7.5
NB-1

Sevenson Environmental Services, Inc.

JE JACOBS

US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
Total Environmental Restoration Contract
USACE Contract Number: DACW33-03-D-0006
Task Order No. 0001

AFTER-ACTION REPORT
2004 NEW BEDFORD HARBOR REMEDIAL ACTION

New Bedford Harbor Superfund Site
New Bedford, MA

November 2005

Prepared by
Jacobs Engineering Group
6 Otis Park Drive
Bourne, MA 02532-3870

ACE-J23-35BG0105-M17-0005

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

Total Environmental Restoration Contract

USACE Contract Number: DACW33-03-D-0006

Task Order No. 0001

AFTER-ACTION REPORT 2004 NEW BEDFORD HARBOR REMEDIAL ACTION

New Bedford Harbor Superfund Site

New Bedford, MA

November 2005

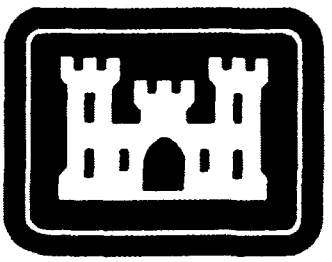
ACE-J23-35BG0105-M17-0005

JACOBS

Sevenson Environmental Services, Inc.

Sevenson Environmental Services, Inc.

JE JACOBS



US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
Total Environmental Restoration Contract
USACE Contract Number: DACW33-03-D-0006
Task Order No. 0001

AFTER-ACTION REPORT
2004 NEW BEDFORD HARBOR REMEDIAL ACTION

New Bedford Harbor Superfund Site
New Bedford, MA

November 2005

Prepared by
Jacobs Engineering Group
6 Otis Park Drive
Bourne, MA 02532-3870

ACE-J23-35BG0105-M17-0005

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

Figures

Tables

Attachments

TABLE OF CONTENTS

(intentionally blank)

ACRONYMS AND ABBREVIATIONS

AAR	*After Action Report*
ACGIH	American Conference of Governmental Industrial Hygienists
BD/DA	Basis of Design/Design Analysis
C	Centigrade
Cd	cadmium
CO	carbon monoxide
CDF	Confined Disposal Facility
cfm	cubic feet per minute
Cu	copper
Cr	chromium
cy	cubic yards
DAF	dissolved air flotation
DDA	Debris Disposal Area
DFW	Definable features of work
DMU	Dredge Management Unit
DO	dissolved oxygen
ENSR	ENSR International
EPA	US Environmental Protection Agency
$Fe_2(SO_4)_3$	ferric sulfate
FeS	ferric sulfide
fpm	feet per minute
frac	fractionation
FSP	Field Sampling Plan
ft.	feet (or foot)

ACRONYMS AND ABBREVIATIONS

FW	Foster Wheeler Environmental Corporation
GAC	granulated activated carbon
GC/MD	Gas Chromatographic/Multi-Detector Detection
GC/MS	gas chromatography/mass spectrometry
gpm	gallons per minute
H^+	hydrogen ion
HCN	hydrogen cyanide
HDPE	high-density polyethylene
hp	horsepower
HS^-	bisulfide ion
H_2S	hydrogen sulfide
H_2SO_4	sulfuric acid
IDLH	Immediately Dangerous to Life or Health
Jacobs	Jacobs Engineering Group
J	estimated concentration
mg/m^3	milligrams per cubic meter
mg/kg	milligrams per kilogram
mm	millimeter
NAE	U.S. Army Corps of Engineers – New England District
NaOH	sodium hydroxide
Na_2SO_4	sodium sulfate
NBH	New Bedford Harbor
ng/m^3	nanograms per cubic meter
NIOSH	National Institute of Occupational Safety and Health
NPL	Superfund National Priorities List

ACRONYMS AND ABBREVIATIONS

NTU	Nephelometric Turbidity Units
OBZ	operator breathing zone
O&G	oil and grease
O&M	operation and maintenance
OU	operable unit
ORP	oxidation reduction potential
OSHA	Occupational Safety and Health Administration
OWS	oil/water separator
Pb	lead
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PETS	Public Exposure Tracking System
PFD	Process Flow Diagram
PHA	process hazard analysis
PID	photoionization detector
PPE	personal protective equipment
ppm	parts per million
psig	pounds per square inch gauge
PUF	polyurethane foam
PVC	polyvinyl chloride
QAPP	Quality Assurance Project Plan
RAM	respirable aerosol monitor
RMS	Resident Management System
$S^{=}$	sulfide ion
Sevenson	Sevenson Environmental Services

ACRONYMS AND ABBREVIATIONS

Site	New Bedford Harbor Superfund Site
SSHP	Site-Specific Safety and Health Plan
STEL	Short Term Exposure Limit
T&D	transportation and disposal
TCE	trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TDH	total dynamic head
TERC	Total Environmental Restoration Contract
TOC	total organic carbon
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
USACE	United States Army Corps of Engineers
VOC	volatile organic compound
WWTP	Wastewater Treatment Plant
µg/L	micrograms per liter

1.0 INTRODUCTION

The purpose of this *After Action Report* (*AAR*) is to summarize the key activities associated with remediation of the New Bedford Harbor Superfund Site (Site) during the 2004 Field Season. This *AAR* consists of six Sections and twelve attachments. This Introduction focuses primarily on administrative and background aspects of the project. The Scope of Work performed during 2004 is presented in Section 2.0 and is organized based on work defined by the Initial Task Order and subsequent Modifications. Section 3.0 presents a discussion of the various studies, analyses, and data performed or developed by the Jacobs Engineering Group (Jacobs) team during 2004. As 2004 was a start-up year, procedures and approaches evolved as information and experiences were gained; these are discussed in Section 4.0 and possible program improvement activities are described. The aforementioned Sections 2.0, 3.0, and 4.0 comprise the bulk of the *AAR*, and the information presented therein is supported by several referenced Attachments that are variously included at the end of this document or bound separately. Finally, major conclusions and cited references are presented as Sections 5.0 and 6.0, respectively.

1.1 PROJECT BACKGROUND

The New Bedford Harbor (NBH) Superfund Site is located in Bristol County, Massachusetts, approximately 55 miles south of Boston, and is bordered by the towns of Acushnet and Fairhaven on the east side of the harbor, and by the City of New Bedford and the Town of Dartmouth on the west side of the harbor. From north to south, the Site extends from the upper reaches of the Acushnet River estuary, through New Bedford's commercial port and into Buzzards Bay. The southern extent of the Outer Harbor and the Site is an imaginary line drawn from Rock Point (the southern tip of West Island in Fairhaven) southwesterly to Negro Ledge and then southwesterly to Mishaum Point in Dartmouth.

Industrial and urban development surrounding the NBH Site have resulted in sediments becoming contaminated with polychlorinated biphenyls (PCBs) and heavy metals, with

concentration gradients generally decreasing from north to south. Identification of PCB-contaminated sediments and seafood in and around New Bedford Harbor was first made in the mid-1970s as a result of US Environmental Protection Agency (EPA) region-wide sampling programs. Based on these sampling programs, the determination was made that the principle sources of PCB contamination were from two electric capacitor manufacturing facilities located adjacent to the Acushnet River/New Bedford Harbor waterway. The primary source of PCB contamination emanated from the Aerovox facility, located near the northern boundary of the Site. PCB wastes were discharged from Aerovox's operations directly into the Upper Harbor through open trenches and discharge pipes, or indirectly throughout the Site via the City's sewage system. Secondary inputs of PCBs were also made from the Cornell Dubilier Electronics, Inc. facility just south of the New Bedford Hurricane Barrier. These electric capacitor manufacturing facilities operated from the 1940s into the 1970s. The NBH Site was added to the Superfund National Priorities List (the NPL) in September 1983.

The NBH Site has been divided into three areas - the Upper Harbor, the Lower Harbor, and the Outer Harbor - consistent with geographical features of the area and gradients of contamination (Figure 1-1). The boundary between the Upper Harbor and the Lower Harbor is the Coggeshall Street Bridge where the width of New Bedford Harbor narrows to approximately 100 feet. The boundary between the Lower Harbor and the Outer Harbor is the 150 foot wide opening of the New Bedford Hurricane Barrier. The operable unit (OU) designation for the Upper and Lower Harbors, and a small portion of the Outer Harbor is OU #1, as defined by the cleanup goals in the *Record of Decision* (EPA 1998).

The Upper Harbor comprises approximately 187 acres, with current sediment PCB levels ranging from below the laboratory detection level to approximately 10,000 parts per million (ppm); prior to the removal of the most contaminated Hot Spot sediments in 1994 and 1995 as part of the Site's first cleanup phase, sediment PCB levels were reported higher than 100,000 ppm in the Upper Harbor. The Lower Harbor comprises approximately 750 acres; in some of this area, sediment PCB levels range from below

detection to over 100 ppm. 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 City's sewage treatment plant's outfall pipes.

(intentionally blank)

Figure 1-1 Site Plan

(intentionally blank)

CBI

1.2 TERC CONTRACT

The EPA and the U.S. Army Corps of Engineers – New England District (NAE) entered into an Inter-Agency Agreement in February 1998 that gives NAE responsibility to provide technical assistance to EPA for the NBH Site. In October 1998, EPA authorized NAE to perform Remedial Design activities associated with the Upper Harbor and Lower Harbor cleanup. All remedial actions undertaken at the Site by the Jacobs team during 2004, were accomplished under U.S. Army Corps of Engineers – New England District Total Environmental Restoration Contract (TERC) No. DACW33-03-D-0006. Through this contract, during 2004 NAE issued an Initial Task Order (Task Order 1) and five Modifications to Jacobs to perform the work; the activities associated with Task Order 1, including subsequent Modifications, are described later in this Section. Additional services related to the remediation effort are being conducted by ENSR and Battelle under separate contract to the NAE. ENSR is providing sampling and analytical services fro groundwater, water column monitoring, and post dredge confirmation sediment sampling. Battelle is providing data base management, data validation services, and is executing the Long-Term Monitoring Program for the project.

1.3 PRE-EXISTING SITE FACILITIES

Prior to Jacobs work at the Site, a number of improvements had been made by others at Areas C and D, including the Area C holding cells, the various Area C office trailers, and the Area D Dewatering Building. These facilities were utilized by Jacobs during 2004 remedial actions. In addition, utilities (public water, sewer, power) were previously installed at the Site to support the remedial activities that occurred prior to 2004. To the extent possible, these utilities were utilized for the remedial action work under this contract.

1.4 INITIAL TASK ORDER SCOPE OF WORK

Tasks covered under the Initial Task Order were primarily administrative and professional in scope to enable project familiarization and planning activities for the 2004 field season to occur. They were performed during the first few months of 2004,

primarily February through May. Principal activities included reviewing existing documents, preparing an *Execution Plan*, and revising site plans. In addition, various meetings were held between NAE and Jacobs to coordinate these activities.

In the period from December 1998 through June 2003, Foster Wheeler Environmental Corporation (FW) developed Remedial Designs for the NBH Site. Eight key FW design documents were reviewed by the Jacobs team, as these summary reports produced by FW generally were intended to provide the basis for subsequent Remedial Actions to be performed at the NBH Site. These documents were reviewed not only to gain insight into project background and existing information, but also to enable Jacobs to identify areas where proposed design aspects or activities could be improved.

Following review of the FW design documents, Jacobs prepared an *Execution Plan* to describe major administrative and technical aspects of proposed fiscal year 2004 and 2005 remediation project activities. With respect to administrative aspects, the *Execution Plan* detailed project organization, office systems, data management, cost accounting and control procedures, and schedule. The bulk of the *Execution Plan* described the proposed scope of work proposed for 2004/2005, including the design, installation, and operation of dredging equipment (barges, pumps, and pipelines), desanding equipment, dewatering equipment, and wastewater treatment equipment, and a description of activities such as material handling, air emission controls, and winter shutdown. The *Execution Plan* also detailed environmental sampling of various media, quality control practices, health and safety protocols, and community relations concerns in support of the various technical activities to be performed.

The final activity associated with the Initial Task Order was revision of five Site Plans initially prepared by FW (*Construction Quality Control Plan*, *Field Sampling Plan* (*FSP*), *Quality Assurance Project Plan* (*QAPP*), *Regulatory Compliance Plan*, and *Transportation & Temporary Storage Plan*), the extensive expansion of the *Site-Specific Safety and Health Plan* (*SSHP*) to address several additional topics, and the creation of an *Environmental Protection Plan*.

1.5 MAJOR TASK ORDER MODIFICATIONS

Modification 1 had a relatively narrow focus. Work performed under this Modification was limited to the design activities associated with the structures, equipment, instrumentation, and other improvements, as well as selected procedures and interactions, associated with proposed remediation processes and support facilities. These design activities culminated in the preparation and submittal of planning documents and other materials to NAE for review and approval.

In preparation for subsequent processing of contaminated sediments, activities performed under Modification 2 included general mobilization, construction of support facilities, installation of dredges, pumps, pipelines, and process equipment, and completion of a Dewatering Facility Air Emissions Contingency Plan.

Modification 3 was the most significant Modification under Task Order 1 during 2004. Submitted to NAE by Jacobs on August 13, 2004 as Request for Proposal No. 4, this Modification provided the basis for performing the bulk of physical remediation activities commencing in late Summer 2004. Tasks executed under Modification 3 between late August and mid-November included system start-up and shakedown, dredging debris and contaminated sediments from Confined Disposal Facility (CDF) Cell #1 and Dredge Management Unit (DMU)-2, providing coarse and fine material separation at Area C, dewatering sediments and treating filtrate at Area D, transporting and disposing of Toxic Substances Control Act (TSCA) filter cake from Area D, and performing sample collection, analysis, and reporting. This Modification also provided for winter shutdown, general Site operations and maintenance through both the processing period and the winter months, and proposal preparation for future activities.

Modification 4, submitted to NAE on October 12, 2004 as Request for Proposal No. 5, had as a primary focus support functions associated with ongoing remediation activities being performed under Modification 3. Modification 4 principally allowed the following activities to occur in response to situations that occurred during the dredging and handling of contaminated sediments: expedited ambient air monitoring lab analysis;

system modifications in response to elevated hydrogen sulfide concentrations at Area C; resources to safely cross an unidentified pipeline; improvement of phone system and local area network infrastructure; and relocation of booster pumps.

Pursuant to Request for Proposal No. 6, on October 14, 2004 Jacobs submitted a Proposal to NAE that became Modification 5. This Modification was modeled on Modification 3, and basically allowed for performing up to an additional 11 days of environmental dredging, desanding/dewatering, wastewater treatment, transport, disposal, and several other tasks associated with the removal of contaminated sediments from DMU-2.

2.0 SCOPE OF WORK PERFORMED

Section 1.0 described the contractual arrangement for work performed during 2004 and introduced the activities associated with the Initial Task Order and the five subsequent Modifications. This Section is organized based on the aforementioned contract elements, and presents a detailed discussion of work activities performed under Task Order 1, including its five 2004 Modifications. To assist in obtaining an introductory overview of the work performed, a chronology of this past year's activities is presented in Attachment A, Summary Table of 2004 Activities.

2.1 INITIAL TASK ORDER

As noted previously, principal activities associated with the Initial Task Order included reviewing existing documents, preparing an *Execution Plan*, and revising site plans; project team coordination meetings were held in support of these efforts.

2.1.1 Document Review

Jacobs gained a historical and technical understanding of the Site, including institutional framework, contaminant characterization and delineation, and preliminary remedial design, through a review of existing pertinent design and data summary documents prepared by FW. The Team reviewed the following FW documents:

- *Final Dredging Basis of Design/Design Analysis (BD/DA) Report* (October 2002);
- *Dredge & Excavation Specifications* (October 2002);
- *Final Excavation BD/DA Report* (October 2002);
- *Final BD/DA, Design Drawings, and Specifications for the Desanding and Dewatering Facilities* (December 2002);
- *Final BD/DA, Design Drawings, and Specifications for the Water Treatment System* (June 2002);
- *Final Confirmatory Sampling Approach Technical Memorandum* (July 2002);
- *Final Volumes, Areas and Properties of Sediment By Management Units Technical Memorandum* (June 2003); and
- *Draft Data Interpretation* Report (June 2002).

Following review, the Jacobs team utilized these existing documents as reference sources when subsequently developing the project *Execution Plan.*

2.1.2 Meetings

Upon review of the existing project documents, the Jacobs team attended a series of planning meetings with NAE and EPA. As a consequence of these discussions, consensus was reached for the dredging and material processing technologies and strategies to be implemented for the initial Harbor remediation in 2004. The decisions reached at these meetings became the basis for development of the project *Execution Plan.*

2.1.3 Execution Plan

The outline of the *Draft Execution Plan* was reviewed by NAE and EPA at a project kickoff meeting held in New Bedford on March 24, 2004. Specific details were discussed that were critical to successfully fast track the design and implementation work necessary to prepare for the 2004 dredging season.

A *Draft Execution Plan* was submitted to NAE and EPA on April 16, 2004. The plan included the following major sections:

- Introduction
- Project Description
- Scope of Work
  - Design (including process flow diagrams)
  - Treatability Study
  - Field Implementation
  - Mass Balance
  - Winter Shutdown
  - 2005 Field Season Plans
- Environmental Sampling
  - Air Monitoring

- Wastewater Effluent Sampling
- Dewatered Sediment Sampling

- Quality
- Health and Safety
- Project Organization
- Office Systems
- Data Management
- Costs
- Schedule
- Community Relations

The *Execution Plan* was finalized following an interactive review session with NAE and EPA. The finalized plan was distributed to the project team on July 21, 2004. The document has served as the principal basis for design, implementation, and performance activities for the 2004 field season. Engineering design details and equipment specifications submittals were indexed in accordance with the *Execution Plan* subsections. In addition, the project-specific Definable Features of Work, the basis for the quality control inspection process, were developed from the major work elements described in the *Execution Plan*.

2.1.4 Revise Site Plans

Existing project planning documents (site plans) prepared by Foster Wheeler were revised by the Jacobs team, making them up to date with current project objectives, selected remediation methodologies, and project personnel named to execute the work. The revisions made to each document were reviewed by NAE and EPA before a final document was produced and distributed. The specific documents revised by Jacobs were identified in Subsection 1.4.

2.2 MODIFICATION 1

Modification 1 focused on design activities and submittals, as discussed below.

2.2.1 Submittals

The project submittal list was developed by Jacobs and NAE's Project Engineers at the resident office. The submittal list was entered into the United States Army Corps of Engineers (USACE) Resident Management System (RMS) data base by the Resident office, thereby establishing the official submittal register for the project. Jacobs utilized RMS to prepare transmittal forms (ENG 4025) and to track submittal review and approval status.

The submittal register was developed using the *Execution Plan* as the guidance document. The numbering sequence of the sections and subsections within the *Execution Plan* were used as the reference section number and "specification paragraph number" in the submittal register.

The materials and equipment provided for the dredging and sediment processing operations at the Site were assembled as temporary systems, to be removed and retained by Sevenson Environmental Services (Sevenson) at the conclusion of the project. As such, many of the engineering details for the equipment and material used were submitted to NAE on a 'for information only' basis and did not require governmental approval prior to construction. Furthermore, to expedite the submittal review process, an "on board review" system was established whereby design information was reviewed by NAE project engineers during the mobilization phase of the project.

2.3 MODIFICATION 2

Modification 2 allowed activities such as mobilization, construction, and installation of equipment to occur in support of subsequent contaminated sediment processing. Funding for necessary procurement actions, leased site vehicles, safety supplies, staff travel requirements and additional labor hours in support of the *Air Monitoring Plan* development was also provided under this Modification. These activities are described in the following four Subsections.

2.3.1 General Mobilization

This task provided funding for the Jacobs team to complete many logistical arrangements required to initiate the 2004 field season, which started in June 2004. Office operational systems (i.e., utility, telephone, computer lines, etc.) for Jacobs and Sevenson were initially established within two vacant single-wide office trailers on site, and a new office trailer was placed by Sevenson for their use. During this time period (June to September, 2004), Tetra Tech FW, Inc. continued to occupy the larger double-wide office trailer on site. Following Tetra Tech's departure in September 2004, Jacobs occupied their former offices and one single-wide trailer; Sevenson continued to occupy a second single-wide trailer and their new trailer.

CBI

CBI

CBI

2.3.3 Truck Scales

During the 2004 dredging season, truck scales were used at both Area C and Area D for the purpose of weighing material prior to either offsite shipment (filter cake at Area D) or onsite storage (sand and debris at Area C). Prior to the initiation of transportation and disposal (T&D) field activities, truck scales were installed at both Areas C and D. The scale at Area D was installed west of the Dewatering Building load-out area and the scale at Area C was installed west of the Desanding Building. Both truck scales were installed in August 2004 and calibrated by the City of New Bedford Department of Weights and Measures on September 1, 2004.

2.3.4 Dewatering Building Air Emissions Contingency Plan

In anticipation of further emission controls for nuisance dust, carbon monoxide, volatile organic compounds (VOCs), and PCBs, a technical memorandum was generated to address these potential exposure issues. In the event that direct-read monitoring indicated an exposure issue the following control measures were proposed:

- CBI
-
-
-
-

In addition the Dewatering Building Air Emissions Contingency Plan recommended, as a baseline standard procedure, that the facility exhaust fans be operated as appropriate to control air emissions within the facility and the surrounding area.

2.4 MODIFICATIONS 3, 4, AND 5

Modifications 3, 4, and 5 were primarily concerned with actual performance of remedial activities at the Site. With the exception of sample collection and analysis which is discussed separately in Section 3.0, these activities are discussed below based on the general task breakdown associated with Modification 3.

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

2.4.7 Transportation & Disposal of PCB-Contaminated Material from Area C

The material separation operations performed at Area C, as described in Subsection 2.4.3 above, generated both fine and coarse screenings. The *Execution Plan* had envisioned that these materials would be characterized as TSCA or Non-TSCA materials and transported off-site for proper disposal. Based on the limited funds ultimately made available to the NBH TERC during 2004 for remedial activities, EPA and NAE subsequently made the determination that these materials should be stockpiled at the Area C DDA for ultimate disposal in 2005. Periodically, generally once or twice a week, fine and coarse screenings were separately loaded into a site truck, weighed on the Area C truck scale, and driven to the DDA. Between September 21, 2004 and November 11, 2004 the following quantities of material were stockpiled at the DDA:

Fine Screenings (Non-TSCA):	250.33 Tons
Fine Screenings (TSCA):	1,346.27 Tons
Coarse Screenings (Non-TSCA):	32.27 Tons
Coarse Screenings (TSCA):	326.18 Tons

Since material was first placed in these stockpiles, they have been continuously covered with tarps, except during those periodic occasions when material was being actively added to the pile. Details associated with movement and stockpiling of these materials are presented in Attachment G, T&D Reports, as Table G-1 (Fine Screenings Transport Log) and Table G-2 (Coarse Screenings Transport Log). PPE and other contaminated materials present on Site, such as sediment samples collected during the past few years, were transported under manifest to Area D from Area C in a single truckload on November 12, 2004 for subsequent disposal with Area D wastes.

CBI

CBI

2.4.9 Site Winterization

Prior to the start of winterization activities, NAE, Jacobs, and Sevenson agreed on the scope of the winterization activities, as outlined in Attachment H. Many aspects of the site winterization activities, which were initiated on November 9, 2004 and were completed on November 19, 2004, are summarized below:

C
B
I

-
-

On November 19, 2004, an NAE representative and a Jacobs representative visited each of the areas identified above to verify that all of the winterization activities scoped had been completed.

3.0 SAMPLING DATA AND ANALYSIS

3.1 TREATABILITY STUDIES FOR DMU-2

CBI

3.2 AIR MONITORING

Air monitoring was conducted during 2004 using several industry-accepted methods. Since PCBs were the primary chemical of concern identified for community worker health, the main focus of monitoring was to determine PCB exposure. For the Ambient

Air Monitoring Program, a low-flow sampling method for PCBs was selected for its flexibility in locating sample stations in and around the Upper New Bedford Harbor. The methodologies for the complex Ambient Air Monitoring Program is further explained in Subsection 3.2.1. Facility monitoring was routinely conducted for total VOCs, primarily chlorinated solvents. Direct-read instrumentation was used to collect data on these exposures. Facility monitoring is further explained in Subsection 3.2.2. A combination of direct-read instrumentation and integrated sample collection was utilized during 2004 production activities to monitor personnel exposures during sediment processing beginning at the dredge and including all other work areas. Personnel exposure monitoring is further explained in Subsection 3.2.3.

3.2.1 Ambient Air Monitoring

The background information and the establishment of the Ambient Air Monitoring Program for the project was developed in the document titled *Plan for the Sampling of Ambient Air PCB Concentrations to Support Decisions to Ensure the Protection of the Public During Remediation Activities, New Bedford Harbor Superfund Site, New Bedford Massachusetts* (Foster Wheeler 2001). This document was revised in January 2004 by NAE. The information provided in this subsection describes the Ambient Air Monitoring program implemented by the Jacobs team during the 2004 season.

In previous sampling events, Graseby brand Model PS-1 polyurethane foam (PUF) high volume samplers were used to collect ambient samples. These units require a 120 volt power supply and are not particularly mobile. Jacobs proposed an alternative low flow method with the added benefit of portability and the unit being self contained. All potential sample locations for the Ambient Sampling Program were selected during the modeling process and then ground-proofed for accessibility. The stations used for the 2004 season were 24, 24D, 25, 41, 47, 48, 49, 50, 51, 52, 53, 54, 55, and 56. However, only combinations of 10 of the 14 stations were used during each sampling round. A pilot test was conducted on June 30, 2004 to ensure the use of the BGI brand PQ-100 portable samplers and the low flow analytical method, EPA TO-10A, Determination of Pesticides and Polychlorinated Biphenyls in Ambient Air Using Low Volume PUF

Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD), January 1999 would meet the data quality objectives of the project. Samples were collected at the Aerovox parking lot and at Area D near the eastern bulkhead. The samples were analyzed for both the 209 congeners and the 10 homologues for PCBs.

In August 2004, a comparison of three analytical methods was made in an effort to minimize analytical costs. EPA Methods 8082 (Gas Chromatography with Electron Capture Detector), 680 (Low Resolution gas chromatography/mass spectrometry (GC/MS)), and 1668 (High Resolution GC/MS) were evaluated for homologue reportability, number of congeners reported, minimum detection limits base on a 7.2 cubic meter sample, possible interferences and other criteria. The only method providing all of the necessary information required was Method 1668, High Resolution GC/MS; unfortunately this was also the most expensive method of the three.

A series of seven sampling rounds at 10 station locations described in Table I-1 and depicted in Figure I-1 were completed over the course of the dredging season. Six of the rounds were during dredging operations and one was conducted post-operation as a representation of background conditions. The sample locations were identified through a series of EPA SCREEN3 Air Models. Emission rates were assumed based on previous studies for the dredging activity at DMU-2 (area source), the desanding operation at Area C (a combination of desanding point source and Cell #1 area source), and the dewatering operation at Area D (dewatering point source). All potential sample locations for the Ambient Sampling Program were selected during the modeling process and then ground-proofed for accessibility. The stations used for the 2004 season were 24,24D, 25, 41, 47, 48, 49, 50, 51, 52, 53, 54, 55, and 56. However, only combinations of 10 of the 14 stations were used during each sampling round. The 10 station locations were selected in consultation with the NAE and EPA.

Each of the samples was collected using a calibrated BGI brand PQ-100 air sampling pump programmed to run for a 24-hour time period. The sampling pump has a mass flow controller to accurately (+/-2 percent) adjust the 5-liter per minute flow based on the calibrated standard temperature and pressure. The media used was a 22 millimeter (mm)

Supelco Orbo-1500 PUF/XAD-2/PUF sample tube with a 32 mm quartz microfiber filter as the lead media. A standard chain of custody was maintained for each sample collected. The samples were analyzed for the ten PCB homologue groups by Severn Trent Laboratories, Inc. in Knoxville, Tennessee using EPA method TO-10A. Sample turn-around time varied from two weeks to four weeks depending on the sampling round.

The collected mass of each homologue group was quantified and normalized to the total volume of air collected to develop concentrations for each homologue group by the laboratory. The homologue group concentration was then summed to obtain the ambient air concentration of total PCBs. Upon receiving laboratory data, the total PCB concentration was entered into a spreadsheet to follow trends using un-validated data. Once validated data was obtained it was inputted into the Public Exposure Tracking System (PETS). PETS was developed to track exposures and provide a "trigger" of possible actions to take as a result of airborne sample concentrations. Table I-2 depicts the cumulative results of potential public exposures for the 2004 Ambient Air Monitoring Program at each of the monitoring stations. A series of Air Sampling Status Reports (PETS Curves) for 10 locations is also presented in Attachment I.

In certain instances in the PETS curves, the C1 trigger was displayed on the summary sheet. The C1 trigger is set at 1000 nanograms per cubic meter (ng/m^3), which is based on the NIOSH recommended exposure limit and states the "Measured Concentration Exceeds Maximum Occupational Limit". It is important to note that this is an erroneous statement generated within the program. The current legally mandated occupational exposure limit is set at 500,000 ng/m^3 by OSHA.

One particular sample result collected over a 24-hour period on 9/27/04 to 9/28/04 at the eastern portion of the Aerovox parking lot was at 9557 ng/m^3. This result was significantly higher than experienced in three previous sampling rounds, affecting the cumulative exposure budget by approximately 30 percent. In response to this anomalous data point, a detailed analysis of potential factors contributing the higher level was made. Potential contributing factors identified were:

- Temperature
- Wind speed and direction
- Solar radiation
- Dredging duration
- Adjunct activities
- Floating oil
- Tides
- Barometric pressure

It does not appear that temperature, wind speed, wind direction, and barometric pressure made major contributions to the elevated concentration. Solar radiation data was not evaluated due to a lack of data.

It does appear that dredging duration, adjunct activities, floating oils, and tides may have contributed significantly to the elevated concentration. It is believed that the primary contributory factors deal with the duration of activities and surface area. Up to 14 hours of dredging activities occurred during the 24-hour sampling period. Over the two work days, approximately 50 percent of the dredging occurred at or near low tide. Subsequently, the duration of supporting boating activities was higher during this sampling event than others. In addition, the low tide was a negative 0.3 feet at this time causing the source area shoreline and mud flats to be exposed for a greater time with greater surface area exposed. These exposed areas coupled with various types of floating oils increased the overall surface area for PCB vaporization.

3.2.2 Facility Monitoring

Given the experience of the past season it appears that nuisance dust and VOCs were not an issue as indicated by monitoring instrumentation within Area D.

However, carbon monoxide generated by gasoline-powered pressure washers periodically became an issue during housekeeping efforts. Direct read instrumentation was placed adjacent to the work area to measure carbon monoxide levels. If levels were such that the

instrument alarmed (set at 20 ppm), the pressure washer was shut down. The exhaust was dissipated by the building's general dilution ventilation system. Carbon monoxide generated by the diesel-powered equipment was minimized through the installation and use of manufacturer-designed catalytic exhaust scrubbers. There did not appear to be excessive levels of carbon monoxide that were not readily addressed by the building's ventilation system.

The last integrated sample collected for PCBs did indicate a potential problem in the load-out/filter cake storage area. The sample was collected during a shipment of nine trucks for the day (approximately 275 tons of filter cake), during filter cake production, and during housekeeping activities. While the sample concentration was well below the permissible exposure limit, a level of 0.232 ng/m^3 was the highest obtained during the project.

Facility monitoring data are included in the daily reports for the project. Continuous logging over the course of the work shift was performed for all work locations measured. The data did not indicate any exposures during 2004.

Hydrogen sulfide became a major concern within the Desanding Building and on the dredges and work boats while dredging in DMU-2. Refer to Sections 2.4.3.1 through 2.4.3.4 for a thorough discussion regarding H_2S.

3.2.3 Personal Monitoring

To determine personnel exposures to PCBs two methods were used. The first method was to screen work areas with a direct reading respirable aerosol monitor (RAM), an MIE mini-RAM. An exposure limit of 1.5 mg/m^3 was selected for particulates not otherwise classified as representative of potential harmful exposure to PCBs in the air. The mini-RAM was held by hand at operator breathing zone (OBZ) height (approximately 60 inches off the floor or work platform) in various locations within the filter press area, waste-water treatment area, and filter cake storage/load-out area. During the use of the mini-RAM there were no exposures noted above half the exposure limit. At one point

during processing, the transfer conveyor began slipping and caused a considerable amount of smoke to be generated. Readings obtained close to the point of generation did give readings in excess of the exposure limit; however, these readings were assessed to be largely caused by smoke particles. The general exhaust ventilation evacuated the smoke within a very short time. The conveyor was stopped, adjusted, and returned to operation without further problem.

The second, more accurate, means of measuring personnel exposure to PCBs was through integrated sample collection. Health and safety staff collected approximately 75 samples over the course of the year. Samples were collected using a Gillian brand personal sampling pump set at a flow rate of approximately 200 cubic centimeters/minute. The filter media consisted of an SKC brand Florisil tube (100 mg/50 mg) with a 13 mm glass fiber filter attached to the front of the Florisil tube. NIOSH's Analytical Method 5503 for PCBs was followed for analysis.

Although the samples were collected as area samples versus hanging the sampling train on the operators, the media was placed at OBZ levels and within the work area most used by personnel. Considering the low sample results obtained, this technique should be considered acceptable as representative measures of personnel exposures.

Graphics of sample dates, locations, and results are presented in Attachment I. Additional single location samples were collected within the Area D loader operator cab (3700 ng/m^3), Area D laboratory oven exhaust (4800 ng/m^3), and the Manomet Booster Pump Station (2000 ng/m^3). The occupational exposure limit to PCB (54 percent chlorine) is 500,000 ng/m^3.

None of the sample results indicated an overexposure in the work area. However, one sample taken in the Area D load-out area revealed a concentration of 232,000 ng/m^3. This concentration is being heeded as a sign that next season's filter cake load-out management scheme will be revised to ensure that "stock" is rotated to ensure the driest cake is taken out first. Additional housekeeping measures such as splatter control and increased wash downs to control dust accumulations will be implemented as well.

3.3 SAND, COARSE MATERIAL, AND OVERSIZE DEBRIS

Sampling and analytical activities associated with sediment processing activities are presented in this Subsection for solids separated out at Area C, and in Subsections 3.4 and 3.5 for filter cake and wastewater respectively. Sampling/analytical information and data associated with these materials is presented in a series of tables in Attachment J.

In addition, oversize debris also was removed from New Bedford Harbor prior to dredging activities at DMU-2. In accordance with the August 2004 *FSP*, only samples of the sand were submitted for chemical analysis. It is anticipated that the coarse screenings and oversized debris will be sampled and analyzed for disposal characterization during the 2005 field season. All three waste streams (sand, coarse material, and oversize debris) are currently stored under tarps at the DDA at Area C.

During 2004 DMU-2 and Cell #1 dredging activities, composite samples of the sand were collected at about every 100 tons of sand material produced (Table J-1). Following collection, the sand samples were transported to offsite laboratories (Severn Trent in Colchester, Vermont and Newburgh, New York), and analyzed for PCBs, oil and grease (O&G), and total metals in accordance with the procedures outlined in the *FSP* and the *QAPP*. In addition, selected soil samples were submitted to GeoTesting Express in Boxborough, MA for geotechnical (grain size) analysis. The analytical results (PCBs and oil and grease) are presented in Table J-1 and the geotechnical results (grain size) are presented in Table J-2. Since the total metals results were not used for TSCA determination, the metals results were not tabulated for this *AAR*. In addition to the soil samples submitted for offsite grain size analysis, Jacobs personnel also wet-sieved screened material samples and selected filter cake samples to estimate the sand fraction of the various waste streams. As presented in Table J-2, the offsite and onsite grain size

results from the same material (e.g. screened material or filter cake) were generally similar with respect to percent sand.

CBI

CBI

3.3.1 Discussion of Analytical Results for Characterization

The PCB and oil and grease analytical results for all of the solid samples submitted for analysis (including filter cake from Area D) are summarized in Table J-1. The PCB and

oil and grease analytical results for screening material only (Area C) are presented in Table J-3.

The following summarizes the results of the desanding plant sampling:

- The PCB results ranged from an estimated concentration (J) of 9.0 milligrams per kilogram (mg/kg) to 18.3 J mg/kg. Since these PCB concentrations were below the TSCA threshold concentration of 50 mg/kg, these Cell #1 sands were moved to the DDA and segregated from the DMU-2 sediments.
- The oil and grease concentrations ranged from 410 mg/kg to 890 mg/kg. There are no action levels for oil and grease concentrations detected in the New Bedford Harbor sediments. The oil and grease analyses were performed to assess potential correlation between oil and grease concentrations and PCB concentrations.

The following summarizes the results of the DMU-2 desanding sampling:

- The PCB concentrations ranged from 18.8 J mg/kg to 235 mg/kg. Since the PCB concentrations in the desanding plant material generated during the DMU-2 activities were generally above the TSCA threshold concentration of 50 mg/kg, these sands were segregated from the Cell #1 sediments.
- The oil and grease concentrations ranged from below detection limits to 1,600 mg/kg.

3.3.2 Discussion of Split Sample Analytical Results

The following observations were made on the results of the split samples of the three soil samples (V1-102704, V1-110304, and V1-11104) that were submitted for PCBs, oil and grease, TOC, and total organics:

- Of the sieve fractions (No. 40-plus, No. 100, and No. 200, which are from coarsest to finest), the highest percentage of organic matter was detected in the No. 40-plus sieve fraction.
- For the split samples for V1-110304 and V1-11104, the highest TOC concentrations were detected in the No. 40-plus sieve fractions.
- Concurrently, the highest concentrations of total PCBs in the splits of Samples V1-102704, V1-110304, and V1-11104 were detected in the No. 40-plus sieve fraction at concentrations of 283 J mg/kg, 83 mg/kg, and 27.7 J mg/kg, respectively.
- CBI

3.4 DEWATERED SEDIMENT

During the 2004 season, the dewatering process at Area D produced filter cake that was all disposed offsite as TSCA waste. In accordance with the August 2004 *FSP*, composite samples of the filter cake were collected at a frequency of approximately 1 sample per 550 tons of filter cake produced and submitted for analysis for total PCBs, metals, and oil and grease (Table J-1). The purpose of collecting these samples was to develop a running analytical profile of the filter cake waste and to monitor performance of the dewatering process. As presented in Table J-1, all of the filter cake submitted for analysis was greater than the 50 mg/kg criteria for TSCA waste.

Selected samples were also submitted for geotechnical analysis at the offsite laboratory (Severn Trent) and a number of samples were wet-sieved at Area C to determine the sand fraction of the filter cake (Table J-2).

CBI

The TCLP analytical results are presented in Appendix J at the end of Table J-1. The TCLP analyses passed the disposal facilities criteria to be land filled as a TSCA waste.

3.4.1 Discussion of Filter Cake Analytical Results

The PCB, oil and grease, and grain size results for filter cake samples are summarized in Table J-4. The following summarizes the results of Cell #1 and DMU-2 dewatering plant filter cake plant sampling activities:

- PCBs and oil and grease were detected at concentrations of 133 mg/kg and 4,300 mg/kg, respectively in the one sample that was collected from Cell #1 filter cake.
- The DMU-2 PCB concentrations ranged from 171 J mg/kg to 1,270 J mg/kg. All of the DMU-2 PCB concentrations were above the TSCA threshold concentration of 50 mg/kg.
- The oil and grease concentrations ranged from below detection limits to 3,500 mg/kg.
- The grain size for the samples submitted for offsite analysis ranged from 2.5 percent to 55 percent sand as presented in Table J-2.

CBI

3.5 WASTEWATER

During the 2004 dredging season, water samples were collected at the influent, mid-point, and effluent sampling ports to evaluate the effectiveness of treatment and to determine whether treated water is acceptable for discharge to the harbor. All of the WWTP sampling activities were conducted in accordance with the *FSP*. The influent and mid-point samples were grab samples collected from sampling ports. The effluent samples were collected utilizing a composite sampler provided by NAE. The wastewater samples were packaged and transported to the contract laboratories, and analyzed for PCBs, copper (Cu), chromium (Cr), cadmium (Cd), and lead (Pb), in accordance with the procedures outlined in the *FSP* and the *QAPP*. The analytical results are summarized in Table J-6 and are discussed below.

Water quality parameters were recorded during each sampling event at the influent, mid-point, and effluent sampling ports. These water quality parameters included pH, conductivity, turbidity, temperature, salinity, dissolved oxygen (DO), and oxidation reduction potential (ORP) and are summarized in Table J-7. The instrument used to measure the water quality parameters was switched from a Horiba U-10 to a YSI 6920 after the September 16, 2004 sampling event due to problems with the pH measurements.

3.5.1 Discussion of Analytical Results

The discharge goals for wastewater treatment are presented below in Table 3-1.

Table 3-1 Wastewater Treatment Plant Discharge Goals

Analysis	Surface Water Discharge Treatment Goal (µg/L)
PCB (per Aroclor)	0.065
Metals	
Cd	9.3
Cr	50
Cu	5.6
Pb	8.5

CBI

Mid-Point Concentrations. PCBs, Cd, and Pb were not detected above the laboratory detection limits in the mid-point water samples, during treatment of wastewater generated during the dredging of both Cell #1 and DMU-2. The mid-point concentrations of Cu ranged from below detection limits to 4.9 µg/L. The mid-point concentrations of Cr ranged from below detection limits to 4.0 µg/L (Table J-6).

Effluent Concentrations. During treatment of water generated during the dredging of both Cell #1 and DMU-2 operations, PCBs and Pb were not detected above the laboratory detection limits in the effluent water samples. The effluent concentrations of Cu ranged from below detection limits to 4.2 micrograms per liter (µg/L). Cd was

detected above the laboratory detection in only one effluent sample at a concentration of 0.54 µg/L. The effluent concentrations of Cr ranged from below detection limits to 3.4 µg/L. Therefore, the surface water discharge treatment goals were met for PCBs, Cd, Cr, Cu, and Pb throughout the season.

Effectiveness of Treatment. Therefore, a comparison of the influent, midpoint, and effluent concentrations of PCBs and the selected metals indicates that the WWTP is effective at removing the contaminants of concern from the wastewater prior to discharge to the surface water of the New Bedford Harbor.

3.6 MASS BALANCE CALCULATION

CBI

CBI

CBI

CBI

3.7 POST-DREDGE CONFIRMATION SAMPLING

ENSR (the NAE contractor for the New Bedford Harbor sediment and surface water sampling) collected post-dredge confirmation samples and progress samples during the 2004 DMU-2 dredging activities. The sampling activities were conducted in accordance with the procedures presented in the *Final Confirmatory Sampling Approach, New Bedford Harbor Superfund Site, July 2002*, and the *Sampling and Analysis Plan, New Bedford Harbor Superfund Site, Revision 21, June 2002*. The results of these sampling events are presented in ENSR's reports entitled *Water Quality Monitoring Summary Reports 2004* and *Sediment Sampling Summary Reports 2004*.

3.8 LONG-TERM MONITORING

As part of the Long-Term Monitoring Program, Battelle conducted sediment and water sampling, throughout the 18,000-acre New Bedford Site prior to the start of the 2004 dredging season. The purpose of these sampling activities was to assess the effectiveness of the NBH remediation efforts. The sampling was conducted in accordance with the Long Term Monitoring plan that was developed by the EPA's research laboratory, Atlantic Ecology Division in Narragansett, Rhode Island. As with the post-dredge confirmation activities discussed above, the results of these sampling events are beyond the scope of this document.

3.9 HEALTH AND SAFETY STATISTICS

During the course of the 2004 dredging season, 72,110 labor hours were expended with zero E-1s (doctor visit due to work-related injury) or lost time incidents. During this time there were only four first aid cases. There were however, four incidents listed below that resulted in changes to operations.

- 7/29/04: Release of approximately 10 gallons of petroleum-based hydraulic fluid into the Acushnet River. As a corrective action after this incident, all hydraulic fluid used in equipment operating on or near the water were changed to vegetable oil based fluids.
- 8/2/04: A near-miss while operating an all-terrain crane. The crane was overloaded and resulting in a tipping condition. As a corrective action, more scrutiny was given to all crane lifting operations.
- 9/8/04: Hydrogen sulfide was released from the slurry in the desanding operations building in concentrations requiring respiratory protection. As a corrective action, a ferric sulfate injection system was installed to H_2S formation in the building. Operations were modified to enhance local exhaust ventilation and implement supplied air respiratory protection for all workers.
- 11/9/04: Release of a vegetable-oil based hydraulic fluid from dredging operations in DMU-2.

Health and safety plans (4) were developed for the season's operations and four existing health and safety plans were revised. Throughout the field season, 23 activity hazard analyses were written for all site operations. Seventy-nine personnel attended site-

specific training. Integrated samples were collected for exposure to PCBs, hydrogen sulfide, and hydrogen cyanide. There were no overexposures indicated by these samples' results. Specific information related to the above information and a breakdown of Safety Observation Reports by category are presented in Attachment K.

(intentionally blank)

4.0 LESSONS LEARNED/CONCLUSIONS

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

5.0 REFERENCES

Foster Wheeler Environmental Corporation. 2002 (October). *Final Dredging Basis of Design/Design Analysis Report, New Bedford Harbor Superfund Site.* 2002-017-0232.

_____. 2002 (July). *Final Confirmatory Sampling Approach, New Bedford Harbor Superfund Site.* 2002-017-0205.

_____. 2002 (June). *Draft Data Interpretation Report, New Bedford Harbor Superfund Site.* 2002-017-0157.

_____. 2002 (June). *Sampling and Analysis Plan, New Bedford Harbor Superfund Site, Revision 21.* 2001-017-023.

_____. 2001 (November). *Final Attachment 1 to the Regulatory Compliance Plan for the Full-Scale Dredging/Excavation/Restoration Program Design and the Dewatering & Rail Facility Designs, New Bedford Harbor Superfund Site.* 2001-017-0374.

_____. 2000 (October). *Final Regulatory Compliance Plan for Remedial Design Operable Unit #1, New Bedford Harbor Superfund Site.* 2000-17-0292.

Jacobs Engineering Group Inc. (Jacobs). 2004 (October). *Dewatering Building Air Emissions Contingency Plan Technical Memorandum.* ACE-J23-35BG0102-G7-0002.

_____. 2004 (September). *Construction Quality Control Plan for Remedial Action, New Bedford Harbor Superfund Site.* ACE-J23-35BG0102-M3-0007.

_____. 2004 (September). *Quality Assurance Project Plan, New Bedford Harbor Superfund Site.* ACE-J23-35BG0102-M3-0003.

_____. 2004 (September). *Site-Specific Safety and Health Plan, New Bedford Harbor Superfund Site.* ACE-J23-35BG0101-M3-0005.

_____. 2004 (August). *Dredging, Processing, and T&D of CDF Cell 1 and DMU-2 Sediments & Performance of Site O&M Services: New Bedford Harbor Superfund Site, Response to Request for Proposal No. 4.*

_____. 2004 (August). *Environmental Protection Plan, New Bedford Harbor Superfund Site.* ACE-J23-35BG0101-M1-0001.

_____. 2004 (August). *Field Sampling Plan, New Bedford Harbor Superfund Site.* ACE-J23-35BG0101-M3-0012.

_____. 2004 (August). *Transportation and Temporary Storage Plan, New Bedford Harbor Superfund Site.* ACE-J23-35BG0102-M3-005.

_____. 2004 (July). *Execution Plan 2004, 2005, New Bedford Harbor Remedial Action, New Bedford Harbor Superfund Site.* ACE-J23-35BG0101-M1-0002.

U.S. Army Corps of Engineers, New England District (NAE). *NAE TERC No. DACW33-03-D-0006* and subsequent Task Orders.

U.S. Environmental Protection Agency (EPA). 2002 (August). *Explanation of Significant Differences for the Upper and Lower Harbor Operable Unit, New Bedford Harbor Superfund Site.*

_____. 2001 (September). *Explanation of Significant Differences for the Upper and Lower Harbor Operable Unit, New* Bedford Harbor Superfund Site.

_____. 1999 (January). *Compendium Method TO-10A, Determination of Pesticides and Polychlorinated Biphenyls in Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD).*

_____. 1998 (September). *Superfund Record of Decision for the Upper and Lower Harbor Operable Unit, New Bedford Harbor Superfund Site.*

ATTACHMENT A

Summary of 2004 Activities

Attachment A
Summary of 2004 Activities
New Bedford Harbor Superfund Project

Date	Activity	Summary
Revise/Submit Planning Documents		
Draft May '04 Final July '04	Submit Execution Plan - *Execution Plan 2004, 2004 New Bedford Harbor Remedial Action, New Bedford Harbor Superfund Site, New Bedford, MA*	Submittal of Execution Plan outlining the remediation of the New Bedford Superfund Site to be accomplished for Fiscal Year (FY) 2004 and 2005.
Draft April '04 Final Sept. '04	Site Safety & Health Plan	Revised and updated existing plan prepared by Foster Wheeler.
Draft May '04 Final Sept. '04	Emergency Response Plan	Revised and updated existing plan prepared by Foster Wheeler.
Draft May '04 Final August '04	Construction Quality Control Plan	Revised and updated existing plan prepared by Foster Wheeler.
Draft May '04 Final August '04	Field Sampling Plan	Revised and updated existing plan prepared by Foster Wheeler.
Draft June '04 Final September '04	Quality Assurance Project Plan	Revised and updated existing plan prepared by Foster Wheeler.
Draft July '04 Final November '04	Regulatory Compliance Plan	Revised and updated existing plan prepared by Foster Wheeler.
Draft May '04 Final August '04	Transportation & Temporary Storage Plan	Revised and updated existing plan prepared by Foster Wheeler.
Draft May '04 Final August '04	Environmental Protection Plan	Includes plans for environmental protection around each of the major components of the dredging, desanding, dewatering and water treatment systems.
Submittal of Initial Task Order/Subsequent Modifications		
Submitted 2/5/04	Initial Task Order	**Tasks covered under Initial Task Order include following**: Review documents, attend meetings, prepare Execution Plan, and revise site plans.
Submitted 5/6/04	Modification 1	**Tasks under Mod. 1 include following**: Submittal of planning documents.
Submitted 5/24/04	Modification 2	**Tasks under Mod. 2 include following**: General mobilization, dredge, installation of dredges, treatment train, pipelines, and completion of Dewatering Facility Air Emissions Contingency Plan.

Attachment A
Summary of 2004 Activities
New Bedford Harbor Superfund Project

Date	Activity	Summary
Submitted 8/13/04	Modification 3	**Tasks under Mod. 3 include following**: System start-up and shakedown; dredge CDF Cell 1 and DMU-2; debris, coarse and fine material separation at Area C; sediment dewatering at Area D; wastewater treatment at Area D dewatering facility; sample collection, analysis and reporting; general operations and maintenance; T&D of PCB contaminated material from Area C and D (including options for both); and proposal preparation and winter shutdown.
Submitted 10/12/04	Modification 4	
Submitted on 10/14/04	Modification 5	**Tasks under Mod. 5 include following**: up to 11 days of environmental dredging, desanding/dewatering, wastewater treatment, transport, disposal, and several other tasks associated with the removal of contaminated sediments from DMU-2 and CDF Cell 1.
Mobilization Activities		
Jun-04	HDPE fusion welding	Prep. Inspect. (6/7/04), Initial Inspection (6/24/04)
June/July 2004	Desanding plant building erection (Area C)	Prep. Inspect. (6/24/04), Initial Inspection (7/12/04)
Jun-04	Diving operations associated with submerged pipeline	Prep. Inspect. (6/18/04), Initial Inspection (6/23/04)
Jun-04	Submerged pipeline installation	Prep. Inspect. (6/18/04), Initial Inspection (7/27/04)
Jul-04	Utility installation	Prep. Inspect. (7/21/04), Initial Inspection (8/11/04)
Jul-04	Offloading and assembling marine equipment	Prep. Inspect. (7/29/04), Initial Inspection (7/30/04)
Aug-04	Placement and tie-down of debris removal platform in DMU-2	Prep. Inspect. (8/10/04), Initial Inspection (8/12/04)
Aug-04	Sheet pile, traveling cable, silt skirt installation	Prep. Inspect. (8/10/04), Initial Inspection (8/17/04)
Aug-04	Booster pump placement and assembly	Prep. Inspect. (8/6/04), Initial Inspection (8/12/04 and 10/12/04)
Aug-04	Dredge piping connect at bulkhead	Prep. Inspect. (6/18/04), Initial Inspection (8/04/04)

Attachment A
Summary of 2004 Activities
New Bedford Harbor Superfund Project

Date	Activity	Summary
Dredging and Associated Activities		
9/1/2004	Initiated CDF Dredging	This included the start-up of activities for the following supporting operations: **Desanding operations** (prep. Inspect. [8/13/04] and initial inspect. [9/16/04]); **Dewatering operations** (prep. inspect. [8/13/04] and initial inspect. [10/05/04]); and **waste water treatment operations** [8/19/04] and initial inspect. [10/05/04].
8/31/2004	Initiate DMU-2 debris removal activities	Debris removal activities were initiated on this date with an excavator placed on a barge.
9/7/2004	Completed DMU-2 debris removal activities	Due to concerns with regard to lack of vertical control and with turbidity generated by debris removal activities, these activities were ceased.
9/8/2004	Initiated DMU-2 Dredging	The preparatory inspection for the dredging operations was conducted on 8/25/04.
9/8/2004	Suspended DMU-2 Activities due to hydrogen sulfide gas at desanding plant	Elevated H_2S levels were detected at the desanding plant (Area C) that warranted ceasing DMU-2 dredging operations until process controls were identified and implemented.
9/22/2004	Completed CDF Dredging	CDF dredging operations were suspended due to issues with debris in cell and the potential effect on pipeline blockages.
9/22/2004	DMU-2 dredging operations resumed with H_2S controls in place	DMU-2 operations were resumed with the following H_2S controls: ferric sulfate injection at Aerovox (prep inspect. [9/21/04] and initial inspect [10/07/04]; and workers in level B protection in the desanding plant (Area C). In addition, increased health and safety monitoring was conducted.
9/29/2004	Initiate shipment of filter cake material from Waste Water Treatment Plant (WWTP)	The Waste Management Process was initiated with the Sept. 21, 2004 preparatory meeting.
10/14/2004	Initiated H2S gas removal at the coarse shaker with ventilation hoods	Local exhaust ventilation system installed as secondary engineering control in the event the ferric sulfate system was not reducing hydrogen sulfide levels below IDLH levels.
11/5/2004	Desanding plant operations were conducted in Level D protection	Workers continued with personal and area monitors for hydrogen sulfide concentrations. Emergency air packs were used as well.

Attachment A
Summary of 2004 Activities
New Bedford Harbor Superfund Project

Date	Activity	Summary
Air Monitoring Activities		
	Air Monitoring Plan Submittal	Prep. Inspect. (6/29/04), Initial Inspection (10/18/04)
6/29-30/2004	Test Round of Air Sampling	Test samples (2) collected to prove low flow sampling and analytical methods were equal to high flow methodology used in previous work.
9/8-9/204	1st Round of Air Sampling	Twelve PUF with quartz filter samples collected for analysis.
9/13-14/2004	2nd Round of Air Sampling	Twelve PUF with quartz filter samples collected for analysis.
9/22-23/2004	3rd Round of Air Sampling	Twelve PUF with quartz filter samples collected for analysis.
9/27-28/2004	4th Round of Air Sampling	Twelve PUF with quartz filter samples collected for analysis.
10/18-19/2004	5th Round of Air Sampling	Twelve PUF with quartz filter samples collected for analysis.
11/4-5/2004	6th Round of Air Sampling	Twelve PUF with quartz filter samples collected for analysis. The two lowest samples from both Areas C and D were not collected. Instead those samples were used at new locations identified as Stations 42, 54, 55, and 56 to better determine what impact dredging activities were having on the community.
12/1-2/2004	7th Round of Air Sampling	Post dredging/sediment processing samples to determine background values during inactive season.
Winterization Activities		
11/9/04 - 11/18/04	Winterization	Winterization activities were conducted for the following operations: DMU-2; Aerovox ferric sulfide treatment system; Booster pump; docks at Area D; DDA storage; CDF ponds; desanding building (Area C); and dewatering plant (Area D).

ATTACHMENT B

Revised Process Flow Diagrams and As-Builts

CBI

CBI

CBI

ATTACHMENT C

Dredge Progress Figures

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

ATTACHMENT D

Hydrogen Sulfide Documents

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

ATTACHMENT E

Jacobs Solids and Water Balance

CBI

ATTACHMENT F

Sevenson Operational Monitoring Data

CBI

CBI

ATTACHMENT G

T&D Reports

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

ATTACHMENT H

Sevenson FY 2004 Winterization Task List

Attachment H
Sevenson FY2004 Winterization Task Lisk
New Bedford Harbor Superfund Site

Task	Status
Winterization Duration 11-3-04 to 11-19-04	
Dredges	
1. Remove CDF dredge to Area D, rinse-off in CDF, ship off-site	Return to Sevenson
2. Rinse-off 1st H&H at DMU-2, move to Area D, spray-off in river at Area D [with oil boom in river], ship off-site	Return to Sevenson
3. Rinse-off 2nd H&H at DMU-2, move to Area D, spray-off in river at Area D [with oil boom in river], store on east parking area	Store at Area D
4. Rinse-off 1st Mudcat at DMU-2, move to Area D, spray-off in river at Area D [with oil boom in river], store on east parking area	Store at Area D
5. Rinse-off 2nd Mudcat at DMU-2, move to Area D, spray-off in river at Area D [with oil boom in river], store on east parking area	Store at Area D
DMU-2	
1. Remove cables, store at Area C	Store at Area C
2. Remove silt curtains, store at Area C	Store at Area C
3. Rinse excavator at DMU-2, remove to Area C, ship off-site	Store at Area C
4. Remove barges to Area C and pin to docks	Store at Area C docks
5. Remove oil boom to Area C and store on plastic, under a tarp	Store at Area C
6. Remove debris scow to Area C, remove debris.	Store at Area C
7. Remove debris scow to Area D, spray-off in river at Area D [with oil boom in river], store on east parking area	Store at Area D
River Pipelines from DMU-2 down to Area C	
1. Flush lines with river water then blow-out with air	Completed
2. Pull in pipelines between DMU-2 and Area C. Store in water, floating near shore in the Area C cove.	Store near shore at Area C cove
3. Remove land-based pipe at Aerovox and Booster Station to Area C	Store at Area C
4. Remove floating section of pipeline between I-195 and Coggeshall St. bridges. Store in water, floating near shore in the Area C cove.	Store near shore at Area C cove
Aerovox	
1. Empty ferric tank into tote and move tote to Area D WWTP	Completed
2. Flush chemical lines and metering pumps with water into pipeline	Completed
3. Remove metering pumps and lines to storage shed. Move shed to Area C.	Store at Area C
4. Remove diesel tank to Area C.	Store at Area C
5. Return rental lights, generator and portable toilet	Completed
6. Rinse containment and create drain	Completed
7. Secure ferric tank by removing ladder from side of tank	***Completed***
Booster Station	
1. Remove pump skids to Area C, winterize	Store at Area C
2. Remove city water hoses to Area C	Store at Area C
3. Remove diesel tank to Area C.	Store at Area C
isassemble containment and move to Area C	Store at Area C
5. Return rental lights, generator and portable toilet	Completed

Attachment H
Sevenson FY2004 Winterization Task Lisk
New Bedford Harbor Superfund Site

Task	Status
6. Review status of site after demobilization with property owner	***Completed***
7. Change lock to key type and distribute keys to Jacobs, Jeff Jones, NBH Resident Office	***Completed***
Area C - Docks	
1. Lock-up gowning trailer and gates	Store at Area C
2. Pull boats out at Area C, spray-off over river, store at Area C	Store at Area C
3. Install Gate	***Completed***
Area C - DDA Storage	
1. Wash dozer, forklift, flatbed truck and dump truck at Area C and ship off-site	Return to Sevenson
2. Secure tarps on debris and sand piles. Add sand bags roped together, on 10 foot centers or as required, to hold down tarps for the four winter months.	Completed
Area C - Ponds	
1. Pump down Pond #1 [CDF] and Pond #2 as low as possible	Completed
2. Re-fill Pond #2 with city hydrant water [for equipment flushing]	Completed
Area C - Desanding Bldg.	
1. Move all debris and sand to DDA Storage	Completed
2. Flush equipment and floors with city water, air-blow piping	Remain at Area C
3. Dispose of spent PPE	Stored in Building
Area C - General	
1. Remove new oil booms to inside Desanding Building	
Area D	
1. Flush tanks and pipes with city water. Drain all vessels and associated water lines.	Remain at Area D
2. Complete all housekeeping and clean-up of plant, including washing sediment from floor drains and off exterior tanks and vessels	Completed
3. Pump out sumps, treat water. Lift-out sump pump in load-out area [unheated].	Completed
4. Complete final drops and remove final load of filter cake, and PPE, from building	Completed
5. Add sandbags along plant influent/effluent pipes down to low water mark	Completed
6. Move all WWTP chemical totes into main process building and close overhead doors between WWTP and main process building. Set thermostats in main process building at 55°F.	
7. Coating has been scaped off load-out floor	***No Change***
8. Gap in perimeter fence at waters edge near pipeline connection bulkhead	***No Change***
9. Set thermostat for winter, set security alarm	***Completed***

Note: Items indicated in bold italics were added to the Winterization list during a follow-up inspection completed at the conclusion of Winterization activities

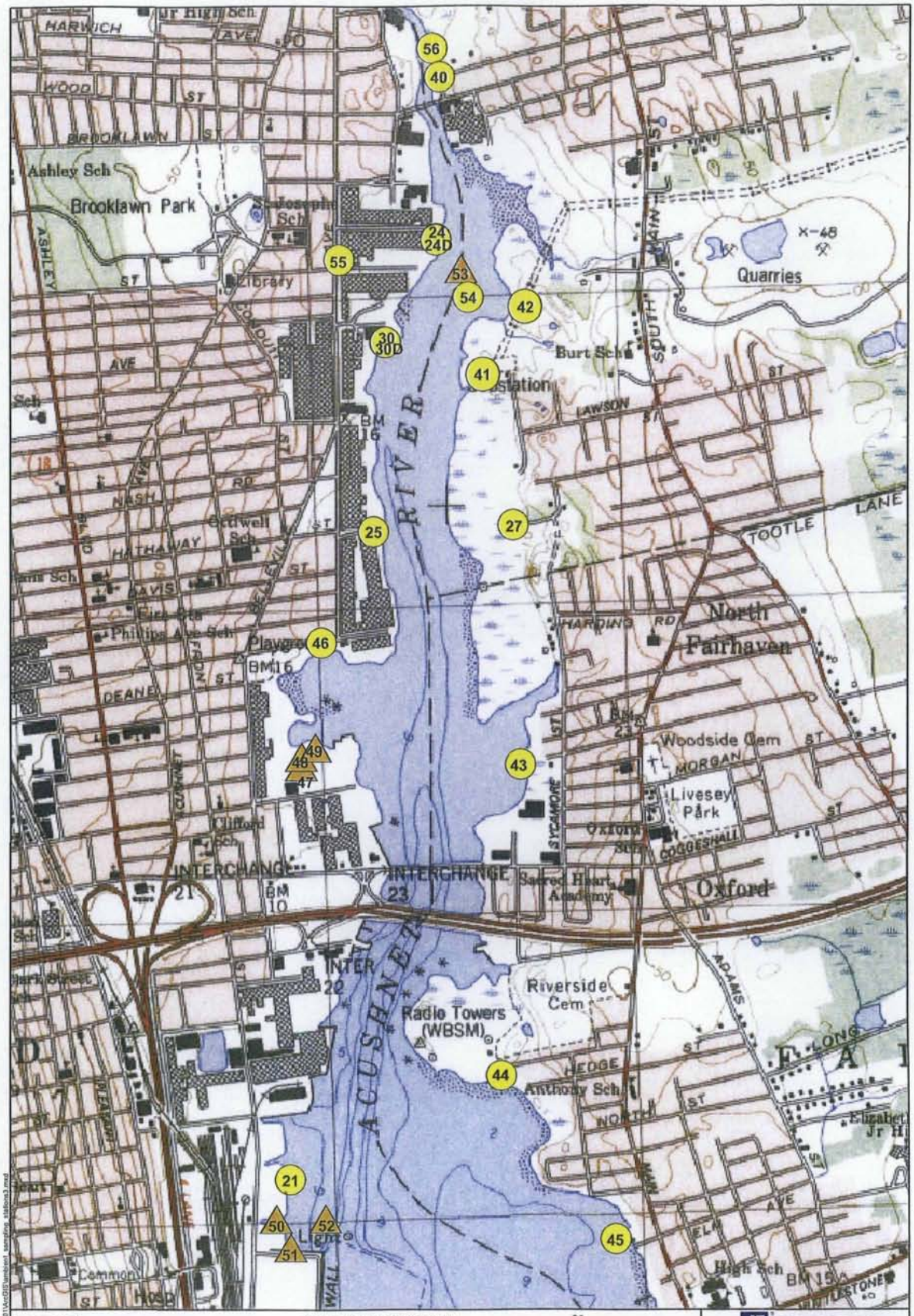
Notes:
CDF = Confined disposal Facility
DDA = Debris Disposal Area
DMU = Dredge Management Unit
PPE = personal protective equipment
WWTP = Wastewater Treatment Plan

ATTACHMENT I

Ambient Air Monitoring Information

Table I-1
Ambient PCB Sample
Station Locations

Station Number	Station Type	Location	City/Town	Northing	Easting
21	M	New Bedford Welding	New Bedford	2696913.00000	814013.00000
24	M	Aerovox NE corner	New Bedford	2706941.00000	815574.00000
24D	M	Aerovox duplicate	New Bedford	2706932.00000	815574.00000
25	M	Cliftex, Manomet Street	New Bedford	2703854.00000	814907.00000
27	M	Francis St (Porter)	Fairhaven	2703925.00000	816405.00000
30	M	Fiber Leather	New Bedford	2705861.00000	815029.00000
30D	M	Fiber Leather duplicate	New Bedford	2705864.00000	815034.00000
40	M	Wood St (Titleist)	Acushnet	2705820.00000	814933.00000
41	M	NSTAR substation	Acushnet	2705524.00000	816074.00000
42	M	NSTAR North	Fairhaven	2706236.00000	816524.00000
43	M	Bus Terminal Lot	Fairhaven	2701377.00000	816482.00000
44	M	Taber St (Pumping Station)	Fairhaven	2698035.00000	816277.00000
45	M	Cozy Cove Marina	Fairhaven	2684279.00000	817739.00000
46	M	Coffin Ave	New Bedford	2703796.00000	814947.00000
47	S	Area C Downwind	New Bedford	2701361.00000	814129.00000
48	S	Area C Crosswind	New Bedford	2701462.00000	814128.00000
49	S	Area C Upwind	New Bedford	2701564.00000	814279.00000
50	S	Area D Downwind	New Bedford	2696198.00000	814012.00000
51	S	Area D Crosswind	New Bedford	2696500.00000	812858.00000
52	S	Area D Upwind	New Bedford	2695390.00000	814397.00000
53	S	DMU2 Dredge	Varies	2706636.00000	815839.00000
54	M	DMU2 DW on barge	Varies	2706333.00000	815917.00000
55	M	Aerovox West (R7 receptor)	New Bedford	2706728.00000	814540.00000
56	M	Acushnet Park	New Bedford	2708962.00000	815519.00000



Legend

Ambient Air Sampling Locations

- Mobile Station
- Stationary Station

Aerial Photography MASSGIS 2003

N

0 750 1,500 Feet

1:18,000

JACOBS

Ambient Air Sampling Station Locations

New Bedford Harbor Superfund Site

August 2004

Figure I-1

Table I-2
Ambient Monitoring Program
Total Detectable PCB in Air

Sampling [2] Period	Station 24 Aerovox [3]	Station 53 DMU-2 Dredge [3]	Station 25 Cliftex [3]	Station 46 Coffin [3] Ave	Station 47 Area C DW	Station 48 Area C CW	Station 49 Area C UW	Station 50 Area D UW	Station 51 Area D CW	Station 52 Area D DW	24-Duplicate	Blank ng/ sample
6.28/29	2286	NS[1]	NS[1]	NS[1]	NS[1]	NS[1]	NS[1]	NS[1]	56	NS[1]	NS[1]	0.27
9.8/9	1024	723	167	145	28	37	56	19	16	47	1088	1.4
9.13/14	1449	98	229	48	64	64	86	38	39	61	QC [4]	0.77
9.22/23	588	1212	97	5	7	10	19	6	5	19	5	0.46
9.27/28	9557	2734	423	342	35	165	207	80	75	115	QC [4]	1.23
10.18/19	599	704	259	36	47	48	66	17	74	100	47	0.6
11.4/5 [5]												
12.1/2 [5]												

Notes:

(1) NS - Not Sampled. This was a performance test on new low flow method.

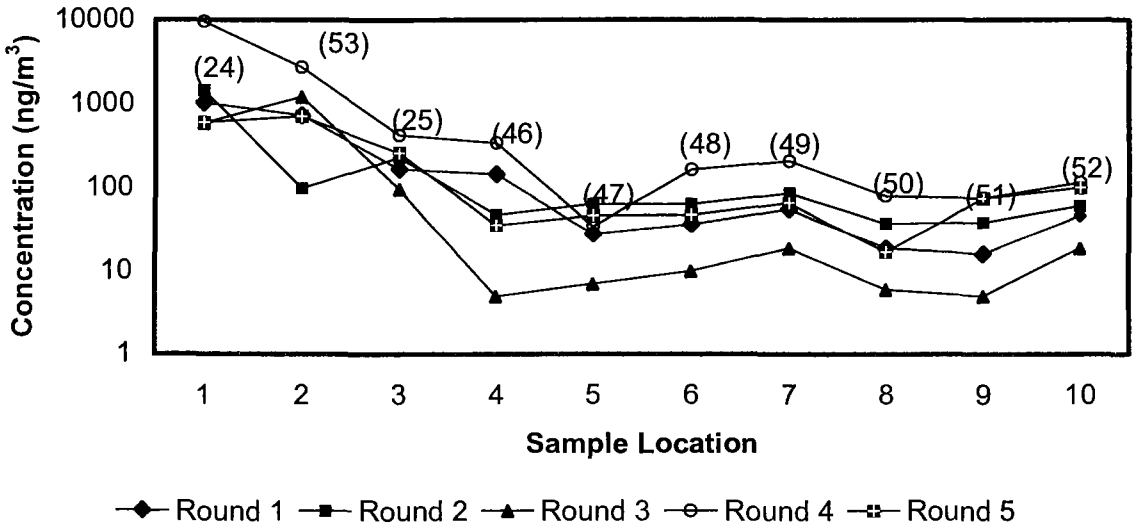
(2) Sampled and analyzed using EPA TO-10a methodology.

(3) All results reported for 24hr time-weighted average in nanograms per cubic meter of air (ng/m ^{3}).

(4) Duplicate sent to USACE laboratory.

(5) Awaiting analytical results.

Log Scale of Ambient PCB Sample Results



Air Sampling Status

New Bedford Harbor Superfund Site

Station #: 24 Aerovox
Exposure Budget Slope (EBS) = 664 (ng/m^3-day)

Collection Date: 9/28/2004

Construction Activity: Dredging of DMU-2 and susequent treatment of slurry by desanding, dewatering and waste water treament operations.

This report summarizes sample results for the above referenced location and date. The samples were collected on polyurethane foam (PUF)/XAD sample media with a glass fiber pre-filter using a PQ-1 Low-Vol sampler. The samples were analyzed using high-resolution mass spectrometry (HRGCMS) for total PCB homologue groups. Results are evaluated relative to the Exposure Budget Tracking Process described in the Development of PCB Air Action Levels for the Protection of the Public, New Bedford Superfund Site, August 2001. Cumulative data for this reporting period are included on pages 2 and 3. Sample Station Information is summarized in attached Table 1 and illustrated on Figure 1. Air concentration trigger information is presented in attached Table 2.

Summary of This Sampling Period:

C5, C6,C5&C7, C1,C2, and C3 concentration triggers were identified during this sampling period. These triggering conditions indicate a low response level with the response being to evaluate the cause and significance of the triggering conditions. The higher total PCB concentration observed at the sampling station during this period was probably caused by a combination of the higher ambient temperature, calm winds directed toward the station and a relatively high background concentration. Additionally, negative low tides and large areas of floating oils probably contributed to the higher ambient concentrations. In response to this situation, additional measures to control surface oil were implemented by adding oil booms around the perimeter of the dredge and additional surface skimming by dragging oil boom by boat.

Monitoring Station		24 Aerovox
Exposure Budget Slope		664
Work Start Date		11/12/2002
Projected Work End Date		11/10/2012
Occupational Limit Used as Ceiling	[ng/m^3]	1,000
TEL for Worker in Public	[ng/m^3]	50,000
NTEL for Worker in Public	[ng/m^3]	1,789
Miniumum of TEL/NTEL	[ng/m^3]	1,789
Background Concentration	[ng/m^3]	230

Air Sampling Status Report

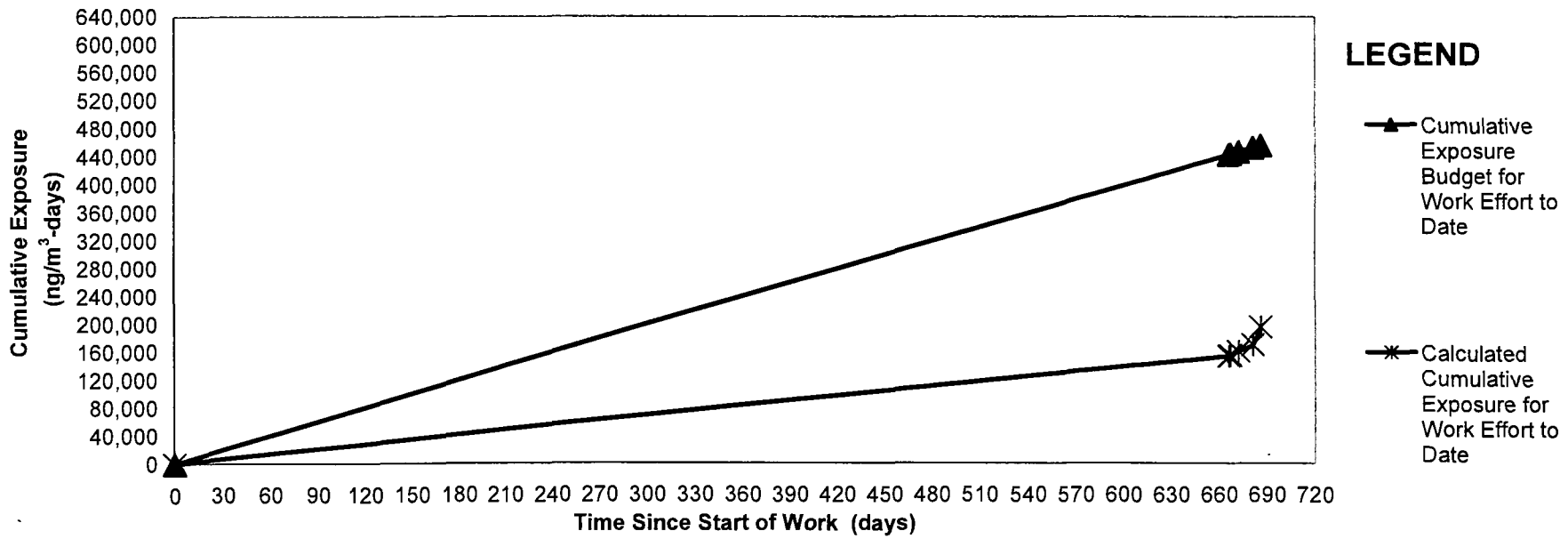
Sample Station :	24 Aerovox
Collection Date:	9/28/2004
Measured PCB Concentration (ng/m^3):	9557
Exposure Budget Expended During This Period:	763.9%
Cumulative Exposure Budget Expended to Date:	42.7%
Response Level:	LOW
Response:	Evaluate the Cause and Significance of the Triggering Conditions

Triggers:

Low

Trigger C5:	Measured Concentration Exceeds the Annual Average Background Concentration by more than 200%
Trigger C6:	Previous Two Measured Concentrations Exceed the Running Average Concentration
Trigger C5 and Trigger C7:	C5: Measured Concentration Exceeds the Annual Average Background Concentration by more than 200%; C7: Measured Concentration has Doubled Since the Last Monitoring Period
Trigger C1:	Measured Concentration Exceeds Maximum Occupational Limit
Trigger C2:	Measured Concentration Exceeds Minimum TEL/NTEL for a Worker in the Public
Trigger C3:	Measured Concentration Exceeds the Risk-Based Exposure Point Concentration Forming

Cumulative Exposure Tracking Comparison of Measured Values to the Health-Based Budget
New Bedford Harbor DMU-2 Remediation Work Effort



Air Sampling Status

New Bedford Harbor Superfund Site

Station #: 25 Cliftex
Exposure Budget Slope (EBS) = 824 (ng/m^3-day)

Collection Date: 10/19/2004

Construction Activity: Dredging of DMU-2 and subsequent treatment of slurry by desanding, dewatering and waste water treament operations.

This report summarizes sample results for the above referenced location and date. The samples were collected on polyurethane foam (PUF)/XAD sample media with a glass fiber pre-filter using a PQ-1 Low-Vol sampler. The samples were analyzed using high-resolution mass spectrometry (HRGCMS) for total PCB homologue groups. Results are evaluated relative to the Exposure Budget Tracking Process described in the Development of PCB Air Action Levels for the Protection of the Public, New Bedford Superfund Site, August 2001. Cumulative data for this reporting period are included on pages 2 and 3. Sample Station Information is summarized in attached Table 1 and illustrated on Figure 1. Air concentration trigger information is presented in attached Table 2.

Summary of This Sampling Period:

The C5 and C6 concentration triggers were identified during this sampling period. Thes triggering conditions indicate a low response level with the response being to evaluate the cause and significance of the triggering conditions. The higher total PCB concentration observed at the sampling station during this period was probably caused by a combination of the higher ambient temperature, calm winds directed toward the station and a relatively high background concentration. Since the expenditure of the cumulative exposure budget to date was still at a low level at this point in the project, no change in field procedures is warranted.

Home Sheet

Monitoring Station		25 Cliftex
Exposure Budget Slope		824
Work Start Date		11/12/2002
Projected Work End Date		11/10/2012
Occupational Limit Used as Ceiling	[ng/m^3]	500,000
TEL for Worker in Public	[ng/m^3]	50,000
NTEL for Worker in Public	[ng/m^3]	1,789
Miniumum of TEL/NTEL	[ng/m^3]	1,789
Background Concentration	[ng/m^3]	70

Air Sampling Status Report

Sample Station :	25 Cliftex
Collection Date:	10/19/2004
Measured PCB Concentration (ng/m^3):	256
Exposure Budget Expended During This Period:	41.2%
Cumulative Exposure Budget Expended to Date:	9.7%
Response Level:	LOW
Response:	Evaluate the Cause and Significance of the Triggering Conditions

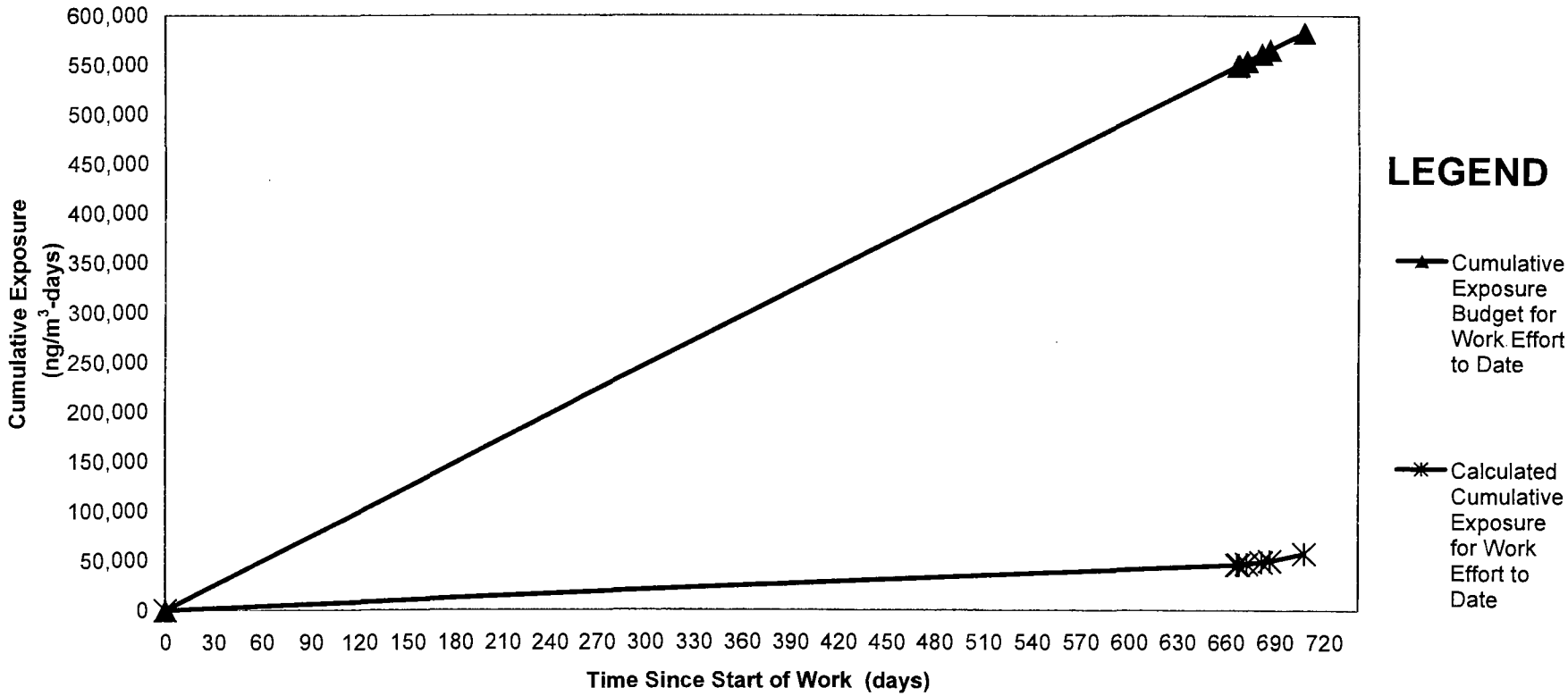
Triggers:

Low

Trigger C5: Measured Concentration Exceeds the Annual Average Background Concentration by more than 200%

Trigger C6: Previous Two Measured Concentrations Exceed the Running Average

Cumulative Exposure Tracking Comparison of Measured Values to the Health-Based Budget
New Bedford Harbor DMU-2 Remediation Work Effort



35BG0103
1/7/2005

25 Cliftex (10-19-04)

Air Sampling Status

New Bedford Harbor Superfund Site

Station #: 46 Coffin Ave
Exposure Budget Slope (EBS) = 779 (ng/m^3-day)

Collection Date: 10/19/2004

Construction Activity: Dredging of DMU-2 and subsequent treatment of slurry by desanding, dewatering and waste water treament operations.

This report summarizes sample results for the above referenced location and date. The samples were collected on polyurethane foam (PUF)/XAD sample media with a glass fiber pre-filter using a PQ-1 Low-Vol sampler. The samples were analyzed using high-resolution mass spectrometry (HRGCMS) for total PCB homologue groups. Results are evaluated relative to the Exposure Budget Tracking Process described in the Development of PCB Air Action Levels for the Protection of the Public, New Bedford Superfund Site, August 2001. Cumulative data for this reporting period are included on pages 2 and 3. Sample Station Information is summarized in attached Table 1 and illustrated on Figure 1. Air concentration trigger information is presented in attached Table 2.

Summary of This Sampling Period:

No triggers were identified therefore no response is necessary.

Monitoring Station		46 Coffin Ave
Exposure Budget Slope		779
Work Start Date		11/12/2002
Projected Work End Date		11/10/2012
Occupational Limit Used as Ceiling	[ng/m^3]	500,000
TEL for Worker in Public	[ng/m^3]	50,000
NTEL for Worker in Public	[ng/m^3]	1,789
Miniumum of TEL/NTEL	[ng/m^3]	1,789
Background Concentration	[ng/m^3]	115

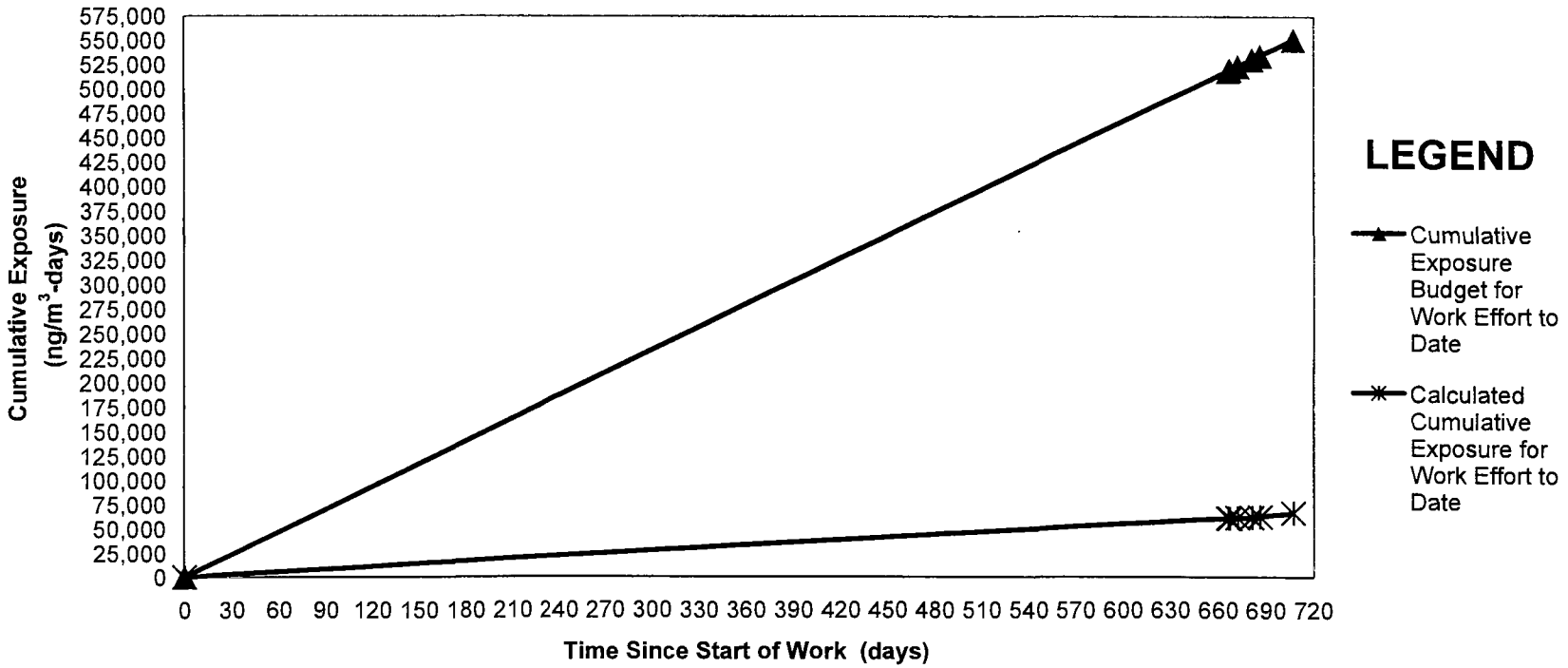
Air Sampling Status Report

Sample Station :	46 Coffin Ave
Collection Date:	10/19/2004
Measured PCB Concentration (ng/m^3):	36
Exposure Budget Expended During This Period:	24.3%
Cumulative Exposure Budget Expended to Date:	12.0%
Response Level:	No Triggers Identified
Response:	No Response Necessary

Triggers:

Low

Cumulative Exposure Tracking Comparison of Measured Values to the Health-Based Budget
New Bedford Harbor DMU-2 Remediation Work Effort



Air Sampling Status

New Bedford Harbor Superfund Site

Station #: 47 Area C Downwind
Exposure Budget Slope (EBS) = 734 (ng/m^3-day)

Collection Date: 10/19/2004

Construction Activity: Dredging of DMU-2 and subsequent treatment of slurry by desanding, dewatering and waste water treament operations.

This report summarizes sample results for the above referenced location and date. The samples were collected on polyurethane foam (PUF)/XAD sample media with a glass fiber pre-filter using a PQ-1 Low-Vol sampler. The samples were analyzed using high-resolution mass spectrometry (HRGCMS) for total PCB homologue groups. Results are evaluated relative to the Exposure Budget Tracking Process described in the Development of PCB Air Action Levels for the Protection of the Public, New Bedford Superfund Site, August 2001. Cumulative data for this reporting period are included on pages 2 and 3. Sample Station Information is summarized in attached Table 1 and illustrated on Figure 1. Air concentration trigger information is presented in attached Table 2.

Summary of This Sampling Period:

No triggers were identified therefore no response is necessary.

Home Sheet

Monitoring Station		47 Area C Downwind
Exposure Budget Slope		734
Work Start Date		11/12/2002
Projected Work End Date		11/10/2012
Occupational Limit Used as Ceiling	[ng/m^3]	500,000
TEL for Worker in Public	[ng/m^3]	50,000
NTEL for Worker in Public	[ng/m^3]	1,789
Miniumum of TEL/NTEL	[ng/m^3]	1,789
Background Concentration	[ng/m^3]	160

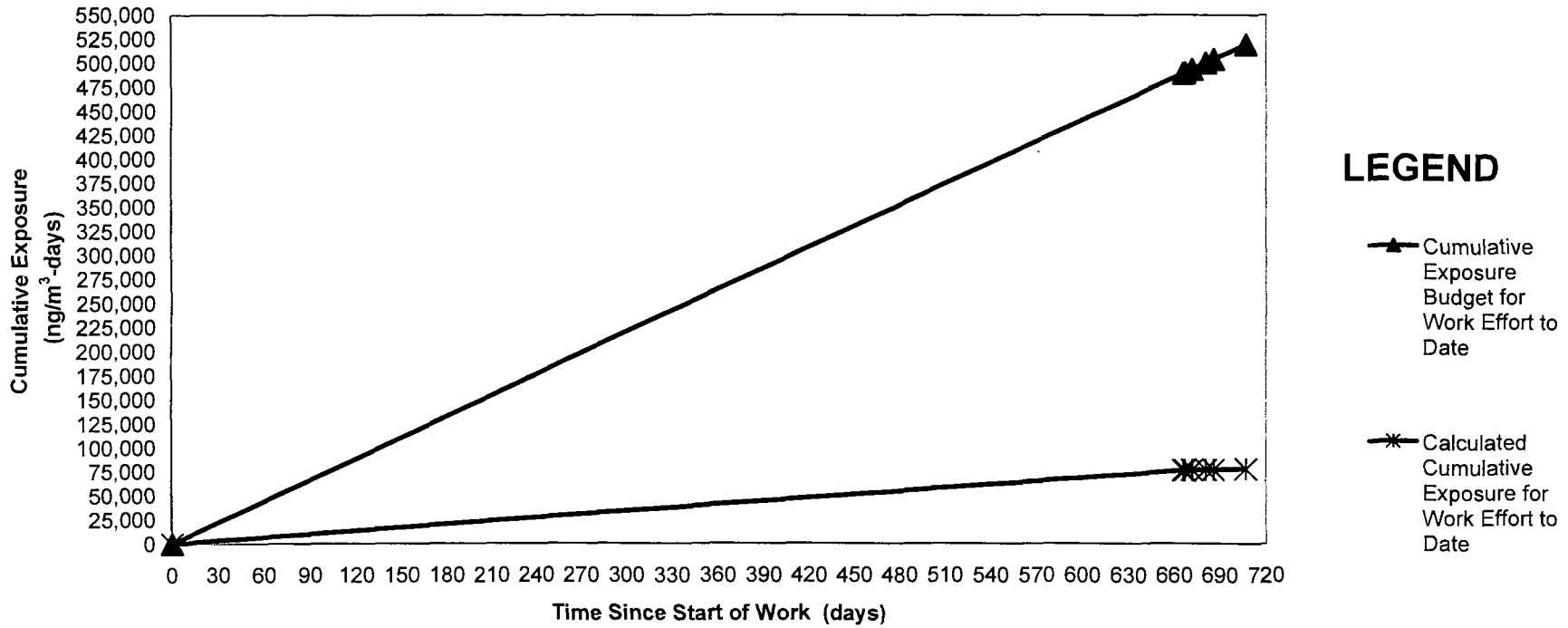
Air Sampling Status Report

Sample Station :	47 Area C Downwind
Collection Date:	10/19/2004
Measured PCB Concentration (ng/m^3):	47
Exposure Budget Expended During This Period:	5.6%
Cumulative Exposure Budget Expended to Date:	14.9%
Response Level:	No Triggers Identified
Response:	No Response Necessary

Triggers:

Low

Cumulative Exposure Tracking Comparison of Measured Values to the Health-Based Budget
New Bedford Harbor DMU-2 Remediation Work Effort



Air Sampling Status

New Bedford Harbor Superfund Site

Station #: 48 Area C Crosswind
Exposure Budget Slope (EBS) = 734 (ng/m^3-day)

Collection Date: 10/19/2004

Construction Activity: Dredging of DMU-2 and subsequent treatment of slurry by desanding, dewatering and waste water treament operations.

This report summarizes sample results for the above referenced location and date. The samples were collected on polyurethane foam (PUF)/XAD sample media with a glass fiber pre-filter using a PQ-1 Low-Vol sampler. The samples were analyzed using high-resolution mass spectrometry (HRGCMS) for total PCB homologue groups. Results are evaluated relative to the Exposure Budget Tracking Process described in the Development of PCB Air Action Levels for the Protection of the Public, New Bedford Superfund Site, August 2001. Cumulative data for this reporting period are included on pages 2 and 3. Sample Station Information is summarized in attached Table 1 and illustrated on Figure 1. Air concentration trigger information is presented in attached Table 2.

Summary of This Sampling Period:

No triggers were identified therefore no response is necessary.

Monitoring Station		48 Area C Crosswind
Exposure Budget Slope		734
Work Start Date		11/12/2002
Projected Work End Date		11/10/2012
Occupational Limit Used as Ceiling	[ng/m^3]	500,000
TEL for Worker in Public	[ng/m^3]	50,000
NTEL for Worker in Public	[ng/m^3]	1,789
Miniumum of TEL/NTEL	[ng/m^3]	1,789
Background Concentration	[ng/m^3]	160

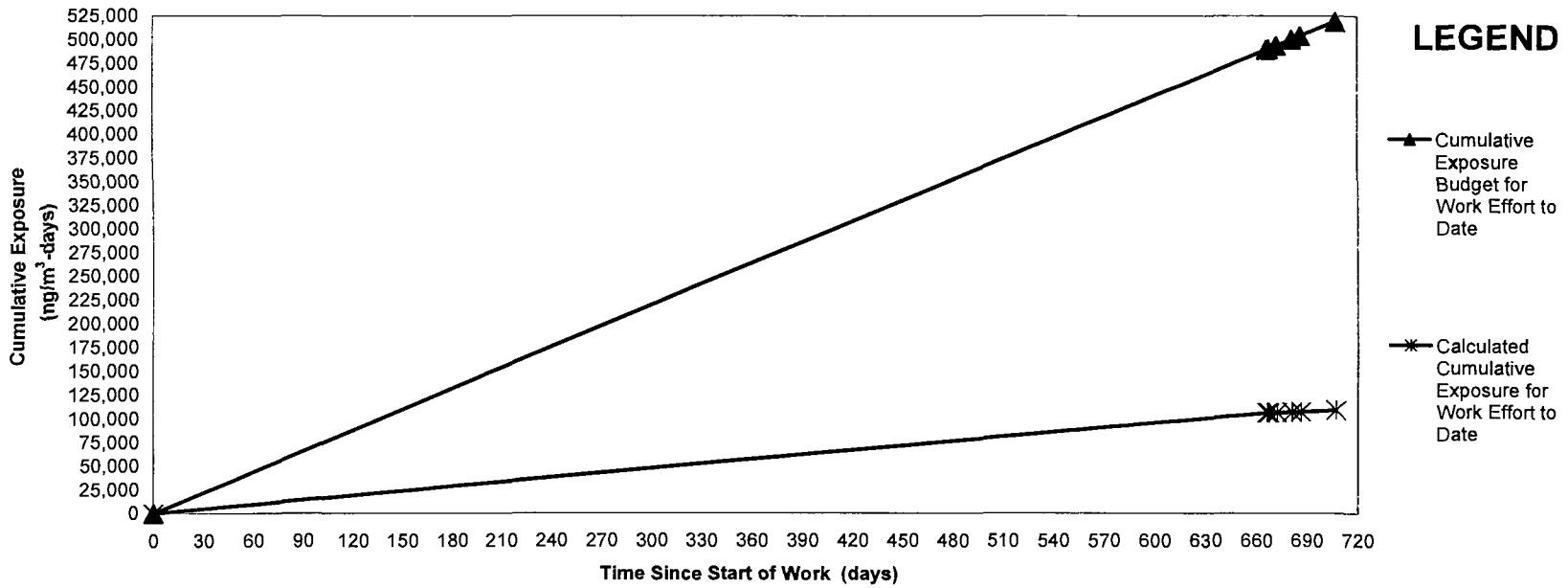
Air Sampling Status Report

Sample Station :	48 Area C Crosswind
Collection Date:	10/19/2004
Measured PCB Concentration (ng/m^3):	48
Exposure Budget Expended During This Period:	14.5%
Cumulative Exposure Budget Expended to Date:	21.2%
Response Level:	No Triggers Identified
Response:	No Response Necessary

Triggers:

Low

Cumulative Exposure Tracking Comparison of Measured Values to the Health-Based Budget
New Bedford Harbor DMU-2 Remediation Work Effort



Air Sampling Status

New Bedford Harbor Superfund Site

Station #: 49 Area C Upwind
Exposure Budget Slope (EBS) = 734 (ng/m^3-day)

Collection Date: 10/19/2004

Construction Activity: Dredging of DMU-2 and subsequent treatment of slurry by desanding, dewatering and waste water treament operations.

This report summarizes sample results for the above referenced location and date. The samples were collected on polyurethane foam (PUF)/XAD sample media with a glass fiber pre-filter using a PQ-1 Low-Vol sampler. The samples were analyzed using high-resolution mass spectrometry (HRGCMS) for total PCB homologue groups. Results are evaluated relative to the Exposure Budget Tracking Process described in the Development of PCB Air Action Levels for the Protection of the Public, New Bedford Superfund Site, August 2001. Cumulative data for this reporting period are included on pages 2 and 3. Sample Station Information is summarized in attached Table 1 and illustrated on Figure 1. Air concentration trigger information is presented in attached Table 2.

Summary of This Sampling Period:

No triggers were identified therefore no response is necessary.

Home Sheet

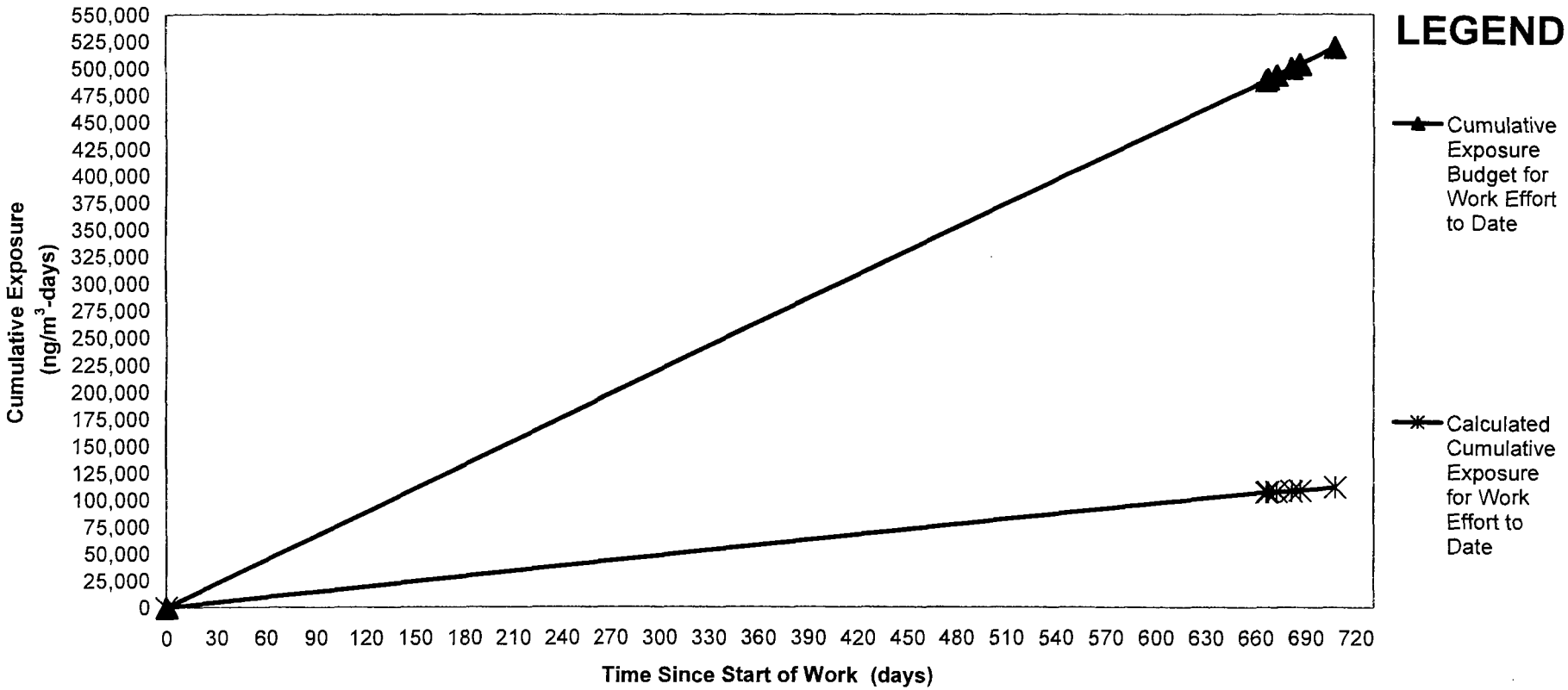
Monitoring Station		49 Area C Upwind
Exposure Budget Slope		734
Work Start Date		11/12/2002
Projected Work End Date		11/10/2012
Occupational Limit Used as Ceiling	[ng/m^3]	500,000
TEL for Worker in Public	[ng/m^3]	50,000
NTEL for Worker in Public	[ng/m^3]	1,789
Miniumum of TEL/NTEL	[ng/m^3]	1,789
Background Concentration	[ng/m^3]	160

Air Sampling Status Report

Sample Station :	49 Area C Upwind
Collection Date:	10/19/2004
Measured PCB Concentration (ng/m^3):	66
Exposure Budget Expended During This Period:	18.6%
Cumulative Exposure Budget Expended to Date:	21.4%
Response Level:	No Triggers Identified
Response:	No Response Necessary

Triggers:

Cumulative Exposure Tracking Comparison of Measured Values to the Health-Based Budget
New Bedford Harbor DMU-2 Remediation Work Effort



35GB0103
1/7/2005

49 Area C Upwind (10-19-04)

Air Sampling Status

New Bedford Harbor Superfund Site

Station #: 50 Area D Downwind
Exposure Budget Slope (EBS) = 874 (ng/m^3-day)

Collection Date: 10/19/2004

Construction Activity: Dredging of DMU-2 and subsequent treatment of slurry by desanding, dewatering and waste water treament operations.

This report summarizes sample results for the above referenced location and date. The samples were collected on polyurethane foam (PUF)/XAD sample media with a glass fiber pre-filter using a PQ-1 Low-Vol sampler. The samples were analyzed using high-resolution mass spectrometry (HRGCMS) for total PCB homologue groups. Results are evaluated relative to the Exposure Budget Tracking Process described in the Development of PCB Air Action Levels for the Protection of the Public, New Bedford Superfund Site, August 2001. Cumulative data for this reporting period are included on pages 2 and 3. Sample Station Information is summarized in attached Table 1 and illustrated on Figure 1. Air concentration trigger information is presented in attached Table 2.

Summary of This Sampling Period:

No triggers were identified therefore no response is necessary.

Monitoring Station		50 Area D Downwind
Exposure Budget Slope		874
Work Start Date		11/12/2002
Projected Work End Date		11/10/2012
Occupational Limit Used as Ceiling	[ng/m^3]	500,000
TEL for Worker in Public	[ng/m^3]	50,000
NTEL for Worker in Public	[ng/m^3]	1,789
Miniumum of TEL/NTEL	[ng/m^3]	1,789
Background Concentration	[ng/m^3]	20

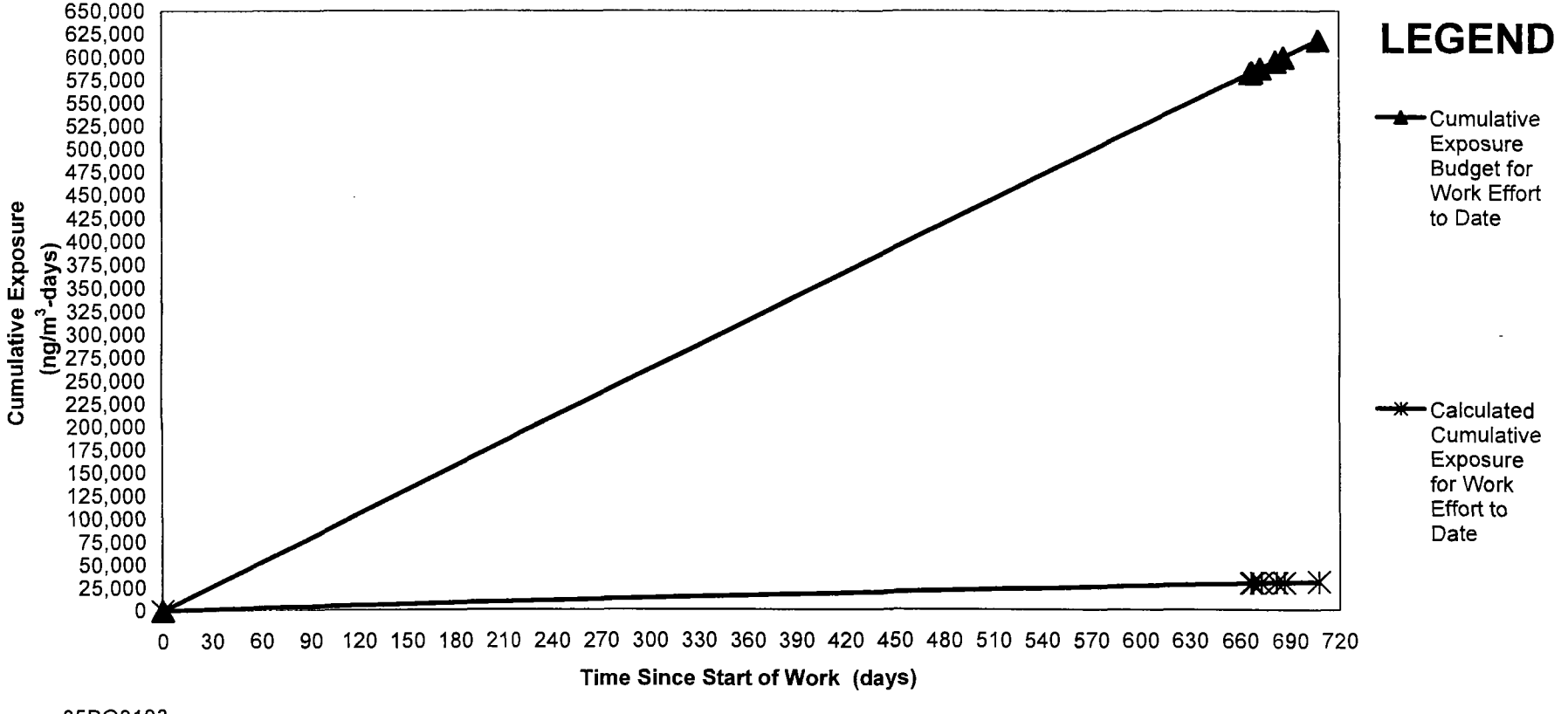
Air Sampling Status Report

Sample Station :	50
Collection Date:	10/19/2004
Measured PCB Concentration (ng/m^3):	17
Exposure Budget Expended During This Period:	5.5%
Cumulative Exposure Budget Expended to Date:	4.9%
Response Level:	No Triggers Identified
Response:	No Response Necessary

Triggers:

Low

Cumulative Exposure Tracking Comparison of Measured Values to the Health-Based Budget
New Bedford Harbor DMU-2 Remediation Work Effort



35BG0103
1/7/2005

50 Area D Downwind (10-19-04)

Air Sampling Status

New Bedford Harbor Superfund Site

Station #: 51 Area D Crosswind
Exposure Budget Slope (EBS) = 874 (ng/m^3-day)

Collection Date: 10/19/2004

Construction Activity: Dredging of DMU-2 and subsequent treatment of slurry by desanding, dewatering and waste water treament operations.

This report summarizes sample results for the above referenced location and date. The samples were collected on polyurethane foam (PUF)/XAD sample media with a glass fiber pre-filter using a PQ-1 Low-Vol sampler. The samples were analyzed using high-resolution mass spectrometry (HRGCMS) for total PCB homologue groups. Results are evaluated relative to the Exposure Budget Tracking Process described in the Development of PCB Air Action Levels for the Protection of the Public, New Bedford Superfund Site, August 2001. Cumulative data for this reporting period are included on pages 2 and 3. Sample Station Information is summarized in attached Table 1 and illustrated on Figure 1. Air concentration trigger information is presented in attached Table 2.

Summary of This Sampling Period:

C5 and C6 concentration triggers were identified during this sampling period. These triggering conditions indicate a low response level with the response being to evaluate the cause and significance of the triggering conditions. The higher total PCB concentration observed at the sampling station during this period was probably caused by a combination of the higher ambient temperature, calm winds directed toward the station and a relatively high background concentration. Since the expenditure of the cumulative exposure budget to date was still at a low level at this point in the project, no change in field procedures is warranted.

Home Sheet

Monitoring Station		51 Area D Crosswind
Exposure Budget Slope		874
Work Start Date		11/12/2002
Projected Work End Date		11/10/2012
Occupational Limit Used as Ceiling	[ng/m^3]	500,000
TEL for Worker in Public	[ng/m^3]	50,000
NTEL for Worker in Public	[ng/m^3]	1,789
Miniumum of TEL/NTEL	[ng/m^3]	1,789
Background Concentration	[ng/m^3]	20

Air Sampling Status Report

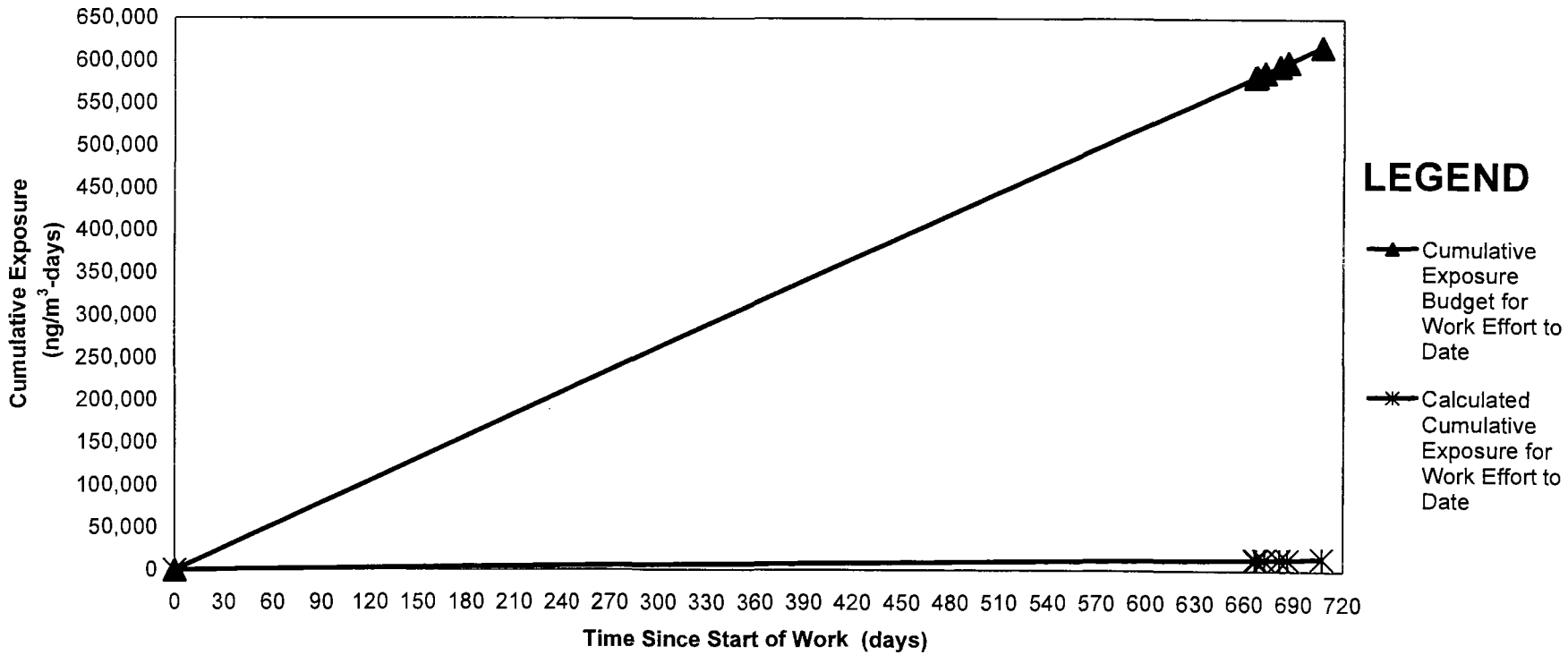
Sample Station :	51 Area D Crosswind
Collection Date:	10/19/2004
Measured PCB Concentration (ng/m^3):	74
Exposure Budget Expended During This Period:	8.5%
Cumulative Exposure Budget Expended to Date:	2.5%
Response Level:	LOW
Response:	Evaluate the Cause and Significance of the Triggering Conditions

Triggers:

Low

Trigger C5: Measured Concentration Exceeds the Annual Average Background Concentration by more than 200%

Cumulative Exposure Tracking Comparison of Measured Values to the Health-Based Budget
New Bedford Harbor DMU-2 Remediation Work Effort



Air Sampling Status

New Bedford Harbor Superfund Site

Station #: 52 Area D Upwind
Exposure Budget Slope (EBS) = 874 (ng/m^3-day)

Collection Date: 10/19/2004

Construction Activity: Dredging of DMU-2 and subsequent treatment of slurry by desanding, dewatering and waste water treament operations.

This report summarizes sample results for the above referenced location and date. The samples were collected on polyurethane foam (PUF)/XAD sample media with a glass fiber pre-filter using a PQ-1 Low-Vol sampler. The samples were analyzed using high-resolution mass spectrometry (HRGCMS) for total PCB homologue groups. Results are evaluated relative to the Exposure Budget Tracking Process described in the Development of PCB Air Action Levels for the Protection of the Public, New Bedford Superfund Site, August 2001. Cumulative data for this reporting period are included on pages 2 and 3. Sample Station Information is summarized in attached Table 1 and illustrated on Figure 1. Air concentration trigger information is presented in attached Table 2.

Summary of This Sampling Period:

C5 and C6 concentration triggers were identified during this sampling period. These triggering conditions indicate a low response level with the response being to evaluate the cause and significance of the triggering conditions. The higher total PCB concentration observed at the sampling station during this period was probably caused by a combination of the higher ambient temperature, calm winds directed toward the station and a relatively high background concentration. Since the expenditure of the cumulative exposure budget to date was still at a low level at this point in the project, no change in field procedures is warranted.

Monitoring Station		52 Area D Upwind
Exposure Budget Slope		874
Work Start Date		11/12/2002
Projected Work End Date		11/10/2012
Occupational Limit Used as Ceiling	[ng/m^3]	500,000
TEL for Worker in Public	[ng/m^3]	50,000
NTEL for Worker in Public	[ng/m^3]	1,789
Miniumum of TEL/NTEL	[ng/m^3]	1,789
Background Concentration	[ng/m^3]	20

Air Sampling Status Report

Sample Station :	52 Area D Upwind
Collection Date:	10/19/2004
Measured PCB Concentration (ng/m^3):	100
Exposure Budget Expended During This Period:	12.3%
Cumulative Exposure Budget Expended to Date:	2.7%
Response Level:	LOW
Response:	Evaluate the Cause and Significance of the Triggering Conditions

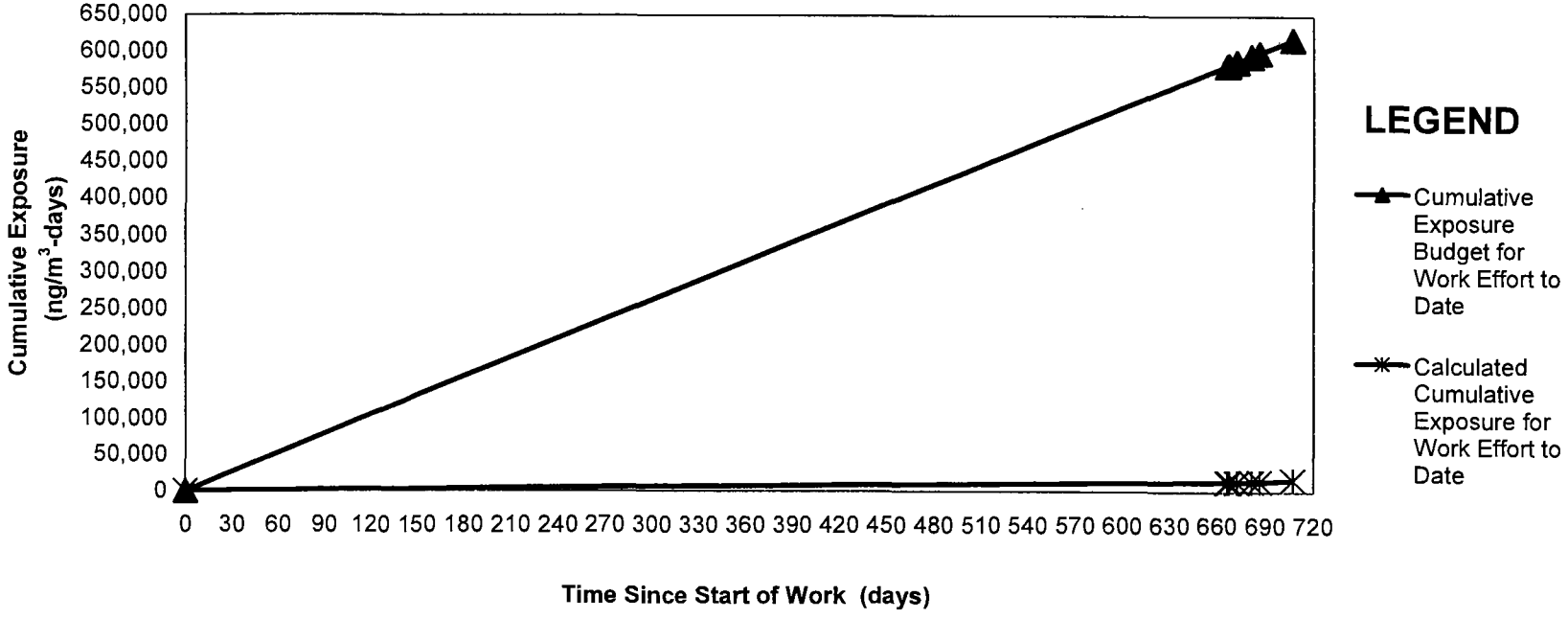
Triggers:

Low

Trigger C5: Measured Concentration Exceeds the Annual Average Background Concentration by more than 200%

Trigger C6: Previous Two Measured Concentrations Exceed the Running Average Concentration

Cumulative Exposure Tracking Comparison of Measured Values to the Health-Based Budget
New Bedford Harbor DMU-2 Remediation Work Effort



Air Sampling Status

New Bedford Harbor Superfund Site

Station #: 53 Dredge
Exposure Budget Slope (EBS) = 669 (ng/m^3-day)

Collection Date: 10/19/2004

Construction Activity: Dredging of DMU-2 and susequent treatment of slurry by desanding, dewatering and waste water treament operations.

This report summarizes sample results for the above referenced location and date. The samples were collected on polyurethane foam (PUF)/XAD sample media with a glass fiber pre-filter using a PQ-1 Low-Vol sampler. The samples were analyzed using high-resolution mass spectrometry (HRGCMS) for total PCB homologue groups. Results are evaluated relative to the Exposure Budget Tracking Process described in the Development of PCB Air Action Levels for the Protection of the Public, New Bedford Superfund Site, August 2001. Cumulative data for this reporting period are included on pages 2 and 3. Sample Station Information is summarized in attached Table 1 and illustrated on Figure 1. Air concentration trigger information is presented in attached Table 2.

Summary of This Sampling Period:

C5 and C6 concentration triggers were identified during this sampling period. These triggering conditions indicate a low response level with the response being to evaluate the cause and significance of the triggering conditions. The higher total PCB concentration observed at the sampling station during this period was probably caused by a combination of the higher ambient temperature, calm winds directed toward the station and a relatively high background concentration. Since the expenditure of the cumulative exposure budget to date was still at a low level at this point in the project, no change in field procedures is warranted.

Home Sheet

Monitoring Station		53 Dredge
Exposure Budget Slope		669
Work Start Date		11/12/2002
Projected Work End Date		11/10/2012
Occupational Limit Used as Ceiling	[ng/m^3]	500,000
TEL for Worker in Public	[ng/m^3]	50,000
NTEL for Worker in Public	[ng/m^3]	1,789
Miniumum of TEL/NTEL	[ng/m^3]	1,789
Background Concentration	[ng/m^3]	230

Air Sampling Status Report

Sample Station :	53 Dredge
Collection Date:	10/19/2004
Measured PCB Concentration (ng/m^3):	704
Exposure Budget Expended During This Period:	257.0%
Cumulative Exposure Budget Expended to Date:	43.9%
Response Level:	LOW
Response:	Evaluate the Cause and Significance of the Triggering Conditions

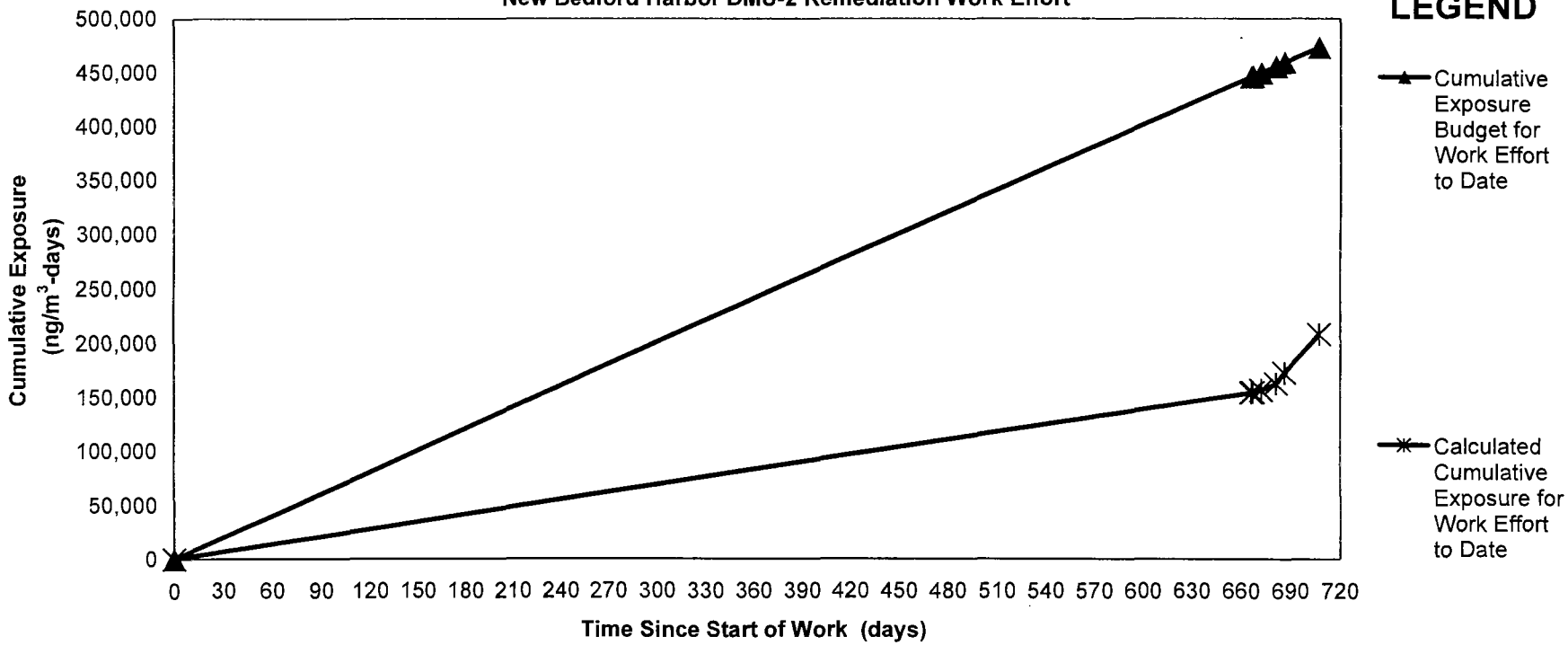
Triggers:

Low

Trigger C5: Measured Concentration Exceeds the Annual Average Background Concentration by more than 200%

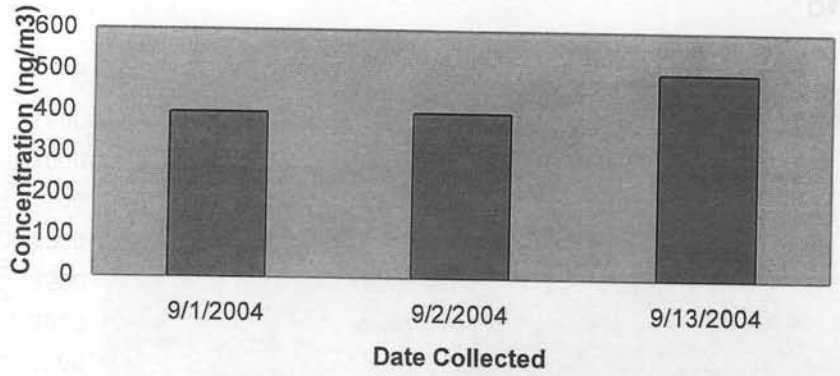
Trigger C6: Previous Two Measured Concentrations Exceed the Running Average Concentration

Cumulative Exposure Tracking Comparison of Measured Values to the Health-Based Budget
New Bedford Harbor DMU-2 Remediation Work Effort

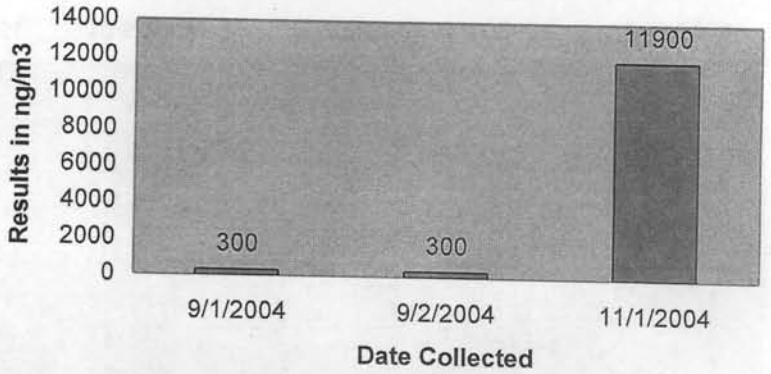


PCB Personal Integrated Sample Results

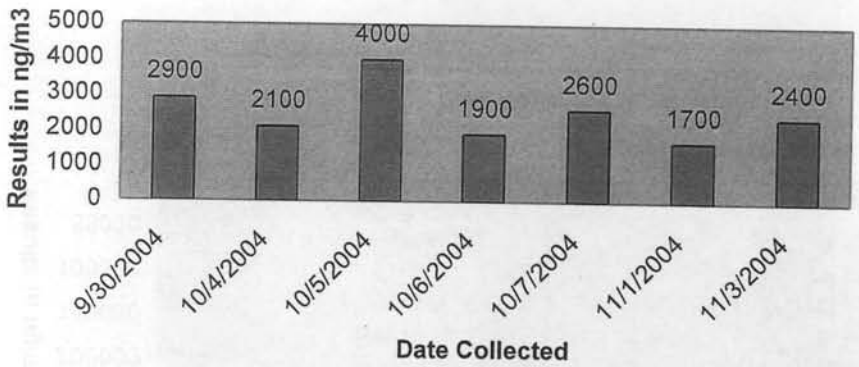
Dredging in CDF-1



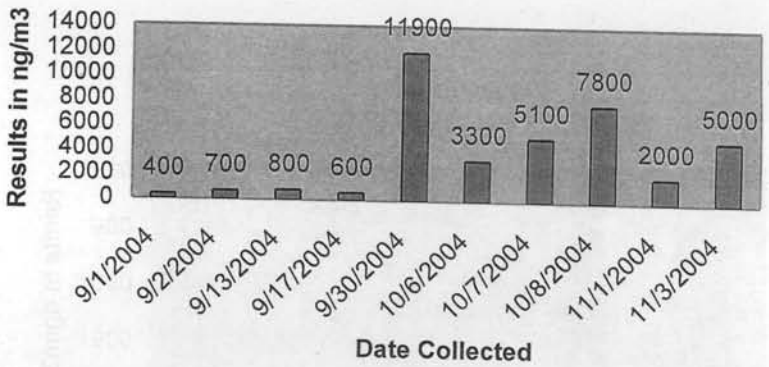
Waste Water Treatment Plant



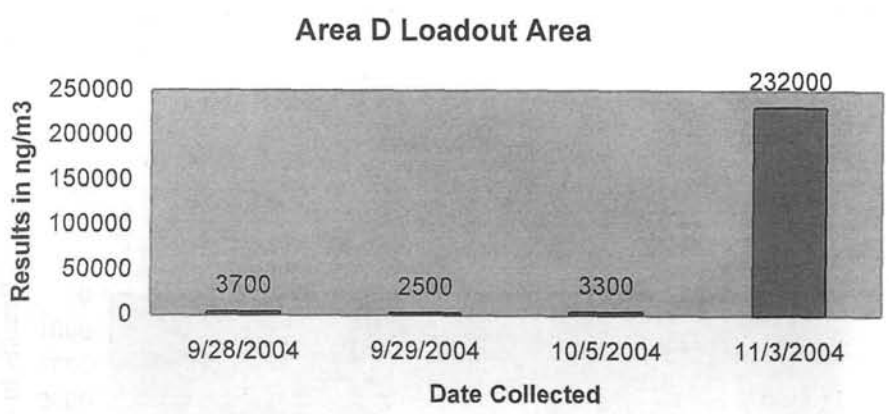
Aerovox (chemical injection work area)

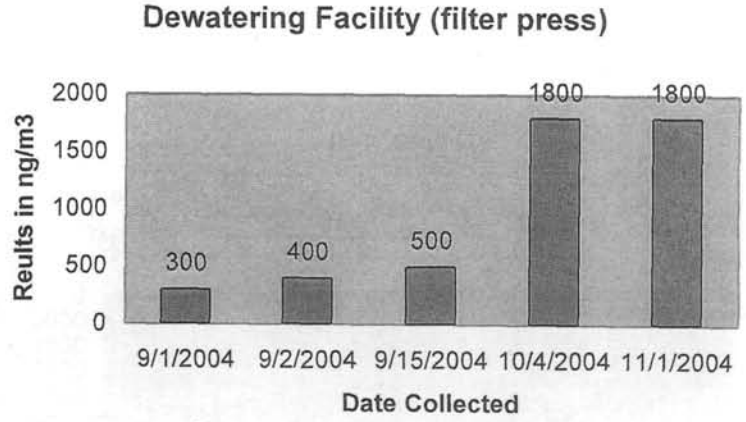


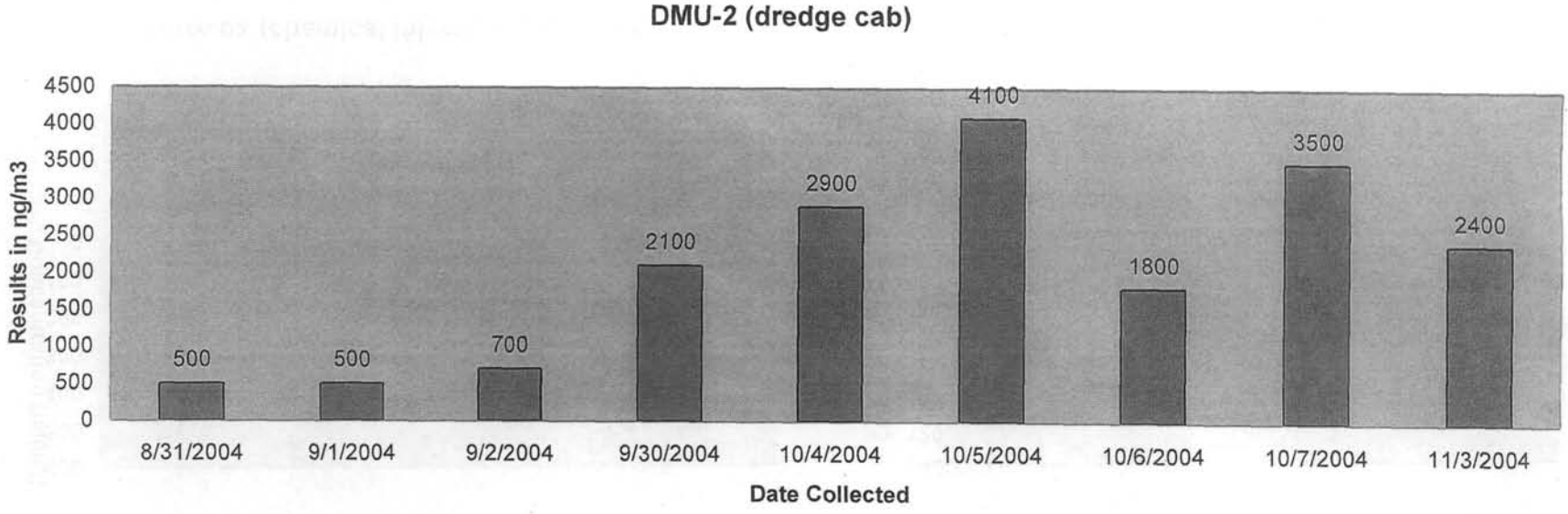
Desanding Facility



PCB Personal Integrated Sample Results







ATTACHMENT J

Sample Summary Tables

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

CBI

ATTACHMENT K

New Bedford Harbor Superfund Site 2004

Health and Safety Statistics

Attachment K
New Bedford Harbor Superfund Site 2004
Health and Safety Statistics

Labor Hours (site wide) as of November 18, 2004	72,110 hrs
Injuries	
First Aid	4
Doctor's Visits (E-1)	0
Lost Time Injuries	0
Fatalities	0
Incidents	
Hydraulic Fluid Spill (approximately 10 gallons petroleum-based)	7/29/04
Crane Near Miss	8/2/04
Potential Hydrogen Sulfide Overexposure	9/8/04
Hydraulic Fluid Spill (approximately 10 gallons vegetable-based)	11/9/04

Plans Developed on Site
1. Master Site Safety and Health Plan
2. Emergency Response and Contingency Plan
3. Mobilization Addendum
4. Hydraulic Dredging O&M Addendum
5. Sediment Desanding O&M Addendum
6. Dewatering O&M Addendum
7. Waste Water Treatment Plant O&M Addendum
8. Ambient Air Monitoring Plan/Test Procedure

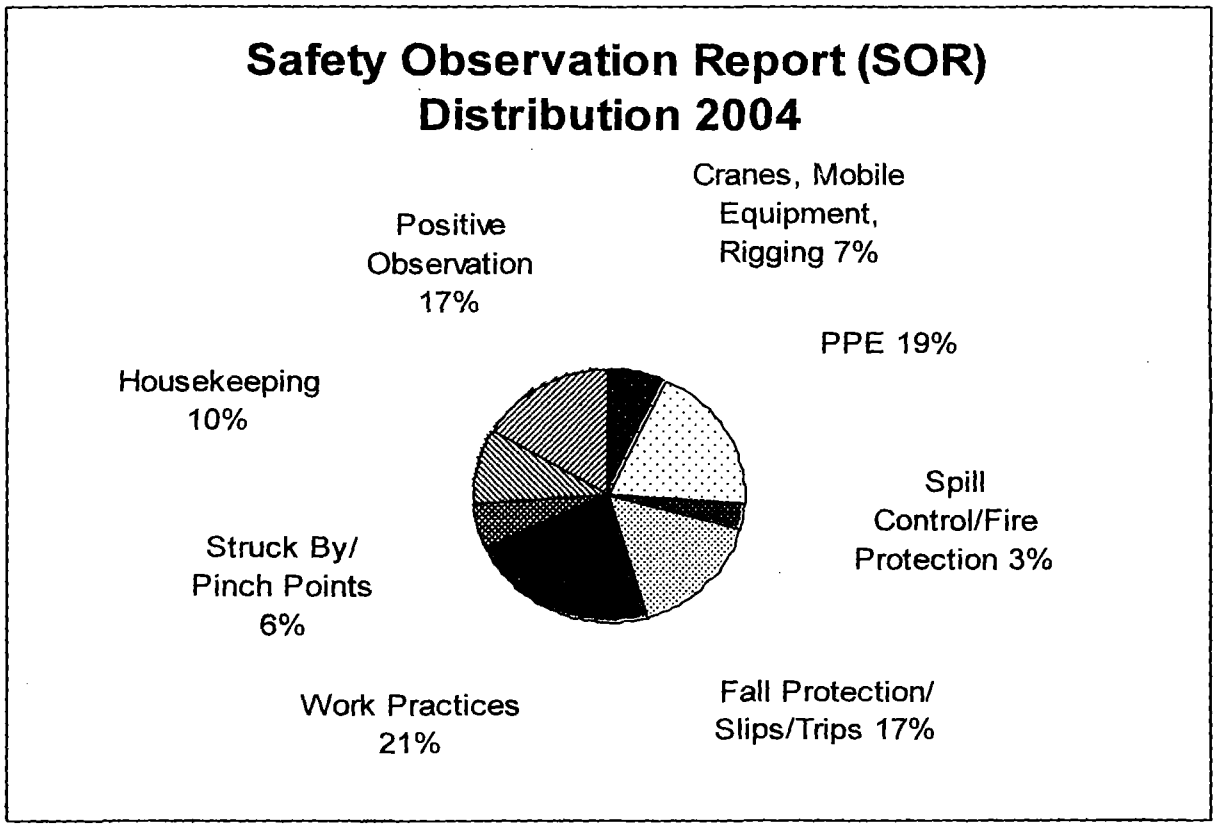
Integrated Samples	# Collected
PCB Ambient Program	86
PCB Personnel Exposure	76
Hydrogen Sulfide	8
Hydrogen Cyanide	7

Site Specific Training	# Trained
OSHA First Responder	10
DOT Transportation and Security Plan	8
Site Orientation	61

Activity Hazard Analyses Developed
1. Pipe Fabrication and Leak Detection
2. Offloading/Assembling Marine Equipment
3. Offloading/Assembling Dewatering Equipment
4. Offloading/Assembling WTP Equipment
5. Refueling Equipment
6. Sprung Building Erection
7. Pipeline Installation
8. Silt Curtain Installation
9. Placement/Tie-down Debris Removal Operations
10 Dewatering Utility Connections
11 Offloading/Staging Process Chemicals
12. Offloading Construction Equipment & Materials
13. Offloading/Assembling Desanding Equipment
14. Desanding Utility Connections
15. Ambient Air Monitoring
16. LOTO Procedure and 23 Checklists
17. Ferric Sulfate Injection System
18. Level B Operations
19. Sediment Sampling
20. O&M of dredges
21. O&M of Desanding Facility
22. O&M of Dewatering Facility
23. O&M of WWTP

Attachment K
New Bedford Harbor Superfund Site 2004
Health and Safety Statistics

The Safety Observation Report (SOR) is a tool within the zero accident process that allows anyone on the Project to document identified unsafe conditions, unsafe acts or acknowledges good work practices. The second portion of the tool is to implement or recommend corrective measures as applicable. The chart below shows the distribution of SORs by observation for the 2004 season.



Dave Dickerson/R1/USEPA/US
04/14/2005 04:34 PM

To gary.p.morin@usace.army.mil, paul.g.l'heureux@usace.army.mil, Jim Brown/R1/USEPA/US@EPA,
cc
bcc
Subject comments on 04 after action report

All,

At long last here are my comments. They are mostly editorial, but some substantive ones too. Let me know if you have any questions (I didn't have time for a hefty proof read).

In general, I found the report to be well written and extremely detailed. We might want to discuss whether we really need as much detail for future reports.

Dave


04afteraction.com.wpd

D. Dickerson's comments on the 2004 After Action Report

1. p.1-1, 2nd paragraph, 1st sentence: change to "...bordered by the towns of Acushnet and Fairhaven on the east side of the harbor, and by the City of New Bedford and the Town of Dartmouth on the west." (i.e., delete North Fairhaven and add Dartmouth)

2. p.1-2, 3rd paragraph, 1st sentence: change "4,000 parts per million" to "10,000 parts per million".

3. p.1-4, section 1.3, 1st sentence: change "Area C Confined Disposal Facility (CDF) to "Area C holding cells". Most people know CDF C as something completely different than cells 1, 2 and 3.

4. p.1-8, section 2.1.1: it would be helpful to add the dates to each of the reports listed, to avoid any confusion with draft versions.

5. p.2-12, 2nd to last sentence: typo - delete one of the two "that became necessary" near the end of the sentence.

6. Ibid, last sentence: change "CDF Cell #1" to "Sawyer Street Cell #1" to avoid confusion.

7. p.2-13, 2nd bullet: revise to delete all references to "CDF".

8. p.2-14, 3rd bullet: typo - change "tank" to "tanks" at end of sentece.

9. p.2-16, section 2.4.1, 1st paragraph: change "an existing lined containment cell within the CDF at Area C" to "cell #1 at Area C".

10. Ibid, 2nd paragraph, 1st sentence: delete "CDF"

11. P.2-16, last sentence: change "CDF" to "cell #1"

12. p. 2-17, section 2.4.2, title: delete "CDF"

13. Ibid., 1st sentence: delete "CDF"

14. Ibid. 2nd sentence: change "CDF" to "cell #1"

15. p. 2-17, section 2.4.2.1, 1st paragraph: I found the 3rd (long) sentence here to be unclear; it also seems out of place.

16. p. 2-17, last sentence: change "(NTU)/300 foot mixing zone criterion throughout" to "(NTU) within the 300 foot mixing zone throughout"

17. p.2-24, section 2.4.2.4, title: change "CDF" to "Cell #1". Also revise the text in the section to delete references to "CDF" (4 places).

18. p.2-25, 3rd paragraph, 2nd to last sentence: typo - add "In" at the beginning of the sentence.

19. p.2-25, last sentence: change "(50 ppm PCBs)" to "(10 ppm PCBs)"

20. p.2-27, 3rd paragraph, last sentence: typo - change "shows" to "show"

21. p. 2-28, 2nd sentence: suggest adding "(see section 2.4.2.3 also)" at the end of this sentence.

22. p.2-38, section 2.4.3.5: four locations on this page need the reference to "CDF" changed to "Cell #1"

23. p.2-39, last paragraph: two locations need the reference to "CDF" changed to "Cell #1"

24. p.2-44: r p.2-45: delete all references to "CDF" or "CDF C" on this page; use "Cell #3" or "Area C cell #3" instead (occurs on this page in five places) emove references to "CDF" in two places (1st line and 8th line)

25. p.2-45: delete all references to "CDF" or "CDF C" on this page; use "Cell #3" or "Area C cell #3" instead (occurs on this page in five places)

26. p.2-46: change "CDF" to "cell #1" in the first sentence after the bullets

27. p.2-50: between the 3rd and 4th sentences, suggest adding a sentence as follows to clarify the T&D discussion: "The filter cake was trucked to Worcester, MA where it was then loaded on to rail cars for transport to the Michigan disposal facility."

28. p.2-51, last bullet: change "the CDF" to "cell #1" in the last bullet (occurs in two places)

29. p.3-3, 2nd full paragraph, 2nd to last sentence: suggest adding "using method EPA TO-10A" at the end of this sentence for clarification.

30. p.3-4, last bullet: shouldn't "sea level pressure" be changed to "atmospheric pressure"? I.e., in hot sunny conditions with low barimetric pressure, we would expect more PCB evaporation off of exposed mud flats than in similar conditions with high air pressure.

31. p.3-5, first line: see comment #30.

32. p.3-5, 2nd paragraph: the discussion here about the high airborne PCB hit would be enhanced by a quick description of how the time of low tide overlapped with the 14 hours of dredging.

33. p.3-6, 2nd line: for consistency with the rest of the text, recommend using 232,000 ng/m3 instead of 0.232 milligrams per cubic meter.

34. p.3-7, 1st paragraph: why not add a table that reports the results of the 75 personnel exposure samples? It doesn't seem that the results depicted in Attachment A include all 75.

35. p.3-7, 2nd paragraph: I disagree that use of the term "very low sample results" is appropriate, given that many of the personnel samples exceeded the NIOSH REL of 1000 ng/m3, with one in particular greater than half of the OSHA PEL of 500,000 ng/m3

36. p.3-8, 2nd paragraph, 1st sentence: change "CDF" to "Cell #1"

37. Ibid., 3rd to last sentence: since this report will eventually be a public document, the discussion here that results can be accessed on the Battelle website has to be changed or deleted.

38. p.3-10, last sentence before section 3.3.1: see comment #37.

39. p.3-10, last sentence before last bullet: change reference to "CDF"

40. P.3-11, first line: see comment #39.

41. P. 3-12: change reference to "CDF" in two places.

42. Ibid: last sentence prior to section 3.4.1: see comment #37.

43. p.3-13: change reference to "CDF" in the first bullet

44. p. 3-15, Tbl. 3-1: the discharge criteria for PCB Aroclors should be listed as "0.065 per Aroclor" rather than simply "0.065"

45. Ibid.: change references to "CDF" (2nd and 3rd paragraphs)

46. p. 3-16: p.3-13: change the two references to "CDF" in the first sentence of 3.6.1

47. p. 3-17: suggest adding "(22.5 and 77.5%, respectively)" at the end of the last sentence here to clarify the discussion.

48. p.3-18, 2nd sentence: change reference to "CDF"

49. p.3-19: the very last sentence should be changed as follows: "The results of these sampling events are beyond the scope of this document."

50. p.3-20, 1st sentence: change "in and around DMU-2" to "throughout the 18,000 acre New

Bedford Harbor site"

51. p.3-20, 4th sentence: see comment #49.

52. p.4-4: change reference to "CDF" in two locations

53. p.4-5: change reference to "CDF" in one location

54. p.4-6: change reference to "CDF" in six locations

55. p. 4-11, section 4.14: assuming the loading of filter cake into the trucks is a T&D task, and given the high 232,000 ng/m3 hit, we shouldn't be making statements to the effect that no changes to the T&D work is expected. Suggest repeating (briefly) the lesson learned here regarding excessive dry dust building up in the load out area.

56. Section 5: the blank lines preceeding most of the references should be filled in.

57. Attachment B, Drawing #13: if the yellow objects along the pipeline are navigational buoys, they should be so labeled.

58. Attachment C, figure C-11: to match the line colors in the 5 graphs here, the top (grey) line in the legend should be changed to blue. Or vice versa.

59. Attachment I, Table I-2: "Duplicate" should be changed to "24-Duplicate" and shifted so that it sits between Station 24 and Station 53.

Dave Dickerson/R1/USEPA/US
03/30/2005 04:24 PM

To corps4
cc jim brown
bcc
Subject initial comments on 04 after action report

Paul and all - given this morning's discussion, I thought I'd pass along some initial comments in hopes that they can be folded into the ongoing negotiations:

- for waste water effluent sampling, I recommend reducing the frequency of samples for Cr, Cd and Pb since the 04 data shows that only Cu and PCBs really need watching for compliance purposes. Perhaps after the first three (weekly?) samples have shown these 3 metals to be in compliance at the beginning of the dredging season, we could back of drastically. Maybe say just one more round for these 3 at the end of the season. Of course this all assumes the treatment train doesn't change.

- on the other hand, the 4 influent PCB samples taken in 04 seems a bit slim. A few more than this in 05 would be nice.

- for filter cake sampling, unless Jim believes differently I would drop down to the bare minimum required by the T&D facility. i.e, assume its all TSCA as shown in the 04 effort.

Also, in terms of editorial comments on the report, one thing that JE might be able to get started on is changing all references to "CDF" and "CDF C" in the report to "Cell 1". Using the term "CDF" is not really appropriate, and will only lend confusion since CDF C as the general public uses the term is obviously completely different than the cells 1, 2 and 3. "CDF" and "CDF C" show up quite a bit, so perhaps JE could get a head start...

I'll provide more comprehensive comments soon.

Dave D.

Responses to Paul L'Heureux's Comments on the
Draft 2004 After Action Report
New Bedford Harbor Superfund Site
Dated January, 2005

GENERAL COMMENTS

None

PAGE-SPECIFIC COMMENTS

1. Comment: Page 2-13 Pipeline: List the SDR rating for the dredge line and the transfer line.

   Response: The italicized headings for each pipeline diameter size listed on page 2-13 will be revised to include the SDR rating of the pipe. The revised headings will read as follows:

   "10-inch Single Wall Schedule SDR 15.5 80 HDPE Pipeline"
   "12-inch Schedule 80 SDR 13.5 HDPE x 18-inch Schedule 40 SDR 26 HDPE, Dual Wall Pipeline"

2. Comment: Page 2-39 Bottom Para.: Note that the accordion pipeline configuration contributed to the dredging problems.

   Response: The last paragraph on page 2-39 will be revised as follows:

   "A review of production data from Sevenson as presented on Attachment F shows that dewatering Cell #1 sediment was not very successful, largely due to the difficulties associated with dredging sediments that were presumably screened to two inches, but in fact had large diameter materials present. The heavy particle size, combined with the accordion style flexible pipeline joint couplings on the dredge discharge pipeline, caused hydraulic dredging to be ineffective. The sediment fed from Cell #1 was very dilute, in the range of 1 percent to 4 percent dry solids ..."

3. Comment: Page 2.4.5.3 Oil/Water Separator (OWS) Solids. "Three-foot blanket" describe if this is thickness or linear extent.

   Response: A clarification of the thickness of the oil sludge in the Oil/Water Separator will be made by changing the third sentence of this paragraph to read: "During one Saturday maintenance session half-way through the 2004 season, an estimated three-foot thick blanket of floc sludge was removed from both OWSs and pumped back to the press feed tanks (approximately 15,000 gallons of 2 percent sludge).

4. Comment: Page 2-46 Storage Building (Rubb Building). 20-foot vertical rip.

   Response: Sentence will be changed to read: "Sevenson repaired a 20-foot vertical rip in the building membrane during the season."

5. Comment: Page 3-4 Revise the third paragraph to make it less "sensational".

   Response: This paragraph will be changed to read: "One particular sample result collected over a 24-hour period on 9/2704 to 9/28/04 at the eastern portion of the Aerovox parking lot was at 9557 ng/m^3. This result was significantly higher than experienced in three previous sampling rounds, affecting the cumulative exposure budget by approximately 30%. In response to this anomalous data point, a detailed analysis of potential factors contributing the higher level was made. Potential contributing factors identified were: ..."

6. Comment: Page 3-20. 3.9 Health and Safety Statistics. Paragraph states there are four major incidents resulting in change in operation. List them or reference where they are discussed in the text.

   Response: Additional information will be added to this Subsection to provide details on the four major incidents resulting in a change of operation. The new text will be inserted as bullets into the paragraph after the third sentence. The paragraph will be split after the bullets, forming a new second paragraph in the Subsection. The first paragraph will be revised to read,

   "During the course of the 2004 dredging season, 72,110 labor hours were expended with zero E-1s (doctor visit due to work-related injury) or lost time incidents. During this time there were only four first aid cases. There were however, four incidents listed below that resulted in changes to operations. Additional information on these incidents can be found in the daily reports.

   - **7/29/04: Release of approximately 10 gallons of petroleum-based hydraulic fluid into the Acushnet River. As a corrective action after this incident, all hydraulic fluid used in equipment operating on or near the water were changed to vegetable oil based fluids.**
   - **8/2/04: A near-miss while operating an all-terrain crane. The crane was overloaded and resulting in a tipping condition. As a corrective action, more scrutiny was given to all crane lifting operations.**
   - **9/8/04: Hydrogen sulfide was released from the slurry in the desanding operations building in concentrations requiring respiratory protection. As a corrective action, a ferric sulfate injection system was installed to H_2S formation in the building. Operations were modified to enhance local exhaust ventilation and implement supplied air respiratory protection for all workers.**
   - **11/9/04: Release of a vegetable-oil based hydraulic fluid from dredging operations in DMU-2."**

7. Comment: Attachment F: Spreadsheet is an "eye test". Narrow columns to provide larger font size.

   Response: The column widths and font size will be adjusted to make the table easier to read.

Responses to Gary Morin's Comments on the
Draft 2004 After Action Report
New Bedford Harbor Superfund Site
Dated January, 2005

GENERAL COMMENTS

Overall, the report is well written and provides an excellent description of the activities that took place in '04. Nice work.

PAGE-SPECIFIC COMMENTS

1. Comment: Page 1-4, Section 1.2, 3rd sent. - Suggest adding that ENSR and Battelle were also under contract to the Corps performing actions relative to the remedial action. A brief description of their role(s) should also be added. A sentence should also be added indicating this AAR does not address their activities.

   Response: Concluding sentences will be added to this paragraph to briefly describe the work that ENSR and Battelle are doing on the project related to the remedial action. The additional text will read, "Additional services related to the remediation effort are being conducted by ENSR and Battelle under separate contract to the NAE. ENSR is providing sampling and analytical services for groundwater, water column monitoring, and post dredge confirmation sediment sampling. Battelle is providing data base management, data validation services and is executing the Long Term Monitoring Program for the project."

2. Comment: Page 3-2, Section 3.2.1, 1st sent. - Please delete this sentence and replace it with sentence indicating that the Ambient Air Monitoring program was established in accordance with the "PLAN FOR THE SAMPLING OF AMBIENT AIR PCB CONCENTRATIONS TO SUPPORT DEISIONS TO ENSURE THE PROTECTION OF THE PUBLIC DURING REMDIATION ACTIVITIES, New Bedford Harbor Superfund Site, New Bedford Harbor, Massachusetts" originally prepared by Tetra Tech EG, Inc. (formerly Foster Wheeler Environmental Corp.) and modified in January 2004 by the US Army Corps of Engineers, New Bedford District.

   Response: The first paragraph of Subsection 3.2.1 will be changed to read, "The background information and the establishment of the Ambient Air Monitoring Program for the project was developed in the document titled *Plan for the Sampling of Ambient Air PCB Concentrations to Support Decisions to Ensure the Protection of the Public During Remediation Activities, New Bedford Harbor Superfund Site, New Bedford Massachusetts, Foster Wheeler 2001.* This document was revised in January 2004 by NAE. The information provided in this Subsection describes the Ambient Air Monitoring program implemented by the Jacobs Team during the 2004 season."

   The word "current" in the last sentence of this paragraph will also be deleted. The sentence will to read, "The 10 station locations were selected in consultation with the NAE and EPA."

3. Comment: Page 3-3, section 3.2.1, 2nd para. 1st sent. - Table I-1 and Figure I-1 contain more than the 10 station locations that were actually used. Please add a sentence that lists the 10 stations that were used.

   Response: Additional information will be added to this paragraph describing the Ambient Air Sampling locations that were used for the Air Monitoring Program. The following text will be added after the third sentence of this paragraph, "All potential sample locations for the Ambient Sampling Program were selected during the modeling process and then ground-proofed for accessibility. The stations used for the 2004 season were 24, 24D, 25, 41, 47, 48, 49, 50, 51, 52, 53, 54, 55 and 56. However, only combinations of 10 of the 14 stations were used during each sampling round."

4. Comment: Page 3-6, section 3.2.2, 1st para. last sentence - Suggest deleting this sentence as this is already covered in section 4.0 Lessons Learned.

   Response: As suggested, the last sentence of this paragraph will be deleted.

5. Comment: Page 3-6, section 3.2.2, 2nd para. - This paragraph seems like it is out of context and could be removed. Please assess and revise accordingly.

   Response: This paragraph refers the reader to the daily reports for the facility monitoring data. To clarify the paragraph, it will be revised to read,

   "Facility monitoring data are included in the daily reports for the project. Continuous logging over the course of the work shift was performed for all work locations measured. The data did not indicate any exposures during 2004."

6. Comment: Page 3-10, section 3.3.1, last sent. - Please include the results of the TCLP analysis in the report.

   Response: The Subsection referenced in this comment appears in error. We anticipate that the comment intended to reference the last paragraph of Subsection 3.3 on page 3-10.

   The TCLP analytical results for the sand fraction will be added to the report as a table in appendix J. The table numbering in the Appendix J will be revised to place them in order of reference sequence in the report. The exact table number will be determined when the document is finalized. The last sentence of the last paragraph of Subsection 3.3 will be revised to add a reference to the TCLP table. The revised sentence will read, "A summary of these analytical results is included in Attachment J as Table J- ...."

7. Comment: Page 3-12, section 3.4, last para. last sent. - See comment 6.

   Response: The TCLP analytical results for the filter cake will be added to the report as a table in Appendix J. The table numbering in the Appendix J will be revised to place

them in order of reference sequence in the report. The exact table number will be determined when the document is finalized. The sentence of the last paragraph of Subsection 3.4 will be revised to add a reference to the TCLP table. A new sentence will be added indicating the acceptance of the material for TSCA landfill by the disposal facility. The revisions to the end of this paragraph will read,

"... The TCLP analytical results are presented in Appendix J, Table J-.... The TCLP analyses passed the disposal facilities criteria to be land filled as a TSCA waste."

8. Comment: Page 3-15, section 3.5 Influent Concentrations - The range of Copper concentrations encountered appears to have been omitted from the discussion on influent concentrations. Please add a statement providing the range of Copper concentrations in the influent.

   Response: A sentence will be added to the first paragraph on page 3-15 (Subsection 3.5.1) to include the range of copper detection in the influent samples. This sentence will become the second to last in the paragraph. The new sentence will read as follows: "Cu was detected in the influent samples at concentrations ranging from 9.6 µg/L to 95.4 µg/L."

9 Comment: Section 4.0 – This section identifies two categories of problems/issues that we encountered in '04. The first category is problems that we identified and took action to resolve. The report does a good job outlining the problem and what we did to eliminate it. The second category is issues that we identified that we have to resolve in the future. In some instance, the report describes potential solutions to the unresolved issues. Please delete the potential solutions from the report. What needs to be stated is that there was a problem/issue identified that needs to be resolved. We can always outline what solution(s) we implemented in the '05 AAR. Some examples of the solutions presented in the report that should be deleted follow:

Page 4-5, sect. 4.7 - Delete the examples of debris removal methods.

Page 4-8, sect. 4.10, Floating Dredge Pipeline - Eliminate the suggestion of high-pressure injection system.

Page 4-9 & 4-10, sect. 4.12.1 - Eliminate the reference to a de-gassing system and the lengthy description of the system that follows.

Response: As suggested, references to specific solutions to problems/issues identified in the Lessons Learned/Conclusion section will be deleted. In addition, Attachment L, titled *New Bedford Harbor Process Improvement 2005 Field Season*, will be deleted from the report. The following paragraph changes will be made to section 4:

Subsection 4.7 – Debris Removal: The second sentence of the second paragraph will be deleted and the bullets will be omitted.

Responses to Gary Morin's Comments on the
Draft 2004 After Action Report
New Bedford Harbor Superfund Site
Dated January, 2005

Subsection 4.9 – Pipeline: The last sentence of the third paragraph will be changed as follows, "The apparent cause of clogging was associated with inadequate flow velocity within the pipeline. This condition should be fully evaluated and corrective actions put in place prior to initiating dredging in 2005."

Subsection 4.12 – Sediment Dewatering at Area D: The second sentence will be changed to read, "It is recommended that this negative effect of the ferric sulfate on polymer agglomeration be demonstrated quantitatively through bench scale testing in a controlled laboratory setting. Using data generated from the bench tests, appropriate modifications or alternatives to personnel H_2S exposure controls should evaluated and implemented for the 2005 dredging season." The remaining portion of the first paragraph, and all other text that follows within this Subsection, will be deleted.

Section 4.12.2 – Dilute Press Feed Solids: The complete paragraph will be changed to read, "A lesson learned from the 2004 season at the Area D dewatering process was the observed average percent dry solids filter press feed was 3.8% vs. the anticipated 4.8% average. The lower solids content in the slurry caused filter press run time to extend and produced more filtrate water to process. An evaluation of practical processes to increase the feed solids in the slurry should be completed and appropriate changes should made to the desanding/dewatering systems."

Responses to Mark Anderson's Comments on the
Draft 2004 After Action Report
New Bedford Harbor Superfund Site
Dated January, 2005

GENERAL COMMENTS

None.

PAGE-SPECIFIC COMMENTS

1. Comment: General: The page number formatting for Section 2.0 should be consistent with the formatting from other sections. Right now, it begins page 1-8, moving on to page 2-9, etc...If it is to remain consistent, it should start at page 2-1 and proceed accordingly.

   Response: The page numbering format will be corrected.

2. Comment: Section 2.3.2 - Dredge System, Paragraph 1, Line 5: One portion of the line reading "that became necessary" should be removed, as it is present in duplicate.

   Response: This sentence will be corrected to remove the redundant words. The corrected sentence will read as follows, "A fourth dredge was later added by Sevenson to provide redundant capacity for the Mudcat, since the H&H dredges could not consistently produce enough flow and pressure to keep the pipeline clear of sediment following the necessary modifications to the dredge pipeline."

3. Comment: Section 2.4.2 - Paragraph 1, Line 3: In stating that CDF dredging was performed with a "small hydraulic dredge," it appears in conflict with Section 2.4.6.2, Paragraph 1, Line 1, where it is stated the CDF dredging was performed with an "H&H dredge unit." Are these terms interchangeable, or is this an inconsistency that should be corrected?

   Response: The H&H dredges used on the project were of different sizes. To clarify, the first sentence in Subsection 2.4.6.2 will be revised to describe the relative sizes of dredges used on the project. The revised paragraph will read as follows,

   "Due to area restrictions, a small (8-inch) H&H dredge unit was operated within Area C holding Cell #1 during the first 14 days of the 2004 season. Four different hydraulic dredge units and three dedicated 10-inch pipelines were utilized in DMU-2 during the remaining 34 operating days of the season. The four dredges consisted of two 10-inch H&H dredges, one 12-inch Mudcat dredge, and, in late October, a second 12-inch Mudcat that was brought in to replace one of the 10-inch H&H dredges. Usually only one dredge was operated in DMU-2 at a time, but when feasible, two dredges were operated simultaneously. However, as discussed in Subsections 2.3.2 and 4.8, operations utilizing the 10-inch H&H dredges in DMU-2 were problematic."

4. Comment: Section 3.2.1 - Paragraph 8, Line 1: The Date for the 24-hour collection period is missing a "/", and should read 9/27/04.

   Response: This correction will be made.

Responses to Ian Osgerby's Comments on the
Draft 2004 After Action Report
New Bedford Harbor Superfund Site
Dated January, 2005

GENERAL COMMENTS

1. Comment: In attachment D-5 there is a reference to an attachment L-6: Comparison of Capital and Operating Costs for H2S Control Alternatives. My copy did not contain this additional attachment, only an attachment L: NBH Process Improvement 2005 Field Season, which is simply a collection of bulleted items to consider going forward. Degassing cost versus ferric sulfate addition is evaluated in L-6, favorably disposed to degassing as a preferred solution. Is this an oversight on Jacobs part or only missing from my copy?

   Response: The reference to a table that includes the comparison of capital and operating costs for H_2S control alternatives is an error in this document. As you point out, there is no Attachment L-6 included. The paragraph that discusses this attachment (the second paragraph of Attachment D-5) will be deleted from the document. A discussion of degassing alternatives, including a capital cost evaluation, has been presented in Section 4 of the Alternatives Analysis Summary Report (Jacobs, 2005).

2. Comment: The actual tests conducted in the "old treatment building" were carried out (at least for the tests with Jacobs and myself present) with less than ideal equipment and should be repeated under better laboratory conditions/equipment so that more precise trade offs/costs can be developed. The use of caustic should also be reevaluated under better control conditions now that the temperature limitation of storing caustic solutions (40 versus 30% strengths) have been laid to rest at Area D.

   Response: The bench tests planned under the scope of work included in Modification 05 will provide the opportunity to evaluate the effectiveness of sodium hypochlorite as an alternate H2S control. These tests will be conducted at Sevenson's laboratory (Waste Stream Technologies) in Buffalo, NY.

3. Comment: The Waste Stream test with sample slurries might also be well worth repeating using ferric doses as a pretreatment to determine changes to polymer/precipitation requirements for copper/particulates removal. This could have an overall benefit to dewatering operations/treatment costs at Area D.

   Response: This test will be repeated during the bench tests as suggested.

Responses to Dave Dickerson's Comments on the
Draft 2004 After Action Report
New Bedford Harbor Superfund Site
Dated January, 2005

GENERAL COMMENTS

None.

PAGE-SPECIFIC COMMENTS

1. Comment: p.1-1, 2nd paragraph, 1st sentence: Change to "...bordered by Towns of Acushnet and Fairhaven on the east side of the harbor, and by the City of New Bedford and the Town of Dartmouth on the west." (i.e., delete North Fairhaven and add Dartmouth)

   Response: The first sentence of the second paragraph will be changed as suggested. The sentence will read, "The New Bedford Harbor (NBH) Superfund Site is located in Bristol County, Massachusetts, approximately 55 miles south of Boston, and is bordered by the towns of Acushnet and Fairhaven on the east side of the harbor, and by the City of New Bedford and the Town of Dartmouth on the west side of the harbor."

2. Comment: p.1-2, 3rd paragraph, 1st sentence: Change "4,000 parts per million" to "10,000 parts per million".

   Response: The first sentence of this paragraph will be changed as suggested. The replacement sentence will read, "The Upper Harbor comprises approximately 187 acres, with current sediment PCB levels ranging from below the laboratory detection level to approximately 10,000 parts per million (ppm); prior to the removal of the most contaminated Hot Spot sediments in 1994 and 1995 as part of the Site's first cleanup phase, sediment PCB levels were reported higher than 100,000 ppm in the Upper Harbor."

3. Comment: p.1-4, section 1.3, 1st sentence: Change 'Area C Confined Disposal Facility (CDF) to "Area C holding cells". Most people know CDF C as something completely different than cells 1, 2 and 3.

   Response: The first sentence of this Subsection will changed as suggested. The replacement sentence will read, "Prior to Jacobs work at the Site, a number of improvements had been made by others at Areas C and D, including the Area C holding cells, the various Area C office trailers, and the Area D Dewatering Building."

4. Comment: p.1.8, section 2.1.1: It would be helpful to add the dates to each of the reports listed, to avoid any confusion with draft versions.

   Response: The submittal dates will be will be added to the list of reports: The list will be revised as follows:

   - ***Final Dredging Basis of Design/Design Analysis (BD/DA) Report (October 2002);***
   - ***Dredge & Excavation Specifications (October 2002);***
   - ***Final Excavation BD/DA Report (October 2002);***

- ***Final BD/DA, Design Drawings, and Specifications for the Desanding and Dewatering Facilities (December 2002);***
- ***Final BD/DA, Design Drawings, and Specifications for the Water Treatment System (June 2002);***
- ***Final Confirmatory Sampling Approach Technical Memorandum (July 2002);***
- ***Final Volumes, Areas and Properties of Sediment By Management Units Technical Memorandum (June 2003); and***
- ***Draft Data Interpretation Report(June 2002)***

5. Comment: p.2-12, 2nd to last sentence: Typo – delete one of the two "that became necessary: near the end of the sentence.

   Response: This sentence will be corrected.

6. Comment: lbid, last sentence: Change "CDF Cell #1 to "Sawyer Street Cell #1" at avoid confusion.

   Response: This sentence will be corrected and will read as follows, "A smaller 8-inch H&H dredge was placed within the Sawyer Street Cell #1 for hydraulic dredging within the cell."

7. Comment: p.2-13, 2nd bullet: Revise to delete all references to "CDF".

   Response: The text in this bullet will be revised to read,

   - **"Sheet piles were also driven on the north and south shores of Area C Cell #1 and connected with a wire cable. The guide cable on the dredge was tied off at 90-degrees to the shore cables for pulling the dredge in a north-south orientation through the cell."**

8. Comment: p.2-14, 3rd bullet: Typo – Change "tank" to "tanks" at end of sentence.

   Response: The correction will be made to read as follows, "...and three 25,000-gallon filtrate tanks."

9. Comment: p.2-16, section 2.4.1, 1st paragraph: Change "an existing lined containment cell within CDF at Area C" to "cell #1 at Area C".

   Response: The sentence will be revised to read, "During the final stages of system construction, an existing lined containment cell (Cell #2 at Area C) was filled with potable water from the City water system.

10. Comment: lbid, 2nd paragraph, 1st sentence: Delete "CDF".

Response: The sentence will be revised to read, "...shakedown activities involved the initial dredging from Area C Cell #1."

11. Comment: p.2-16, last sentence: Change "CDF" to "cell #1".

Response: The sentence will be revised to read, "...were removed from Cell #1 during the shakedown period."

12 Comment: p.2-17, section 2.4.2, Title: Delete "CDF".

Response: Title of Subsection will be revised as follows,

"2.4.2 Dredge Contaminated Sediments from Area C Cell #1 and DMU-2"

13 Comment: lbid, 1st sentence: Delete "CDF".

Response: This sentence will be revised to read, "...dredging operations continued in Cell #1 and were initiated in DMU-2."

14. Comment: lbid, 2nd sentence: Change "CDF" to "cell #1"...

Response: This sentence will be revised to read, "The dredging in Cell #1 was performed with an 8-inch H&H hydraulic dredge and the DMU-2 dredging was performed using the larger 10-inch H&H and 12-inch Mudcat dredges."

15. Comment: p.2-17, section 2.4.2.1, 1st paragraph: I found the 3'" (long) sentence here to be unclear; it also seems out of place.

Response: The third sentence in this paragraph will be revised to improve clarity. The sentence will be divided and rewritten as follows, "The section of DMU-2 that was not dredged this season includes an area extending along the entire eastern edge of the DMU and approximately 175-feet west of the line of sheet piles. This area is shown as brown or royal blue in Figure C-3 (Attachment C), indicating bathymetric depths within 0.5 feet of original grade."

16. Comment: p.2-17, last sentence: Change "(NTU)/300 foot mixing zone criterion throughout" to "(NTU) within the 300 foot mixing zone throughout".

Response: The sentence will be revised as suggested and will read, "...no exceedances of the +50 Nephelometric Turbidity Units (NTU) within the 300 foot mixing zone criterion throughout the duration of the dredging field work."

17. Comment: p.2-24, section 2.4.2.4, Title: Change "CDF" to "Cell #1". Also revise the text in the section to delete reference to "CDF" (4 places).

Response: All references to "CDF" in this Subsection will be changed as suggested. The first sentence in the Subsection will be changed to read, "The progress of dredging

within Area C Cell #1 was inhibited by rocks, bricks, and other materials encountered in the cell."

The first, second, and third sentences in the second paragraph will be revised to read, "Despite the slow progress, dredging continued in the Cell 1 until 22 September 2004 when the ferric sulfate injection system was operational at Aerovox. At that time, Jacobs received direction from NAE to cease dredging operations in Cell #1 and dredge exclusively in DMU-2. The dredging in Cell #1 produced..."

18. Comment: p.2-25, 3rd paragraph, 2nd to last sentence: Typo - add "In" at the beginning of the sentence.

    Response: The second to last sentence of this paragraph is grammatically correct. However, the third to last sentence should be corrected with the addition of the word "In" at the beginning of the sentence. This sentence will be changed to read, "In some areas within DMU-2, namely across grid lines 2 and 4 ..."

19. Comment: p.2-25, last sentence: Change "(50ppm PCBs)" to "(10PPM PCBs)".

    Response: The reference to 50 ppm was an error for the Upper Harbor intertidal sediment clean-up criteria. The reference to the clean up criteria will be changed to 10 ppm. The revised sentence will read, "Confirmation sampling (by ENSR) would be completed in this area after dredging to evaluate the accuracy of the Z* dredge depth at meeting the clean-up criteria (10 ppm PCBs).

20. Comment: p.2-27, 3rd paragraph, last sentence: Typo - Change "shows" to "show".

    Response: This sentence will be revised to read, "These graphics show that the dredge..."

21. Comment: p.2-28, 2nd sentence: Suggest adding "(see section 2.4.2.3 also)" at the end of this sentence.

    Response: The sentence will be revised to read, "These air emissions and material separation activities performed at Area C in 2004 are described in Subsection 2.4.2.3 and in Subsections 2.4.3.1 through 2.4.3.4 below."

22. Comment: p.2-38, section 2.4.3.5: Four locations on this page need the reference to "CDF" changed to "Cell #1".

    Response: There are actually five references to "CDF" in this Subsection. The revised sentences will include:

    First sentence, second paragraph – revision will be, "During Cell #1 dredging (September 1, 2004 through September 22, 2004), ..."

Second sentence, second paragraph – revision will be, "All screened materials generated during this period were transferred to dedicated stockpiles (one for coarse screenings and one for fine screenings) at the Area C DDA ..."
Fourth sentence, second paragraph – revision will be, "The small, southernmost pile at the DDA contains the coarse screenings from Cell #1, while the adjacent moderate-sized stockpile contains fine screenings from Cell #1."

Second sentence, third paragraph – revision will be, "As with the screenings derived from Area C Cell #1, all DMU-2 coarse screenings ..."

23. Comment: p.2-39, last paragraph: Two locations need the reference to "CDF" changed to "Cell #1".

Response: The first two sentences in this paragraph will be revised to read,

"A review of production data from Sevenson as presented on Attachment F shows that dewatering Area C Cell #1 sediment was not very successful, largely due to the difficulties associated with larger particle size sediments than originally anticipated. The slurry of sediments from Cell #1 was very dilute, with a range of 1 to 4 percent dry solids. The resulting filter press cycle times were between 700 to 4,000 minutes, yielding between 0 to 6 drops/day."

24. Comment: p.2-44: r p.2-45: Delete all references to "CDF" or "CDF C" on this page; use "Cell #3" or "Area cell #3" instead (occurs on the page in five places) remove references to "CDF" in two places (1st line and 8th line).

Response: The following replacements will be made on pages 2-44 and 2-45:

First bullet on page 2-44, "Dredge Areas (DMU-2 and the Area C Cell#1 in the 2004 season) and Slurry Pipeline;"

Subsection 2.4.6.2, first paragraph, please see Mark Anderson's comment #4 and the associated response.

Subsection 2.4.6.5, first bullet will be revised to read:
- **"Cell #1, Cell #2, and Cell #3 (three surface impoundments collectively known as Area C."**

Subsection 2.4.6.5, CDF C sub heading will be revised to read,
"Area C. Cell #1 was dredged by Sevenson from September 1 to September 22, 2004. Only winterization activities (Subsection 2.4.9) were performed in the other cells.

25. Comment: p.2-45: Delete all references to "CDF" or "CDF C" on this page; use "Cell #3" or "Area C cell #3" instead)occurs on this page in five places).

Response: All references to CDF or CDF C will be deleted and revisions will be made to insert the proper cell reference. In addition to these revisions, the distance from Manomet Booster Pump Station to Area C is stated incorrectly and will be changed from 5600 feet to 2700 feet. The following changes will be made to the document:

Subsection 2.4.6.5, first sentence will be revised to read, "Area C, located 2,700 feet downstream and south of..."

First bullet will be revised to read,

- **Cell #1, Cell #2, and Cell #3 (three surface impoundments within Area C);**

CDF C Area description heading will be revised to read,
"Area C. Cell #1 was dredged from September 1 to 22 September 2004. ..."

26. Comment: p.2-46: Change "CDF" to "cell #1" in the 1st sentence after the bullets.

    Response: First sentence will be revised to read, "Desanding personnel worked in Level D protection during the 14-day, Area C Cell #1 dredging portion ..."

27. Comment: p2-50: Between the 3rd and 4th sentences, suggest adding a sentence as follows to clarify the T&D discussion: "The filter cake was trucked to Worcester, MA where it was loaded on to rail cars for transport to the Michigan disposal facility."

    Response: This sentence will be revised as suggested and will read, "... equipment and manpower. The filter cake was trucked to EQ's rail yard in Worcester, MA, where it was loaded onto rail cars for transport to EQ's Michigan disposal facility. As necessary, the drivers ..."

28. Comment: p.2-51, last bullet: Change "the CDF" to "cell #1" in the bullet (occurs in two places).

    Response: The references to CDF will be taken out of this bullet. The revised bullet will read, "... dredges from both Area C and DMU-2 were removed from the water and either returned to Sevenson's yard in Niagara Falls, NY, or stored on site. The dredge removed from Cell #1 was stored at the DDA ..."

29. Comment: p.3-3, 2nd full paragraph, 2nd to last sentence: Suggest adding "using method EPA TO-10A" at the end of this sentence for clarification.

    Response: This change will be made as suggested. The revised sentence will read, "The samples were analyzed for the ten PCB homologue groups by Severn Trent Laboratories, Inc. in Knoxville, Tennessee using EPA method TO-10A."

30. Comment: p.3-4, last bullet: Shouldn't "sea level pressure" be changed to "atmospheric pressure"? i.e., in hot sunny conditions with low barometric pressure, we would expect more

PCB evaporation off of exposed mud flats than in similar conditions with high air pressure.

Response: The reference to sea level pressure will be changed to Barometric pressure in the eighth bullet. The revised text in the bullet will read,

- **"Barometric pressure"**

31. Comment: p.3-5, first line: see comment #30.

Response: The first sentence on page 3-5 will be changed to read, "It does not appear that temperature, wind speed, wind direction, and barometric pressure made major ..."

32. Comment: p.3-5, 2nd paragraph: The discussion here about the high airborne PCB hit would be enhanced by a quick description of how the time of low tide overlapped with the 14 hours of dredging.

Response: A new sentence will be added to this paragraph after the third sentence. As suggested, the new sentence will provide the reader with information on the tide conditions during the dredging period that the elevated PCB concentrations were measured. The new sentence will read, "Over the two work days, approximately 50 per cent of the dredging occurred at or near low tide."

33. Comment: p.3-6, 2nd line: For consistency with the rest of the text, recommend using 232,000 ng/m3 instead of 0.232 milligrams per cubic meter.

Response: The units will be revised to ng/mg3 as suggested. The revised sentence will read, "... a level of 232,000 ng/m^3 ...".

34. Comment: p.3-7, 1st paragraph: Why not add a table that reports the results of the 75 personnel exposure samples? It doesn't seem that the results depicted in Attachment A include all 75.

Response: The intent of Attachment A was to provide a summary of key activities on the project. Therefore the personnel samples were not included. The end of Attachment I includes the data for the personnel samples in graphic format showing all of the pertinent information.

35. Comment: p.3-7, 2nd paragraph: I disagree that use of the term "very low sample results" is appropriate, given that many of the personnel samples exceeded the NIOSH REL of 1000 ng/m3, with one in particular greater than half of the OSHA PEL of 500,000 ng/m3.

Response: NIOSH's REL is only a recommended exposure limit. The REL is based on the very old concept of the PCB analytical detection limit available at the time the REL was proposed. Both OSHA and the American Conference of Governmental Industrial Hygienists agree on the published (PEL/TLV) exposure value of 500,000 ng/m^3. The PEL is what these two organizations state a healthy male worker can be exposed to for 40 hours per week. Since all of the personnel samples are well below the PEL, the term

low sample results **may be more appropriate.**

The last sentence in the second paragraph will be changed to read, "Considering the low sample results obtained, this technique should be considered acceptable as representative measures of personnel exposures."

36. Comment: p.3-8, 2nd paragraph, 1st sentence: Change "CDF" to Cell #1.

Response: This sentence will be revised to read, "During 2004 DMU-2 and Cell #1 dredging activities, composite samples..."

37. Comment: lbid, 3rd to last sentence: Since this report will eventually be a public document, the discussion here that results can be accessed on the Battelle website has to be changed or deleted.

Response: The part of this paragraph that reads that references accessing the metals data on the Battelle website will be deleted. The revised sentence will read, "Since the total metals results were not used for TSCA determination, the metals results were not tabulated for this *AAR*."

38. Comment: p3-10. Last sentence before section 3.3.1 see comment #37.

Response: Please see Gary Morin's comment #7 and the associated response.

39. Comment: p.3-10, last sentence before last bullet: Change reference to "CDF".

Response: This sentence will be changed to read, "The following summarizes the results of the desanding plant sampling:"

40. Comment: P 3-11, first line: see comment #39.

Response: This sentence will be changed to read, "... these Cell #1 sands were moved to the DDA and segregated from the DMU-2 sediments."

The reference to CDF in the last sentence in the second bullet on this page will also be changed. This sentence will be revised to read, "... these sands were segregated from the Cell #1 sediments."

41. Comment: P.3-12: Change reference to "CDF" in two places.

Response: The references to CDF on this page will be Cell #1 as follows:

Second sentence in third paragraph will be revised to read, "... generated during the dredging of Cell #1 was also collected and ...".

Subsection 3.4.1, second sentence will be revised to read, "The following summarizes the results of Cell #1 and DMU-2 ...".

42. Comment: lbid, last sentence prior to section 3.4.1: see comment #37.

Response: Please see Gary Morin's comment #6 and the associated response.

43. Comment: p.3-13: change reference to "CDF" in the first bullet.

Response: Subsection 3.4.2, first bullet will be revised to read, "For the material dredged from Cell #1, ...".

44. Comment: p.3-15. Tbl. 3-1: The discharge criteria for PCB Aroclors should be listed as "0.065 per Aroclor" rather than simply "0.065".

Response: This table will be revised as suggested. The revised table will appear as follows:

Table 3-1
Wastewater Treatment Plant Discharge Goals

Analysis	Surface Water Discharge Treatment Goal (µg/L)
PCB (per Aroclor)	0.065
Metals	
Cd	9.3
Cr	50
Cu	5.6
Pb	8.5

45. Comment: lbid, Change references to "CDF" (2nd and 3rd paragraphs).

Response: The first sentence, second paragraph will be changed to read, "... during the dredging of both Cell #1 and DMU-2."

The first sentence, third paragraph will be changed to read, "...water generated during the dredging of both Cell #1 and DMU-2 operations, ...".

46. Comment: p. 3-16, p. 3-13, change the two references to "CDF" in the first sentence of 3.6.1.

Response: The first and second sentences will be changed to read, "... dewatered solids from Cell #1 and DMU-2. Because Cell #1 materials ...".

47. Comment: p.3-17, suggest adding "(22.5 and 77.5%, respectively)" at the end of the last sentence here to clarify the discussion.

Response: As suggested, to clarify the comparison between anticipated vs. observed split between the material retained in the Area C screening operations and the Area D filter cake, the last sentence on page 3-17 will be revised to read, "There is approximate agreement between the anticipated 22 percent and 78 percent split between Area C and Area D materials and the actual split observed, 20.8 and 79.2 respectively. The observed data for the solids and water balance is included as Attachment E."

48. Comment: p.3-18, 2nd sentence: change reference to "CDF".

Response: The references to CDF on page 3-18 will be changed as follows:

First sentence, first paragraph will be revised to read, "... separated during the 14-day Cell #1 dredging period were a total of 478 dry tons of all solids, separated into 226 dry tons ..."

First sentence, second paragraph will be revised to read, "The 2004 total Cell #1 plus DMU-2 quantities ..."

49. Comment: p.3-19, the very last sentence should be changed as follows: "The results of these sampling events are beyond the scope of this document."

Response: This sentence will be revised as suggested. The revised sentence will read, "The results of these sampling events are beyond the scope of this document."

50. Comment: p.3-20, 1st sentence: change "in and around DMU-2" to "throughout the 18,000 acre New Bedford Harbor Site".

Response: This sentence will be revised as suggested. The revised sentence will read, "As part of the Long Term Monitoring Program, Battelle conducted sediment and water sampling, throughout the 18,000 acre New Bedford Site prior to the start of the 2004 dredging season."

51. Comment: p.3-20, 4th sentence: see comment #49.

Response: This sentence will be revised as suggested. The revised sentence will read, "As with the post-dredge confirmation activities discussed above, the results of these sampling events are beyond the scope of this document."

52. Comment: p.4.4: change reference to "CDF" in two locations.

Response: Subsection 4.6, first paragraph, second sentence will be revised to read, "... dredging material from Area C Cell #1 through the desanding, ...".

Subsection 4.6, second paragraph, first sentence will be revised to read, "Dredging the material in Cell #1 became problematic for use ...".

53. Comment: p.4-5: change reference to "CDF" in one location.

Response: The last sentence of the first full paragraph on page 4-5 will be revised to read, "...to excavate the material from Cell #1 rather than using a hydraulic dredge.".

54. Comment: p.4-6: change reference to "CDF" in six locations.

Response: The following changes will be made on page 4-6:

Subsection 4.8, first sentence will be revised to read, "Lessons learned during the Area C Cell #1 and DMU-2 dredging ..."

First sentence of the first full paragraph will be revised to read, "The cobbles, bricks, and debris encountered while dredging in Cell #1 presented ..."

The second to last and last sentences on the first full paragraph will be revised to read, "...attempts in Cell #1 due to excessive downtime caused by the rocks and debris. The lessons learned from Cell #1 dredging are ..."

The first and second bullet in Subsection 4.8 will be revised to read,

- **"...prior to initiating additional dredging activities in Cell #1."**
- **"...to remove the contaminated material from Cell #1."**

55. Comment: p.4-11, section 4.14: assuming the loading of filter cake into the trucks is a T&D task, and given the high 232,000 ng/m3 hit, we shouldn't be making statements to the effect that no changes to the T&D work is expected. Suggest repeating (briefly) the lesson learned here regarding excessive dry dust building up in the load out area.

Response: The statement made in this Subsection refers to the subcontracting mechanism and performance of the T&D subcontractor. With respect to these aspects, no lessons were learned that would enhance the future planning and execution of the T&D operations. From a safety perspective, we agree that mentioning measures put in place to control dust in the load out area adds value to this section.

The following conclusion sentence will be added to this Subsection to reflect this safety concern, "To enhance the safety operations in the T&D load out area, diligence will be maintained to ensure the oldest filter cake is loaded out first so that dry dust generation is minimized."

56. Comment: Section 5: the blank lines preceding most of the references should be filled in.

Response: This format for listing references was selected to reduce the appearance of redundancy in the list. We believe that this format is also effective at highlighting the company responsible for the referenced document. We recommend keeping the format as it is presented in the draft document.

57. Comment: Attachment 8, Drawing #13: if the yellow objects along the pipeline are navigational buoys, they should be so labeled.

Response: The yellow symbols on the figure along the pipeline indicate the locations of the marker buoys for the submerged pipe. This figure will be revised with the buoy symbols labeled.

58. Comment: Attachment C, figure C-11: to match the line colors in the 5 graphs here, the top (gray) line in the legend should be changed to blue. Or vice versa.

Response: The color discrepancy observed between the line color in the legend and the top line of the cross sections may be an artifact of the color copier quality. The lines are the same color on the original document. The line color will be revised if necessary in the final document to make the legend color match the cross sections.

59. Comment: Attachment 1, Table 1-2: "Duplicate" should be changed to "24-Duplicate" and shifted so that it sits between Station 24 and Station 53.

Response: The table will be revised as suggested to indicate that the duplicate sample is from station 24.

60. Comment: For waste water effluent sampling, I recommend reducing the frequency of samples for Cr, Cd and Pb since the 04 data shows that only Cu and PCBs really need watching for compliance purposes. Perhaps after the first three (weekly?) samples have shown these 3 metals to be compliance at the beginning of the dredging season, we could back of drastically. Maybe say just one more round for these 3 at end of the season. Of course this all assumes the treatment train doesn't change.

Response: During the planning stages for the 2005 sampling program, a sample frequency plan will be provided for the EPA, DEP and NAE collective consideration. The sample frequency consensus will be included in the modifications made to the Field Sampling Plan document in 2005.

61. Comment: On the other hand, the 4 influent PCB samples taken in 04 seems a bit slim. A few more than this in 05 would be nice.

Response: Please see the response to comment #60.

62. Comment: For filter cake sampling, I would drop down to the bare minimum required by the T&D facility. i.e. assume its all TSCA as shown in the 04 effort.

Response: Please see the response to comment #60.

Responses to Jim Brown's Comments on the
Draft 2004 After Action Report
New Bedford Harbor Superfund Site
Dated January, 2005

GENERAL COMMENTS

None

PAGE-SPECIFIC COMMENTS

1. Comment: Section 2.4.2.5, page 2-26, 2nd paragraph: I would either update this section in light of the recent ENSR progress samples or add some text that mentions that sediment sampling was performed to check the accuracy of z* in the area that was bleeding oils and leave all the data and discussion to the 2004 After Action Report. I don't want to leave the report as is. It makes it sound like we were way off on our z* estimate.

   Response: **The purpose of this paragraph as written is to describe to the reader the rational behind the project team's decision to dredge deeper than Z* during the final days of dredging. It would be inappropriate in the context of this report to discuss the results of the ENSR confirmation sampling when the data was received several months after the conclusion of dredging. Modifications to the paragraph will be made to change any implication that the project team suspected that the Z* estimate was way off. The revised paragraph will read as follows:**

   "The floating oil observed at the dredge cutterhead prompted the project team (NAE, EPA, and the Jacobs team) to change the approach for the final dredge pass from terminating at the Z* elevation to dredging deeper, below Z*. Sediment core samples provided by ENSR were taken from the final dredge pass area prior to final dredging. The physical characteristics of these samples indicated a change in the color and sediment type at elevations deeper than projected by the Z* model. In light of this finding, and additional information provided by NAE Project Engineers related to other New Bedford Harbor dredging projects, it was suggested that this color change may be coincident with the vertical extent of PCB contaminated sediments. To verify this correlation, a revised dredge plan was adopted for the remaining days of dredging, i.e. 2 November through 10 November 2004. The modified dredge plan included deepening the depth until the presence of floating oils and gas bubbles was not apparent, even if the depth was below Z*. Planned confirmation sampling by ENSR would evaluate the sediment PCB concentrations at all areas dredged. Data from this sampling will be used to evaluate the accuracy of the Z* estimates in this DMU. The analytical results of these sampling events are beyond the scope of this document."

   The remainder of this paragraph will be left as written, but will be split into a separate stand-alone paragraph. This paragraph will begin as follows:

   "A map of the area dredged in DMU-2 this field season, showing the boundaries of adjacent DMUs, is included as Figure C-4. The final dredge ..."

2. Comment: Section 2.4.4.1, page 2-41, last paragraph of section: Are these bullets consistent

with the recent discussions and SOW prepared for Jacobs.

Response: Yes, the bullets are consistent with the SOW for the treatability studies. Additional details on the scope of work that is included in the treatability studies is outside the scope of this document.

3. Comment: Section 3.3, page 3-8, last sentence: EPA and NAE did not make this assumption. In fact all the test data we had indicated that it would be difficult to generate a sand that's less than 50 ppm. We did a hydrocyclone pilot. We hoped that a hydrocyclone would do the trick we never assumed it was a given.

   Response: The last sentence on page 3-8 and the first sentence on page 3-9 will be revised to remove the supposition that an assumption was made by the EPA and NAE on the relative PCB concentration in the cohesive sediments. The revised lead-in to this paragraph will read,

   "The basis of design for the desanding plant was to remove the cohesive fraction (silt and clays) in an effort to render the resulting sand a non-TSCA waste (less than 50 ppm PCBs). However, as presented in Table J-2, ..."

4. Comment: Section 3.7, Page 3-19: Depending on what's done for comment 1 above, this section may need modifications.

   Response: Based on the revisions that will be made to Subsection 2.4.2.5, page 2-26, 2nd paragraph as described under the response to your comment #1 above, and the revisions made in response to Dave Dickerson's comment #49, no additional changes will be made to this paragraph.

5. Comment: Attachment L: Make sure this Attachment is consistent with recent Team discussions and conclusions.

   Response: Please see Gary Morin's comment #9 and the associated response. Text related to discussions of problems/issues that will need to be resolved in the future will be removed from the document. Attachment L, a compilation of numerous potential problem/issues that need to be addressed in the future, will also be deleted from the document.

Responses to Paul Craffey's Comments on the
Draft 2004 After Action Report
New Bedford Harbor Superfund Site
Dated January, 2005

GENERAL COMMENTS

None

PAGE-SPECIFIC COMMENTS

1. Comment: Page 1-1, Section 1.1, 1st paragraph, 1st sentence, "...Fairhaven, and North Fairhaven..." - Take out North Fairhaven. Also, add Dartmouth to the list of towns that border the site on the west side.

   Response: Please see Dave Dickerson's comment #1 and the associated response.

2. Comment: Section 2 - This page number is 1-8. All the page numbers in this Section need to be corrected. Also, fix the page numbers for Section 2 in the Table of Contents.

   Response: Please see Mark Anderson's comment #1 and the associated response.

3. Comment: Page 2-12, Section 2.3.2, 1st bullet, last sentence - "..that became necessary..." is stated twice.

   Response: Please see Mark Anderson's comment #2 and the associated response.

4. Comment: Page 3-3, Section 3.2.1, 2nd paragraph, 1st sentence, "...at 10 station locations in Table l-1 and depicted in Figure l-1..." - Table l-1 and Figure l-1 have more than 10 stations.

   Response: Please see Gary Morin's comment #3 and the associated response.

5. Comment: Page 3-15, Section 3.5.1, Influent Concentrations – List the Copper (Cu) influent concentration.

   Response: A similar comment was made by Gary Morin (see his comment #8). A sentence will be added to the first paragraph on page 3-15 (Subsection 3.5.1) to include the range of copper detection in the influent samples.

6. Comment: Attachment I, 3rd page, Figure - Log Scale of Ambient PCB Sample Results - Indicate the x-axis are the Sample Location

   Response: The graph *Log Scale of Ambient PCB Sample Results* will be revised with a legend that indicates the sample location numbers are on the X axis.