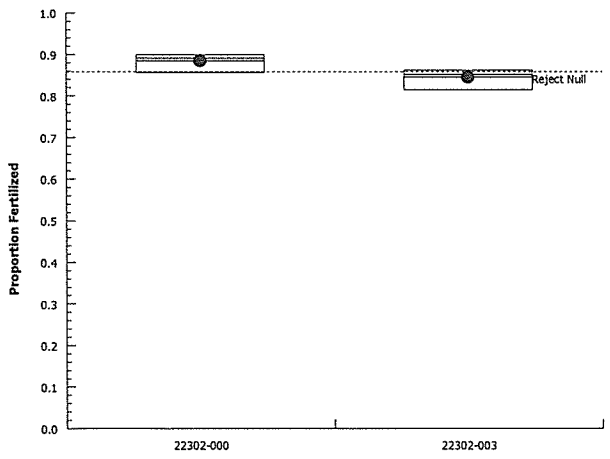
Proportion Fertilized Summary

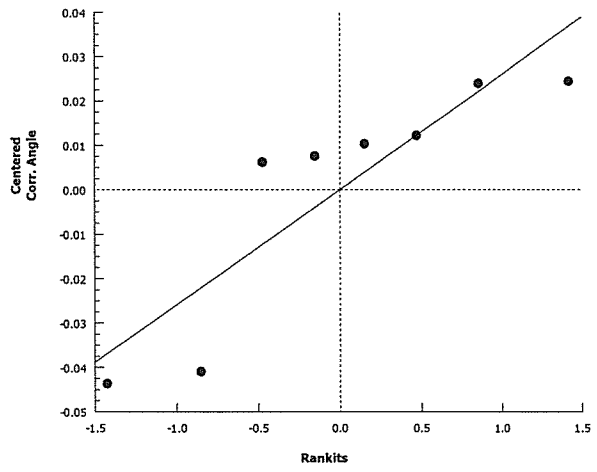
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	0.885	0.877	0.892	0.856	0.9	0.00982	0.0196	2.22%	0.0%
22302-003	4	0.845	0.837	0.853	0.815	0.863	0.0105	0.0209	2.48%	4.47%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	1.23	1.21	1.24	1.18	1.25	0.015	0.0299	2.44%	0.0%
22302-003	4	1.17	1.16	1.18	1.13	1.19	0.0142	0.0284	2.43%	4.76%

Graphics





CETIS Analytical Report

Report Date: 19 Jul-12 10:53 (p 1 of 4)
Test Code: 22302Ap | 14-4335-1712

Arbacia Sperm Cell Fertilization Test — **EnviroSystems, Inc.**

Analysis ID:	01-8181-1365	**Endpoint:**	Proportion Fertilized	**CETIS Version:**	CETISv1.8.0
Analyzed:	19 Jul-12 10:53	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Zeta	Alt Hyp	MC Trials	Test Result	PMSD
Angular (Corrected)	0	C > T	Not Run	Sample passes proportion fertilized endpoint	2.37%

Equal Variance t Two-Sample Test

Sample Code	vs	Sample Code	Test Stat	Critical	DF	MSD	P-Value	Decision(α:5%)
22302-000		22302-004	-2.53	1.94	6	0.0325	0.9778	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.003581891	0.003581891	1	6.42	0.0445	Significant Effect
Error	0.003348574	0.0005580956	6			
Total	0.006930464	0.004139986	7			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F	4.04	47.5	0.2814	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.911	0.645	0.3598	Normal Distribution

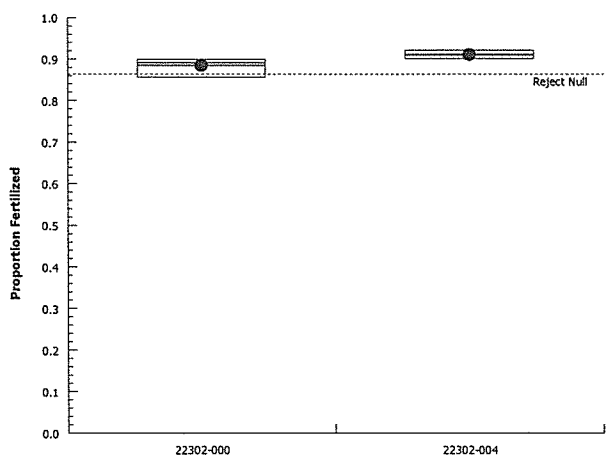
Proportion Fertilized Summary

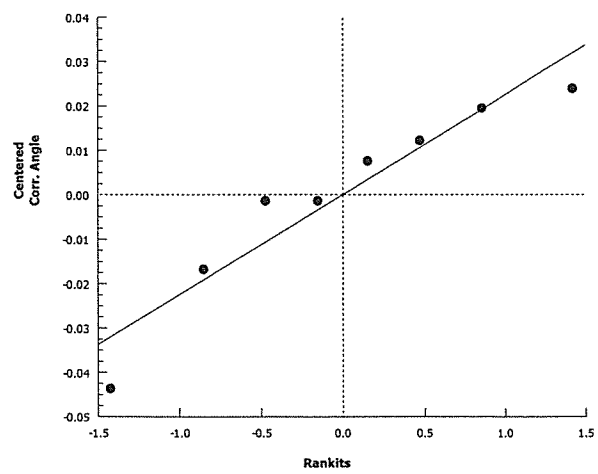
Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	0.885	0.877	0.892	0.856	0.9	0.00982	0.0196	2.22%	0.0%
22302-004	4	0.911	0.907	0.914	0.901	0.922	0.00422	0.00843	0.93%	-2.93%

Angular (Corrected) Transformed Summary

Conc-NA	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
22302-000	4	1.23	1.21	1.24	1.18	1.25	0.015	0.0299	2.44%	0.0%
22302-004	4	1.27	1.26	1.27	1.25	1.29	0.00744	0.0149	1.17%	-3.45%

Graphics





SALTWATER ASSAYS

A. bahia, A. punctulata

STUDY: 22302	LOCATION: New Bedford Harbor				
CHEMISTRY	Lab Salt Control	-001	-002	-003	-004
AMMONIA	-004	-005	-006	-007	-008
AS RECEIVED WATER QUALITIES	Lab Salt Control	-001	-002	-003	-004
SALINITY (ppt)	29	29.8	29.9	29.0	30.1
pH (SU)	8.05	7.62	7.58	7.64	7.68
TRC (mg/L)	<0.02	<0.02	<0.02	<0.02	<0.02
DO (mg/L)	7.5	7.7	7.3	8.0	7.6
S/C (µmhos/cm)	44060	45970	45980	45910	46370
WQ STATION USED	1	2	2	2	2
INITIALS	JJ	CS	CS	CS	CS
A. bahia SALINITY ADJUSTMENT RECORD	Lab Salt Control	-001	-002	-003	-004
SAMPLE (mLs)	All samples tested As Received				
SEA SALT (g)					
DATE:					
TIME:					
INITIALS:					

Sample ID	ESI Cube ID
-001	-001
-002	-002
-003	-003
-004	-004

Americamysis bahia 7 DAY CHRONIC ASSAY
NEW WATER QUALITIES

STUDY:	CLIENT:	LOCATION:	LAB CONTROL:
22302	Woods Hole Group	NEW BEDFORD	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	7.5	6.3	7.4	6.8	7.0	6.5	6.8	29	28	28	29	30	29	29
-001	A	7.2	6.0	7.1	6.6	7.1	6.6	7.3	30	30	30	30	30	30	30
-002	A	7.1	5.9	7.0	6.6	7.2	6.6	7.3	30	30	30	30	30	30 29	30
-003	A	7.0	6.1	7.1	6.6	7.2	6.8	7.2	29 30	29	30	30	30	29	29
-004	A	7.4	6.0	7.5	6.7	7.3	6.8	7.1	30	30	30	30	30	30	30

		NEW pH (SU)							NEW TEMPERATURE (°C)						
CONC	REP	0	1	2	3	4	5	6	0	1	2	3	4	5	6
LAB	A	8.05	8.05	7.98	8.05	8.07	8.08	8.02	24 25	24	24	25	24	24	24
-001	A	7.60	7.65	7.58	7.65	7.67	7.70	7.60	25	25	24	25	24	24	24
-002	A	7.56	7.57	7.54	7.56	7.59	7.64	7.55	25	25	24	25	24	24	24
-003	A	7.62	7.64	7.59	7.58	7.65	7.63	7.57	25	25	24	25	24	24	24
-004	A	7.66	7.68	7.67	7.64	7.71	7.70	7.58	24	25	24	25	24	24	24
INC TEMP:		26	26	26	26	26	26	26							
DATE:		6/28/12	6/29/12	6/30	7/1	7/2/12	7/3/12	7/4							
TIME:		1405	1505	1045	1245	1450	1225	1230							
INIT:		SJ	[illegible]	LB	SJ	[illegible]	ND	LB							

WATER QUALITY METERS USED NEW WATER QUALITIES								
	0	1	2	3	4	5	6	7
Water Quality Station #		1	2	1	2	1	1	
Initials		[illegible]	LB	SJ	[illegible]	ND	LB	
Date	6/28/12	6/29/12	6/30	7/1	7/2/12	7/3/12	7/4	

Americamysis bahia 7 DAY CHRONIC ASSAY
OLD WATER QUALITIES

STUDY:	CLIENT:	LOCATION:	LAB CONTROL:
22302	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	29	28	29	29	29	29	29	7.93	7.99	7.89	7.82	7.87	7.83	7.88
-001	A	30	30	31	30	31	31	31	7.76	7.82	7.80	7.67	7.73	7.71	7.80
-002	A	30	30	31	30	30	30	31	7.75	7.77	7.76	7.55	7.72	7.68	7.76
-003	A	30	30	30	29	29	30	30	7.83	7.79	7.78	7.74	7.68	7.70	7.70
-004	A	31	31	31	30	30	31	31	7.84	7.83	7.81	7.79	7.72	7.78	7.85

OLD TEMPERATURE (°C)															
Conc	Rep	1	2	3	4	5	6	7							
Control	A	24	24	25	24	24	24	24							
-001	A	24	24	25	24	24	24	24							
-002	A	25	24	25	24	24	24	24							
-003	A	24	24	25	24	24	24	24							
-004	A	24	24	25	24	24	24	24							
INC TEMP:		26	26	26	26	26	26	26							
DATE:		6/29/12	6/30	7/1	7/2	7/3	7/4	7/5							
TIME:		1335	0950	1020	1135	1050	0945	1230							
INITIALS:		[illegible]	LB	SJ	ND	ND	LB	ND							

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 #		2	1	1	2	1	1	
Initials		[illegible]	LB	SJ	ND	ND	LB	
Date		6/29/12	6/30	7/1	7/2	7/3	7/4	

Americamysis bahia 7 DAY CHRONIC ASSAY
SAMPLE USE RECORD

STUDY: 22302 | CLIENT: Woods HoleGroup

SPECIES: *A. bahia* | TEST: chronic renewal

Sample	Day: 0 Volume Used (mL)	Day: 0 ESI Cube ID	Day: 1 Volume Used (mL)	Day: 1 ESI Cube ID	Day: 2 Volume Used (mL)	Day: 2 ESI Cube ID	Day	Date	Time	Init
Lab Control	ES 2000 ~~1600~~	n/a	1600 ~~1200~~	n/a	~~1200~~ 1600	n/a	0	6/28/12	1325	[illegible]
-001	↓	-001	↓	-001	↓	001	1	6/29/12	1425	[illegible]
-002	↓	-002	↓	-002	↓	002	2	6/30	1040	LB
-003	↓	-003	↓	-003	↓	003	3	7/1	1240	SJ
-004	↓	-004	↓	-004	↓	004	4	7/2/12	1435	[illegible]
							5	7/3/12	1150	NSD
							6	7/4	1220	LB

Sample	Day: 3 Volume Used (mL)	Day: 3 ESI Cube ID	Day: 4 Volume Used (mL)	Day: 4 ESI Cube ID	Day: 5 Volume Used (mL)	Day: 5 ESI Cube ID
Lab Control	1600 ~~1200~~	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 Volume Used (mL)	Day: 6 ESI Cube ID
Lab Control	1600	n/a
-001	↓	001
-002	↓	002
-003	↓	003
-004	↓	004

DILUTIONS

STUDY: 22302	CLIENT: Woods Hole Group	
SPECIES: *A. bahia*		
	Sample: New Bedford Harbor	
Concentration %	Vol. Eff.(mls)	Final Vol.(mls)
Lab	0	800
-001	800	↓
-002	↓	↓
-003	↓	↓
-004	↓	↓
INITIALS:	SJ	
TIME:	1355	
DATE:	6/28/12	

RECORD OF METERS USED

STUDY: 22302	CLIENT: Woods Hole Group	
A.bahia		
Exposure (Hours)		
0	24	48
Water Quality Station #	2	1	2
Initials / Date	JJ 6/28/12	KC 6/29	LB 6/30

Water Quality Station #1		Water Quality Station #2		COMMENTS
DO meter #	24	DO meter #	23	
DO probe #	(E3) NR 7/24/12 8990	DO probe #	89	
pH meter #	1097	pH meter #	470	
pH probe #	103	pH probe #	106	
S/C meter #	YSI30E	S/C meter #	YSI30E	
S/C probe #	↓	S/C probe #	↓	
Salinity meter #	↓	Salinity meter #	↓	

Report No: 22302 SDG:
Project: New Bedford Environmental Monitoring

Sample ID: WQ-TOX-001-062712
Matrix: Water
Sampled: 06/28/12 1100

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	22302-005	0.1	0.1	mg/L as N	07/03/12 1603	07/03/12 1603	JLH/SM 4500-NH3 G

Sample ID: WQ-TOX-002-062712
Matrix: Water
Sampled: 06/28/12 1100

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	22302-006	0.18	0.1	mg/L as N	07/03/12 1604	07/03/12 1604	JLH/SM 4500-NH3 G

Sample ID: WQ-TOX-003-062712
Matrix: Water
Sampled: 06/28/12 1100

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	22302-007	0.16	0.1	mg/L as N	07/03/12 1604	07/03/12 1604	JLH/SM 4500-NH3 G

Sample ID: WQ-TOX-004-062712
Matrix: Water
Sampled: 06/28/12 1100

Parameter		Result	Quant Limit	Units	Date Prepared	Date of Analysis	INIT/Method/Reference
Ammonia-N	22302-008	0.11	0.1	mg/L as N	07/03/12 1605	07/03/12 1605	JLH/SM 4500-NH3 G

Notes:

ND = Not Detected

SAMPLE RECEIPT AND CONDITION DOCUMENTATION

STUDY NO:	22302		
SDG No:			
Project:	New Bedford Environmental Monitoring		
Delivered via:	Client		
Date and Time Received:	06/27/12 1945	Date and TIme Logged into Lab:	06/28/12 1030
Recieved By:	KC	Logged into Lab by:	CS CS
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:	Yes	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-001-062712	22302-001	W	AB7DCR,AB48AD,AP01CR	2x10L P	4C	Yes
WQ-TOX-002-062712	22302-002	W	AB7DCR,AB48AD,AP01CR	2x10L P	4C	Yes
WQ-TOX-003-062712	22302-003	W	AB7DCR,AB48AD,AP01CR	2x10L P	4C	Yes
WQ-TOX-004-062712	22302-004	W	AB7DCR,AB48AD,AP01CR	2x10L P	4C	Yes

Notes and qualifications:

ESI
EnviroSystems, Inc.
1 Lafayette Road
P.O. Box 778
Hampton, N.H. 03843

Voice: 603-926-3345
FAX: 603-926-3521

ESI Job No: 4175

22302

CHAIN OF CUSTODY DOCUMENTATION

Client: WOODS Hole Group	Contact: Dack Stuart	Project Name: New Bedford Envi. Monitoring	Page 1 of 1
Report to: Dack Stuart	Address: 81 Technology Park	Project Number: TO-0010-07	
Invoice to: Dack Stuart	Address: East Falmouth, MA 02536	Project Manager: Dave Walsh	
Voice: 508-540-8080	Fax: 508-540-1001	email: DSTUART@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)~~ L	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: A. punctulata 1-hr A. bahia 1/8 hr A. bahia 7-day
001	WQ-TOX-001-062712	6/27/12	1100	PBC	G	2x10L	P	NA	W	N	All 3 analyses
-002	WQ-TOX-002-062712	6/27/12	1215	PBC	G	2x10L	P	NA	W	N	All 3 analyses
-003	WQ-TOX-003-062712	6/27/12	1505	PBC	G	2x10L	P	NA	W	N	All 3 analyses
-004	WQ-TOX-004-062712	6/27/12	1545	PBC	G	2x10L	P	NA	W	N	All 3 analyses

Relinquished By: Dack Stuart	Date: 6/27/12 Time: 1945	Received By: [illegible]	Date: 6/27/12 Time: 1945
Relinquished By:	Date: Time:	Received at Lab By:	Date: Time:

Comments: 4°C - KC 6/27/12

Sample Delivery Group No: Page of

COC Doc No:

APPENDIX E. NEW ENVIRONMENTAL HORIZONS, INC. DATA VALIDATION REPORTS

(See Electronic Attachment)

TABLE OF CONTENTS

Introduction E-1

L1209120 ..... E-2

L1210249 ..... E-6

L1211241 ..... E-10

L1211368 ..... E-14

L1211486 ..... E-19

L1212464 ..... E-24

L1213372 ..... E-28

L1214289 ..... E-32

L1215121 ..... E-36

L1216435 ..... E-40

INTRODUCTION

Data were validated by New Environmental Horizons. A data validation (DV) report was produced for each sample delivery group (SDG). Alpha Analytical Laboratories divided samples into SDGs upon receipt, which were assigned a unique 7-digit number preceded by the letter L. One SDG typically consists of 20 samples. Refer to Appendix C for a summary of which SDGs are associated with each sampling event as well as the analytes reported.

A DV report is made up of three data files. The table below, using SDG L1209120 as an example, describes the contents of each DV file.

File name	File type	Description
dbval_L1209120dv	.CSV	Comma-delimited database file of validated sample results
NBH_OU1_SW_DV_Report_L1209120	.PDF	Data validation report letter summarizing actions taken
18NOAACongeners_Tier1+_SW_Checklist _L1209120	.PDF	Data review checklist for NOAA-18 PCB Congener analyses

This Appendix document includes the DV validation report letters only. All other data files associated with each SDG are included as electronic attachments on the accompanying CD.

environmental chemistry consultants

Data Validation Report
EPA Region I Tier I+
18 NOAA PCB Congeners by 8082

Client/Company:	Woods Hole Group, Inc. (WHG)
Site/Project Name:	New Bedford Harbor Superfund Site – OU1
Laboratory:	Alpha Analytical – Mansfield & Westborough, MA
Lab Project Number(s):	L1209120
Date(s) of Collection:	May 23, 2012
Number / Type Samples & Analyses For Validation	5 Total surface water samples + 1 Equipment Blank for 18 NOAA PCB Congeners
Senior Data Reviewers:	Nancy C. Rothman, PhD, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	December 3, 2012

This EPA Region I Tier I+ validation for 18 NOAA PCB Congeners was performed with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum, New Bedford Harbor Superfund Site, Operable Unit 1 (OU1), New Bedford, MA*, Rev. 5.0, prepared by Woods Hole Group, Inc., August 2012 (NBH OU1 QAPP Addendum 2012); Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III – Pesticide/PCB Data Validation Functional Guidelines*, Draft February 2004; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to generate an electronic deliverable of validated results with project-specific data validation qualifiers added.

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The Data Validation Report consists of three parts:

- This Data Validation Report letter summarizing the actions taken;
- The database file of validated sample results with validation qualifiers, bias, and reason codes added based on actions taken; and
- The Data Review Checklist completed during this validation to document the Tier I+ review. The Checklist is an integral part of the DV Report as it contains comprehensive details of all quality control (QC) reviewed, the acceptance criteria used, and the professional judgment and actions taken.

I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification analytical parameters reviewed and the quality control (QC) results (as applicable) of Matrix Spike (MS), Matrix Spike Duplicate (MSD), Matrix Duplicate (MD), Field Duplicate (FD), Field Equipment Blank (EB), and Trip Blank (TB), are listed below in Table 1.

Table 1. Sample Descriptions and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters[1]	Sample Type
WQ-TPC-001-052312	L1209120-01	5/23/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-052312	L1209120-05	5/23/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-052312-REP	L1209120-09	5/23/12	Total Surface Water	PCBs	FD of WQ-TPC-002-052312
WQ-TPC-003-052312	L1209120-13	5/23/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-004-052312	L1209120-17	5/23/12	Total Surface Water	PCBs	Field Sample [used for MS/MSD]
EB-001-052312	L1209120-21	5/23/12	Water	PCBs	Equipment Blank

Note: EB results were reviewed for potential blank actions; however, full data review of this field QC sample was not performed as these results are not directly used for project decisions.

[1] Total Suspended Solids (TSS), Total Organic Carbon (TOC), and Turbidity measurements were also performed on total surface water samples; however, data validation for these parameters was not required. Aliquots of samples were also archived at the laboratory for metals analysis.

Analytical method references:

PCBs: *Polychlorinated Biphenyls (PCBs) by Gas Chromatography* in EPA's Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846, Third Edition, Method 8082, Rev. 1, February 2007.

II. Data Validation Report Summary

This Data Validation Report represents a Tier I+ validation of 18 NOAA PCB Congeners and summary QC (method and matrix), which were used to evaluate accuracy, precision, and sensitivity compared to the NBH OU1 QAPP Addendum 2012 requirements.

The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
- Sample receipt, holding times and preservation criteria
- Blank results including Method Blanks, Equipment Blanks, & Trip blanks
- Laboratory Control Sample (LCS) recoveries / LCS Duplicate Recoveries
- Surrogate Recoveries
- Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Recoveries
- MS/MSD, LCS/LCSD, sample/Laboratory Duplicate (LD), or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including compound lists, reporting limits, and units)
- Calibration criteria* (including tune criteria, initial calibration and continuing calibration verification)
- Internal Standard (IS) Recoveries*
- Retention Time windows*
- Other method-specific QC if applicable and reported* (e.g., serial dilution results for metals)
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

* This QC element is reviewed associated with the Tier II-type validation only. For Tier I+ validations this QC element is assumed to be acceptable unless otherwise noted in the laboratory narrative.

Based on this Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and were unchanged as a consequence of this review. NEH generated electronic validated results based on the project database file received from WHG for these data, by updating the following database fields for field samples and field QC only: VALID_QUAL, VALIDATION_LEVEL, VALIDATION, VALID_DATE, BIAS, and DV_COMMENT.

The remainder of this report documents "exceptions" to the NBH OU1 QAPP Addendum 2012 criteria or clarifications of data reported. QC elements not discussed below met all QAPP criteria. The full documentation of all QC elements reviewed during this Tier I+ validation is presented in the attached Data Review Checklist.

Sample Receipt
Samples were analyzed for Total PCB Congeners, as requested on the Chain-of-Custody.

Accuracy
MS/MSD analysis was performed on WQ-TPC-004-052312. Accuracy was acceptable for all 18 NOAA PCB Congeners indicating acceptable analysis by the laboratory for the site matrix.

Field Blanks
The Equipment Blank, EB-001-052312, was non-detect for all 18 NOAA Congeners; therefore, blank action was not required.

Precision
Precision was acceptable for the MS/MSD analysis of WQ-TPC-004-052312.

There was one set of Field Duplicates: WQ-TPC-002-052312/ WQ-TPC-002-052312-REP. Precision was acceptable for all PCB Congeners in this field duplicate pair.

The MS/MSD and FD results for the 18 NOAA PCB Congeners are an indication of acceptable representativeness and precision for the site surface water samples.

Sensitivity & Reporting
One sample was diluted prior to analysis so that all results would be reported within the calibration range and qualified "D" by the laboratory. At Battelle's request, the "D" qualifiers were maintained during the DV process.

Sensitivity in terms of sample-specific reporting limits as compared to PALs defined in QAPP Worksheet #15 of the NHB OU1 QAPP Addendum 2012, were met for all 18 NOAA PCB Congeners.

environmental chemistry consultants

Data Validation Report
EPA Region I Tier I+
18 NOAA PCB Congeners by 8082

Client/Company:	Woods Hole Group, Inc. (WHG)
Site/Project Name:	New Bedford Harbor Superfund Site – OU1
Laboratory:	Alpha Analytical – Mansfield & Westborough, MA
Lab Project Number(s):	L1210249
Date(s) of Collection:	June 7, 2012
Number / Type Samples & Analyses For Validation	4 Total surface water samples for 18 NOAA PCB Congeners
Senior Data Reviewers:	Nancy C. Rothman, PhD, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	December 4, 2012

This EPA Region I Tier I+ validation for 18 NOAA PCB Congeners was performed with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum, New Bedford Harbor Superfund Site, Operable Unit 1 (OU1), New Bedford, MA,* Rev. 5.0, prepared by Woods Hole Group, Inc., August 2012 (NBH OU1 QAPP Addendum 2012); Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III – Pesticide/PCB Data Validation Functional Guidelines*, Draft February 2004; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to generate an electronic deliverable of validated results with project-specific data validation qualifiers added.

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The Data Validation Report consists of three parts:

- This Data Validation Report letter summarizing the actions taken;
- The database file of validated sample results with validation qualifiers, bias, and reason codes added based on actions taken; and
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I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification analytical parameters reviewed and the quality control (QC) results (as applicable) of Matrix Spike (MS), Matrix Spike Duplicate (MSD), Matrix Duplicate (MD), Field Duplicate (FD), Field Equipment Blank (EB), and Trip Blank (TB), are listed below in Table 1.

Table 1. Sample Descriptions and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters[1]	Sample Type
WQ-TPC-001-060712	L1210249-01	6/07/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-060712	L1210249-05	6/07/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-003-060712	L1210249-09	6/07/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-004-060712	L1210249-13	6/07/12	Total Surface Water	PCBs	Field Sample

[1] Total Suspended Solids (TSS), Total Organic Carbon (TOC), and Turbidity measurements were also performed on total surface water samples; however, data validation for these parameters was not required. Aliquots of samples were also archived at the laboratory for metals analysis.

Analytical method references:

PCBs: *Polychlorinated Biphenyls (PCBs) by Gas Chromatography* in EPA's Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846, Third Edition, Method 8082, Rev. 1, February 2007.

II. Data Validation Report Summary

This Data Validation Report represents a Tier I+ validation of 18 NOAA PCB Congeners and summary QC (method and matrix), which were used to evaluate accuracy, precision, and sensitivity compared to the NBH OU1 QAPP Addendum 2012 requirements.

The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
- Sample receipt, holding times and preservation criteria
- Blank results including Method Blanks, Equipment Blanks, & Trip blanks
- Laboratory Control Sample (LCS) recoveries / LCS Duplicate Recoveries
- Surrogate Recoveries
- Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Recoveries
- MS/MSD, LCS/LCSD, sample/Laboratory Duplicate (LD), or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including compound lists, reporting limits, and units)
- Calibration criteria* (including tune criteria, initial calibration and continuing calibration verification)
- Internal Standard (IS) Recoveries*
- Retention Time windows*
- Other method-specific QC if applicable and reported* (e.g., serial dilution results for metals)
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

* This QC element is reviewed associated with the Tier II-type validation only. For Tier I+ validations this QC element is assumed to be acceptable unless otherwise noted in the laboratory narrative.

Based on this Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and were unchanged as a consequence of this review. NEH generated electronic validated results based on the project database file received from WHG for these data, by updating the following database fields for field samples and field QC only: VALID_QUAL, VALIDATION_LEVEL, VALIDATION, VALID_DATE, BIAS, and DV_COMMENT.

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Sample Receipt
Samples were analyzed for Total PCB Congeners, as requested on the Chain-of-Custody (COC).

Accuracy
MS/MSD analysis was not performed nor was it requested on the COC. LCS/LCSD accuracy was acceptable for all 18 NOAA PCB Congeners indicating acceptable accuracy by the laboratory for the method of analysis.

Field Blanks
There were no Equipment Blanks associated with the samples in this SDG.

Precision
Precision was acceptable for the LCS/LCSD analysis.

There were no MS/MSD or Field Duplicates associated with the samples in this SDG; therefore, it was not possible to evaluate precision from sample collection through analysis for the site matrix.

Sensitivity & Reporting

One sample was diluted prior to analysis so that all results would be reported within the calibration range and qualified "D" by the laboratory. At Battelle's request, the "D" qualifiers were maintained during the DV process.

Sensitivity in terms of sample-specific reporting limits as compared to PALs defined in QAPP Worksheet #15 of the NHB OU1 QAPP Addendum 2012, were met for all 18 NOAA PCB Congeners.

environmental chemistry consultants

Data Validation Report
EPA Region I Tier I+
18 NOAA PCB Congeners by 8082

Client/Company:	Woods Hole Group, Inc. (WHG)
Site/Project Name:	New Bedford Harbor Superfund Site – OU1
Laboratory:	Alpha Analytical – Mansfield & Westborough, MA
Lab Project Number(s):	L1211241
Date(s) of Collection:	June 22, 2012
Number / Type Samples & Analyses For Validation	4 Total surface water samples for 18 NOAA PCB Congeners
Senior Data Reviewers:	Nancy C. Rothman, PhD, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	December 4, 2012

This EPA Region I Tier I+ validation for 18 NOAA PCB Congeners was performed with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum, New Bedford Harbor Superfund Site, Operable Unit 1 (OU1), New Bedford, MA,* Rev. 5.0, prepared by Woods Hole Group, Inc., August 2012 (NBH OU1 QAPP Addendum 2012); Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III – Pesticide/PCB Data Validation Functional Guidelines*, Draft February 2004; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to generate an electronic deliverable of validated results with project-specific data validation qualifiers added.

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I. Sample Descriptions and Analytical Parameters

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Table 1. Sample Descriptions and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters[1]	Sample Type
WQ-TPC-001-062212	L1211241-01	6/22/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-062212	L1211241-05	6/22/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-003-062212	L1211241-09	6/22/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-004-062212	L1211241-13	6/22/12	Total Surface Water	PCBs	Field Sample

[1] Total Suspended Solids (TSS), Total Organic Carbon (TOC), and Turbidity measurements were also performed on total surface water samples; however, data validation for these parameters was not required. Aliquots of samples were also archived at the laboratory for metals analysis.

Analytical method references:

PCBs: *Polychlorinated Biphenyls (PCBs) by Gas Chromatography* in EPA's Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846, Third Edition, Method 8082, Rev. 1, February 2007.

II. Data Validation Report Summary

This Data Validation Report represents a Tier I+ validation of 18 NOAA PCB Congeners and summary QC (method and matrix), which were used to evaluate accuracy, precision, and sensitivity compared to the NBH OU1 QAPP Addendum 2012 requirements.

The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
- Sample receipt, holding times and preservation criteria
- Blank results including Method Blanks, Equipment Blanks, & Trip blanks
- Laboratory Control Sample (LCS) recoveries / LCS Duplicate Recoveries
- Surrogate Recoveries
- Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Recoveries
- MS/MSD, LCS/LCSD, sample/Laboratory Duplicate (LD), or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including compound lists, reporting limits, and units)
- Calibration criteria* (including tune criteria, initial calibration and continuing calibration verification)
- Internal Standard (IS) Recoveries*
- Retention Time windows*
- Other method-specific QC if applicable and reported* (e.g., serial dilution results for metals)
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

* This QC element is reviewed associated with the Tier II-type validation only. For Tier I+ validations this QC element is assumed to be acceptable unless otherwise noted in the laboratory narrative.

Based on this Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and were unchanged as a consequence of this review. NEH generated electronic validated results based on the project database file received from WHG for these data, by updating the following database fields for field samples and field QC only: VALID_QUAL, VALIDATION_LEVEL, VALIDATION, VALID_DATE, BIAS, and DV_COMMENT.

The remainder of this report documents "exceptions" to the NBH OU1 QAPP Addendum 2012 criteria or clarifications of data reported. QC elements not discussed below met all QAPP criteria. The full documentation of all QC elements reviewed during this Tier I+ validation is presented in the attached Data Review Checklist.

Sample Receipt
Samples were analyzed for Total PCB Congeners, as requested on the Chain-of-Custody (COC).

Accuracy
MS/MSD analysis was not performed nor was it requested on the COC. LCS/LCSD accuracy was acceptable for all 18 NOAA PCB Congeners indicating acceptable accuracy by the laboratory for the method of analysis.

Field Blanks
There were no Equipment Blanks associated with the samples in this SDG.

Precision
Precision was acceptable for the LCS/LCSD analysis.

There were no MS/MSD or Field Duplicates associated with the samples in this SDG; therefore, it was not possible to evaluate precision from sample collection through analysis for the site matrix.

Sensitivity & Reporting

One sample was diluted prior to analysis so that all results would be reported within the calibration range and qualified "D" by the laboratory. At Battelle's request, the "D" qualifiers were maintained during the DV process.

Sensitivity in terms of sample-specific reporting limits as compared to PALs defined in QAPP Worksheet #15 of the NHB OU1 QAPP Addendum 2012, were met for all 18 NOAA PCB Congeners.

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Data Validation Report
EPA Region I Tier I+
18 NOAA PCB Congeners by 8082

Client/Company:	Woods Hole Group, Inc. (WHG)
Site/Project Name:	New Bedford Harbor Superfund Site – OU1
Laboratory:	Alpha Analytical – Mansfield & Westborough, MA
Lab Project Number(s):	L1211368
Date(s) of Collection:	June 26, 2012
Number / Type Samples & Analyses For Validation	5 Total surface water samples, 5 Dissolved surface waters, 1 Total Equipment Blank, and 1 Dissolved Equipment Blank for 18 NOAA PCB Congeners
Senior Data Reviewers:	Nancy C. Rothman, PhD, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	December 4, 2012

This EPA Region I Tier I+ validation for 18 NOAA PCB Congeners was performed with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum, New Bedford Harbor Superfund Site, Operable Unit 1 (OU1), New Bedford, MA,* Rev. 5.0, prepared by Woods Hole Group, Inc., August 2012 (NBH OU1 QAPP Addendum 2012); Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III – Pesticide/PCB Data Validation Functional Guidelines*, Draft February 2004; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to generate an electronic deliverable of validated results with project-specific data validation qualifiers added.

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The Data Validation Report consists of three parts:

- This Data Validation Report letter summarizing the actions taken;
- The database file of validated sample results with validation qualifiers, bias, and reason codes added based on actions taken; and
- The Data Review Checklist completed during this validation to document the Tier I+ review. The Checklist is an integral part of the DV Report as it contains comprehensive details of all quality control (QC) reviewed, the acceptance criteria used, and the professional judgment and actions taken.

I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification analytical parameters reviewed and the quality control (QC) results (as applicable) of Matrix Spike (MS), Matrix Spike Duplicate (MSD), Matrix Duplicate (MD), Field Duplicate (FD), Field Equipment Blank (EB), and Trip Blank (TB), are listed below in Table 1.

Table 1. Sample Descriptions and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters[1]	Sample Type
WQ-TPC-001-062612	L1211368-01	6/26/12	Total Surface Water	PCBs	Field Sample
WQ-DPC-001-062612	L1211368-02	6/26/12	Dissolved Surface Water	PCBs	Field Sample
WQ-TPC-002-062612	L1211368-07	6/26/12	Total Surface Water	PCBs	Field Sample
WQ-DPC-002-062612	L1211368-08	6/26/12	Dissolved Surface Water	PCBs	Field Sample
WQ-TPC-002-062612-REP	L1211368-13	6/26/12	Total Surface Water	PCBs	FD of WQ-TPC-002-062612
WQ-DPC-002-062612-REP	L1211368-14	6/26/12	Dissolved Surface Water	PCBs	FD of WQ-DPC-002-062612
WQ-TPC-003-062612	L1211368-19	6/26/12	Total Surface Water	PCBs	Field Sample
WQ-DPC-003-062612	L1211368-20	6/26/12	Dissolved Surface Water	PCBs	Field Sample
WQ-TPC-004-062612	L1211368-25	6/26/12	Total Surface Water	PCBs	Field Sample [used for MS/MSD]
WQ-DPC-004-062612	L1211368-26	6/26/12	Dissolved Surface Water	PCBs	Field Sample [used for MS/MSD]
WQ-TPC-001-062612-EB	L1211368-31	6/26/12	Total Water	PCBs	Equipment Blank
WQ-DPC-001-062612-EB	L1211368-32	6/26/12	Dissolved Water	PCBs	Equipment Blank

Note: EB results were reviewed for potential blank actions; however, full data review of this field QC sample was not performed as these results are not directly used for project decisions.

[1] Total Suspended Solids (TSS), Total Organic Carbon (TOC), and Turbidity measurements were also performed on total surface water samples; however, data validation for these parameters was not required. Aliquots of samples were also archived at the laboratory for metals analysis.

Analytical method references:

PCBs: *Polychlorinated Biphenyls (PCBs) by Gas Chromatography* in EPA's Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846, Third Edition, Method 8082, Rev. 1, February 2007.

II. Data Validation Report Summary

This Data Validation Report represents a Tier I+ validation of 18 NOAA PCB Congeners and summary QC (method and matrix), which were used to evaluate accuracy, precision, and sensitivity compared to the NBH OU1 QAPP Addendum 2012 requirements.

The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
- Sample receipt, holding times and preservation criteria
- Blank results including Method Blanks, Equipment Blanks, & Trip blanks
- Laboratory Control Sample (LCS) recoveries / LCS Duplicate Recoveries
- Surrogate Recoveries
- Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Recoveries
- MS/MSD, LCS/LCSD, sample/Laboratory Duplicate (LD), or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including compound lists, reporting limits, and units)
- Calibration criteria* (including tune criteria, initial calibration and continuing calibration verification)
- Internal Standard (IS) Recoveries*
- Retention Time windows*
- Other method-specific QC if applicable and reported* (e.g., serial dilution results for metals)
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

* This QC element is reviewed associated with the Tier II-type validation only. For Tier I+ validations this QC element is assumed to be acceptable unless otherwise noted in the laboratory narrative.

Based on this Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and with the understanding of the potential uncertainty (bias) in the qualified results summarized in Table 2. NEH generated electronic validated results based on the project database file received from WHG for these data, by updating the following database fields for field samples and field QC only: VALID_QUAL, VALIDATION_LEVEL, VALIDATION, VALID_DATE, BIAS, and DV_COMMENT.

The remainder of this report documents "exceptions" to the NBH OU1 QAPP Addendum 2012 criteria or clarifications of data reported. QC elements not discussed below met all QAPP criteria. The full documentation of all QC elements reviewed during this Tier I+ validation is presented in the attached Data Review Checklist.

Sample Receipt
Aliquots of the "dissolved" samples were immediately filtered through a 0.45 µm filter, upon receipt at the laboratory, to produce the actual Dissolved sample aliquots that were used for PCB analysis.

The equipment blank (EB-001-062612) was also analyzed as received and filtered. The laboratory modified the equipment blank sample ID to distinguish Total and Dissolved EB analysis as follows: WQ-TPC-001-062612-EB and WQ-DPC-001-062612-EB.

Accuracy
MS/MSD analysis was performed on WQ-TPC-004-062612 and WQ-DPC-004-062612, the Total and Dissolved aliquot of the same sample. Several MSD recoveries were low in the analysis of WQ-DPC-004-062612; however, the narrative indicated that some of the MSD aliquot was lost during sample concentration. Based on professional judgment, only the MS recoveries are valid results for WQ-DPC-004-062612; therefore, since the MS recoveries were all acceptable, no action was taken. Accuracy was acceptable for all 18 NOAA PCB Congeners in the MS/MSD analysis performed on WQ-TPC-004-062612 except high MS and/or MSD recovery was observed for two PCB Congeners. The Congeners affected were estimated (J) in sample WQ-TPC-004-062612, as listed in Table 2.

Field Blanks
The Equipment Blank aliquots, WQ-TPC-001-062612-EB and WQ-DPC-001-062612-EB, were non-detect for all 18 NOAA Congeners; therefore, blank action was not required.

Precision
Precision was acceptable for the MS/MSD analyses of WQ-TPC-004-062612. MS/MSD precision was unacceptable for all 18 NOAA Congeners in the analysis of WQ-DPC-004-062612; however, this was a direct result of the MSD being affected by laboratory error and was not sample-related. Therefore, based on professional judgment, no action was taken.

There were two sets of Field Duplicates: WQ-TPC-002-062612 / WQ-TPC-002-062612-REP and WQ-DPC-002-062612 / WQ-DPC-002-062612-REP. FD precision was unacceptable for 10 out of 18 NOAA Congeners in the FD pair of WQ-TPC-002-062612 / WQ-TPC-002-062612-REP and unacceptable for 7 out of 18 NOAA Congeners in the FD pair of WQ-DPC-002-062612 / WQ-DPC-002-062612-REP. Table 2 indicates those results that were estimated (J or DJ) with indeterminate bias as a consequence of the observed FD imprecision.

Though the one valid set of MS/MSD results indicate acceptable precision for Total PCB Congeners, both sets of FD results indicate variable precision and representativeness for the Total and Dissolved 18 NOAA PCB Congeners, which may be due to sample heterogeneity in the site surface water samples.

Sensitivity & Reporting

Four samples were diluted prior to analysis so that all results would be reported within the calibration range and qualified "D" by the laboratory. At Battelle's request, the "D" qualifiers were maintained during the DV process.

Sensitivity in terms of sample-specific reporting limits as compared to PALs defined in QAPP Worksheet #15 of the NHB OU1 QAPP Addendum 2012, were met for all 18 NOAA PCB Congeners.

Table 2. Summary of Data Validation Actions

Field Sample ID	Analyte	Qualifier	Bias	Validation Comments
WQ-TPC-004-062612	2,4,4'-Trichlorobiphenyl 2,2',5,5'-Tetrachlorobiphenyl	J	H	High MS recovery
WQ-DPC-002-062612 WQ-DPC-002-062612-REP	2,4'-Dichlorobiphenyl 2,4,4'-Trichlorobiphenyl 2,2',3,5'-Tetrachlorobiphenyl 2,2',5,5'-Tetrachlorobiphenyl 2,3',4,4'-Tetrachlorobiphenyl 2,2',4,5,5'-Pentachlorobiphenyl 2,2',4,4',5,5'-Hexachlorobiphenyl	J	I	FD imprecision
WQ-TPC-002-062612 WQ-TPC-002-062612-REP	2,4'-Dichlorobiphenyl 2,2',5-Trichlorobiphenyl 2,4,4'-Trichlorobiphenyl 2,2',3,5'-Tetrachlorobiphenyl 2,2',5,5'-Tetrachlorobiphenyl 2,3',4,4'-Tetrachlorobiphenyl 2,2',4,5,5'-Pentachlorobiphenyl 2,3',4,4',5-Pentachlorobiphenyl 2,2',3,4,4',5'-Hexachlorobiphenyl 2,2',4,4',5,5'-Hexachlorobiphenyl	DJ	I	FD imprecision

Qualifiers: U = Analyte is non-detect at or above the sample-specific reporting limit (RL); UJ = Non-detect is estimated at the RL; J = Result is estimated; EB = analyte detected in associated equipment blank; EMPC = estimated maximum possible concentration (PCB congeners only); R = Result is rejected and is unusable for project decisions; D = result reported from a dilution analysis (added by laboratory).

Bias: L = Low; H = High; I = Indeterminate

Abbreviations used in Table 2:
MS = Matrix Spike
FD = Field Duplicate

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Data Validation Report
EPA Region I Tier I+
18 NOAA PCB Congeners by 8082

Client/Company:	Woods Hole Group, Inc. (WHG)
Site/Project Name:	New Bedford Harbor Superfund Site – OU1
Laboratory:	Alpha Analytical – Mansfield & Westborough, MA
Lab Project Number(s):	L1211486
Date(s) of Collection:	June 27, 2012
Number / Type Samples & Analyses For Validation	5 Total surface water samples, 5 Dissolved surface waters, 1 Total Equipment Blank, and 1 Dissolved Equipment Blank for 18 NOAA PCB Congeners
Senior Data Reviewers:	Nancy C. Rothman, PhD, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	December 4, 2012

This EPA Region I Tier I+ validation for 18 NOAA PCB Congeners was performed with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum, New Bedford Harbor Superfund Site, Operable Unit 1 (OU1), New Bedford, MA,* Rev. 5.0, prepared by Woods Hole Group, Inc., August 2012 (NBH OU1 QAPP Addendum 2012); Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III – Pesticide/PCB Data Validation Functional Guidelines*, Draft February 2004; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to generate an electronic deliverable of validated results with project-specific data validation qualifiers added.

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The Data Validation Report consists of three parts:

- This Data Validation Report letter summarizing the actions taken;
- The database file of validated sample results with validation qualifiers, bias, and reason codes added based on actions taken; and
- The Data Review Checklist completed during this validation to document the Tier I+ review. The Checklist is an integral part of the DV Report as it contains comprehensive details of all quality control (QC) reviewed, the acceptance criteria used, and the professional judgment and actions taken.

I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification analytical parameters reviewed and the quality control (QC) results (as applicable) of Matrix Spike (MS), Matrix Spike Duplicate (MSD), Matrix Duplicate (MD), Field Duplicate (FD), Field Equipment Blank (EB), and Trip Blank (TB), are listed below in Table 1.

Table 1. Sample Descriptions and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters[1]	Sample Type
WQ-TPC-001-062712	L1211486-01	6/27/12	Total Surface Water	PCBs	Field Sample
WQ-DPC-001-062712	L1211486-02	6/27/12	Dissolved Surface Water	PCBs	Field Sample
WQ-TPC-002-062712	L1211486-07	6/27/12	Total Surface Water	PCBs	Field Sample
WQ-DPC-002-062712	L1211486-08	6/27/12	Dissolved Surface Water	PCBs	Field Sample
WQ-TPC-003-062712	L1211486-13	6/27/12	Total Surface Water	PCBs	Field Sample
WQ-DPC-003-062712	L1211486-14	6/27/12	Dissolved Surface Water	PCBs	Field Sample
WQ-TPC-004-062712	L1211486-19	6/27/12	Total Surface Water	PCBs	Field Sample [used for MS/MSD]
WQ-DPC-004-062712	L1211486-20	6/27/12	Dissolved Surface Water	PCBs	Field Sample [used for MS/MSD]
WQ-TPC-004-062712-REP	L1211486-25	6/27/12	Total Surface Water	PCBs	FD of WQ-TPC-004-062712
WQ-DPC-004-062712-REP	L1211486-26	6/27/12	Dissolved Surface Water	PCBs	FD of WQ-DPC-004-062712
WQ-TPC-001-062712-EB	L1211486-31	6/27/12	Total Water	PCBs	Equipment Blank
WQ-DPC-001-062712-EB	L1211486-32	6/27/12	Dissolved Water	PCBs	Equipment Blank

Note: EB results were reviewed for potential blank actions; however, full data review of this field QC sample was not performed as these results are not directly used for project decisions.

[1] Total Suspended Solids (TSS), Total Organic Carbon (TOC), and Turbidity measurements were also performed on total surface water samples; however, data validation for these parameters was not required. Aliquots of samples were also archived at the laboratory for metals analysis.

Analytical method references:

PCBs: *Polychlorinated Biphenyls (PCBs) by Gas Chromatography* in EPA's Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846, Third Edition, Method 8082, Rev. 1, February 2007.

II. Data Validation Report Summary

This Data Validation Report represents a Tier I+ validation of 18 NOAA PCB Congeners and summary QC (method and matrix), which were used to evaluate accuracy, precision, and sensitivity compared to the NBH OU1 QAPP Addendum 2012 requirements.

The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
- Sample receipt, holding times and preservation criteria
- Blank results including Method Blanks, Equipment Blanks, & Trip blanks
- Laboratory Control Sample (LCS) recoveries / LCS Duplicate Recoveries
- Surrogate Recoveries
- Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Recoveries
- MS/MSD, LCS/LCSD, sample/Laboratory Duplicate (LD), or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including compound lists, reporting limits, and units)
- Calibration criteria* (including tune criteria, initial calibration and continuing calibration verification)
- Internal Standard (IS) Recoveries*
- Retention Time windows*
- Other method-specific QC if applicable and reported* (e.g., serial dilution results for metals)
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

* This QC element is reviewed associated with the Tier II-type validation only. For Tier I+ validations this QC element is assumed to be acceptable unless otherwise noted in the laboratory narrative.

Based on this Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and with the understanding of the potential uncertainty (bias) in the qualified results summarized in Table 2. NEH generated electronic validated results based on the project database file received from WHG for these data, by updating the following database fields for field samples and field QC only: VALID_QUAL, VALIDATION_LEVEL, VALIDATION, VALID_DATE, BIAS, and DV_COMMENT.

The remainder of this report documents "exceptions" to the NBH OU1 QAPP Addendum 2012 criteria or clarifications of data reported. QC elements not discussed below met all QAPP criteria. The full documentation of all QC elements reviewed during this Tier I+ validation is presented in the attached Data Review Checklist.

Sample Receipt
Samples were received at the laboratory with temperatures upon receipt ranging from 9.5 to 10.1 °C. Since the samples were received on ice within two hours of collection of the last sample and since PCB Congeners should not be affected by this temperature exceedance, no action was taken based on professional judgment.

Aliquots of the "dissolved" samples were immediately filtered through a 0.45 µm filter, upon receipt at the laboratory, to produce the actual Dissolved sample aliquots that were used for PCB analysis.

Accuracy
MS/MSD analysis was performed on WQ-TPC-004-062712 and WQ-DPC-004-062712, the Total and Dissolved aliquot of the same sample. Accuracy was acceptable for all 18 NOAA PCB Congeners in the MS/MSD analyses except for high MSD recovery for one Congener associated with WQ-TPC-004-062712 and low MS/MSD recoveries for one Congener in the analysis of WQ-DPC-004-062712. The Congeners affected were estimated (DJ) in the unspiked samples, as listed in Table 2.

Field Blanks
The Equipment Blank, WQ-TPC-001-062712-EB and WQ-DPC-001-062712-EB, was non-detect for all 18 NOAA Congeners; therefore, blank action was not required.

Precision
Precision was acceptable for the MS/MSD analyses of WQ-TPC-004-062712. MS/MSD precision was unacceptable for one Congener in the analysis of WQ-DPC-004-062712. The Congener affected was estimated (DJ) in the unspiked sample, as listed in Table 2.

There were two sets of Field Duplicates: WQ-TPC-004-062712 / WQ-TPC-004-062712-REP and WQ-DPC-004-062712 / WQ-DPC-004-062712-REP. FD precision was acceptable for all 18 NOAA Congeners in both FD pairs.

The MS/MSD and FD results for the 18 NOAA PCB Congeners are an indication of generally acceptable representativeness and precision for analysis of the site surface water samples.

Sensitivity & Reporting
Seven samples were diluted prior to analysis so that all results would be reported within the calibration range and qualified "D" by the laboratory. At Battelle's request, the "D" qualifiers were maintained during the DV process.

Sensitivity in terms of sample-specific reporting limits as compared to PALs defined in QAPP Worksheet #15 of the NHB OU1 QAPP Addendum 2012, were met for all 18 NOAA PCB Congeners.

Table 2. Summary of Data Validation Actions

Field Sample ID	Analyte	Qualifier	Bias	Validation Comments
WQ-DPC-004-062712	2,2',5-Trichlorobiphenyl	DJ	I	Low MS/MSD recoveries + MS/MSD imprecision
WQ-TPC-004-062712	2,2',5,5'-Tetrachlorobiphenyl	DJ	H	High MSD recovery

Qualifiers: U = Analyte is non-detect at or above the sample-specific reporting limit (RL); UJ = Non-detect is estimated at the RL; J = Result is estimated; EB = analyte detected in associated equipment blank; EMPC = estimated maximum possible concentration (PCB congeners only); R = Result is rejected and is unusable for project decisions; D = result reported from a dilution analysis (added by laboratory).

Bias: L = Low; H = High; I = Indeterminate

Abbreviations used in Table 2:
MS = Matrix Spike
MSD = Matrix Spike Duplicate

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Data Validation Report
EPA Region I Tier I+
18 NOAA PCB Congeners by 8082

Client/Company:	Woods Hole Group, Inc. (WHG)
Site/Project Name:	New Bedford Harbor Superfund Site – OU1
Laboratory:	Alpha Analytical – Mansfield & Westborough, MA
Lab Project Number(s):	L1212464
Date(s) of Collection:	July 12, 2012
Number / Type Samples & Analyses For Validation	4 Total surface water samples for 18 NOAA PCB Congeners
Senior Data Reviewers:	Nancy C. Rothman, PhD, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	December 5, 2012

This EPA Region I Tier I+ validation for 18 NOAA PCB Congeners was performed with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum, New Bedford Harbor Superfund Site, Operable Unit 1 (OU1), New Bedford, MA,* Rev. 5.0, prepared by Woods Hole Group, Inc., August 2012 (NBH OU1 QAPP Addendum 2012); Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III – Pesticide/PCB Data Validation Functional Guidelines*, Draft February 2004; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to generate an electronic deliverable of validated results with project-specific data validation qualifiers added.

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Table 1. Sample Descriptions and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters[1]	Sample Type
WQ-TPC-001-071212	L1212464-01	7/12/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-071212	L1212464-05	7/12/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-003-071212	L1212464-09	7/12/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-004-071212	L1212464-13	7/12/12	Total Surface Water	PCBs	Field Sample

[1] Total Suspended Solids (TSS), Total Organic Carbon (TOC), and Turbidity measurements were also performed on total surface water samples; however, data validation for these parameters was not required. Aliquots of samples were also archived at the laboratory for metals analysis.

Analytical method references:

PCBs: *Polychlorinated Biphenyls (PCBs) by Gas Chromatography* in EPA's Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846, Third Edition, Method 8082, Rev. 1, February 2007.

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The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
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- Laboratory Control Sample (LCS) recoveries / LCS Duplicate Recoveries
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- Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Recoveries
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- Sample result reporting (including compound lists, reporting limits, and units)
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- Deficiencies or protocol deviations as noted in the Laboratory Narrative

* This QC element is reviewed associated with the Tier II-type validation only. For Tier I+ validations this QC element is assumed to be acceptable unless otherwise noted in the laboratory narrative.

Based on this Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and were unchanged as a consequence of this review. NEH generated electronic validated results based on the project database file received from WHG for these data, by updating the following database fields for field samples and field QC only: VALID_QUAL, VALIDATION_LEVEL, VALIDATION, VALID_DATE, BIAS, and DV_COMMENT.

The remainder of this report documents "exceptions" to the NBH OU1 QAPP Addendum 2012 criteria or clarifications of data reported. QC elements not discussed below met all QAPP criteria. The full documentation of all QC elements reviewed during this Tier I+ validation is presented in the attached Data Review Checklist.

Sample Receipt
Samples were analyzed for Total PCB Congeners, as requested on the Chain-of-Custody (COC).

Accuracy
MS/MSD analysis was not performed nor was it requested on the COC. LCS/LCSD accuracy was acceptable for all 18 NOAA PCB Congeners indicating acceptable accuracy by the laboratory for the method of analysis.

Field Blanks
There were no Equipment Blanks associated with the samples in this SDG.

Precision
Precision was acceptable for the LCS/LCSD analysis.

There were no MS/MSD or Field Duplicates associated with the samples in this SDG; therefore, it was not possible to evaluate precision from sample collection through analysis for the site matrix.

Sensitivity & Reporting

All samples were diluted prior to analysis so that all results would be reported within the calibration range and qualified "D" by the laboratory. At Battelle's request, the "D" qualifiers were maintained during the DV process.

Sensitivity in terms of sample-specific reporting limits as compared to PALs defined in QAPP Worksheet #15 of the NHB OU1 QAPP Addendum 2012, were met for all 18 NOAA PCB Congeners.

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18 NOAA PCB Congeners by 8082

Client/Company:	Woods Hole Group, Inc. (WHG)
Site/Project Name:	New Bedford Harbor Superfund Site – OU1
Laboratory:	Alpha Analytical – Mansfield & Westborough, MA
Lab Project Number(s):	L1213372
Date(s) of Collection:	July 26, 2012
Number / Type Samples & Analyses For Validation	5 Total surface water samples for 18 NOAA PCB Congeners
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Date Completed:	December 5, 2012

This EPA Region I Tier I+ validation for 18 NOAA PCB Congeners was performed with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum, New Bedford Harbor Superfund Site, Operable Unit 1 (OU1), New Bedford, MA,* Rev. 5.0, prepared by Woods Hole Group, Inc., August 2012 (NBH OU1 QAPP Addendum 2012); Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III – Pesticide/PCB Data Validation Functional Guidelines*, Draft February 2004; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to generate an electronic deliverable of validated results with project-specific data validation qualifiers added.

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www.neh-inc.com

The Data Validation Report consists of three parts:

- This Data Validation Report letter summarizing the actions taken;
- The database file of validated sample results with validation qualifiers, bias, and reason codes added based on actions taken; and
- The Data Review Checklist completed during this validation to document the Tier I+ review. The Checklist is an integral part of the DV Report as it contains comprehensive details of all quality control (QC) reviewed, the acceptance criteria used, and the professional judgment and actions taken.

I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification analytical parameters reviewed and the quality control (QC) results (as applicable) of Matrix Spike (MS), Matrix Spike Duplicate (MSD), Matrix Duplicate (MD), Field Duplicate (FD), Field Equipment Blank (EB), and Trip Blank (TB), are listed below in Table 1.

Table 1. Sample Descriptions and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters[1]	Sample Type
WQ-TPC-001-072612	L1213372-01	7/26/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-072612	L1213372-05	7/26/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-003-072612	L1213372-09	7/26/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-004-072612	L1213372-13	7/26/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-072612-REP	L1213372-17	7/26/12	Total Surface Water	PCBs	FD of WQ-TPC-002-072612

[1] Total Suspended Solids (TSS), Total Organic Carbon (TOC), and Turbidity measurements were also performed on total surface water samples; however, data validation for these parameters was not required. Aliquots of samples were also archived at the laboratory for metals analysis.

Analytical method references:

PCBs: *Polychlorinated Biphenyls (PCBs) by Gas Chromatography* in EPA's Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846, Third Edition, Method 8082, Rev. 1, February 2007.

II. Data Validation Report Summary

This Data Validation Report represents a Tier I+ validation of 18 NOAA PCB Congeners and summary QC (method and matrix), which were used to evaluate accuracy, precision, and sensitivity compared to the NBH OU1 QAPP Addendum 2012 requirements.

The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
- Sample receipt, holding times and preservation criteria
- Blank results including Method Blanks, Equipment Blanks, & Trip blanks
- Laboratory Control Sample (LCS) recoveries / LCS Duplicate Recoveries
- Surrogate Recoveries
- Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Recoveries
- MS/MSD, LCS/LCSD, sample/Laboratory Duplicate (LD), or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including compound lists, reporting limits, and units)
- Calibration criteria* (including tune criteria, initial calibration and continuing calibration verification)
- Internal Standard (IS) Recoveries*
- Retention Time windows*
- Other method-specific QC if applicable and reported* (e.g., serial dilution results for metals)
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

* This QC element is reviewed associated with the Tier II-type validation only. For Tier I+ validations this QC element is assumed to be acceptable unless otherwise noted in the laboratory narrative.

Based on this Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and were unchanged as a consequence of this review. NEH generated electronic validated results based on the project database file received from WHG for these data, by updating the following database fields for field samples and field QC only: VALID_QUAL, VALIDATION_LEVEL, VALIDATION, VALID_DATE, BIAS, and DV_COMMENT.

The remainder of this report documents "exceptions" to the NBH OU1 QAPP Addendum 2012 criteria or clarifications of data reported. QC elements not discussed below met all QAPP criteria. The full documentation of all QC elements reviewed during this Tier I+ validation is presented in the attached Data Review Checklist.

Sample Receipt
Samples were analyzed for Total PCB Congeners, as requested on the Chain-of-Custody (COC).

Two coolers were received at the laboratory outside temperature criteria (1.9°C and 6.6°C). Since the samples were received intact within two hours of collection of the last sample and since PCB Congeners should not be affected by these temperature exceedances, no action was taken based on professional judgment.

The equipment blank sample, WQ-TPC-001-072612-EB, was listed on the COC but was not received at the laboratory. Additionally, the MS/MSD analysis for PCB Congeners, which was to be performed on sample WQ-TPC-004-072612, was cancelled by the client prior to analysis.

Accuracy
MS/MSD analysis was not performed. LCS/LCSD accuracy was acceptable for all 18 NOAA PCB Congeners indicating acceptable accuracy by the laboratory for the method of analysis.

Field Blanks
There were no Equipment Blanks associated with the samples in this SDG.

Precision
Precision was acceptable for the LCS/LCSD analysis.

There was one set of Field Duplicates: WQ-TPC-002-072612 / WQ-TPC-002-072612-REP. Precision was acceptable for all PCB Congeners in this field duplicate pair. These results are an indication of acceptable representativeness and precision for the site surface water samples for PCB Congener analysis.

Sensitivity & Reporting
All samples were diluted prior to analysis so that all results would be reported within the calibration range and qualified "D" by the laboratory. At Battelle's request, the "D" qualifiers were maintained during the DV process.

Sensitivity in terms of sample-specific reporting limits as compared to PALs defined in QAPP Worksheet #15 of the NHB OU1 QAPP Addendum 2012, were met for all 18 NOAA PCB Congeners.

environmental chemistry consultants

Data Validation Report
EPA Region I Tier I+
18 NOAA PCB Congeners by 8082

Client/Company:	Woods Hole Group, Inc. (WHG)
Site/Project Name:	New Bedford Harbor Superfund Site – OU1
Laboratory:	Alpha Analytical – Mansfield & Westborough, MA
Lab Project Number(s):	L1214289
Date(s) of Collection:	August 8, 2012
Number / Type Samples & Analyses For Validation	4 Total surface water samples + 1 Equipment Blank for 18 NOAA PCB Congeners
Senior Data Reviewers:	Nancy C. Rothman, PhD, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	December 5, 2012

This EPA Region I Tier I+ validation for 18 NOAA PCB Congeners was performed with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum, New Bedford Harbor Superfund Site, Operable Unit 1 (OU1), New Bedford, MA*, Rev. 5.0, prepared by Woods Hole Group, Inc., August 2012 (NBH OU1 QAPP Addendum 2012); Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III – Pesticide/PCB Data Validation Functional Guidelines*, Draft February 2004; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to generate an electronic deliverable of validated results with project-specific data validation qualifiers added.

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The Data Validation Report consists of three parts:

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- The Data Review Checklist completed during this validation to document the Tier I+ review. The Checklist is an integral part of the DV Report as it contains comprehensive details of all quality control (QC) reviewed, the acceptance criteria used, and the professional judgment and actions taken.

I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification analytical parameters reviewed and the quality control (QC) results (as applicable) of Matrix Spike (MS), Matrix Spike Duplicate (MSD), Matrix Duplicate (MD), Field Duplicate (FD), Field Equipment Blank (EB), and Trip Blank (TB), are listed below in Table 1.

Table 1. Sample Descriptions and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters[1]	Sample Type
WQ-TPC-001-080812	L1214289-01	8/08/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-080812	L1214289-05	8/08/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-003-080812	L1214289-09	8/08/12	Total Surface Water	PCBs	Field Sample [used for MS/MSD]
WQ-TPC-004-080812	L1214289-13	8/08/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-080812-EB	L1214289-17	8/08/12	Water	PCBs	Equipment Blank

Note: EB results were reviewed for potential blank actions; however, full data review of this field QC sample was not performed as these results are not directly used for project decisions.

[1] Total Suspended Solids (TSS), Total Organic Carbon (TOC), and Turbidity measurements were also performed on total surface water samples; however, data validation for these parameters was not required. Aliquots of samples were also archived at the laboratory for metals analysis.

Analytical method references:

PCBs: *Polychlorinated Biphenyls (PCBs) by Gas Chromatography* in EPA's Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846, Third Edition, Method 8082, Rev. 1, February 2007.

II. Data Validation Report Summary

This Data Validation Report represents a Tier I+ validation of 18 NOAA PCB Congeners and summary QC (method and matrix), which were used to evaluate accuracy, precision, and sensitivity compared to the NBH OU1 QAPP Addendum 2012 requirements.

The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
- Sample receipt, holding times and preservation criteria
- Blank results including Method Blanks, Equipment Blanks, & Trip blanks
- Laboratory Control Sample (LCS) recoveries / LCS Duplicate Recoveries
- Surrogate Recoveries
- Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Recoveries
- MS/MSD, LCS/LCSD, sample/Laboratory Duplicate (LD), or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including compound lists, reporting limits, and units)
- Calibration criteria* (including tune criteria, initial calibration and continuing calibration verification)
- Internal Standard (IS) Recoveries*
- Retention Time windows*
- Other method-specific QC if applicable and reported* (e.g., serial dilution results for metals)
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

* This QC element is reviewed associated with the Tier II-type validation only. For Tier I+ validations this QC element is assumed to be acceptable unless otherwise noted in the laboratory narrative.

Based on this Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and were unchanged as a consequence of this review. NEH generated electronic validated results based on the project database file received from WHG for these data, by updating the following database fields for field samples and field QC only: VALID_QUAL, VALIDATION_LEVEL, VALIDATION, VALID_DATE, BIAS, and DV_COMMENT.

The remainder of this report documents "exceptions" to the NBH OU1 QAPP Addendum 2012 criteria or clarifications of data reported. QC elements not discussed below met all QAPP criteria. The full documentation of all QC elements reviewed during this Tier I+ validation is presented in the attached Data Review Checklist.

Sample Receipt
Samples were analyzed for Total PCB Congeners, as requested on the Chain-of-Custody.

Accuracy
MS/MSD analysis was performed on WQ-TPC-003-080812. Two Congeners were recovered slightly low compared to criteria in the MS or MSD and one Congener was recovered slightly high compared to criteria in the MS aliquot. Since the matrix spiking level was low for the matrix, since the MS/MSD

precision was acceptable, and since either the MS or MSD for all three Congeners was within criteria, no action was taken based on professional judgment. LCS/LCSD accuracy was acceptable for all 18 NOAA PCB Congeners. Based on the LCS/LCSD and MS/MSD results, accuracy was considered acceptable for all 18 NOAA PCB Congeners indicating acceptable analysis by the laboratory for the site matrix.

Field Blanks

The Equipment Blank, WQ-TPC-002-080812-EB, was non-detect for all 18 NOAA Congeners; therefore, blank action was not required.

Precision

Precision was acceptable for the MS/MSD analysis of WQ-TPC-003-080812. These results are an indication of acceptable precision for PCB Congener analysis in the site surface water samples.

There were no Field Duplicates associated with the samples in this SDG; therefore, representativeness and precision from sample collection through analysis could not be assessed for these samples.

Sensitivity & Reporting

All samples were diluted prior to analysis so that all results would be reported within the calibration range and qualified "D" by the laboratory. At Battelle's request, the "D" qualifiers were maintained during the DV process.

Sensitivity in terms of sample-specific reporting limits as compared to PALs defined in QAPP Worksheet #15 of the NHB OU1 QAPP Addendum 2012, were met for all 18 NOAA PCB Congeners.

environmental chemistry consultants

Data Validation Report
EPA Region I Tier I+
18 NOAA PCB Congeners by 8082

Client/Company:	Woods Hole Group, Inc. (WHG)
Site/Project Name:	New Bedford Harbor Superfund Site – OU1
Laboratory:	Alpha Analytical – Mansfield & Westborough, MA
Lab Project Number(s):	L1215121
Date(s) of Collection:	August 23, 2012
Number / Type Samples & Analyses For Validation	4 Total surface water samples for 18 NOAA PCB Congeners
Senior Data Reviewers:	Nancy C. Rothman, PhD, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	December 5, 2012

This EPA Region I Tier I+ validation for 18 NOAA PCB Congeners was performed with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum, New Bedford Harbor Superfund Site, Operable Unit 1 (OU1), New Bedford, MA,* Rev. 5.0, prepared by Woods Hole Group, Inc., August 2012 (NBH OU1 QAPP Addendum 2012); Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III – Pesticide/PCB Data Validation Functional Guidelines*, Draft February 2004; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to generate an electronic deliverable of validated results with project-specific data validation qualifiers added.

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The Data Validation Report consists of three parts:

- This Data Validation Report letter summarizing the actions taken;
- The database file of validated sample results with validation qualifiers, bias, and reason codes added based on actions taken; and
- The Data Review Checklist completed during this validation to document the Tier I+ review. The Checklist is an integral part of the DV Report as it contains comprehensive details of all quality control (QC) reviewed, the acceptance criteria used, and the professional judgment and actions taken.

I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification analytical parameters reviewed and the quality control (QC) results (as applicable) of Matrix Spike (MS), Matrix Spike Duplicate (MSD), Matrix Duplicate (MD), Field Duplicate (FD), Field Equipment Blank (EB), and Trip Blank (TB), are listed below in Table 1.

Table 1. Sample Descriptions and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters[1]	Sample Type
WQ-TPC-001-082312	L1215121-01	8/23/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-082312	L1215121-05	8/23/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-003-082312	L1215121-09	8/23/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-004-082312	L1215121-13	8/23/12	Total Surface Water	PCBs	Field Sample

[1] Total Suspended Solids (TSS), Total Organic Carbon (TOC), and Turbidity measurements were also performed on total surface water samples; however, data validation for these parameters was not required. Aliquots of samples were also archived at the laboratory for metals analysis.

Analytical method references:

PCBs: *Polychlorinated Biphenyls (PCBs) by Gas Chromatography* in EPA's Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846, Third Edition, Method 8082, Rev. 1, February 2007.

II. Data Validation Report Summary

This Data Validation Report represents a Tier I+ validation of 18 NOAA PCB Congeners and summary QC (method and matrix), which were used to evaluate accuracy, precision, and sensitivity compared to the NBH OU1 QAPP Addendum 2012 requirements.

The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
- Sample receipt, holding times and preservation criteria
- Blank results including Method Blanks, Equipment Blanks, & Trip blanks
- Laboratory Control Sample (LCS) recoveries / LCS Duplicate Recoveries
- Surrogate Recoveries
- Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Recoveries
- MS/MSD, LCS/LCSD, sample/Laboratory Duplicate (LD), or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including compound lists, reporting limits, and units)
- Calibration criteria* (including tune criteria, initial calibration and continuing calibration verification)
- Internal Standard (IS) Recoveries*
- Retention Time windows*
- Other method-specific QC if applicable and reported* (e.g., serial dilution results for metals)
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

* This QC element is reviewed associated with the Tier II-type validation only. For Tier I+ validations this QC element is assumed to be acceptable unless otherwise noted in the laboratory narrative.

Based on this Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and were unchanged as a consequence of this review. NEH generated electronic validated results based on the project database file received from WHG for these data, by updating the following database fields for field samples and field QC only: VALID_QUAL, VALIDATION_LEVEL, VALIDATION, VALID_DATE, BIAS, and DV_COMMENT.

The remainder of this report documents "exceptions" to the NBH OU1 QAPP Addendum 2012 criteria or clarifications of data reported. QC elements not discussed below met all QAPP criteria. The full documentation of all QC elements reviewed during this Tier I+ validation is presented in the attached Data Review Checklist.

Sample Receipt
Samples were analyzed for Total PCB Congeners, as requested on the Chain-of-Custody (COC).

Accuracy
MS/MSD analysis was not performed nor was it requested on the COC. LCS/LCSD accuracy was acceptable for all 18 NOAA PCB Congeners indicating acceptable accuracy by the laboratory for the method of analysis.

Field Blanks
There were no Equipment Blanks associated with the samples in this SDG.

Precision
Precision was acceptable for the LCS/LCSD analysis.

There were no MS/MSD or Field Duplicates associated with the samples in this SDG; therefore, it was not possible to evaluate precision from sample collection through analysis for the site matrix.

Sensitivity & Reporting

All samples which were diluted prior to analysis so that all results would be reported within the calibration range were qualified "D" by the laboratory. At Battelle's request, the "D" qualifiers were maintained during the DV process.

Sensitivity in terms of sample-specific reporting limits as compared to PALs defined in QAPP Worksheet #15 of the NHB OU1 QAPP Addendum 2012, were met for all 18 NOAA PCB Congeners.

environmental chemistry consultants

Data Validation Report
EPA Region I Tier I+
18 NOAA PCB Congeners by 8082

Client/Company:	Woods Hole Group, Inc. (WHG)
Site/Project Name:	New Bedford Harbor Superfund Site – OU1
Laboratory:	Alpha Analytical – Mansfield & Westborough, MA
Lab Project Number(s):	L1216435
Date(s) of Collection:	September 13, 2012
Number / Type Samples & Analyses For Validation	4 Total surface water samples for 18 NOAA PCB Congeners
Senior Data Reviewers:	Nancy C. Rothman, PhD, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	December 5, 2012

This EPA Region I Tier I+ validation for 18 NOAA PCB Congeners was performed with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Environmental Monitoring, Sampling, and Analysis Quality Assurance Project Plan Addendum, New Bedford Harbor Superfund Site, Operable Unit 1 (OU1), New Bedford, MA,* Rev. 5.0, prepared by Woods Hole Group, Inc., August 2012 (NBH OU1 QAPP Addendum 2012); Region I, *EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part III – Pesticide/PCB Data Validation Functional Guidelines*, Draft February 2004; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to generate an electronic deliverable of validated results with project-specific data validation qualifiers added.

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I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification analytical parameters reviewed and the quality control (QC) results (as applicable) of Matrix Spike (MS), Matrix Spike Duplicate (MSD), Matrix Duplicate (MD), Field Duplicate (FD), Field Equipment Blank (EB), and Trip Blank (TB), are listed below in Table 1.

Table 1. Sample Descriptions and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters[1]	Sample Type
WQ-TPC-001-091312	L1216435-01	9/13/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-002-091312	L1216435-05	9/13/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-003-091312	L1216435-09	9/13/12	Total Surface Water	PCBs	Field Sample
WQ-TPC-004-091312	L1216435-13	9/13/12	Total Surface Water	PCBs	Field Sample

[1] Total Suspended Solids (TSS), Total Organic Carbon (TOC), and Turbidity measurements were also performed on total surface water samples; however, data validation for these parameters was not required. Aliquots of samples were also archived at the laboratory for metals analysis.

Analytical method references:

PCBs: *Polychlorinated Biphenyls (PCBs) by Gas Chromatography* in EPA's Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW-846, Third Edition, Method 8082, Rev. 1, February 2007.

II. Data Validation Report Summary

This Data Validation Report represents a Tier I+ validation of 18 NOAA PCB Congeners and summary QC (method and matrix), which were used to evaluate accuracy, precision, and sensitivity compared to the NBH OU1 QAPP Addendum 2012 requirements.

The following QC elements, as applicable to the analytical methods, were reviewed:

- Data package completeness and reporting protocols
- Sample receipt, holding times and preservation criteria
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- Laboratory Control Sample (LCS) recoveries / LCS Duplicate Recoveries
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- Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Recoveries
- MS/MSD, LCS/LCSD, sample/Laboratory Duplicate (LD), or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including compound lists, reporting limits, and units)
- Calibration criteria* (including tune criteria, initial calibration and continuing calibration verification)
- Internal Standard (IS) Recoveries*
- Retention Time windows*
- Other method-specific QC if applicable and reported* (e.g., serial dilution results for metals)
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

* This QC element is reviewed associated with the Tier II-type validation only. For Tier I+ validations this QC element is assumed to be acceptable unless otherwise noted in the laboratory narrative.

Based on this Tier I+ validation of 18 NOAA PCB Congeners, all results were considered usable for project decisions based on a comparison to the NBH OU1 QAPP Addendum 2012 requirements and were unchanged as a consequence of this review. NEH generated electronic validated results based on the project database file received from WHG for these data, by updating the following database fields for field samples and field QC only: VALID_QUAL, VALIDATION_LEVEL, VALIDATION, VALID_DATE, BIAS, and DV_COMMENT.

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Sample Receipt
Samples were analyzed for Total PCB Congeners, as requested on the Chain-of-Custody (COC).

Accuracy
MS/MSD analysis was not performed nor was it requested on the COC. LCS/LCSD accuracy was acceptable for all 18 NOAA PCB Congeners indicating acceptable accuracy by the laboratory for the method of analysis.

Field Blanks
There were no Equipment Blanks associated with the samples in this SDG.

Precision
Precision was acceptable for the LCS/LCSD analysis.

There were no MS/MSD or Field Duplicates associated with the samples in this SDG; therefore, it was not possible to evaluate precision from sample collection through analysis for the site matrix.

Sensitivity & Reporting

Sensitivity in terms of sample-specific reporting limits as compared to PALs defined in QAPP Worksheet #15 of the NHB OU1 QAPP Addendum 2012, were met for all 18 NOAA PCB Congeners.

SDMS REPOSITORY TARGET SHEET

US EPA New England
Superfund Document Management System /
RCRA Document Management System
Native Files Target Sheet

SDMS Document ID #:_540300_____

Site Name: _New Bedford_____

File Type(s) Attached (examples: Excel file or .jpg):

_.xls_____

Document Type this Target Sheet Represents:

[ ] Map [ ] Photograph [ ] Graph/Chart

[ ] Video [ ] Compact Disc [X] Other (Specify below)

Description or Comments:
Spreadsheets for New Environmental Horizons Inc Data Validation Reports

To view the attached files, open the "Attachment Panel"

by clicking the paper clip - - in the left side panel of this window.

** Please note to view attachments the software corresponding with the specified file type is necessary. **

For any additional assistance please contact the EPA New England Office of Site Remediation and Restoration Records and Information Center-
Telephone (617) 918 1440

APPENDIX F. TURBIDITY DATA REVIEW MEMORANDUM

(See Electronic Attachment)

Woods Hole Group 81 Technology Park Drive E. Falmouth, MA 02536 USA TELEPHONE: 508.540.8080 FAX: 508.540.1001 www.woodsholegroup.com

Sent by Electronic Mail

December 18, 2012

Todd Randall
Joseph Mackay
Peter Hugh
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Subject: FINAL In-situ Turbidity Data Review from 2012 Dredge Season, Environmental Monitoring, Sampling, and Analysis, New Bedford Harbor Superfund Project, New Bedford, MA.

Contract # W912WJ-09-D-0001-0010-07

Dear Messrs. Todd Randall, Joseph Mackay and Peter Hugh,

The in-situ turbidity data recorded by fixed-station moorings revealed many high turbidity readings throughout the 2012 dredge season at the New Bedford Harbor Superfund Site. This final document provides a brief summary of the high turbidity data, the steps the Woods Hole Group took when interpreting these data, and suggestions for reducing for future monitoring efforts. The exact causes remain uncertain.

Background

Four YSI instruments were rented by Woods Hole Group prior to the start of dredging. Woods Hole Group does not receive the exact same instruments year-to-year, but all instruments come with calibration certificates from the rental company using manufacturer-recommended techniques. Moorings were installed one month prior to the start of dredge activity on May 22, 2012, and remained at their fixed locations until recovery on September 25, two weeks after work stopped. Instruments were cleaned, inspected for damage/malfunction, and had data downloaded every week. Instruments were re-calibrated every other week. Besides the replacement of 1000S shortly after initial deployment due to a hardware failure, the same instruments were used throughout the 2012 season. Figure 1 shows the mooring locations relative to the 2012 dredge areas. Note that mooring 1000N is actually 1500 feet north of Area L, but the mooring was not renamed to reflect this position.

High Turbidity Values

There were a total of 133 data points over 100 NTU recorded in 2012. 100 NTU is the site-specific turbidity criterion used as a threshold for what is considered a high turbidity value (Woods Hole Group, 2012). The dataset from 1000S for the brief period between 9/6 and 9/14 is not included nor discussed in this review because those data are known to have been compromised by biofouling (Figure 2). High readings occurred at all four mooring locations infrequently throughout the dredge season, and typically consisted of a single data point or two over 100 NTU preceded and followed by background levels (Figure 3).

Potential Causes

High turbidity readings could be caused by a variety of factors, including (but not limited to) remediation activity, turbulent wake from support boats, biofouling, the instrument being near/on the bottom, runoff from a high-precipitation event, or by floating debris becoming stuck on the instrument. These last two causes are not common and typically represent only a small fraction of high turbidity data points. Beginning in mid-summer, algae blooms became more commonplace in New Bedford Harbor. However, an algae bloom is not believed to be a likely cause of high turbidity because typically the algae are not reflective, and the optical turbidity sensor does not detect them. This was made evident during the final water sampling event on 9/13. During this sampling event the boat-based optical turbidity was 0.1-11 NTU but upon sample receipt at the laboratory, results for total suspended solids (which can be calculated from turbidity) were much higher than expected, given the low turbidity readings. The filters used in those analyses were tinted green, believed to result from algae.

Data QC Process

As part of the standard quality control (QC) process for the project, abnormally high measurements are reviewed carefully and sometimes are filtered from the data set. The same QC procedures have been utilized since 2009. Schedules of remediation activity provided by Jacobs Engineering were combined with supplemental data to investigate a cause-and-effect relationship between remediation activity and high turbidity values. The types of supplemental data used for QC included the time of day, the day of the week (no work on Sundays or holidays), tidal phase, work activity and daily precipitation. Weather data were gathered from Woods Hole Group field notes, daily field reports and historically from the New Bedford regional airport weather station KEWB (http://forecast.weather.gov/MapClick.php?lat=41.69&lon=-70.97). Using these criteria, 94 of 133 data points were excluded from the possibility of being a direct consequence of dredging for one or more of the following reasons:

- The data were recorded outside of working hours 06:00-18:00.
- No remediation work was being performed on the water at the time the data was collected (off-day, holiday, lightning stand-down etc.).
- Tidal phase was such that the mooring was upstream of active remediation work. It is possible that sediment can be suspended during one tidal phase, remain in suspension into the next tidal phase, and then be

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transported past an instrument that was upstream when the sediment was initially suspended. However, Woods Hole Group believes this scenario to be very unlikely due to the length of time the sediment must stay in suspension.

- The data were recorded during or shortly after a period of significant precipitation (defined as > 0.01 inches of rain over a 20-minute period, at most one hour before the time of measurement).

Discussion

39 data points remained after the QC process that were recorded on working days, during working hours, while the instrument was downstream of active remediation work, and during a time when precipitation was not significant. These 39 data points breakdown into the following spatial distribution: 10 points were from 1000N; 5 points from 300N; 14 points from 300S; and 9 points from 1000S.

The short-lived nature of sediment plumes observed in the past makes for a difficult interpretation of the data at moorings 1000N and 1000S (19 data points). A good example of the short-lived nature of plumes would be the daily report from 9/9/11, when a support boat suspended a significant amount of mud from the bottom in Area N (Attachment A). Turbidity was > 250 NTU at ~100 feet from the boat but decreased quickly as time and distance away from the source increased, down to < 100 NTU after 10 minutes and 200 feet away. That day had a combined strong ebb tide and north wind, which could have transported the plume far downstream, but the plume could only be identified for several hundred feet at most before it dissipated completely. For work-related turbidity to be registered at 1000N or 1000S would require either very strong disturbance of the bottom or disturbance of very fine sediment capable of remaining in suspension for an extended period. Therefore, the 19 data points from 1000N and 1000S are inconclusive, despite there being no other cause that can be readily determined other than remediation activity. The remaining 20 data points are believed to be actual consequences of dredging and/or debris removal because no extraneous factors could be attributed that would mask the source of the high turbidity values.

The largest recorded turbidity reading from all WHG boat-based monitoring efforts (2009-2012) was 265 NTU. This reading was recorded on 7/14/2009 while monitoring ~100 feet south of the debris removal barge in Area G. Shoreline effects may have played an additional role in this high reading, but it is still much less than some of the readings from the 2012 in-situ mooring dataset. Consequently, eighteen values larger than 265 NTU have been marked with an asterisk to signify that they are larger than any turbidity reading observed during boat-based monitoring. Table 1 provides a chronological summary of the 39 high turbidity data points.

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Recommendations

One recommendation for future sampling events would include utilizing in-situ mooring instruments capable of taking readings in a "burst mode" instead of collecting only a single data point every 15 minutes. The instruments currently being used for the project, YSI 6920V2, can collect measurements only two ways: continuously recording; or take a single-reading "snapshot" every X minutes, X being a user-defined number. The new EXO2 data sonde from YSI is capable of sampling in several different modes. It can do the same as the 6920V2, and can also collect measurements over a specified time and average them together into one value. For example, it can be programmed to wake from sleep every 15 minutes, collect 10 readings, average them together into one value then go back to sleep.

Another function of the EXO2 is "adaptive sampling". The sonde can be programmed to increase measuring frequency if a threshold of one or two parameters is surpassed. The instrument will continue taking measurements at a user-defined higher frequency (e.g., 1 reading/second) until readings decrease below the threshold again. This instrument feature would make interpretation of spikes in turbidity more robust, because there is currently no way to tell if a single high value is a single fluke detection, or part of a trend in water quality.

Please contact us directly with questions or requirements for additional information related to this analysis.

Sincerely,
The Woods Hole Group, Inc.

Dack Stuart
Coastal Scientist

David Walsh
Senior Project Manager/Coastal Scientist

References

Woods Hole Group. 2012. Final Water Quality Monitoring Summary Report: 2011 Remedial Dredging. New Bedford Harbor Superfund Site, New Bedford, MA. Prepared under Contract W912WJ-09-D-0001 Task Order No 0010-04 for the U.S. Army Corps of Engineers New England District, Concord, MA.

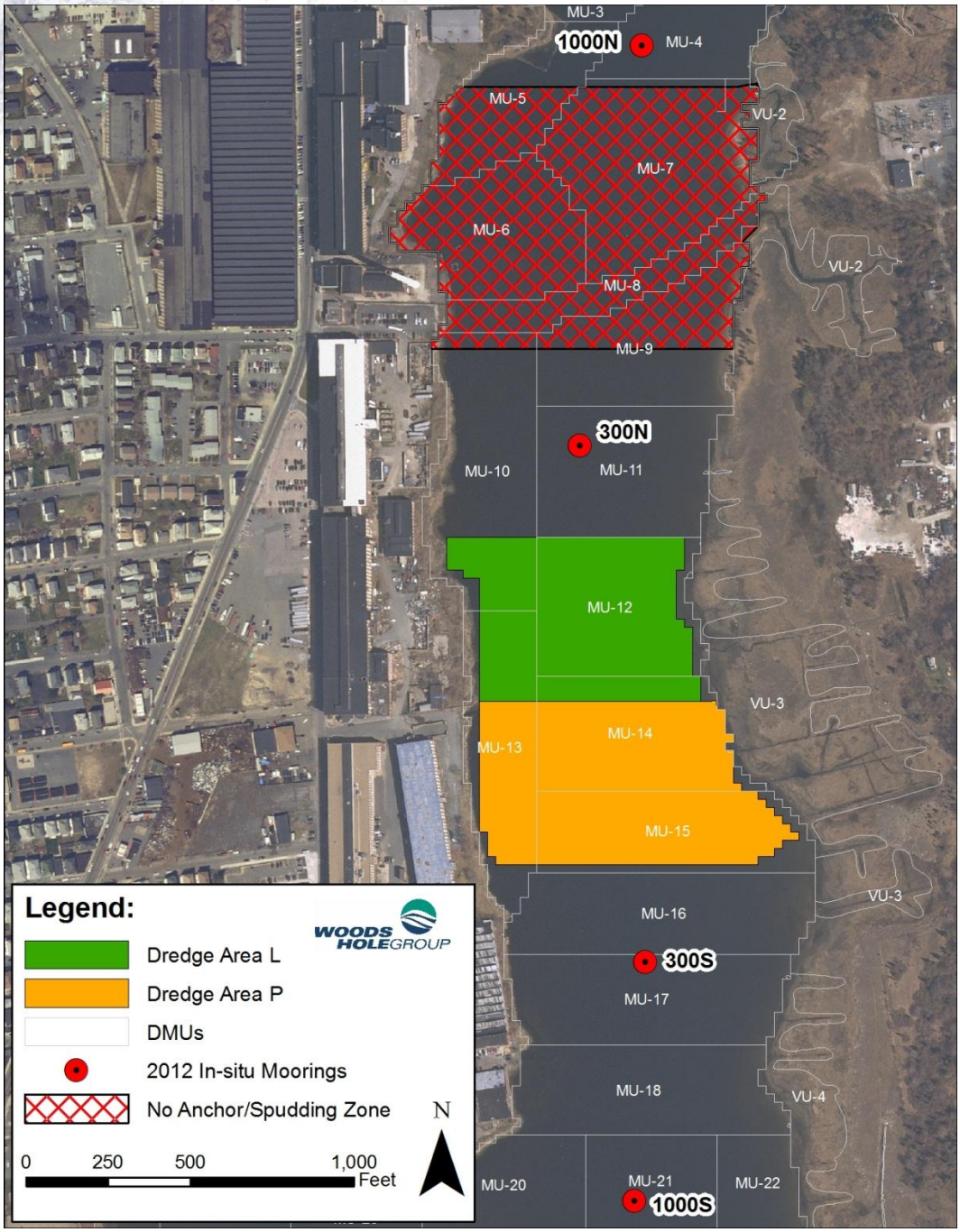

Figure 1. In-situ mooring placement and 2012 dredge areas.

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Figure 2. Biofouling (hydroids) on instrument 1000S in September 2012.

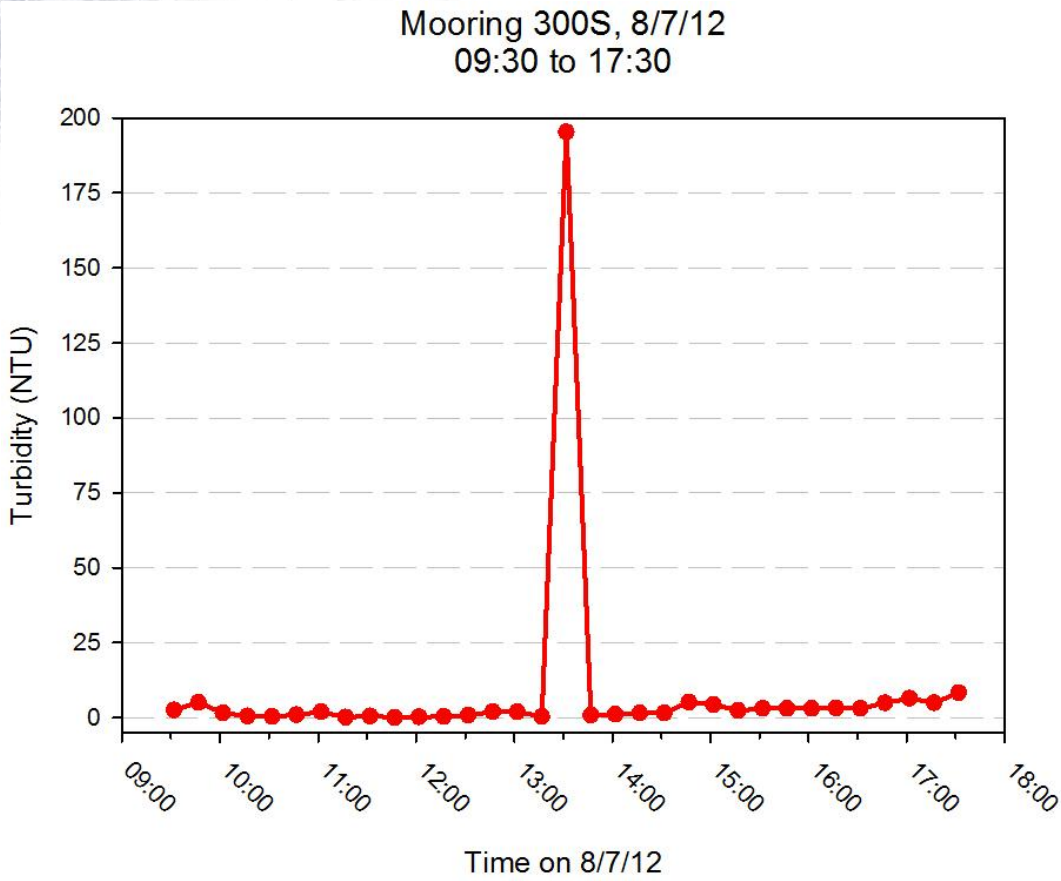

Figure 3. Example of a single-point spike in turbidity from mooring 300S.

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Table 1. Summary of high-turbidity data points from 2012 dredge season.

Instrument	Date/Time	Temp (°C)	Turbidity (NTU)	Depth (m)	DO (mg/L)	DO (%)	Salinity (ppt)	Sp. Cond (µS/cm)	Tide
1000N	7/30/2012 13:45	25.25	426.8 *	0.565	6.43	94.3	33.09	50.481	Flood
1000N	7/30/2012 14:15	26.68	182.1	0.609	12.72	190.7	32.65	49.941	Flood
1000N	7/30/2012 15:15	26.56	168	0.607	11.84	177.1	32.67	49.963	Flood
1000N	8/3/2012 16:56	28.49	817.5 *	0.851	7.33	107.6	23.58	37.352	Flood
1000N	8/3/2012 17:11	28.4	181.6	0.856	5.39	79	23.28	36.924	Flood
300N	8/7/2012 11:53	26.5	534.4 *	0.697	8.2	119.5	28.23	43.843	Flood
1000N	8/7/2012 12:26	26.99	266.8 *	1.016	8.64	127.1	28.43	44.14	High
300S	8/7/2012 13:31	26.88	195.3	0.678	7.05	103.7	28.81	44.664	Ebb
1000N	8/8/2012 10:56	26.81	102.6	1.176	7.61	111.6	28.23	43.855	Flood
300N	8/8/2012 11:23	26.51	108.7	0.69	6.24	90.8	27.98	43.496	Flood
300S	8/16/2012 8:11	26.09	133.9	0.665	3.59	51.3	25.99	40.69	Ebb
300S	8/16/2012 12:56	27.61	112.4	0.646	5.62	82	25.1	39.48	Low
300S	8/20/2012 13:03	25.39	1029.1 *	0.648	6.19	86.9	25.06	39.359	Ebb
300S	8/20/2012 13:18	25.45	122.2	0.649	8.39	117.7	24.77	38.956	Ebb
300S	8/20/2012 14:18	25.86	1329 *	0.641	7.33	103.4	24.3	38.288	Ebb
300S	8/20/2012 14:48	26.07	305.1 *	0.636	4.95	69.9	23.87	37.693	Ebb
1000S	8/20/2012 15:49	26.2	241.2	0.648	13.15	188.2	25.8	40.431	Low
300S	8/20/2012 16:18	26.33	357.3 *	0.635	14.14	200.4	23.81	37.614	Low
1000S	8/21/2012 16:34	25.5	274.5 *	0.697	6.5	92.4	26.87	41.907	Low
1000S	8/22/2012 14:19	25.12	647.5 *	0.746	7.24	102.5	27.4	42.647	Ebb
1000S	8/22/2012 14:49	25.6	327.7 *	0.741	8.76	124.7	26.66	41.623	Ebb
1000S	8/22/2012 15:04	25.65	197.5	0.741	8.17	115.9	26.08	40.803	Ebb
300S	8/22/2012 15:18	25.57	114.2	0.718	7.86	111.2	25.58	40.101	Ebb
1000S	8/22/2012 16:04	25.97	230	0.737	8.7	124.6	26.6	41.547	Ebb
300S	8/22/2012 16:18	26.37	121.4	0.718	10.45	149.3	25.08	39.419	Ebb
300S	8/22/2012 16:48	26.54	697 *	0.719	10.96	156.9	24.81	39.041	Ebb
1000S	8/23/2012 14:49	25.65	187.9	0.738	7.15	102.3	27.41	42.664	Ebb
300S	8/24/2012 15:18	26.18	340.7 *	0.745	8	114	25.31	39.73	Ebb
300S	8/24/2012 15:33	26.55	329.8 *	0.742	8.73	125.1	25.14	39.505	Ebb
300S	8/24/2012 15:48	26.63	426 *	0.744	8.7	124.8	24.95	39.235	Ebb
1000S	8/24/2012 16:49	26.31	1171.2 *	0.759	7.97	115	26.99	42.107	Ebb
1000N	8/27/2012 11:11	26.51	136.1	0.633	3.13	45.6	28.08	43.639	Flood
300N	8/27/2012 12:21	26.48	229.5	0.745	5.59	81.3	27.9	43.379	Flood
1000N	8/27/2012 14:41	27.12	329.7 *	0.669	5.81	85.3	27.79	43.246	Flood
1000N	8/27/2012 15:41	26.91	230.5	0.648	5.6	82.2	28.12	43.7	Flood
1000S	8/29/2012 9:04	24.48	204.5	0.688	2.62	36.6	26.55	41.433	Ebb
300N	9/8/2012 10:43	24.53	112.9	0.601	6.65	89.5	20.15	32.296	Flood
300N	9/8/2012 11:43	24.66	848.2 *	0.598	6.28	84.2	19.02	30.653	Flood

Note: cells shaded gray from 1000N and 1000S are inconclusive.

*: value is larger than any turbidity reading observed during boat-based monitoring 2009 - 2012.

Attachment A – New Bedford Harbor Daily Report, 9/9/2011

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