

US EPA ARCHIVE DOCUMENT



Total Environmental Restoration Contract

New England Division

New Bedford

274486



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USACE Contract No. DACW33-94-D-0002

FOSTER WHEELER ENVIRONMENTAL CORPORATION

USACE CONTRACT NO. DACW33-94-D-0002
TASK ORDER NO. 017
TOTAL ENVIRONMENTAL RESTORATION CONTRACT

ANNOTATED RESPONSES TO USACE REVIEW COMMENTS

The following are responses to USACE review comments on the Phase II Geotechnical Test Pit Report for the New Bedford Harbor Superfund Site. USACE comments are provided in italic type, followed by Foster Wheeler's response in bold type

Reviewer: Erik Matthews

Date: April 9, 2001

GENERAL COMMENTS

Comment 1. Overall a good report. The photos are particularly helpful. However I did not receive the digital photos. Will they be included in the final version of the report?

Response: The photos are included in digital format on the enclosed compact disc.

Comment 2. Rename the report to "Phase II Test Pit Data Report" as this report contains more than just geotechnical data.

Response: The title has been changed.

Comment 3. Page 1: Define "HDC" acronym (City of New Bedford Harbor Development Corporation).

Response: The text has been modified to include this definition

Comment 4. HDC Property

Page 3, HDC Property: "TP-D2 is described here, but it is not listed on Figure 2. Is this meant to be "TP-D2A"? Please Clarify.

Response: This should be TP-D2A. The text has been modified.

Packer Property

TP-D20 is located at the HDC Property. Is this supposed to be TP-D10? Please correct.

Response: The reference has been changed. The discussion of TP-D20 is now included under the HDC Property and the discussion of TP-D10 is included under the Packer Property.

Comment 5. Logs:

Headspace readings should be included in the column "PID Reading (PPM)" as well as at the bottom of the page. Title "Headspace Analysis Summary, samples submitted to the lab" should be changed to "Samples Submitted to Lab and Headspace Analysis Summary" on all logs.

Response: The logs have been changed to reflect these requests.

**USACE CONTRACT NO. DACW33-94-D-002
TASK ORDER NO. 017
TOTAL ENVIRONMENTAL RESTORATION CONTRACT**

**FINAL PHASE II TEST PIT
DATA REPORT
NEW BEDFORD HARBOR SUPERFUND SITE
New Bedford, Massachusetts**

May 2001

Prepared for

U.S. Army Corps of Engineers
New England District
Concord, Massachusetts



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May 2001

Prepared for

U.S. Army Corps of Engineers
New England District
Concord, Massachusetts

Prepared by

Foster Wheeler Environmental Corporation
133 Federal Street
Boston, Massachusetts 02110

and

Nobis Engineering, Inc.
P.O. Box 2890
Concord, New Hampshire 03302



Revision
0

Date
5/9/01

Prepared By
T. Mannering/B. Noonan

Approved By
H. Douglas

Pages Affected
All

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	WORK PERFORMED.....	1
2.1	Excavation.....	1
2.2	Real-Time Air Monitoring	2
2.3	Field Screening and Soil Sampling	2
2.4	Backfilling.....	2
3.0	SUMMARY OF SUBSURFACE CONDITIONS	3
4.0	SUMMARY OF ANALYTICAL RESULTS	3

LIST OF FIGURES

Figure 1	CDF D Site Location Map
Figure 2	Test Pit Location Plan
Figure 3	TP-D1 Photographs
Figure 4	TP-D2A & TP-D3 Photographs
Figure 5	TP-D5A Photographs
Figure 6	TP-D12 – TP-D15 (North-South Test Trench) Photographs
Figure 7	TP-D16 – TP-D19 (North-South Test Trench) Photographs
Figure 8	TP-D20 (East-West Test Trench) Photographs
Figure 9	TP-D7 & TP-D10 (Packer Property) Photographs

LIST OF TABLES

Table 1	Digital Picture Summary
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LIST OF APPENDICES

Appendix A	Test Pit Logs
Appendix B	Summary of Analytical Results
Appendix C	Data Validation Memos

1.0 INTRODUCTION

Under Task Order No. 17 of the New England Total Environmental Restoration Contract (NE TERC) for the U.S. Army Corps of Engineers (USACE), Foster Wheeler Environmental Corporation (Foster Wheeler) will be conducting remedial design and remedial action construction activities for Operable Unit (OU) #1 at the New Bedford Harbor Superfund Site in New Bedford, Massachusetts. The Confined Disposal Facility D (CDF D) Phase II Geotechnical Test Pit Program was developed by the USACE to supplement the 1999 Phase I Drilling and Geophysical CDF D programs. A site locus map is included as Figure 1. The objective of the test pit program was to provide additional information to help characterize and classify the nature of the fill soils and to identify subsurface anomalies that were detected during a previous geophysical study conducted by Foster Wheeler. Chemical sampling of the soils was performed to identify and characterize potentially contaminated material in order to evaluate future disposal/re-use options.

2.0 WORK PERFORMED

2.1 Excavation

The test pit program consisted of a total of seventeen (17) machine-excavated test pits (designated TP-D1, TP-D2A, TP-D3, TP-5DA, TP-D7, TP-D10, and TP-D12 through TP-D22). The program generally consisted of performing test pits on the City of New Bedford Harbor Development Commission (HDC) and Packer Property at locations shown on Figure 2, Test Pit Location Plan. The test pits were excavated by Foster Wheeler personnel on September 5 through 8, and 11 through 13, 2000 utilizing an Hyundai model 320 LC-3 track mounted excavator. The north-south oriented and east-west oriented test trenches were located on the eastern edge of the HDC property in the general area where the geophysics program identified a potentially large subsurface anomaly. Oversight of the test pit program was provided by Nobis Engineering, Inc. (Nobis) of Concord, New Hampshire in conjunction with FWENC personnel. Periodic site visits were performed by Mr. Maurice Beaudoin, Mr. William McIntyre and Ms. Rosemary Schmidt of the USACE.

Test pits were excavated through the fill stratum and into the underlying naturally deposited organic clay. Exceptions include test pits TP-D2A, TP-D10, and TP-D13, which were terminated prior to penetrating the fill stratum due to high groundwater infiltration, and TP-D1 which was terminated upon encountering visual signs of possible contamination. The pits were excavated in a manner such that the top 12 to 24 inches of material was segregated from the deeper soils. Test pits TP-D12 through TP-D19 were excavated from south to north as a series of continuous pits to form an approximate north-south oriented test trench along the proposed sheet pile wall alignment. Test pits TP-D20 through TP-D22 were excavated from east to west as a series of continuous pits to form an approximate east-west oriented test trench across the proposed sheet pile alignment at a right angle to the first trench.

The four corners of each test pit were located in the field by FWENC personnel utilizing a Trimble PROXRS differential global positioning system (DGPS) with a horizontal position accuracy of one meter. Ground surface elevations were also recorded using the DGPS but are less accurate than the horizontal positions. Northing and easting coordinates are presented on the test pit logs (Appendix A).

During excavation activities, a field engineer was present to visually classify subsurface soils, measure groundwater levels, recover chemical samples, prepare logs of the test pits, and provide technical direction to the test pit crew. Soils were visually classified in general conformance with ASTM D2488, *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. For instances where the ASTM standard was not used, soil constituents (i.e., brick, concrete) were listed in decreasing

order of content. When applicable for fill soils, an approximate overall percentage of debris was estimated and presented on the logs after the soil description. Logs of the test pits are included in Appendix A.

To supplement the test pit logs, digital photographs were taken of the soils, debris, and other encountered subsurface anomalies at each test pit. Selected digital photographs are presented in Figures 3 through 9. Picture numbers are included on the test pit logs for ease of reference. The remaining photographs have been included in digital format on the enclosed CD. A picture summary depicting the contents of the enclosed CD is included as Table 1.

2.2 Real-Time Air Monitoring

Real-time air monitoring was performed during test pit operations to measure levels of oxygen, hydrogen sulfide, carbon monoxide, lower explosive level (LEL), volatile organic compounds, and airborne dust. Monitoring was performed within the work area in a downwind direction utilizing an Industrial Scientific TMX412 multi-gas monitor equipped with motorized sampling pump, MiE PDR-1000 dust monitor, and a MiniRAE 2000 photoionization detector (PID). Excavated soils were also screened in the excavator bucket using the PID. These readings are presented in the "Ambient PID Readings" column on the test pit logs. Readings were recorded by each instrument at preset time intervals and downloaded to a personal computer at the end of each day.

2.3 Field Screening and Soil Sampling

Soil samples were collected from selected test pits at the discretion of field personnel based on visual or olfactory evidence of contamination. Samples were collected by removing soil from the selected depth with the excavator bucket, and grabbing the sample from soil in the bucket using disposable sampling equipment. Sample identifiers included on the test pit logs (Appendix A) and the analytical data tables (Appendix B) are formatted such that the test pit, and the sample depth below ground surface can be ascertained. For example, sample TP-D1-(0-2) was collected from test pit D1 from the 0 to 2 foot interval. The samples were screened in the field for volatile organic compounds (VOCs) by headspace analysis, and sent off-site for laboratory chemical analysis including Target Analyte List (TAL) metals, pesticides, VOCs, Semivolatile organic compounds (SVOCs), Total Organic Carbon (TOC), cyanide, and Polychlorinated Biphenyls (PCB) Aroclors. The results of the headspace analysis are included on each respective test pit log (Appendix A). The presented values represent the maximum reading, in parts per million (ppm), that was recorded by the instrument. Results of the analytical samples are included in Appendix B. All sampling was performed in accordance with Section 6.0 of the Sampling and Analysis Plan, New Bedford Harbor Superfund Site, February 2000, prepared by Foster Wheeler Environmental.

The excavator bucket and lower section of the digging arm were decontaminated between performing test pits on different properties. Decontamination procedures consisted of a pressure wash to remove gross material followed by a brush wash using a mixture of Alconox and potable water and a final rinse with potable water.

2.4 Backfilling

Upon completion of excavation and sampling activities, each test pit was backfilled with material removed from the test pit. Material was replaced such that spoils removed from the deeper part of the excavation were backfilled first, and the upper 12 to 24 inches of soil were replaced last.

3.0 SUMMARY OF SUBSURFACE CONDITIONS

HDC Property

Subsurface conditions were similar in test pits throughout the HDC Property study area. In general, the subsurface conditions in the area consist of a layer of fill ranging in thickness from 10.5' to at least 15', overlying a naturally deposited organic clay (OH). The fill consists of sand and gravel, with varying amounts of silt, and abundant debris. Debris in the fill consists of brick, concrete, tile, asphalt, wood, metal, plastic, and stone. The fill contents range from no debris in some horizons, to 100% debris in others (TP-D20), but are commonly approximately 30-50% debris by volume. The amount of debris varies by location and depth. The presence of boulders greater than 36" in diameter in several locations at varying depths (e.g. Figure 6, photo nos. 6A and 6B), and the presence of metal debris including concrete-filled steel pipes (see Figure 8, photo no. 8B), made excavation of several test pits difficult. A 1-1/4 to 1-1/2 diameter steel cable estimated to be several hundred feet in length was discovered coiled-up in test pit TP-D2A (see Figure 4, photo nos. 4A and 4B). Test pit TP-D20 contained abundant metal debris, including a buried compressed gas cylinder. (see Figure 8, photo no. 8F). A continuous layer of asphalt debris with concrete and cobbles was present in test pits TP-D12 through TP-D22 at a depth of 13 to 13.5 feet, laying on the fill/organic clay interface (see Figure 6, photo no. 6D). This high concentration of subsurface debris is the likely cause of the large subsurface anomaly that was identified by the land-based geophysical survey. A complete description of materials logged in each test pit, including difficulty of excavation, and references to photographs, is attached to this report as Appendix A.

Evidence of visual or olfactory soil contamination are noted on the test pit logs. Visual evidence of soil staining or a slight sheen was noted in TP-D1 and TP-D14. Hydrocarbon odors were detected in TP-D1, TP-D13, TP-D14, TP-D20, TP-D21, and TP-D22. Headspace analysis results of soils from test pits TP-D1 and TP-D13 ranged from 52 ppmv to 77 ppmv. In general, PID readings do not appear to correlate with elevated levels of VOCs, although several samples had detectable concentrations of PAHs. Analytical results are discussed in more detail in Section 4.0 and included in Appendix B.

Packer Property

Subsurface conditions on the Packer property consisted of two different types of fill overlying naturally deposited organic clay. The first type of fill was comprised of a crushed gravel (TP-D10) and a bank run gravel (TP-D7) with very little to no debris noted. The second type of fill was similar in nature to the fill material encountered at the HDC property, containing approximately 20 to 30 percent debris. The two types of fill are separated by a horizontal layer of polyethylene plastic embedded in a layer of medium to coarse sand. This layer was observed to vary from 3.5 feet (TP-D7) to 6 feet (TP-D10) below the ground surface. Where completely penetrated, the fill stratum was observed to be about 13 feet in thickness.

Evidence of visual or olfactory soil contamination are noted on the test pit logs. Olfactory evidence of hydrocarbon odors was noted in test pit TP-D7. Headspace readings taken in TP-D10 were non-detect, except for a reading of 20 ppmv at 7.0 to 7.5 feet.

4.0 SUMMARY OF ANALYTICAL RESULTS

Twenty-two soil samples were collected from eight of the test pits at the New Bedford Harbor Superfund site during September of 2000. Samples were collected and analyzed for: volatile organics (VOCs), semivolatile organics (SVOCs), pesticides, PCB Aroclors, and TAL Metals including mercury, cyanide and total organic carbon (TOC). A brief data review was performed on all of the data from the samples based on the following parameters:

- Sample Preservation and Holding Times
- Method Blank Analysis
- Field/Equipment Blank Analysis
- Surrogate Recovery
- Matrix Spike/Matrix Spike Duplicate Results
- Field and/or Laboratory Duplicates
- Laboratory Control Sample

Overall, the data from the test pit samples is valid and useable to meet project objectives.

Tabulated data and validation memos from the test pit sampling may be found in Appendix B and C respectively. The data from several compounds were rejected due to QC exceedances associated with the analysis of the samples. Results for 4-nitroaniline, benzyl alcohol, bis(2-chloroisopropyl)ether and n-nitrosodimethylamine were rejected in eight samples due to very poor recoveries in the laboratory's Matrix Spike/Matrix Spike Duplicate analyses. Results for the pesticides 4,4'-DDT, 4,4'-DDD, and 4,4'-DDE were rejected in thirteen samples due to extensive breakdown of 4,4'-DDT in the analytical system. 4,4'-DDT, breaks down into 4,4'-DDD, and 4,4'-DDE and the degradation that occurred during analysis rendered the results for all of these compounds unusable. No other qualifications were applied to the data as a result of the data review. The field sampling team inadvertently omitted sending trip blanks with the volatile organic samples. Other blanks (lab and field) did not indicate significant contamination. No other analyte specific problems were noted with regard to the samples.

Acetone was detected in each test pit sample and Naphthalene was found in four samples. Methyl-tert-Butyl Ether, a common gasoline additive, was found in one sample, TP-D12 at 14 to 15 feet. Numerous Polycyclic Aromatic Hydrocarbons (PAHs) were detected in each of the samples. For reference, sample results were referenced relative to the Massachusetts Department of Environmental Protection (MADEP) Reportable Concentration limits for Reporting Category, RCS-2. Results from thirteen samples (from 7 of the 8 test pits sampled) exceeded limits for one or more of the following compounds: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Exceedences were found on both the HDC and Packer properties.

Aroclor 1254 was detected in thirteen of the samples with concentrations ranging from 61.9 ug/Kg to 549 ug/Kg. Aroclor 1260 was detected in one sample, TP-D5A (0-0.5), at 69.4 ug/Kg. No pesticides were found in the test pit samples. Iron was the predominant metal found in the samples with concentrations up to 33,700 mg/Kg. Lead was detected at concentrations up to 263 mg/Kg. None of these concentrations exceed MADEP Reportable Concentration RCS-2 limits. Cyanide was not detected in the samples.

It should be noted that the sampling event was not designed to meet the detection and reporting requirements of the MADEP Reportable Concentration RCS-2 limits. These limits were used as a reference only. Consequently, some of the laboratory reporting limits are higher than the RCS-2 limits.

The majority of the contamination was found at or near the surface of the test pits. Some contamination was found at depth in test pits TP-D5A (13-14'), TP-D7 (11.5-12'), TP-D10 (9-10'), and TP-D12 (14-15').

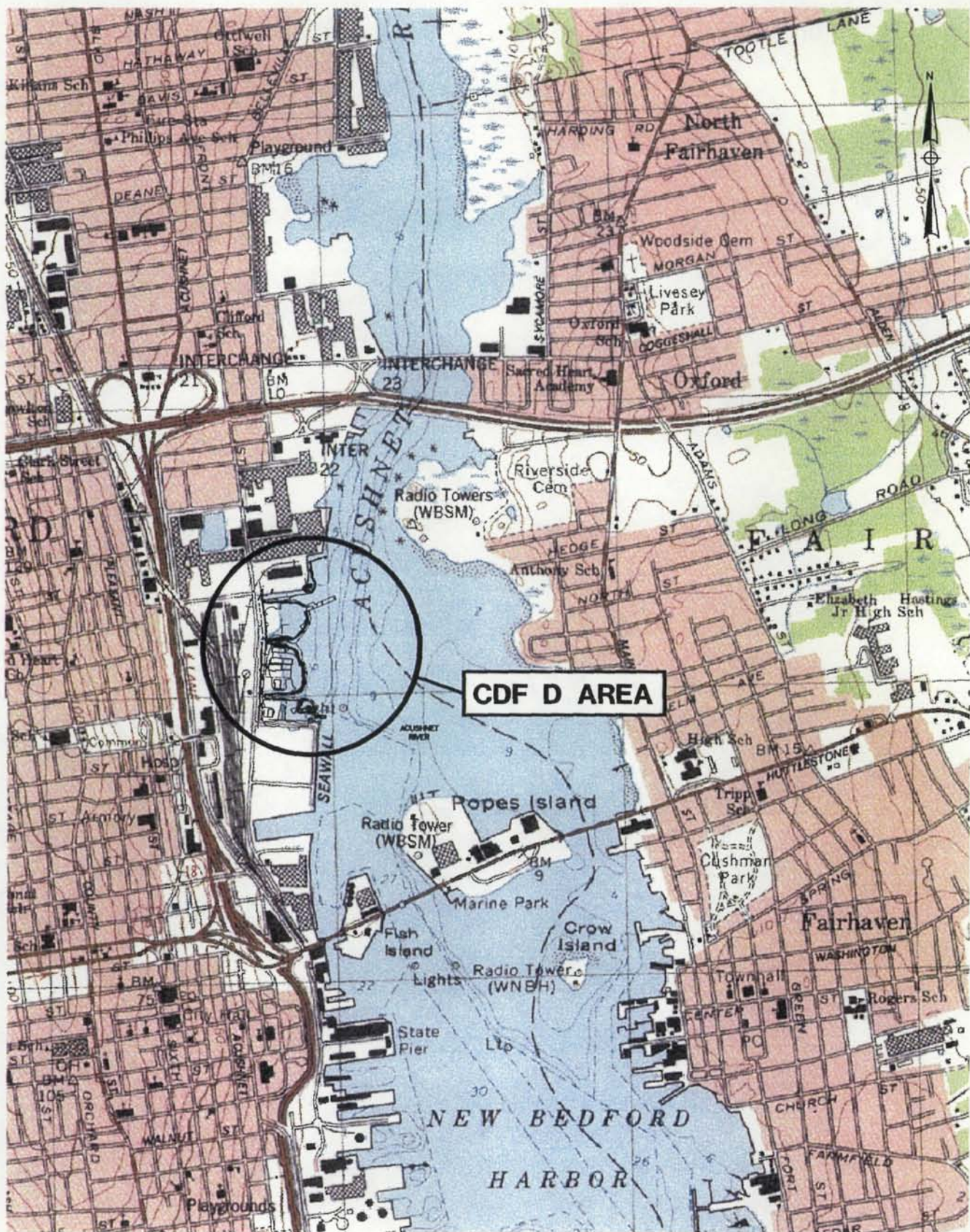


FIGURE 1

NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS

**CDF D
SITE LOCATION MAP**

SCALE: AS SHOWN

500 0 500 1000 1500 2000
SCALE IN FEET

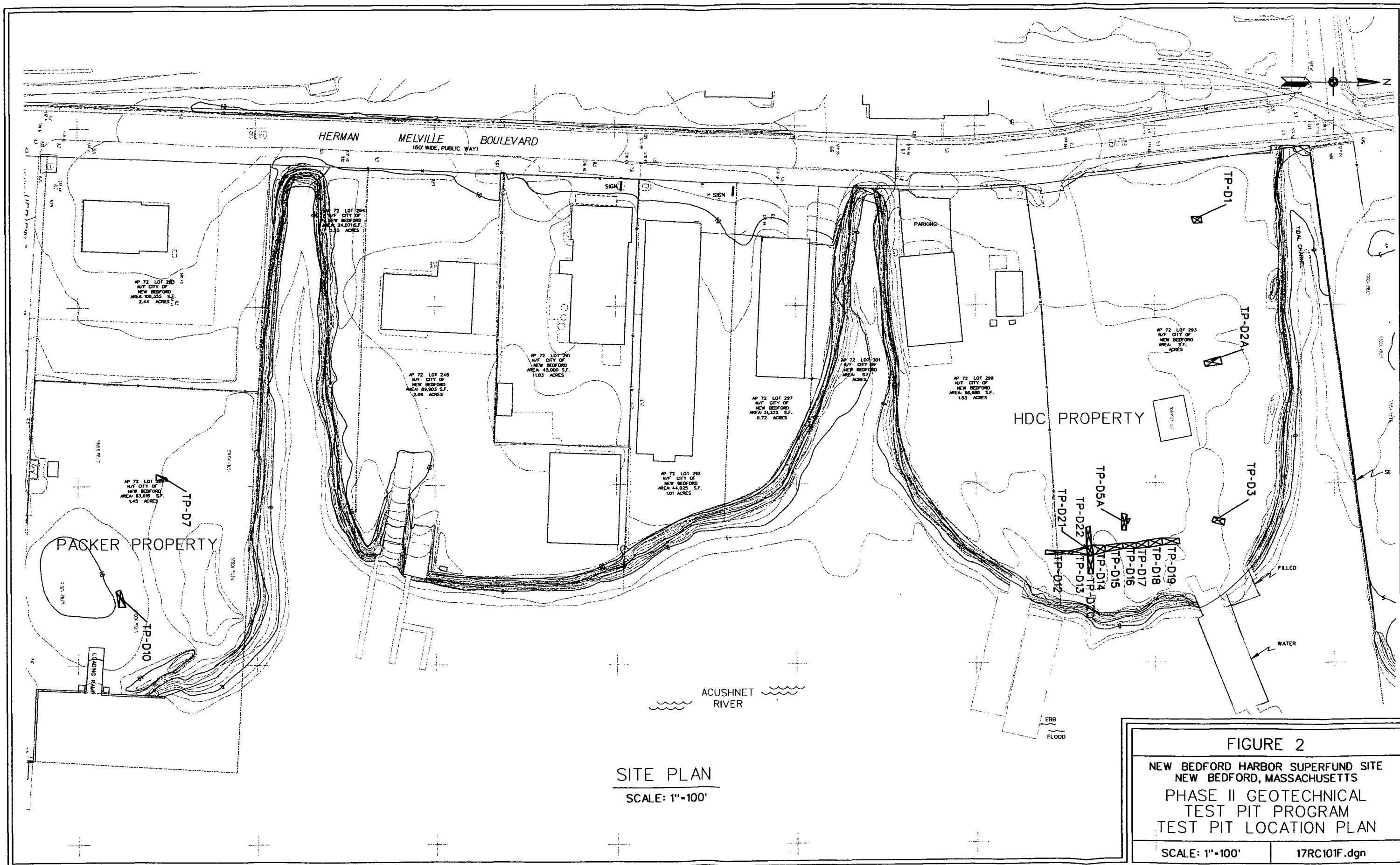


FIGURE 2

NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS

PHASE II GEOTECHNICAL
TEST PIT PROGRAM
TEST PIT LOCATION PLAN

SCALE: 1"=100'

17RC101F.dgn



Photo No. 1A: Excavated Material (0-0.5')



Photo No. 1B: Chemical Analysis Sample TP-D1(0-2')



Photo No. 1C: Excavated Material (4-4.5')



Photo No. 1D: Chemical Analysis Sample TP-D1(5-5.5')



Photo No. 1E: Chemical Analysis Sample TP-D1(5.5-6')



Photo No. 1F: Completed Test Pit

PHOTOGRAPHS TAKEN BY NOBIS ENGINEERING, INC. ON SEPTEMBER 5, 2000.



Nobis Engineering, Inc.
PO Box 2890
Concord, NH 03302-2890
Tel (603) 224-4182
Fax (603) 224-2507

FIGURE 3	
TP-D1 PHOTOGRAPHS	
PHASE II GEOTECHNICAL TEST PIT PROGRAM NEW BEDFORD HARBOR SUPERFUND SITE NEW BEDFORD, MASSACHUSETTS	
PROJECT NO. 48138.23	FEBRUARY 2001



Photo No. 2A: Steel Cable Coil (TP-D2A)



Photo No. 2B: Steel Cable Coil (TP-D2A)



Photo No. 2C: Granite Debris (TP-D2A)



Photo No. 2D: Asbestos Tiles (TP-D3)



Photo No. 2E: Fill/Organic Clay Interface



Photo No. 2F: Completed Test Pit (TP-D3)

PHOTOGRAPHS TAKEN BY NOBIS ENGINEERING, INC. ON SEPTEMBER 6, 2000.



Nobis Engineering, Inc.
PO Box 2890
Concord, NH 03302-2890
Tel (603) 224-4182
Fax (603) 224-2507

FIGURE 4

TP-D2A & TP-D3 PHOTOGRAPHS
PHASE II GEOTECHNICAL TEST PIT PROGRAM
NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS

PROJECT NO. 48138.23

FEBRUARY 2001



Photo No. 3A: Excavated Material (0-0.5')



Photo No. 3B: Large Boulders and Granite Debris



Photo No. 3C: Granite Debris



Photo No. 3D: Groundwater Seep



Photo No. 3E: Large Piece of Granite Debris



Photo No. 3F: Fill/Organic Clay Interface

PHOTOGRAPHS TAKEN BY NOBIS ENGINEERING, INC. ON SEPTEMBER 7, 2000.



Nobis Engineering, Inc.
PO Box 2890
Concord, NH 03302-2890
Tel (603) 224-4182
Fax (603) 224-2507

FIGURE 5

TP-D5A PHOTOGRAPHS

PHASE II GEOTECHNICAL TEST PIT PROGRAM
NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS

PROJECT NO. 48138.23

FEBRUARY 2001



Photo No. 4A: Granite Boulder Debris (TP-D12)



Photo No. 4B: Section of RCP (TP-D12)



Photo No. 4C: Chemical Analysis Sample TP-D13(13-13.5')



Photo No. 4D: Asphalt and Concrete Debris Layer (TP-D14)



Photo No. 4E: Section of Concrete Encased Pipe (TP-D15)



Photo No. 4F: Large Boulder (TP-D15)

PHOTOGRAPHS TAKEN BY NOBIS ENGINEERING, INC. ON SEPTEMBER 8 and 11, 2000.



Nobis Engineering, Inc.
PO Box 2890
Concord, NH 03302-2890
Tel (603) 224-4182
Fax (603) 224-2507

FIGURE 6	
TP-D12 – TP-D15 (North-South Test Trench) PHOTOGRAPHS	
PHASE II GEOTECHNICAL TEST PIT PROGRAM NEW BEDFORD HARBOR SUPERFUND SITE NEW BEDFORD, MASSACHUSETTS	
PROJECT NO. 48138.23	FEBRUARY 2001



Photo No. 5A: Steel and Concrete Debris (TP-D16)



Photo No. 5B: Large Piece of Concrete Debris (TP-D16)



Photo No. 5C: Piece of Steel Debris (TP-D17)



Photo No. 5D: Concrete Debris (TP-D18)



Photo No. 5E: Excavated Material (TP-D19)



Photo No. 5F: Fill/Organic Clay Interface (TP-D19)

PHOTOGRAPHS TAKEN BY NOBIS ENGINEERING, INC. ON SEPTEMBER 11, 2000.



Nobis Engineering, Inc.
PO Box 2890
Concord, NH 03302-2890
Tel (603) 224-4182
Fax (603) 224-2507

FIGURE 7	
TP-D16 – TP-D19 (North-South Test Trench) PHOTOGRAPHS	
PHASE II GEOTECHNICAL TEST PIT PROGRAM NEW BEDFORD HARBOR SUPERFUND SITE NEW BEDFORD, MASSACHUSETTS	
PROJECT NO. 48138.23	FEBRUARY 2001



Photo No. 6A: Metal Debris With Excavated Material



Photo No. 6B: Section of Steel Pipe Filled With Concrete



Photo No. 6C: Debris In Excavation



Photo No. 6D: Excavated Debris



Photo No. 6E: Sections of Pipe Piles or Spuds



Photo No. 6F: Compressed Gas Cylinder

PHOTOGRAPHS TAKEN BY NOBIS ENGINEERING, INC. ON SEPTEMBER 12, 2000.



Nobis Engineering, Inc.
PO Box 2890
Concord, NH 03302-2890
Tel (603) 224-4182
Fax (603) 224-2507

FIGURE 8	
TP-D20 (East-West Test Trench) PHOTOGRAPHS	
PHASE II GEOTECHNICAL TEST PIT PROGRAM NEW BEDFORD HARBOR SUPERFUND SITE NEW BEDFORD, MASSACHUSETTS	
PROJECT NO. 48138.23	SEPTEMBER 2000



Photo No. 7A: Large Piece of Concrete Debris (TP-D7)



Photo No. 7B: Granite Curbing (TP-D10)



Photo No. 7C: Large Boulder (TP-D10)



Photo No. 7D: Layer of Polyethylene Plastic and Sand (TP-D10)



Photo No. 7E: Open Excavation Showing Layering (TP-D10)



Photo No. 7F: Concrete Debris Near Ground Surface (TP-D10)

PHOTOGRAPHS TAKEN BY NOBIS ENGINEERING, INC. ON SEPTEMBER 12 and 13, 2000.



*Nobis Engineering, Inc.
PO Box 2890
Concord, NH 03302-2890
Tel (603) 224-4182
Fax (603) 224-2507*

FIGURE 9

**TP-D7 & TP-D10 (Packer Property)
PHOTOGRAPHS**
PHASE II GEOTECHNICAL TEST PIT PROGRAM
NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS

PROJECT NO. 48138.23

SEPTEMBER 2000

TABLE 1

**DIGITAL PICTURE SUMMARY
PHASE II GEOTECHNICAL TEST PIT PROGRAM
NEW BEDFORD HARBOR SUPERFUND SITE
NEW BEDFORD, MASSACHUSETTS**

Test Pit Number	Picture Number	Description
TP-D1	P9050001	Excavated material (0-0.5 ft.)
	P9050002	Test Pit (0-2 ft.)
	P9050003	Chemical Analysis Sample TP-D1 (0-2 ft.)
	P9050004	Test Pit (4.5 ft.)
	P9050005	Chemical Analysis Sample TP-D1 (5-5.5 ft.)
	P9050006	Possible contaminated material
	P9050007	Close up photo of contaminated material
	P9050008	Chemical Analysis Sample TP-D1 (5.5-6 ft.)
	P9050009	Completed test pit
	P9050010	Completed test pit
TP-D2A	P9060014	Start of test pit, cable coil
	P9060015	Excavation of more cable
	P9060016	Excavation of more cable
	P9060017	Full photo showing cable coil
	P9060018	Granite debris
	P9060019	Granite debris in test pit
TP-D3	P9060020	Asbestos tiles in test pit
	P9060021	Asbestos tiles (stockpile)
	P9060022	Fill/organic clay interface
	P9060023	Fill/organic clay interface
	P9060024	Completed test pit (backfilled)
	P9060025	Asbestos tile spoils pile
TP-D5A	P9070027	Excavated material (0-0.5 ft.)
	P9070028	Large boulder and granite debris
	P9070029	Granite debris
	P9070030	Groundwater seep
	P9070031	Groundwater seep
	P9070032	Large piece of granite debris
	P9070033	Open excavation to 14 ft.
	P9070034	Fill/organic clay interface
	P9070035	Fill/organic clay interface
TP-D7	P9130095	Large boulder
	P9130096	Large piece of concrete debris
	P9130097	Layer of polyethylene plastic and sand
TP-10	P9120090	Granite curbing
	P9120091	Large boulder
	P9120092	Layer of polyethylene plastic and sand
	P9120093	Open excavation showing layering
	P9120094	Concrete debris near ground surface
TP-D12	P9080038	Close up photo of stockpiled material
(North-south trench)	P9080039	Open test pit
	P9080040	Granite boulder debris
	P9080041	Granite boulder debris (close up)
	P9080042	Close up photo of excavated material (9-10 ft.)
	P9080043	Groundwater seep
	P9080044	Section of RCP
	P9080045	Concrete debris

TP-D13	P9110046	Open excavation to 13 ft.
(North-south trench)	P9110047	Possible contaminated material; Chemical Analysis Sample TP-D13 (13-13.5 ft.)
TP-D14	P9110048	Excavated material
(North-south trench)	P9110049	Piece of concrete debris with steel reinforcement
	P9110050	Asphalt and concrete debris
	P9110051	Asphalt and concrete debris
	P9110052	Completed test pit
TP-D15	P9110053	Concrete encased pipe
(North-south trench)	P9110054	Large boulder
	P9110055	Concrete debris in test pit
TP-D16	P9110056	Excavated material (0-3 ft.)
(North-south trench)	P9110057	Steel and concrete debris
	P9110058	Concrete debris in test pit
	P9110059	Concrete debris with steel reinforcement in test pit
	P9110060	Large piece of concrete debris
	P9110061	Excavated material
TP-D17	P9110063	Piece of steel debris
(North-south trench)		
TP-D18	P9110064	Concrete debris
(North-south trench)	P9110065	Concrete debris in test pit
	P9110066	Concrete debris
	P9110067	Asphalt debris
	P9110068	Asphalt debris
	P9110069	Concrete debris with organics
TP-D19	P9110070	Excavated material
(North-south trench)	P9110071	Fill/organic clay interface
TP-D20	P9120072	Metal debris
(East-west trench)	P9120073	Metal debris
	P9120074	Metal debris
	P9120075	Metal debris (close up)
	P9120076	Steel pipe filled with concrete
	P9120077	Excavated material
	P9120078	Debris in excavation
	P9120079	Debris in excavation
	P9120080	Excavated debris
	P9120081	Section of steel pipe
	P9120082	Debris in excavation
	P9120083	Debris in excavation
	P9120084	Sections of possible pipe pile or spuds
	P9120085	Sections of possible pipe pile or spuds laying on ground surface
	P9120086	Compressed gas cylinder
TP-D21	P9120087	Caving from TP-D13 backfill
(East-west trench)		
TP-D22	P9120088	Concrete/asphalt debris layer
(East-west trench)	P9120089	Excavated material
Decontamination	P9060011	Pressure wash
	P9060012	Alconox and potable water soap mixture
	P9070026	Soap wash
	P9060013	Final rinse





























































































































































































Appendix A
Test Pit Logs

US EPA ARCHIVE DOCUMENT

M:\Reports\Active\48138.23 test pits\Logs\Logs.XLS\TP-D2A

TEST PIT LOG

 Nobis Engineering PO Box 2890 Concord, New Hampshire 03302		PROJECT Remedial Design For Operable Unit 01 New Bedford Harbor Superfund Site New Bedford, Massachusetts		TEST PIT NO. TP-D3 SHEET 1 of 1 FILE NO. 48138.23 CHKD. BY C. Thunberg		
Logged By E. Thibodeau Contractor Foster Wheeler Environmental Operator E. Perry Weather Sunny, warm, light wind		Make Hyundai Model 320 LC-3 Capacity 2.5 cubic yd. bucket Reach 36 ft.		Ground El. _____ Datum _____ Date Start 9/6/2000 Date End 9/6/2000		
DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M K S
1	FILL	Topsoil and organic matter (0.3 ft.)	E		60	
2		0.3 ft.: FILL: mixture of sand & gravel, cobbles, boulders (Class A), concrete, asphalt, brick, and metal. Approximately 30 - 35% debris.	E	4D	0	
3		1.0 ft.: Pocket of floor tiles encountered. Test pit moved slightly to the west to avoid further encounter with tiles.	E		49	
4		2-3.0 ft.: Distinct petroleum like odor noted.	E		0	
5		4.0 ft.: Debris content increases to approximately 40 - 50%. Granite debris noted.	E		0	
6			E		0	
7			E		0	
8			E		0	
9		▽		E		0
10		9 - 10.5 ft.: Mixture of fill and organic clay. Possible mudwave material.	E		38	
11	OH	10.5 ft.: Fill/organic clay interface.	E	4E, 4F	0	
12		Bottom of exploration at 11 ft.				
13						
14						
15						
16						
17						
18						
REMARKS: 1) Groundwater first noted at approximately 9 feet.						
TEST PIT PLAN 6 ft.  16 ft. ↑ N		BOULDER 12"-18" A 18"-36" B >36" C	CLASS A B C	TEST PIT COORDINATES Northing: 2697465.2 Easting: 814038.3 Northing: 2697463.0 Easting: 814044.1 Northing: 2697476.6 Easting: 814047.7 Northing: 2697477.9 Easting: 814040.7		EXCAVATION EFFORT E = Easy M = Moderate D = Difficult

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D5A
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, warm

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

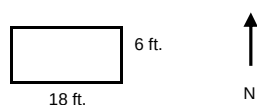
Ground El. _____
Datum _____
Date Start 9/7/2000
Date End 9/7/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M K S
1	FILL ▽ 					

REMARKS:

- 1) Groundwater first noted at approximately 7.5 feet.

TEST PIT PLAN



BOULDER

CLASS

12"-18" A
18"-36" B
>36" C

TEST PIT COORDINATES

Northing: 2697368.5 Easting: 814035.7
Northing: 2697362.6 Easting: 814034.0
Northing: 2697362.6 Easting: 814052.9
Northing: 2697367.7 Easting: 814053.3

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D7
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Light rain, hot, humid

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

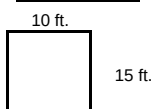
Ground El. _____
Datum _____
Date Start 9/13/2000
Date End 9/13/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M A R K S
1	FILL ▽ =	FILL: Poorly graded sand with silt and gravel (SP-SM); dry, 10% coarse sand, 30% medium sand, 20% fine sand, 30% gravel, 10% silt, brown. Trace cobbles, and brick. Large boulder noted (Class C). Approximately 5 - 10% debris.	E		0	
2			E		0	
3			E		0	
4		3.5 to 6ft.: Continuous layer of black polyethylene plastic embedded in a layer of medium to coarse sand. Possible cap system.	E		0	
5			E		0	
6			E		0	
7		6.0 ft.: FILL: mixture of sand & gravel, concrete, cobbles, and boulders (Class A&B). Approximately 20 - 30% debris. 7.0 ft.: Becomes wet.	E		0	1
8			E		0	
9			E		0	
10		9.0 ft.: Large piece of concrete debris.	E	9A	0	
11			E		0	
12			E		0	
13		OH	13.0 ft.: Fill/organic clay interface.	E		0
14						
15	Bottom of exploration at 14 ft.					
16						
17						2
18	<u>Samples Submitted to Lab and Headspace Analysis Summary:</u> TP-D7 (0-0.5 ft.); Headspace: N/A TP-D7 (8.5-9 ft.); Headspace: N/A TP-D7 (11.5-12 ft.); Headspace: N/A					

REMARKS:

- Groundwater first noted at approximately 7 feet.
- PID effected by high humidity and moisture. Headspace readings not available.

TEST PIT PLAN



BOULDER

12"-18"
18"-36"
>36"

CLASS

A
B
C

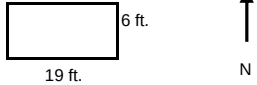
TEST PIT COORDINATES

Northing: 2696290.5 Easting: 813996.6
Northing: 2696291.2 Easting: 813989.9
Northing: 2696300.6 Easting: 813994.2
Northing: 2696305.7 Easting: 813987.1

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG

 Nobis Engineering PO Box 2890 Concord, New Hampshire 03302		PROJECT Remedial Design For Operable Unit 01 New Bedford Harbor Superfund Site New Bedford, Massachusetts		TEST PIT NO. TP-D10 SHEET 1 of 1 FILE NO. 48138.23 CHKD. BY C. Thunberg		
Logged By E. Thibodeau Contractor Foster Wheeler Environmental Operator E. Perry Weather Sunny, warm		Make Hyundai Model 320 LC-3 Capacity 2.5 cubic yd. bucket Reach 36 ft.		Ground El. _____ Datum _____ Date Start 9/12/2000 Date End 9/12/2000		
DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M A R K S
1	FILL 	FILL: Silty sand with gravel (SM); dry to moist, 5% coarse sand, 15% medium sand, 30% fine sand, 35% gravel, 15% silt, gray-brown.	E	9F	0	
2		1.5 ft.: FILL: mixture of sand & gravel, concrete, brick, cobbles, and boulders (Class B & C). Pieces of granite curbing noted.	M	9B, 9C	0	
3		Approximately 10 - 20% debris.	D		0	
4		2.0 ft.: Notable layer of concrete debris.	D		0	
5			M		0	
6			M		0	
7		6 to 7.5 ft.: Continuous layer of black polyethylene plastic embedded in a layer of medium to coarse sand.	M	9D, 9E	0	
8		7.5 ft.: FILL: mixture of sand & gravel, concrete, asphalt, brick, cobbles, and boulders (Class A & B). Slight organic odor noted.	D		20	
9		Approximately 20 - 30% debris.	D		0	1
10		9.0 ft.: Becomes wet.	D		0	
11			D		0	
12			D		0	
13			D		0	
14		13.0 ft.: Layer of asphalt debris noted.	D		0	
15			D		0	
16		Bottom of exploration at 15 ft. Test pit terminated due to excessive groundwater infiltration.				
17		<u>Samples Submitted to Lab and Headspace Analysis Summary:</u>				
18		TP-D10 (0-0.5 ft.); Headspace: 0 ppm. TP-D10 (7-7.5 ft.); Headspace: 20 ppm. TP-D10 (9-10 ft.); Headspace: 0 ppm.				
REMARKS: 1) Groundwater first noted at approximately 9 feet.						
TEST PIT PLAN 		BOULDER CLASS 12"-18" A 18"-36" B >36" C	TEST PIT COORDINATES Northing: 2696245.4 Easting: 814134.5 Northing: 2696253.2 Easting: 814134.4 Northing: 2696247.4 Easting: 814115.2 Northing: 2696242.6 Easting: 814117.0		EXCAVATION EFFORT E = Easy M = Moderate D = Difficult	

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D12
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, cool

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

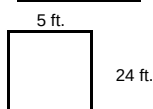
Ground El. _____
Datum _____
Date Start 9/8/2000
Date End 9/8/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M A R K S
1	▽ FILL	Sand blasting material "black beauty" (0.5 ft.) 0.5 ft.: FILL: mixture of sand & gravel, wood, metal, concrete, cobbles, and boulders (Class A & B), brown to black. Approximately 30 - 35% debris.	E		17 0	1
2		2.5 ft.: FILL: mixture of sand & gravel, wood, and metal. Approximately 10 - 20% debris.	E		0	
3			M		0	
4			M		0	
5			M		0	
6		5.0 ft.: Large granite boulders noted. (Class C)	D	6A	0	
7		6.5 ft.: Becomes wet.	D		0	2
8			M		0	
9			M		0	
10		9.0 ft.: Asphalt debris noted.	M		20	
11			M		0	
12			M		0	
13		12.0 ft.: Section of 24-inch diameter RCP pipe noted.	M	6B	0	
14		13.0 ft.: Layer of asphalt debris noted. Several large pieces.	M		0	
15	OH	14.0 ft.: Fill/organic clay interface.	E		2.5	
16		Bottom of exploration at 15 ft.				
17		<u>Samples Submitted to Lab and Headspace Analysis Summary:</u>				
18		TP-D12 (0-0.5 ft.); Headspace: 17 ppm. TP-D12 (9-10 ft.); Headspace: 20 ppm. TP-D12 (14-15 ft.); Headspace: 2.5 ppm.				

REMARKS:

- 1) First test pit in a series of test pits that will be excavated to form an approximate north-south test trench along the proposed sheet pile wall.
- 2) Groundwater first noted at approximately 6.5 feet.

TEST PIT PLAN



BOULDER

CLASS

12"-18" A
18"-36" B
>36" C

TEST PIT COORDINATES

Northing: 2697277.7 Easting: 814074.9
Northing: 2697277.2 Easting: 814079.8
Northing: 2697303.2 Easting: 814079.3
Northing: 2697303.5 Easting: 814075.9

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D13
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, hot, humid

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

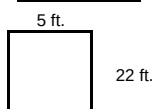
Ground El. _____
Datum _____
Date Start 9/11/2000
Date End 9/11/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M K S
1	 FILL	FILL: mixture of sand & gravel, wood, concrete, metal, granite (cobblestones), cobbles, and boulders (Class B), and brick. Approximately 30 - 40% debris. 5.0 ft.: Becomes wet. 13.0 ft.: Layer of asphalt debris noted. Several large pieces noted. Distinct petroleum like odor noted. High PID readings (max. 170 ppm) recorded on spoils pile. Bottom of exploration at 13.5 ft. Test pit terminated due to excessive groundwater infiltration. <u>Samples Submitted to Lab and Headspace Analysis Summary:</u> TP-D13 (13-13.5 ft.); Headspace: 52 ppm.	E		0	
2			E		0	
3			E		0	
4			M		0	
5			M		0	1
6			M		0	
7			M		0	
8			M		0	
9			M		0	
10			M		0	
11			M		0	
12			M		0	
13			M	6C	0	
14					52	
15						
16						
17						
18						

REMARKS:

- 1) Groundwater first noted at approximately 5 feet.

TEST PIT PLAN



BOULDER

12"-18"
18"-36"
>36"

CLASS

A
B
C

TEST PIT COORDINATES

Northing: 2697303.2 Easting: 814079.3
Northing: 2697303.5 Easting: 814075.9
Northing: 2697331.9 Easting: 814080.8
Northing: 2697329.4 Easting: 814069.3

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D14
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, hot, humid

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

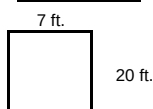
Ground El. _____
Datum _____
Date Start 9/11/2000
Date End 9/11/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M K S
1	FILL	FILL: mixture of sand & gravel, concrete, metal, asphalt, wood, and boulders (Class B). Approximately 40 - 50% debris.	E		0	
2			E		0	
3			E		0	
4			E		0	
5		4.0 ft.: Debris content decreases to approximately 30 - 40%.	E		0	
6		6.0 ft.: Large piece of concrete debris noted.	E		0	
7			E		0	
8			E		0	
9			E		0	
10			E		0	
11		11.0 ft.: Becomes wet.	E		0	1
12			E		0	
13		13 to 14.5 ft.: Notable layer of asphalt & concrete debris noted. Several large pieces noted. Distinct petroleum like odor and slight sheen noted.	D		0	
14			D	6D	0	
15		14.5 ft.: Fill/organic clay interface.	M		0	
16		Bottom of exploration at 15 ft.				
17		<u>Samples Submitted to Lab and Headspace Analysis Summary:</u>				
18		No samples taken.				

REMARKS:

- 1) Groundwater first noted at approximately 11 feet.

TEST PIT PLAN



BOULDER

CLASS

12"-18" A
18"-36" B
>36" C

TEST PIT COORDINATES

Northing: 2697331.9 Easting: 814080.8
Northing: 2697329.4 Easting: 814069.3
Northing: 2697344.0 Easting: 814070.1
Northing: 2697345.1 Easting: 814077.3

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D15
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, hot, humid

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

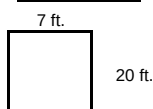
Ground El. _____
Datum _____
Date Start 9/11/2000
Date End 9/11/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M A R K S
1	FILL	FILL: mixture of sand & gravel, concrete, asphalt, brick, boulders (Class A& B), and metal. Approximately 30 - 40% debris.	E		0	
2			M		0	
3			M		0	
4			M		0	
5		4.0 ft.: Large piece of concrete encased steel pipe noted.	M	6E	0	
6			M		0	
7			M		0	
8			M		0	
9			D		0	
10		9.0 ft.: Large boulder (Class C) noted.	D	6F	0	
11	▽	10.0 ft.: Several boulders (Class B) noted.	M		0	1
12		11.0 ft.: Becomes wet.	M		0	
13			D		0	
14		13.0 ft.: Layer of asphalt and concrete debris noted. Several large pieces with reinforcing steel noted.	D		0	
15		14.0 ft.: Fill/organic clay interface.	M		0	
16		Bottom of exploration at 15 ft.				
17		Samples Submitted to Lab and Headspace Analysis Summary:				
18		No samples taken.				

REMARKS:

- 1) Groundwater first noted at approximately 11 feet.

TEST PIT PLAN



BOULDER

CLASS

12"-18" A
18"-36" B
>36" C

TEST PIT COORDINATES

Northing: 2697344.0 Easting: 814070.1
Northing: 2697345.1 Easting: 814077.3
Northing: 2697364.6 Easting: 814073.9
Northing: 2697363.0 Easting: 814067.6

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D16
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, hot, humid

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

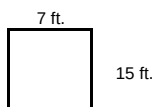
Ground El. _____
Datum _____
Date Start 9/11/2000
Date End 9/11/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M K S
1	FILL 	FILL: mixture of sand & gravel, concrete, asphalt, wood, cobbles, boulders (Class A & B), and metal. Approximately 30 - 40% debris.	E		0	
2			M		0	
3			M		0	
4			M		0	
5		4.0 ft.: Large piece of granite curbing and several pieces of steel noted.	M	7A	0	
6		5.0 ft.: Several large pieces of reinforced concrete debris noted.	D	7B	0	
7			D		0	
8		8.0 ft.: Becomes wet.	D		0	1
9		9.0 ft.: Difficult excavating. Several large boulders (Class B & C) mixed with debris.	D		0	
10			M		0	
11			M		0	
12			D		0	
13			M		0	
14		13.0 ft.: Layer of asphalt debris noted.	D		0	
15	OH	14.0 ft.: Fill/organic clay interface.	M		0	
16		Bottom of exploration at 15 ft.				
17		<u>Samples Submitted to Lab and Headspace Analysis Summary:</u>				
18		No samples taken.				

REMARKS:

- 1) Groundwater first noted at approximately 8 feet.

TEST PIT PLAN



BOULDER

CLASS

12"-18" A
18"-36" B
>36" C

TEST PIT COORDINATES

Northing: 2697364.6 Easting: 814073.9
Northing: 2697363.0 Easting: 814067.6
Northing: 2697378.2 Easting: 814066.9
Northing: 2697379.3 Easting: 814073.4

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D17
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, hot, humid

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

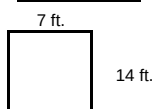
Ground El. _____
Datum _____
Date Start 9/11/2000
Date End 9/11/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M K S
1	FILL ▽	FILL: mixture of sand & gravel, concrete, cobbles, wood, brick, asphalt, and boulders (Class A). Approximately 30 - 40% debris. 8.0 ft.: Becomes wet. 10.0 ft.: Several large pieces of asphalt debris noted. 13.0 ft.: Large cylindrical piece of steel noted. 14.0 ft.: Layer of asphalt debris and cobbles noted. 14.5 ft.: Fill/organic clay interface.	E		0	
2			M		0	
3			M		0	
4			M		0	
5			M		0	
6			M		0	
7			M		0	
8			M		0	1
9			D		0	
10			D		0	
11			D		0	
12			D		0	
13			D		0	
14			D	7C	0	
15	OH	M		0		
16						
17						
18						

REMARKS:

- 1) Groundwater first noted at approximately 8 feet.

TEST PIT PLAN



BOULDER

12"-18"
18"-36"
>36"

CLASS

A
B
C

TEST PIT COORDINATES

Northing: 2697378.2 Easting: 814066.9
Northing: 2697379.3 Easting: 814073.4
Northing: 2697392.2 Easting: 814072.2
Northing: 2697392.2 Easting: 814063.8

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D18
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, hot, humid

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

Ground El. _____
Datum _____
Date Start 9/11/2000
Date End 9/11/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	REMARKS
1	FILL ▽	FILL: mixture of sand & gravel, concrete, asphalt, brick, and wood. Section of steel cable noted. Approximately 30 - 40% debris.	E		0	
2			M		0	
3			M		0	
4			M		0	
5			D		0	
6		5.0 ft.: Difficult excavating. Several large pieces of concrete and asphalt debris noted. Debris content increases to approximately 40 - 50%.	D	7D	0	
7			D		0	
8			M		0	
9			M		0	1
10			M		0	
11		9.0 ft.: Becomes wet.	M		0	
12			M		0	
13			D		0	
14			D		0	
15			D		0	
16	OH	15.0 ft.: Fill/organic clay interface.				
17		Bottom of exploration at 15.5 ft.				
18		<u>Samples Submitted to Lab and Headspace Analysis Summary:</u> No samples taken.				

REMARKS:

- 1) Groundwater first noted at approximately 9 feet.

TEST PIT PLAN

8 ft.



16 ft.



BOULDER

12"-18"
18"-36"
>36"

CLASS

A
B
C

TEST PIT COORDINATES

Northing: 2697392.2 Easting: 814072.2
Northing: 2697392.2 Easting: 814063.8
Northing: 2697407.1 Easting: 814061.6
Northing: 2697408.2 Easting: 814069.5

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D19
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, hot, humid

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

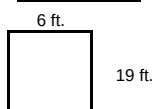
Ground El. _____
Datum _____
Date Start 9/11/2000
Date End 9/11/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M A R K S
1	FILL 	FILL: mixture of sand & gravel, asphalt, metal, reinforced concrete, plastic, and wood. Tire also noted. Approximately 40 - 50% debris.	M		0	1
2			M		0	
3			M		0	
4			M		0	
5			M		0	
6			M		0	
7			M		0	
8		2.0 ft.: Piece of metal noted. 8.0 ft.: Becomes wet. Debris content decreases to approximately 30 - 40%.	D		0	2
9			D	7E	0	
10			D		0	
11			D		0	
12			D		0	
13			D		0	
14			D		0	
15		13 to 15 ft.: Layer of asphalt debris noted.	D		0	
16	OH	15.0 ft.: Fill/organic clay interface.		7F		
17		Bottom of exploration at 15 ft.				
18		<u>Samples Submitted to Lab and Headspace Analysis Summary:</u> No samples taken.				

REMARKS:

- 1) Last test pit in a series of test pits that were excavated to form the north-south trench along the proposed sheet pile wall.
- 2) Groundwater first noted at approximately 8 feet.

TEST PIT PLAN



BOULDER

12"-18"
18"-36"
>36"

CLASS

A
B
C

TEST PIT COORDINATES

Northing: 2697407.1 Easting: 814061.6
Northing: 2697408.2 Easting: 814069.5
Northing: 2697427.4 Easting: 814068.1
Northing: 2697426.6 Easting: 814061.8

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG

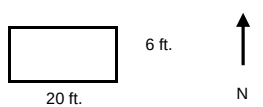
 Nobis Engineering PO Box 2890 Concord, New Hampshire 03302	PROJECT		TEST PIT NO. <u>TP-D20</u>
	Remedial Design For Operable Unit 01		SHEET <u>1</u> of <u>1</u>
	New Bedford Harbor Superfund Site		FILE NO. <u>48138.23</u>
	New Bedford, Massachusetts		CHKD. BY <u>C. Thunberg</u>

Logged By <u>E. Thibodeau</u>	Make <u>Hyundai</u>	Ground El. _____
Contractor <u>Foster Wheeler Environmental</u>	Model <u>320 LC-3</u>	Datum _____
Operator <u>E. Perry</u>	Capacity <u>2.5 cubic yd. bucket</u>	Date Start <u>9/12/2000</u>
Weather <u>Sunny, warm</u>	Reach <u>36 ft.</u>	Date End <u>9/12/2000</u>

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	REMARKS
1	FILL	FILL: mixture of sand & gravel, wood, concrete, metal, and cobbles. Several relatively large pieces of metal debris noted approximately 1 to 2 feet below ground surface. Approximately 45 - 50% debris.	E	8A	0	1,2,3
2			E		0	
3			E		0	
4		3.0 ft.: Section of steel pipe filled with concrete. Increased amount of metal debris. Debris content increases to approximately 50 - 60%.	M	8B	0	
5		4.0 ft.: Debris content increases to approximately 100%, very little soil noted. Mixture of wood, plastic, metal debris, fishing nets, rope, and steel cable. Distinct odor and black discoloration noted.	M	8C, 8D	0	
6		6.0 ft.: Large piece of steel pipe filled with concrete. Possible former pipe pile or spud.	M		0	
7			D		0	
8			D	8E	0	
9		7.0 ft.: Difficult excavating. Three large pieces of steel pipe uncovered. Possible former pipe pile or spud.	D		0	
10			D		0	
11			D		0	
12			D		0	
13			D		0	
14			D		0	
15			D		0	
16	OH	15.0 ft.: Fill/organic clay interface.		8F		
17		Bottom of exploration at 15.5 ft.				
18		<u>Samples Submitted to Lab and Headspace Analysis Summary:</u> No Samples taken.				

REMARKS:

- Groundwater depth not recorded.
- Compressed gas cylinder noted within debris. Unknown depth.
- First test pit in a series of test pits that will be excavated to form an approximate east-west test trench across the proposed sheet pile wall.

TEST PIT PLAN 	BOULDER CLASS 12"-18" A 18"-36" B >36" C	TEST PIT COORDINATES Northing: 2697325.6 Easting: 814101.3 Northing: 2697331.5 Easting: 814101.9 Northing: 2697331.4 Easting: 814081.5 Northing: 2697324.7 Easting: 814081.7	EXCAVATION EFFORT E = Easy M = Moderate D = Difficult
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TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D21
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, warm

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

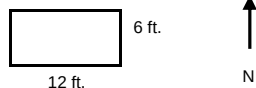
Ground El. _____
Datum _____
Date Start 9/12/2000
Date End 9/12/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M A R K S
1	FILL ▽	FILL: mixture of sand & gravel, asphalt, wood, concrete, and cobbles. Approximately 30 - 40% debris.	M		0	
2			M		0	
3			M		0	
4			M		0	
5			M		0	
6			M		0	
7			M		0	
8			M		0	
9		9.0 ft.: Becomes wet.	M		0	1
10			M		0	
11			M		0	
12			M		0	
13		13 to 14 ft.: Layer of asphalt and concrete debris. Several large pieces noted. Distinct petroleum like odor noted, previously sampled in TP-D13.	M		0	
14			M		0	
15		Bottom of exploration at 14 ft. Test pit terminated due to caving backfill from TP-D13. <u>Samples Submitted to Lab and Headspace Analysis Summary:</u> No samples taken.				
16						
17						
18						

REMARKS:

- Groundwater first noted at approximately 9 feet.
-

TEST PIT PLAN



BOULDER

BOULDER	CLASS
12"-18"	A
18"-36"	B
>36"	C

TEST PIT COORDINATES

Northing: 2697331.4 Easting: 814081.5
Northing: 2697324.7 Easting: 814081.7
Northing: 2697329.2 Easting: 814069.7
Northing: 2697323.5 Easting: 814070.0

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TEST PIT LOG



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01

New Bedford Harbor Superfund Site

New Bedford, Massachusetts

TEST PIT NO. TP-D22
SHEET 1 of 1
FILE NO. 48138.23
CHKD. BY C. Thunberg

Logged By E. Thibodeau
Contractor Foster Wheeler Environmental
Operator E. Perry
Weather Sunny, warm

Make Hyundai
Model 320 LC-3
Capacity 2.5 cubic yd. bucket
Reach 36 ft.

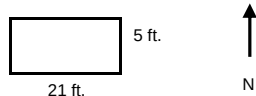
Ground El. _____
Datum _____
Date Start 9/12/2000
Date End 9/12/2000

DEPTH BELOW GRADE (ft)	STRATA CHANGE & WATER LEVEL	SUBSURFACE DESCRIPTION (ASTM D2488)	EXCAVATION EFFORT	PHOTO NUMBER	PID READING (PPM)	R E M A R K S
1	FILL ▽ =	FILL: mixture of sand & gravel, concrete, asphalt, wood, and metal. Approximately 30 - 40% debris. 2.0 ft.: Several pieces of metal noted.	E			1
2			E			
3			M			
4			M			
5			M			
6			D			
7		6 to 7.0 ft.: Layer of concrete debris (Class A & B).	D			
8			D			
9			M			2
10			M			
11			M			
12			D			
13			D			
14			D			
15	OH	Bottom of exploration at 14.5 ft. <u>Samples Submitted to Lab and Headspace Analysis Summary:</u> No samples taken.				
16						
17						
18						

REMARKS:

- 1) Last test pit in a series of test pits that were excavated to form the east-west trench across the proposed sheet pile wall.
- 2) Groundwater first noted at approximately 9 feet.

TEST PIT PLAN



BOULDER

CLASS
12"-18" A
18"-36" B
>36" C

TEST PIT COORDINATES

Northing: 2697329.2 Easting: 814069.7
Northing: 2697323.5 Easting: 814070.0
Northing: 2697322.8 Easting: 814049.4
Northing: 2697327.6 Easting: 814048.4

EXCAVATION EFFORT

E = Easy
M = Moderate
D = Difficult

TP ID	Lat	Long	Northing	Easting
101s	41.648416563	-70.923607602	2697441.060	813701.337
102s	41.648423818	-70.923579663	2697443.755	813708.955
103s	41.648449465	-70.923581474	2697453.097	813708.397
104	41.648446261	-70.923607350	2697451.882	813701.333
2a01	41.648450193	-70.923015354	2697454.409	813863.120
2a02	41.648455533	-70.922991676	2697456.398	813869.578
2a03	41.648506499	-70.922999636	2697474.955	813867.277
2a04	41.648501229	-70.923031552	2697472.976	813858.567
301	41.648476516	-70.922374304	2697465.186	814038.258
302	41.648470418	-70.922353124	2697463.003	814044.062
303	41.648507590	-70.922339556	2697476.574	814047.679
304	41.648511477	-70.922365134	2697477.942	814040.678
5a01	41.648211214	-70.922386029	2697368.492	814035.709
5a02	41.648195157	-70.922392463	2697362.629	814033.990
5a03	41.648194879	-70.922323407	2697362.656	814052.864
5a04	41.648208836	-70.922321827	2697367.744	814053.262
1201	41.647961293	-70.922244733	2697277.686	814074.943
1202	41.647959836	-70.922227070	2697277.188	814079.774
1203	41.648031204	-70.922228246	2697303.191	814079.276
1204	41.648032056	-70.922240767	2697303.478	814075.852
1205	41.648110095	-70.922222136	2697331.949	814080.751
1206	41.648103301	-70.922264040	2697329.396	814069.316
1207	41.648143344	-70.922260818	2697343.993	814070.097
1208	41.648146297	-70.922234257	2697345.118	814077.349
1209	41.648199736	-70.922246514	2697364.568	814073.867
1210	41.648195598	-70.922269356	2697363.018	814067.635
1211	41.648237415	-70.922271773	2697378.251	814066.871
1212	41.648240251	-70.922247761	2697379.329	814073.427
1213	41.648275721	-70.922251737	2697392.246	814072.252
1214	41.648275736	-70.922282718	2697392.194	814063.785
1215	41.648316781	-70.922290261	2697407.137	814061.622
1216	41.648319617	-70.922261508	2697408.223	814069.474
1217	41.648372347	-70.922266009	2697427.429	814068.113
1218	41.648370054	-70.922289143	2697426.550	814061.796
2001	41.648092159	-70.922147240	2697325.552	814101.265
2002	41.648108507	-70.922144894	2697331.514	814101.866
2003	41.648108645	-70.922219413	2697331.426	814081.499
2004	41.648090229	-70.922218752	2697324.717	814081.725
2005	41.648102840	-70.922262695	2697329.230	814069.684
2006	41.648087228	-70.922261732	2697323.543	814069.986
2007	41.648085559	-70.922337239	2697322.796	814049.353
2008	41.648098904	-70.922340577	2697327.652	814048.408

Packer Property

TP ID	Lat	Long	Northing	Easting
101	41.64512734	-70.922052348	2696245.387	814134.521
102	41.64514888	-70.922052493	2696253.238	814134.428
103	41.64513327	-70.922122993	2696247.418	814115.197
104	41.64511996	-70.922116469	2696242.582	814117.013
701	41.645253828	-70.922555764	2696290.548	813996.614
702	41.645255847	-70.922580407	2696291.238	813989.874

703	41.645281590	-70.922564139	2696300.648	813994.257
704	41.645295695	-70.922590109	2696305.740	813987.124

Appendix B
Summary of Analytical Results

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D1 (0-2)		TP-D1 (5-5.5)		TP-D1 (5.5-6)		TP-D2A (0-0.5)		TP-D2A (4-5)		TP-D2A (7)		TP-D3 (0-0.5)	
Date Sampled	09/05/2000		09/05/2000		09/05/2000		09/06/2000		09/06/2000		09/06/2000		09/06/2000	
Volatile Organic Compounds ug/Kg														
1,1,1,2-Tetrachloroethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,1,1-Trichloroethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,1,2,2-Tetrachloroethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,1,2-Trichloroethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,1-Dichloroethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,1-Dichloroethene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,1-Dichloropropene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,2,3-Trichlorobenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,2,3-Trichloropropane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,2,4-Trichlorobenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,2,4-Trimethylbenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,2-Dibromo-3-Chloropropane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,2-Dibromoethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,2-Dichlorobenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,2-Dichloroethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,2-Dichloropropane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,3,5-Trimethylbenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,3-Dichlorobenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,3-Dichloropropane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
1,4-Dichlorobenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
2,2-Dichloropropane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
2-Butanone	24	U	8.05	J	8.86	J	13.8	J	16.1	J	11.4	J	15.9	J
2-Chlorotoluene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
2-Hexanone	12	U	12.6	U	15.3	U	20.4	U	22.3	U	20.6	U	27.4	U
4-Chlorotoluene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
4-Methyl-2-Pentanone	12	U	12.6	U	15.3	U	20.4	U	22.3	U	20.6	U	27.4	U
Acetone	47.9		42.0		48.4		98.4		83.2		66.1		92	
Benzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Bromobenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Bromochloromethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Bromodichloromethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Bromoform	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Bromomethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Carbon Tetrachloride	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Chlorobenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Chloroethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Chloroform	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Chloromethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
cis-1,2-Dichloroethene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
cis-1,3-Dichloropropene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Dibromochloromethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Dibromomethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Dichlorodifluoromethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Ethylbenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Hexachlorobutadiene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Isopropylbenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Methyl tert-Butyl Ether	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Methylene Chloride	4.79	U	5.04	U	6.12	U	8.15	U	8.91	U	8.26	U	11	U
n-Butylbenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
n-Propylbenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Naphthalene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
sec-Butylbenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Styrene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
tert-Butylbenzene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Tetrachloroethene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Tetrahydrofuran	4.79	U	5.04	U	6.12	U	8.15	U	8.91	U	8.26	U	11	U
Toluene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
trans-1,2-Dichloroethene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
trans-1,3-Dichloropropene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Trichloroethene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Trichlorofluoromethane	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
Vinyl Acetate	4.79	U	5.04	U	6.12	U	8.15	U	8.91	U	8.26	U	11	U
Vinyl Chloride	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
O Xylene	2.4	U	2.52	U	3.06	U	4.07	U	4.45	U	4.13	U	5.48	U
P,M Xylene	4.79	U	5.04	U	6.12	U	8.15	U	8.91	U	8.26	U	11	U

U = Analyte was not detected.
J = Value is approximate.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D3-(2-3)		TP-D3-(9-10)		TP-D5A-(0-0.5)		TP-D5A-(13-14)		TP-D7-(0-0.5)		TP-D7-(8.5-9)		TP-D7-(11.5-12)	
Date Sampled	09/06/2000		09/06/2000		09/07/2000		09/07/2000		09/13/2000		09/13/2000		09/13/2000	
Volatiles Organic Compounds ug/Kg														
1,1,1,2-Tetrachloroethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,1,1-Trichloroethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,1,2,2-Tetrachloroethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,1,2-Trichloroethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,1-Dichloroethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,1-Dichloropropene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,2,3-Trichlorobenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,2,3-Trichloropropane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,2,4-Trichlorobenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,2,4-Trimethylbenzene	5.15		3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,2-Dibromo-3-Chloropropane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,2-Dibromoethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,2-Dichlorobenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,2-Dichloroethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,2-Dichloropropane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,3,5-Trimethylbenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,3-Dichlorobenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,3-Dichloropropane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
1,4-Dichlorobenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
2,2-Dichloropropane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
2-Butanone	15.1	J	14	J	45.4	U	55.7	U	52.6	U	41.5	U	46.3	U
2-Chlorotoluene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
2-Hexanone	18.9	U	17.8	U	22.7	U	27.8	U	26.3	U	20.8	U	23.2	U
4-Chlorotoluene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
4-Methyl-2-Pentanone	18.9	U	17.8	U	22.7	U	27.8	U	26.3	U	20.8	U	23.2	U
Acetone	64.3		67.8		144		114		76.2		55.2		56.5	
Benzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	1.26	J
Bromobenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Bromochloromethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Bromodichloromethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Bromoform	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Bromomethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Carbon Tetrachloride	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Chlorobenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Chloroethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Chloroform	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Chloromethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
cis-1,2-Dichloroethene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
cis-1,3-Dichloropropene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Dibromochloromethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Dibromomethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Dichlorodifluoromethane	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Ethylbenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Hexachlorobutadiene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Isopropylbenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Methyl tert-Butyl Ether	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Methylene Chloride	7.57	U	7.1	U	9.08	U	11.1	U	10.5	U	8.31	U	9.26	U
n-Butylbenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
n-Propylbenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Naphthalene	7.44		3.55	U	4.54	U	5.57	U	5.26	U	7.74		5.81	
sec-Butylbenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Styrene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
tert-Butylbenzene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Tetrachloroethene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Tetrahydrofuran	7.57	U	7.1	U	3.62	J	11.1	U	10.5	U	8.31	U	9.26	U
Toluene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
trans-1,2-Dichloroethene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
trans-1,3-Dichloropropene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Trichloroethene	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
Trichlorofluoromethane	3.79	U	3.55	U	154		5.57	U	5.26	U	4.15	U	4.63	U
Vinyl Acetate	7.57	U	7.1	U	9.08	U	11.1	U	10.5	U	8.31	U	9.26	U
Vinyl Chloride	3.79	U	3.55	U	4.54	U	5.57	U	5.26	U	4.15	U	4.63	U
O Xylene	3.79	U	3.55	U	1.74	J	5.57	U	5.26	U	4.15	U	4.63	U
P,M Xylene	7.57	U	7.1	U	2.36	J	11.1	U	10.5	U	8.31	U	9.26	U

U = Analyte was not detected.
J = Value is approximate.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D18 (0-0.5)		TP-D18 (7-7.5)		TP-D18 (9-10)		TP-D12 (0-0.5)		TP-D12 (9-10)		TP-D12 (9-10) B		TP-D12 (14-15)	
Date Sampled	09/12/2000		09/12/2000		09/12/2000		09/08/2000		09/08/2000		09/08/2000		09/08/2000	
Variable Organic Compounds ug/Kg									Field Dup. Pair		Field Dup. Pair			
1,1,1,2-Tetrachloroethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,1,1-Trichloroethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,1,2,2-Tetrachloroethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,1,2-Trichloroethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,1-Dichloroethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,1-Dichloroethene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,1-Dichloropropene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,2,3-Trichlorobenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,2,3-Trichloropropane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,2,4-Trichlorobenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,2,4-Trimethylbenzene	4.91	U	5.4	U	3.99	J	5.36	U	5.07	U	5.24	U	4.23	U
1,2-Dibromo-3-Chloropropane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,2-Dibromoethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,2-Dichlorobenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,2-Dichloroethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,2-Dichloropropane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,3,5-Trimethylbenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,3-Dichlorobenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,3-Dichloropropane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
1,4-Dichlorobenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
2,2-Dichloropropane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
2-Butanone	49.1	U	54	U	49.4	U	53.6	U	50.7	U	52.4	U	42.3	U
2-Chlorotoluene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
2-Hexanone	24.6	U	27	U	24.7	U	26.8	U	25.4	U	26.2	U	21.2	U
4-Chlorotoluene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
4-Methyl-2-Pentanone	24.6	U	27	U	24.7	U	26.8	U	25.4	U	26.2	U	21.2	U
Acetone	64.5		109		65.9		133		144		127		85.4	
Benzene	4.91	U	5.4	U	4.94	U	5.36	U	0.83	J	5.24	U	4.23	U
Bromobenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Bromochloromethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Bromodichloromethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Bromoform	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Bromomethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Carbon Tetrachloride	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Chlorobenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Chloroethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Chloroform	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Chloromethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
cis-1,2-Dichloroethene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
cis-1,3-Dichloropropene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Dibromochloromethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Dibromomethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Dichlorodifluoromethane	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Ethylbenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Hexachlorobutadiene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Isopropylbenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Methyl tert-Butyl Ether	4.91	U	5.4	U	2.96	J	5.36	U	5.07	U	5.24	U	5.79	
Methylene Chloride	9.83	U	10.8	U	9.88	U	10.7	U	10.1	U	10.5	U	8.47	U
n-Butylbenzene	4.91	U	5.4	U	2.19	J	5.36	U	5.07	U	5.24	U	4.23	U
n-Propylbenzene	4.91	U	5.4	U	2.21	J	5.36	U	5.07	U	5.24	U	4.23	U
Naphthalene	4.91	U	5.4	U	5.67		5.36	U	5.07	U	5.24	U	0.6	J
sec-Butylbenzene	4.91	U	5.4	U	2.67	J	5.36	U	5.07	U	5.24	U	4.23	U
Styrene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
tert-Butylbenzene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Tetrachloroethene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Tetrahydrofuran	9.83	U	10.8	U	9.88	U	10.7	U	10.1	U	2.31	J	8.47	U
Toluene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
trans-1,2-Dichloroethene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
trans-1,3-Dichloropropene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Trichloroethene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
Trichlorofluoromethane	4.91	U	5.4	U	4.94	U	89.9		1.84	J	7.51		4.23	U
Vinyl Acetate	9.83	U	10.8	U	9.88	U	10.7	U	10.1	U	10.5	U	8.47	U
Vinyl Chloride	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
O Xylene	4.91	U	5.4	U	4.94	U	5.36	U	5.07	U	5.24	U	4.23	U
P,M Xylene	9.83	U	10.8	U	9.88	U	10.7	U	10.1	U	10.5	U	8.47	U

U = Analyte was not detected.
J = Value is approximate.

Sample ID	TP-D13 (13-13.5)	EB-090700
Date Sampled	09/14/2000	09/07/2000
Volatiles Organic Compounds ug/Kg		ug/l
1,1,1,2-Tetrachloroethane	4.07	U
1,1,1-Trichloroethane	4.07	U
1,1,2,2-Tetrachloroethane	4.07	U
1,1,2-Trichloroethane	4.07	U
1,1-Dichloroethane	4.07	U
1,1-Dichloroethene	4.07	U
1,1-Dichloropropene	4.07	U
1,2,3-Trichlorobenzene	4.07	U
1,2,3-Trichloropropane	4.07	U
1,2,4-Trichlorobenzene	4.07	U
1,2,4-Trimethylbenzene	4.07	U
1,2-Dibromo-3-Chloropropane	4.07	U
1,2-Dibromoethane	4.07	U
1,2-Dichlorobenzene	4.07	U
1,2-Dichloroethane	4.07	U
1,2-Dichloropropane	4.07	U
1,3,5-Trimethylbenzene	0.81	J
1,3-Dichlorobenzene	4.07	U
1,3-Dichloropropane	4.07	U
1,4-Dichlorobenzene	4.07	U
2,2-Dichloropropane	4.07	U
2-Butanone	3.34	J
2-Chlorotoluene	4.07	U
2-Hexanone	20.4	U
4-Chlorotoluene	4.07	U
4-Methyl-2-Pentanone	20.4	U
Acetone	83.5	20
Benzene	0.83	J
Bromobenzene	4.07	U
Bromochloromethane	4.07	U
Bromodichloromethane	4.07	U
Bromoform	4.07	U
Bromomethane	4.07	U
Carbon Tetrachloride	4.07	U
Chlorobenzene	4.07	U
Chloroethane	4.07	U
Chloroform	4.07	U
Chloromethane	4.07	U
cis-1,2-Dichloroethene	4.07	U
cis-1,3-Dichloropropene	4.07	U
Dibromochloromethane	4.07	U
Dibromomethane	4.07	U
Dichlorodifluoromethane	4.07	U
Ethylbenzene	4.07	U
Hexachlorobutadiene	4.07	U
Isopropylbenzene	4.07	U
Methyl tert-Butyl Ether	0.68	J
Methylene Chloride	1.06	J
n-Butylbenzene	4.07	U
n-Propylbenzene	4.07	U
Naphthalene	0.75	J
sec-Butylbenzene	4.07	U
Styrene	4.07	U
tert-Butylbenzene	4.07	U
Tetrachloroethene	4.07	U
Tetrahydrofuran	8.14	U
Toluene	4.07	U
trans-1,2-Dichloroethene	4.07	U
trans-1,3-Dichloropropene	4.07	U
Trichloroethene	4.07	U
Trichlorofluoromethane	4.07	U
Vinyl Acetate	8.14	U
Vinyl Chloride	4.07	U
O Xylene	4.07	U
P,M Xylene	8.14	U

U = Analyte was not detected.
J = Value is approximate.
NA = Not a target analyte.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D1 (0-2)		TP-D1 (5-5.5)		TP-D1 (5.5-6)		TP-D2A (0-0.5)		TP-D2A (4-5)		TP-D2A (7)	
Date Sampled	9/5/00		9/5/00		9/5/00		9/6/00		9/6/00		9/6/00	
Semi-Volatile Organic Compounds ug/Kg												
1,2,4-Trichlorobenzene	5,350	U	611	U	619	U	538	U	541	U	559	U
1,2-Dichlorobenzene	5,350	U	611	U	619	U	538	U	541	U	559	U
1,3-Dichlorobenzene	5,350	U	611	U	619	U	538	U	541	U	559	U
1,4-Dichlorobenzene	5,350	U	611	U	619	U	538	U	541	U	559	U
2,4,5-Trichlorophenol	5,350	U	611	U	619	U	538	U	541	U	559	U
2,4,6-Trichlorophenol	5,350	U	611	U	619	U	538	U	541	U	559	U
2,4-Dichlorophenol	5,350	U	611	U	619	U	538	U	541	U	559	U
2,4-Dimethylphenol	5,350	U	611	U	619	U	538	U	541	U	559	U
2,4-Dinitrophenol	5,350	U	611	U	619	U	538	U	541	U	559	U
2,4-Dinitrotoluene	5,350	U	611	U	619	U	538	U	541	U	559	U
2,6-Dinitrotoluene	5,350	U	611	U	619	U	538	U	541	U	559	U
2-Chloronaphthalene	5,350	U	611	U	619	U	538	U	541	U	559	U
2-Chlorophenol	5,350	U	611	U	619	U	538	U	541	U	559	U
2-Methylnaphthalene	3,130	J	339	J	712		538	U	541	U	559	U
2-Methylphenol	5,350	U	611	U	619	U	538	U	541	U	559	U
2-Nitroaniline	5,350	U	611	U	619	U	538	U	541	U	559	U
2-Nitrophenol	5,350	U	611	U	619	U	538	U	541	U	559	U
3,3'-Dichlorobenzidine	5,350	U	611	U	619	U	538	U	541	U	559	U
3-Nitroaniline	5,350	U	611	U	619	U	538	U	541	U	559	U
4,6-Dinitro-2-Methylphenol	5,350	U	611	U	619	U	538	U	541	U	559	U
4-Bromophenyl-phenylether	5,350	U	611	U	619	U	538	U	541	U	559	U
4-Chloro-3-Methylphenol	5,350	U	611	U	619	U	538	U	541	U	559	U
4-Chloro-phenyl-phenyl ether	5,350	U	611	U	619	U	538	U	541	U	559	U
4-Chloroaniline	5,350	U	611	U	619	U	538	U	541	U	559	U
4-Methylphenol	5,350	U	611	U	619	U	538	U	541	U	559	U
4-Nitroaniline		R		R		R		R		R		R
4-Nitrophenol	5,350	U	611	U	619	U	538	U	541	U	559	U
Acenaphthene	9,310		611	U	325	J	538	U	541	U	559	U
Acenaphthylene	2,840	J	611	U	619	U	538	U	541	U	559	U
Anthracene	13,900		417	J	411	J	246	J	541	U	189	J
Benzo(a)anthracene	27,100		786		589	J	726		323	J	637	
Benzo(a)pyrene	27,800		889		537	J	798		308	J	618	
Benzo(b)fluoranthene	19,300		668		471	J	641		343	J	515	J
Benzo(g,h,i)perylene	16,900		424	J	296	J	303	J	541	U	251	J
Benzo(k)fluoranthene	23,300		761		527	J	971		425	J	642	
Benzoic Acid	5,350	U	611	U	619	U	538	U	541	U	559	U
Benzyl Alcohol		R		R		R		R		R		R
bis(2-Chloroethoxy)methane	5,350	U	611	U	619	U	538	U	541	U	559	U
bis(2-Chloroethyl)ether	5,350	U	611	U	619	U	538	U	541	U	559	U
bis(2-Chloroisopropyl)ether		R		R		R		R		R		R
bis(2-Ethylhexyl)phthalate	5,350	U	611	U	619	U	538	U	541	U	559	U
Butylbenzylphthalate	5,350	U	611	U	619	U	538	U	541	U	559	U
Chrysene	29,400		903		719		735		397	J	662	
Di-n-butylphthalate	5,350	U	611	U	619	U	538	U	541	U	559	U
Di-n-octylphthalate	5,350	U	611	U	619	U	538	U	541	U	559	U
Dibenzo(a,h)anthracene	6,210		611	U	619	U	165	J	541	U	559	U
Dibenzofuran	7,890		611	U	619	U	538	U	541	U	559	U
Diethylphthalate	5,350	U	611	U	619	U	538	U	541	U	559	U
Dimethylphthalate	5,350	U	611	U	619	U	538	U	541	U	559	U
Fluoranthene	71,700		2070		2200		1920		791		1430	
Fluorene	10,200		611	U	619	U	538	U	541	U	559	U
Hexachlorobenzene	5,350	U	611	U	619	U	538	U	541	U	559	U
Hexachlorobutadiene	5,350	U	611	U	619	U	538	U	541	U	559	U
Hexachlorocyclopentadiene	5,350	U	611	U	619	U	538	U	541	U	559	U
Hexachloroethane	5,350	U	611	U	619	U	538	U	541	U	559	U
Indeno(1,2,3-cd)pyrene	15,700		399	J	299	J	276	J	175	J	241	J
Isophorone	5,350	U	611	U	619	U	538	U	541	U	559	U

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D1 (0-2)		TP-D1 (5-5.5)		TP-D1 (5.5-6)		TP-D2A (0-0.5)		TP-D2A (4-5)		TP-D2A (7)	
Date Sampled	9/5/00		9/5/00		9/5/00		9/5/00		9/5/00		9/5/00	
Semi-Volatile Organic Compounds ug/kg												
N-Nitroso-Di-n-Propylamine	5,350	U	611	U	619	U	538	U	541	U	559	U
N-Nitrosodimethylamine		R		R		R		R		R		R
N-Nitrosodiphenylamine	5,350	U	611	U	619	U	538	U	541	U	559	U
Naphthalene	10,200		611	U	581	J	538	U	541	U	559	U
Nitrobenzene	5,350	U	611	U	619	U	538	U	541	U	559	U
Pentachlorophenol	5,350	U	611	U	619	U	538	U	541	U	559	U
Phenanthrene	84,300		1140		1800		833		445	J	703	
Phenol	5,350	U	611	U	619	U	538	U	541	U	559	U
Pyrene	69,700		1240		1010		1710		263	J	835	

U = Analyte was not detected.

J = Value is estimated.

R = Data is rejected for this analyte.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D3 (0-0.5)		TP-D3 (2-3)		TP-D3 (9-10)		TP-D5A (0-0.5)		TP-D5A (13-14)		TP-D7 (0-0.5)	
Date Sampled	9/6/00		9/6/00		9/6/00		9/7/00		9/7/00		9/13/00	
Semi-Volatile Organic Compounds ug/Kg												
1,2,4-Trichlorobenzene	10,300	U	546	U	571	U	386	U	507	U	344	U
1,2-Dichlorobenzene	10,300	U	546	U	571	U	386	U	507	U	344	U
1,3-Dichlorobenzene	10,300	U	546	U	571	U	386	U	507	U	344	U
1,4-Dichlorobenzene	10,300	U	546	U	571	U	386	U	507	U	344	U
2,4,5-Trichlorophenol	10,300	U	546	U	571	U	386	U	507	U	344	U
2,4,6-Trichlorophenol	10,300	U	546	U	571	U	386	U	507	U	344	U
2,4-Dichlorophenol	10,300	U	546	U	571	U	386	U	507	U	344	U
2,4-Dimethylphenol	10,300	U	546	U	571	U	386	U	507	U	344	U
2,4-Dinitrophenol	10,300	U	546	U	571	U	386	U	507	U	344	U
2,4-Dinitrotoluene	10,300	U	546	U	571	U	386	U	507	U	344	U
2,6-Dinitrotoluene	10,300	U	546	U	571	U	386	U	507	U	344	U
2-Chloronaphthalene	10,300	U	546	U	571	U	386	U	507	U	344	U
2-Chlorophenol	10,300	U	546	U	571	U	386	U	507	U	344	U
2-Methylnaphthalene	10,300	U	546	U	571	U	297	J	258	J	344	U
2-Methylphenol	10,300	U	546	U	571	U	386	U	507	U	344	U
2-Nitroaniline	10,300	U	546	U	571	U	386	U	507	U	344	U
2-Nitrophenol	10,300	U	546	U	571	U	386	U	507	U	344	U
3,3'-Dichlorobenzidine	10,300	U	546	U	571	U	386	U	507	U	344	U
3-Nitroaniline	10,300	U	546	U	571	U	386	U	507	U	344	U
4,6-Dinitro-2-Methylphenol	10,300	U	546	U	571	U	386	U	507	U	344	U
4-Bromophenyl-phenylether	10,300	U	546	U	571	U	386	U	507	U	344	U
4-Chloro-3-Methylphenol	10,300	U	546	U	571	U	386	U	507	U	344	U
4-Chloro-phenyl-phenyl ether	10,300	U	546	U	571	U	386	U	507	U	344	U
4-Chloroaniline	10,300	U	546	U	571	U	386	U	507	U	344	U
4-Methylphenol	10,300	U	546	U	571	U	386	U	679	J	344	U
4-Nitroaniline		R		R		R	386	U	507	U	344	U
4-Nitrophenol	10,300	U	546	U	571	U	386	U	507	U	344	U
Acenaphthene	10,300	U	296	J	571	U	386	U	273	J	344	U
Acenaphthylene	3050	J	170	J	571	U	329	J	224	J	344	U
Anthracene	3620	J	467	J	199	J	382	J	896		344	U
Benzo(a)anthracene	66,800		561		382	J	729		2400		189	J
Benzo(a)pyrene	58,800		583		363	J	1,030		3200		215	J
Benzo(b)fluoranthene	73,000		535	J	327	J	887		2810		167	J
Benzo(g,h,i)perylene	28,000		293	J	571	U	774		1650		344	U
Benzo(k)fluoranthene	52,900		548		387	J	871		2180		240	J
Benzoic Acid	10,300	U	546	U	571	U	386	U	507	U	344	U
Benzyl Alcohol		R		R		R	386	U	507	U	344	U
bis(2-Chloroethoxy)methane	10,300	U	546	U	571	U	386	U	507	U	344	U
bis(2-Chloroethyl)ether	10,300	U	546	U	571	U	386	U	507	U	344	U
bis(2-Chloroisopropyl)ether		R		R		R	386	U	507	U	344	U
bis(2-Ethylhexyl)phthalate	10,300	U	150	J	571	U	7,600		507	U	344	U
Butylbenzylphthalate	10,300	U	546	U	571	U	652		507	U	344	U
Chrysene	58,300		564		423	J	898		2480		209	J
Di-n-butylphthalate	10,300	U	546	U	571	U	1,980		507	U	344	U
Di-n-octylphthalate	10,300	U	546	U	571	U	386	U	507	U	344	U
Dibenzo(a,h)anthracene	13,200		546	U	571	U	350	J	628		344	U
Dibenzofuran	10,300	U	546	U	571	U	386	U	375	J	344	U
Diethylphthalate	10,300	U	546	U	571	U	386	U	507	U	344	U
Dimethylphthalate	10,300	U	546	U	571	U	386	U	507	U	344	U
Fluoranthene	178,000		1,500		903		682		4310		392	
Fluorene	3,430	J	544	J	190	J	249	J	561	J	344	U
Hexachlorobenzene	10,300	U	546	U	571	U	386	U	507	U	344	U
Hexachlorobutadiene	10,300	U	546	U	571	U	386	U	507	U	344	U
Hexachlorocyclopentadiene	10,300	U	546	U	571	U	386	U	507	U	344	U
Hexachloroethane	10,300	U	546	U	571	U	386	U	507	U	344	U
Indeno(1,2,3-cd)pyrene	31,200		226	J	152	J	656		1310		98	J
Isophorone	10,300	U	546	U	571	U	386	U	507	U	344	U

2/23/01
Validation Completed 12/1/00

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D3 (0-0.5)		TP-D3 (2-3)		TP-D3 (9-10)		TP-D5A (0-0.5)		TP-D5A (13-14)		TP-D7 (0-0.5)	
Date Sampled	9/6/00		9/6/00		9/6/00		9/7/00		9/7/00		9/13/00	
Semi-Volatile Organic Compounds ug/Kg												
N-Nitroso-Di-n-Propylamine	10,300	U	546	U	571	U	386	U	507	U	344	U
N-Nitrosodimethylamine		R		R		R	386	U	507	U	344	U
N-Nitrosodiphenylamine	10,300	U	546	U	571	U	386	U	507	U	344	U
Naphthalene	10,300	U	355	J	571	U	327	J	639	J	344	U
Nitrobenzene	10,300	U	546	U	571	U	386	U	507	U	344	U
Pentachlorophenol	10,300	U	546	U	571	U	386	U	507	U	344	U
Phenanthrene	21,600		1490		869		1610		2060		246	J
Phenol	10,300	U	546	U	571	U	386	U	507	U	344	U
Pyrene	272,000		1880		227	J	3150		6930		381	

U = Analyte was not detected.

J = Value is estimated.

R = Data is rejected for this analyte.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D7 (8.5-9)		TP-D7 (11.5-12)		TP-D10 (0-0.5)		TP-D10 (7-7.5)		TP-D10 (9-10)		TP-D12 (0-0.5)	
Date Sampled	9/13/00		9/13/00		9/12/00		9/12/00		9/12/00		9/8/00	
Semi-Volatile Organic Compounds ug/Kg												
1,2,4-Trichlorobenzene	773	U	369	U	353	U	370	U	398	U	385	U
1,2-Dichlorobenzene	773	U	369	U	353	U	370	U	398	U	385	U
1,3-Dichlorobenzene	773	U	369	U	353	U	370	U	398	U	385	U
1,4-Dichlorobenzene	773	U	369	U	353	U	370	U	398	U	385	U
2,4,5-Trichlorophenol	773	U	369	U	353	U	370	U	398	U	385	U
2,4,6-Trichlorophenol	773	U	369	U	353	U	370	U	398	U	385	U
2,4-Dichlorophenol	773	U	369	U	353	U	370	U	398	U	385	U
2,4-Dimethylphenol	773	U	369	U	353	U	370	U	398	U	385	U
2,4-Dinitrophenol	773	U	369	U	353	U	370	U	398	U	385	U
2,4-Dinitrotoluene	773	U	369	U	353	U	370	U	398	U	385	U
2,6-Dinitrotoluene	773	U	369	U	353	U	370	U	398	U	385	U
2-Chloronaphthalene	773	U	369	U	353	U	370	U	398	U	385	U
2-Chlorophenol	773	U	369	U	353	U	370	U	398	U	385	U
2-Methylnaphthalene	787		611		353	U	370	U	406		385	U
2-Methylphenol	773	U	369	U	353	U	370	U	398	U	385	U
2-Nitroaniline	773	U	369	U	353	U	370	U	398	U	385	U
2-Nitrophenol	773	U	369	U	353	U	370	U	398	U	385	U
3,3'-Dichlorobenzidine	773	U	369	U	353	U	370	U	398	U	385	U
3-Nitroaniline	773	U	369	U	353	U	370	U	398	U	385	U
4,6-Dinitro-2-Methylphenol	773	U	369	U	353	U	370	U	398	U	385	U
4-Bromophenyl-phenylether	773	U	369	U	353	U	370	U	398	U	385	U
4-Chloro-3-Methylphenol	773	U	369	U	353	U	370	U	398	U	385	U
4-Chloro-phenyl-phenyl ether	773	U	369	U	353	U	370	U	398	U	385	U
4-Chloroaniline	773	U	369	U	353	U	370	U	398	U	385	U
4-Methylphenol	773	U	369	U	353	U	370	U	398	U	385	U
4-Nitroaniline	773	U	369	U	353	U	370	U	398	U	385	U
4-Nitrophenol	773	U	369	U	353	U	370	U	398	U	385	U
Acenaphthene	831		410		353	U	370	U	431		385	U
Acenaphthylene	297	J	159	J	353	U	370	U	398		385	U
Anthracene	1560		903		353	U	370	U	1360		196	J
Benzo(a)anthracene	2320		1180		353	U	277	J	1410		658	
Benzo(a)pyrene	2370		1100		353	U	311	J	1240		778	
Benzo(b)fluoranthene	1850		791		353	U	289	J	1050		846	
Benzo(g,h,i)perylene	833		540		353	U	200	J	534		304	J
Benzo(k)fluoranthene	2270		1460		353	U	371		1360		765	
Benzoic Acid	773	U	369	U	353	U	370	U	398	U	385	U
Benzyl Alcohol	773	U	369	U	353	U	370	U	398	U	385	U
bis(2-Chloroethoxy)methane	773	U	369	U	353	U	370	U	398	U	385	U
bis(2-Chloroethyl)ether	773	U	369	U	353	U	370	U	398	U	385	U
bis(2-Chloroisopropyl)ether	773	U	369	U	353	U	370	U	398	U	385	U
bis(2-Ethylhexyl)phthalate	773	U	369	U	353	U	370	U	179	J	1570	
Butylbenzylphthalate	773	U	77	J	353	U	370	U	398	U	164	J
Chrysene	2380		1230		353	U	301	J	1380		841	
Di-n-butylphthalate	773	U	369	U	353	U	370	U	398	U	323	J
Di-n-octylphthalate	773	U	369	U	353	U	370	U	398	U	143	J
Dibenzo(a,h)anthracene	315	J	364	J	353	U	108	J	211	J	385	U
Dibenzofuran	545	J	307	J	353	U	370	U	398	U	92	J
Diethylphthalate	773	U	369	U	353	U	370	U	398	U	385	U
Dimethylphthalate	773	U	369	U	353	U	370	U	398	U	156	J
Fluoranthene	4770		1710		353	U	456		2340		1810	
Fluorene	976		653		353	U	370	U	742		385	U
Hexachlorobenzene	773	U	369	U	353	U	370	U	398	U	385	U
Hexachlorobutadiene	773	U	369	U	353	U	370	U	398	U	385	U
Hexachlorocyclopentadiene	773	U	369	U	353	U	370	U	398	U	385	U
Hexachloroethane	773	U	369	U	353	U	370	U	398	U	385	U
Indeno(1,2,3-cd)pyrene	764		531		353	U	198	J	494		272	J
Isophorone	773	U	369	U	353	U	370	U	398	U	385	U

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D7 (8-5-9)		TP-D7 (11-5-12)		TP-D10 (0-0-5)		TP-D10 (7-7-5)		TP-D10 (9-30)		TP-D12 (0-0-5)	
Date Sampled	9/18/00		9/13/00		9/12/00		9/12/00		9/12/00		9/8/00	
Semi-Volatile Organic Compounds ug/Kg												
N-Nitroso-Di-n-Propylamine	773	U	369	U	353	U	370	U	398	U	385	U
N-Nitrosodimethylamine	773	U	369	U	353	U	370	U	398	U	385	U
N-Nitrosodiphenylamine	773	U	369	U	353	U	370	U	398	U	385	U
Naphthalene	1610		1060		353	U	370	U	561		128	J
Nitrobenzene	773	U	369	U	353	U	370	U	398	U	385	U
Pentachlorophenol	773	U	369	U	353	U	370	U	398	U	385	U
Phenanthrene	4660		2780		353	U	323	J	3690		1480	
Phenol	773	U	369	U	353	U	370	U	398	U	385	U
Pyrene	5240		5080		353	U	1110		5680		849	

U = Analyte was not detected.

J = Value is estimated.

R = Data is rejected for this analyte.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D12 (9-10)		TP-D12 (9-10)-D		TP-D12 (14-15)		TP-D13 (13-13.5)		EB-090700	
Date Sampled	9/8/00		9/8/00		9/8/00		9/11/00		9/7/00	
Semi-Volatile Organic Compounds ug/Kg	Field Dup. Pair		Field Dup. Pair						ug/L	
1,2,4-Trichlorobenzene	1910	U	375	U	466	U	371	U	10	U
1,2-Dichlorobenzene	1910	U	375	U	466	U	371	U	10	U
1,3-Dichlorobenzene	1910	U	375	U	466	U	371	U	10	U
1,4-Dichlorobenzene	1910	U	375	U	466	U	371	U	10	U
2,4,5-Trichlorophenol	1910	U	375	U	466	U	371	U	10	U
2,4,6-Trichlorophenol	1910	U	375	U	466	U	371	U	10	U
2,4-Dichlorophenol	1910	U	375	U	466	U	371	U	10	U
2,4-Dimethylphenol	1910	U	375	U	466	U	371	U	10	U
2,4-Dinitrophenol	1910	U	375	U	466	U	371	U	50	U
2,4-Dinitrotoluene	1910	U	375	U	466	U	371	U	10	U
2,6-Dinitrotoluene	1910	U	375	U	466	U	371	U	10	U
2-Chloronaphthalene	1910	U	375	U	466	U	371	U	10	U
2-Chlorophenol	1910	U	375	U	466	U	371	U	10	U
2-Methylnaphthalene	1910	U	375	U	466	U	467		10	U
2-Methylphenol	1910	U	375	U	466	U	371	U	10	U
2-Nitroaniline	1910	U	375	U	466	U	371	U	50	U
2-Nitrophenol	1910	U	375	U	466	U	371	U	10	U
3,3'-Dichlorobenzidine	1910	U	375	U	466	U	371	U	50	U
3-Nitroaniline	1910	U	375	U	466	U	371	U	50	U
4,6-Dinitro-2-Methylphenol	1910	U	375	U	466	U	371	U	10	U
4-Bromophenyl-phenylether	1910	U	375	U	466	U	371	U	10	U
4-Chloro-3-Methylphenol	1910	U	375	U	466	U	371	U	10	U
4-Chloro-phenyl-phenyl ether	1910	U	375	U	466	U	371	U	10	U
4-Chloroaniline	1910	U	375	U	466	U	371	U	50	U
4-Methylphenol	1910	U	375	U	466	U	371	U	10	U
4-Nitroaniline	1910	U	375	U	466	U	371	U	50	U
4-Nitrophenol	1910	U	375	U	466	U	371	U	10	U
Acenaphthene	691	J	201	J	403	J	174	J	10	U
Acenaphthylene	1360	J	190	J	131	J	371	U	10	U
Anthracene	3840		801		401	J	290	J	10	U
Benzo(a)anthracene	5850		1860		864		368	J	10	U
Benzo(a)pyrene	4900		1690		1200		340	J	10	U
Benzo(b)fluoranthene	3320		1520		873		303	J	10	U
Benzo(g,h,i)perylene	1870	J	482		525		288	J	10	U
Benzo(k)fluoranthene	4330		1830		1030		445		10	U
Benzoic Acid	1910	U	375	U	466	U	371	U	50	U
Benzyl Alcohol	1910	U	375	U	466	U	371	U	50	U
bis(2-Chloroethoxy)methane	1910	U	375	U	466	U	371	U	50	U
bis(2-Chloroethyl)ether	1910	U	375	U	466	U	371	U	10	U
bis(2-Chloroisopropyl)ether	1910	U	375	U	466	U	371	U	10	U
bis(2-Ethylhexyl)phthalate	1910	U	105	J	2250		322	J	10	U
Butylbenzylphthalate	1910	U	375	U	466	U	371	U	10	U
Chrysene	5650		1930		910		404		10	U
Di-n-butylphthalate	1910	U	375	U	466	U	371	U	10	U
Di-n-octylphthalate	1910	U	375	U	1050		371	U	10	U
Dibenzo(a,h)anthracene	886	J	257	J	145	J	371	U	10	U
Dibenzofuran	1230	J	167	J	466	U	371	U	10	U
Diethylphthalate	1910	U	375	U	466	U	371	U	10	U
Dimethylphthalate	1910	U	375	U	466	U	371	U	10	U
Fluoranthene	14400		4320		1810		576		10	U
Fluorene	1780	J	467		471		274	J	10	U
Hexachlorobenzene	1910	U	375	U	466	U	371	U	10	U
Hexachlorobutadiene	1910	U	375	U	466	U	371	U	10	U
Hexachlorocyclopentadiene	1910	U	375	U	466	U	371	U	50	U
Hexachloroethane	1910	U	375	U	466	U	371	U	10	U
Indeno(1,2,3-cd)pyrene	1950		509		339	J	201	J	10	U
Isophorone	1910	U	375	U	466	U	371	U	10	U

2/23/01

Validation Completed 12/1/00

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D12 (9-10)		TP-D12 (9-10) D		TP-D12 (14-15)		TP-D13 (13-13.5)		EB-090700	
Date Sampled	9/8/00		9/8/00		9/8/00		9/11/00		9/7/00	
Semi-Volatile Organic Compounds ug/Kg	Field Duplicate								ug/l	
N-Nitroso-Di-n-Propylamine	1910	U	375	U	466	U	371	U	10	U
N-Nitrosodimethylamine	1910	U	375	U	466	U	371	U	50	U
N-Nitrosodiphenylamine	1910	U	375	U	466	U	371	U	10	U
Naphthalene	1910	U	164	J	294	J	371	U	10	U
Nitrobenzene	1910	U	375	U	466	U	371	U	10	U
Pentachlorophenol	1910	U	375	U	466	U	371	U	10	U
Phenanthrene	15200		3610		1280		1030		10	U
Phenol	1910	U	375	U	466	U	371	U	17	J
Pyrene	10500		3730		2010		1490		10	U

U = Analyte was not detected.

J = Value is estimated.

R = Data is rejected for this analyte.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D1-(0-2)	TP-D1-(5-5.5)	TP-D1-(5.5-6)	TP-D2A-(0-0.5)	TP-D2A-(4-5)	TP-D2A-(7)	TP-D3-(0-0.5)	TP-D3-(2-3)
Date Sampled	09/05/2000	09/05/2000	09/05/2000	09/06/2000	09/06/2000	09/06/2000	09/06/2000	09/06/2000
PCBs ug/Kg								
Aroclor-1016 1016	51.9 U	58.9 U	57.9 U	53.8 U	54.3 U	55.1 U	54 U	52.5 U
Aroclor-1221 1221	104 U	118 U	116 U	108 U	109 U	110 U	108 U	105 U
Aroclor-1232 1232	51.9 U	58.9 U	57.9 U	53.8 U	54.3 U	55.1 U	54 U	52.5 U
Aroclor-1242 1242	51.9 U	58.9 U	57.9 U	53.8 U	54.3 U	55.1 U	54 U	52.5 U
Aroclor-1248 1248	51.9 U	58.9 U	57.9 U	53.8 U	54.3 U	55.1 U	54 U	52.5 U
Aroclor-1254 1254	493	63.9	66.8	53.8 U	126	77.5	54 U	52.5 U
Aroclor-1260 1260	51.9 U	58.9 U	57.9 U	53.8 U	54.3 U	55.1 U	54 U	52.5 U

U = Analyte was not detected.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D3-(9-10)	TP-D5A-(0-0.5)	TP-D5A-(13-14)	TP-D7-(0-0.5)	TP-D7-(8.5-9)	TP-D7-(11.5-12)	TP-D10-(0-0.5)	TP-D10-(9-10)
Date Sampled	09/06/2000	09/07/2000	09/07/2000	09/13/2000	09/13/2000	09/13/2000	09/12/2000	09/12/2000
PCBs ug/Kg								
Aroclor-1016 1016	55.2 U	57.9 U	75.8 U	48.2 U	58.4 U	53.2 U	51.6 U	54.5 U
Aroclor-1221 1221	110 U	116 U	152 U	96.3 U	117 U	106 U	103 U	109 U
Aroclor-1232 1232	55.2 U	57.9 U	75.8 U	48.2 U	58.4 U	53.2 U	51.6 U	54.5 U
Aroclor-1242 1242	55.2 U	57.9 U	75.8 U	48.2 U	58.4 U	53.2 U	51.6 U	54.5 U
Aroclor-1248 1248	55.2 U	57.9 U	75.8 U	48.2 U	58.4 U	53.2 U	51.6 U	54.5 U
Aroclor-1254 1254	55.2 U	57.9 U	549 J	426	342	61.9	51.6 U	81.4
Aroclor-1260 1260	55.2 U	69.4	75.8 U	48.2 U	58.4 U	53.2 U	51.6 U	54.5 U

U = Analyte was not detected.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D10 (7-7.5)	TP-D12 (0-0.5)	TP-D12 (9-10)	TP-D12 (9-10) D	TP-D12 (14-15)	TP-D13 (13-13.5)	EB-090700
Date Sampled	09/12/2000	09/08/2000	09/08/2000	09/08/2000	09/08/2000	09/11/2000	09/07/2000
PCBs ug/Kg			Field Dup. Pair	Field Dup. Pair			ug/L
Aroclor-1016 1016	56.2 U	54.9 U	53.1 U	55.3 U	70.5 U	52.5 U	1.0 U
Aroclor-1221 1221	112 U	110 U	106 U	111 U	141 U	105 U	2.0 U
Aroclor-1232 1232	56.2 U	54.9 U	53.1 U	55.3 U	70.5 U	52.5 U	1.0 U
Aroclor-1242 1242	56.2 U	54.9 U	53.1 U	55.3 U	70.5 U	52.5 U	1.0 U
Aroclor-1248 1248	56.2 U	54.9 U	53.1 U	55.3 U	70.5 U	52.5 U	1.0 U
Aroclor-1254 1254	56.2 U	88.9	53.1 U	55.3 U	208	52.5 U	1.0 U
Aroclor-1260 1260	56.2 U	54.9 U	53.1 U	55.3 U	70.5 U	52.5 U	1.0 U

U = Analyte was not detected.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D1-(0-2)		TP-D1-(5-5.5)		TP-D1-(5.5-6)		TP-D2A-(0-0.5)		TP-D2A-(4-5)		TP-D2A-(7)		TP-D3-(0-0.5)		TP-D3-(2-3)	
Date Sampled	09/05/2000		09/05/2000		09/05/2000		09/06/2000		09/06/2000		09/06/2000		09/06/2000		09/06/2000	
Pesticides ug/Kg																
4,4'-DDD	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
4,4'-DDE	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
4,4'-DDT	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Aldrin	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
alpha-BHC	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
alpha-chlordane	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
beta-BHC	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
delta-BHC	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Dieldrin	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Endosulfan I	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Endosulfan II	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Endosulfan Sulfate	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Endrin	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Endrin Aldehyde	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Endrin Ketone	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
gamma-BHC(Lindane)	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
gamma-chlordane	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Heptachlor	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Heptachlor Epoxide	5.19	U	5.89	U	5.79	U	5.38	U	5.43	U	5.51	U	5.4	U	5.25	U
Methoxychlor	5.2	U	5.9	U	5.8	U	5.4	U	5.4	U	5.5	U	5.4	U	5.2	U
Toxaphene	259	U	295	U	289	U	269	U	272	U	275	U	270	U	262	U

U = Analyte was not detected.

R = Data is rejected for this analyte.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D3-(9-10)		TP-D5A-(0-0.5)		TP-D5A-(13-14)		TP-D7-(0-0.5)		TP-D7-(8.5-9)		TP-D7-(11.5-12)		TP-D10-(0-0.5)		TP-D10-(9-10)	
Date Sampled	09/06/2000		09/07/2000		09/07/2000		09/13/2000		09/13/2000		09/13/2000		09/12/2000		09/12/2000	
Pesticides ug/Kg																
4,4'-DDD	5.52	U		R		R		R		R		R		R		R
4,4'-DDE	5.52	U		R		R		R		R		R		R		R
4,4'-DDT	5.52	U		R		R		R		R		R		R		R
Aldrin	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
alpha-BHC	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
alpha-chlordane	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
beta-BHC	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
delta-BHC	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
Dieldrin	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
Endosulfan I	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
Endosulfan II	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
Endosulfan Sulfate	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
Endrin	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
Endrin Aldehyde	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
Endrin Ketone	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
gamma-BHC(Lindane)	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
gamma-chlordane	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
Heptachlor	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
Heptachlor Epoxide	5.52	U	5.79	U	7.58	U	4.82	U	5.84	U	5.32	U	5.16	U	5.45	U
Methoxychlor	5.5	U	5.8	U	7.6	U	4.8	U	5.8	U	5.3	U	5.2	U	5.5	U
Toxaphene	276	U	289	U	379	U	241	U	292	U	266	U	258	U	273	U

U = Analyte was not detected.

R = Data is rejected for this analyte.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID	TP-D10-(7-7.5)		TP-D12-(0-0.5)		TP-D12-(9-10)		TP-D12-(9-10)-D		TP-D12-(14-15)		TP-D13 (13-13.5) EB-090700	
Date Sampled	09/12/2000		09/08/2000		09/08/2000		09/08/2000		09/08/2000		09/11/2000	
Pesticides ug/Kg					Field Dup. Pair		Field Dup. Pair					
4,4'-DDD		R		R		R		R		R	0.1	U
4,4'-DDE		R		R		R		R		R	0.1	U
4,4'-DDT		R		R		R		R		R	0.1	U
Aldrin	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
alpha-BHC	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
alpha-chlordane	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
beta-BHC	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
delta-BHC	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
Dieldrin	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
Endosulfan I	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
Endosulfan II	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
Endosulfan Sulfate	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
Endrin	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
Endrin Aldehyde	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
Endrin Ketone	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
gamma-BHC(Lindane)	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
gamma-chlordane	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
Heptachlor	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
Heptachlor Epoxide	5.62	U	5.49	U	5.31	U	5.53	U	7.05	U	5.25	U
Methoxychlor	5.6	U	5.5	U	5.3	U	5.5	U	7.1	U	5.3	U
Toxaphene	281	U	274	U	266	U	276	U	353	U	263	U

U = Analyte was not detected.
R = Data is rejected for this analyte.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID		TP-D1-(0-2)		TP-D1-(5-5.5)		TP-D1-(5.5-6)		TP-D2A-(0-0.5)		TP-D2A-(4-5)		TP-D2A-(7)		TP-D3-(0-0.5)		TP-D3-(2-3)	
Date Sampled		09/05/2000		09/05/2000		09/05/2000		09/06/2000		09/06/2000		09/06/2000		09/06/2000		09/06/2000	
Metals mg/Kg																	
Aluminum	Al	5250	*	4680	*	4370	*	5460	*	4500	*	6670	*	7080		4870	*
Antimony	Sb	6.9	U	7.0	U	7.7	U	7.2	U	6.4	U	6.6	U	34.6	U	7.1	U
Arsenic	As	3.45	U	7.61		10.7		3.58	U	3.57		3.29	U	17.3	U	3.56	U
Barium	Ba	43.9		36.4		33		38.7		21.4		55.4		69.3	U	32.2	
Beryllium	Be	0.166		0.189		0.169		0.172		0.165		0.204		0.416		0.171	
Cadmium	Cd	0.414		0.574		0.585		0.444		0.331		0.434		1.73		0.356	U
Calcium	Ca	1950		2410		2190		3380		901		2760		1620		1130	
Chromium	Cr	8.82		9.85		8.97		11.7		4.25		8.93		23.6		8.65	
Cobalt	Co	3.45	U	3.5	U	3.85	U	3.58	U	3.18	U	3.29	U	17.3	U	3.56	U
Copper	Cu	42		36.2		37.9		23.5		15.6		18.1		41.4		11.3	
Iron	Fe	9930		11,000	*	10,700	*	12,400	*	8000	*	9630	*	16,500	*	6990	*
Lead	Pb	248		105		103		82.6		112		107		91.9		59.3	
Magnesium	Mg	1710		1390		1080		2260		1030		1910		3480		1750	
Manganese	Mn	131		95.9		87.2		160		133		171		415		93.5	
Mercury	Hg	0.356		0.901		0.377		0.077		0.199		0.114		0.154		0.0652	U
Nickel	Ni	6.35		6.32		6.08		8.57		4.41		4.9		13.8	U	5.5	
Potassium	K	748		496		385	U	913		388		949		1730	U	867	
Selenium	Se	6.9	U	7.0	U	7.7	U	7.2	U	6.4	U	6.6	U	34.6	U	7.1	U
Silver	Ag	0.345	U	0.35	U	0.385	U	0.358	U	0.318	U	0.329	U	1.73	U	0.356	U
Sodium	Na	345	U	350	U	385	U	358	U	318	U	329	U	1730	U	356	U
Thallium	Tl	6.9	U	7.0	U	7.7	U	7.2	U	6.4	U	6.6	U	34.6	U	7.1	U
Vanadium	V	11.1		11.9		9.74		13.8		7.81		10.2		24.7		11.8	
Zinc	Zn	65		73.6		67.3		51.8		33.4		44.1		70.9		27.7	
Cyanide -Total (CN) mg/Kg		1.8	U	2.2	U	2.0	U	2.2	U	1.8	U	1.9	U	2.4	U	2.5	U
Total Organic Carbon mg/Kg		6190		13,700		12,800		12,300		4670		4830		4570		7170	

* = Result is based on a diluted analysis.

U = Analyte was not detected.

B = Analyte was found in the blank analysis.

02/20/2001

Validation Completed 12/1/00

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID		TP-D3-(9-10)		TP-D5A-(0-0.5)		TP-D5A-(13-14)		TP-D7-(0-0.5)		TP-D7-(8.5-9)		TP-D7-(11.5-12)		TP-D10-(0-0.5)		TP-D10-(7-7.5)	
Date Sampled		09/06/2000		09/07/2000		09/07/2000		09/13/2000		09/13/2000		09/13/2000		09/12/2000		09/12/2000	
Metals mg/Kg																	
Aluminum	Al	5160	*	5960	*	9940	*	3780	*	6240	*	3680	*	5790		7420	
Antimony	Sb	6.4	U	15.2		10	U	6.7	U	7.7	U	6.4	U	6.9	U	7.4	U
Arsenic	As	3.21	U	7.17	U	9.97	U	6.65	U	7.7	U	6.42	U	6.85	U	7.39	U
Barium	Ba	35		76.8		73.5		17.3		62.2		34.8		30.7		66.8	
Beryllium	Be	0.186		0.158		0.379		0.16		0.177		0.135		0.158		0.207	
Cadmium	Cd	0.321	U	1.26		1.44		2.19		0.516		0.321	U	0.343	U	0.37	U
Calcium	Ca	1320		32,400	B*	42,700	B*	1240		2490		2760		1780		1220	
Chromium	Cr	9.12		47.4		47.2		27.9		11.7		8.45		16		11.7	
Cobalt	Co	3.21	U	4.07		4.98	U	3.33	U	3.85	U	3.21	U	4.27		3.7	U
Copper	Cu	11.3		356		382		54.2		37.4		21.5		11.7		35.5	
Iron	Fe	7370	*	27,300	*	29,800	*	6800	*	12,200	*	6510	*	10,800		10,200	
Lead	Pb	85.8		155		263		21.7		165		91.7		7.5		183	
Magnesium	Mg	1930		2450		3240		2500		2100		1430		3500		2180	
Manganese	Mn	109		228		165		180		160		127		170		120	
Mercury	Hg	0.0974		0.148		2.99		0.0589	U	0.417		0.114		0.0694	U	0.368	
Nickel	Ni	5.51		16.4		13.6		9.2		5.84		5.29		9.88		6.33	
Potassium	K	815		896		2310		545		1170		6.26		1490		1140	
Selenium	Se	6.4	U	7.2	U	10	U	6.7	U	7.7	U	6.4	U	6.9	U	7.4	U
Silver	Ag	0.321	U	0.359	U	0.548		0.333	U	0.385	U	0.321	U	0.343	U	0.37	U
Sodium	Na	321	U	1880		1700		333	U	385	U	321	U	343	U	370	U
Thallium	Tl	6.4	U	7.2	U	10	U	6.7	U	7.7	U	6.4	U	6.9	U	7.4	U
Vanadium	V	12.2		32.8		25.7		10.8		13.6		9.14		13.4		14.9	
Zinc	Zn	30.7		832		220		90.3		71.9		39.2		20.5		49	
Cyanide -Total (CN) mg/Kg		2.1	U	2.32	U	3.48	U	2.16	U	2.23	U	2.2	U	2.33	U	2.62	U
Total Organic Carbon mg/Kg		10,600		17,000		12,400		2690		24,900		3110		2120		7650	

* = Result is based on a diluted analysis.

U = Analyte was not detected.

B = Analyte was found in the blank analysis.

Test Pit Data
New Bedford Harbor
Collected September 2000

Sample ID		TP-D10-(9-10)		TP-D12-(0-0.5)		TP-D12-(9-10)		TP-D12-(9-10)-D		TP-D12-(14-15)		TP-D13-(13-13.5)		EB-090700	
Date Sampled		09/12/2000		09/08/2000		09/08/2000		09/08/2000		09/08/2000		09/11/2000		09/07/2000	
Metals mg/Kg						Field Dup. Pair		Field Dup. Pair						mg/L	
Aluminum	Al	5860		14,400	*	2830		2630		3920		4910		0.1	U
Antimony	Sb	7.7	U	6.9	U	6.9	U	6.8	U	9.3	U	7.3	U	0.1	U
Arsenic	As	7.72	U	6.93	U	6.89	U	6.8	U	8.02	U	7.34	U	0.05	U
Barium	Ba	58.6		166		41.1		39.4		27.5		36.7		0.2	U
Beryllium	Be	0.178		0.915		0.186		0.169		0.204		0.169		0.001	U
Cadmium	Cd	0.386	U	0.838		0.344	U	0.339	U	0.472		0.367	U	0.005	U
Calcium	Ca	2220		12,300	B*	1370	B	1530	B	5420	B	1940	B	0.1	
Chromium	Cr	16.5		38.5		5.25		4.91		12.1		11.7		0.05	U
Cobalt	Co	3.87		4.61		3.44	U	3.39	U	4.63	U	3.67	U	0.05	U
Copper	Cu	19.4		124		22.4		29.8		45.3		16.5		0.02	U
Iron	Fe	9360		33,700	*	6760	*	4040		492	*	7890	*	0.9	
Lead	Pb	98.4		118		92.6		86.7		87		85.9		0.05	U
Magnesium	Mg	2980		1180		884		778		2280		2470		0.1	U
Manganese	Mn	129		129		190		166		395		143		0.03	U
Mercury	Hg	0.135		0.0699	U	1.04		12.1		0.826		0.0792		0.0005	U
Nickel	Ni	8.75		22.6		4.21		3.69		6.9		7.02		0.04	U
Potassium	K	1570		1370		423		382		832		1140		5.0	U
Selenium	Se	7.7	U	6.9	U	6.9	U	6.8	U	9.3	U	7.3	U	0.05	U
Silver	Ag	0.386	U	0.346	U	0.344	U	0.339	U	0.463	U	0.367	U	0.01	U
Sodium	Na	386	U	2310		344	U	339	U	463	U	367	U	5.0	U
Thallium	Tl	7.7	U	6.9	U	6.9	U	6.8	U	9.3	U	7.3	U	0.1	U
Vanadium	V	15.4		31.8		8.26		7.18		13.1		13.6		0.05	U
Zinc	Zn	35.8		1450	*	55		57.4		83.7		29.2		0.06	
Cyanide -Total (CN) mg/Kg		2.04	U	2.5	U	2.39	U	2.67	U	2.34	U	2.14	U	0.05	U
Total Organic Carbon mg/Kg		8860		4540		4540		7780		6720		7400		1	U

* = Result is based on a diluted analysis.

U = Analyte was not detected.

B = Analyte was found in the blank analysis.

Appendix C
Data Validation Memos



FOSTER WHEELER ENVIRONMENTAL CORPORATION

NEW BEDFORD HARBOR TEST PIT SAMPLES DATA REVIEW

Project: NE TERC - T017
Source: ESS Laboratories

Prepared by: Heather A. Finn Date: 2-22-01

Reviewed by: J. Wilson Date: 02-22-01

Project ID: 90159

Reviewed by: Heather A. Finn Date: 2/22/01

Analyses: PCB Aroclors, Pesticides, SVOCs, VOCs, Metals, Cyanide, TOC

Sample ID's: TP-D7(0-0.5), TP-D7(8.5-9), TP-D7(11.5-12)

A data review was performed on the organic and inorganic analytical data for test pit samples collected from the New Bedford Harbor site. The samples were analyzed by the following methods:

PCB Aroclors: 8082
Pesticides: 8081A
SVOCs: 8270C
VOCs: 8260B
Metals: 6010
Mercury: 7471

The data review is based on the following parameters:

- * Sample Preservation and Technical Holding times
- Method Blank Analysis
- * Field/Equipment Blank Analysis
- Surrogate Recovery
- Matrix Spike/Matrix Spike Duplicates
- * Field Duplicates
- Laboratory Control Sample

* - All criteria were met for this parameter

Blank Contamination

Metals Data

Calcium was detected at 11.4 mg/kg in the method blank. The results for each of the associated samples is greater than the action limit; no action is needed.

Surrogate Recovery

Pesticides (8081)

Samples TP-D7(0-0.5) and TP-D7(11.5-12.0) had surrogate recoveries for DCB that were less than criteria. The recoveries were 46 and 57%, respectively. Results for TCMX for each of the samples were acceptable. No action is necessary.

PCB Aroclors

Sample TP-D7(0-0.5) has a surrogate recovery for DCB of 48%, slightly below the required criteria. The result for TCMX in this sample is acceptable. Data is not affected.

Matrix Spike/Matrix Spike Duplicate

Pesticides (8081)

The following summarizes the MS/MSD recovery and/or RPD that did not meet criteria:

Sample ID: TP-D10(0-0.5) (from Data Package 90160)

Compound	MS%R	MSD%R	Limits	RPD
4,4'-DDT	0	0	70-130	0
Endrin	53	56	70-130	5.5
Lindane	64	64	70-130	0
Heptachlor	32	31	70-130	3.2

Results for Endrin, Lindane and Heptachlor in each of the samples are non-detect, reporting limits for these compounds may be biased low. The laboratory did detect DDD and DDE indicating significant degradation. The amount of degradation and the potential impact on reported data could not be determined. Based on the 0% recovery of 4,4'-DDT, it is recommended that results for DDT, DDD and DDE in each of the samples associated with this MS/MSD be rejected as unusable.

SVOC Data

Sample TP-D10(0-0.5) was analyzed as an MS/MSD. Di-n-octylphthalate has an MS %R of 182, the limits are 20-171%, the MSD was acceptable. The result for this analyte in the sample is not affected.

Metals Data

The following is a table that summarizes the MS recoveries that do not meet the (75-125%) criteria:

Sample ID: TP-D10-(7-7.5) (from Data Package 90160)

Analyte	Sample Conc. (mg/kg)	MS%R
Aluminum	7420	214
Antimony	ND	53
Barium	66.8	69
Iron	10200	2269
Lead	183	5
Magnesium	2180	48
Managanese	120	64
Selenium	ND	73
Thallium	ND	72
Zinc	49	126

Recovery exceedences may be a result of the high concentration of certain analytes in the samples. Results may be considered estimated. The low recovery for lead does not have an impact on the data because the sample result is greater than 4 times the spike amount.

Laboratory Control Sample

VOC Data

Chloroethane has an LCS recovery of 78%, the limits are 80-120%. This does not affect the reported data.

Summary:

Overall the data in this package are acceptable for project use. There is some data that may be considered estimated due to surrogate and MS/MSD recoveries that were out of the required limits in addition to some field duplicate data that did not meet criteria. Results for DDT, DDD and DDE in each of the samples in this SDG are rejected as unusable. Trip blanks were inadvertently omitted by the field team for this sampling task.



FOSTER WHEELER ENVIRONMENTAL CORPORATION

NEW BEDFORD HARBOR TEST PIT SAMPLES DATA REVIEW

Project: NE TERC - T017
Source: ESS Laboratories

Prepared by: Heather A. Jervis Date: 2-22-01

Reviewed by: J.D. Nelson Date: 02-22-01

Project ID: 90138

Reviewed by: Heather A. Jervis Date: 2/22/01

Analyses: PCB Aroclors, Pesticides, SVOCs, VOCs, Metals, Cyanide, TOC

Sample ID's: TP-D13 (13-13.5)

A data review was performed on the organic and inorganic analytical data for test pit samples collected from the New Bedford Harbor site. The samples were analyzed by the following methods:

PCB Aroclors: 8082

Pesticides: 8081A

SVOCs: 8270C

VOCs: 8260B

Metals: 6010

Mercury: 7471

The data review is based on the following parameters:

- * Sample Preservation and Technical Holding times
- Method Blank Analysis
- * Field/Equipment Blank Analysis
- Surrogate Recovery
- Matrix Spike/Matrix Spike Duplicates
- Field/Laboratory Duplicates
- Laboratory Control Sample

* - All criteria were met for this parameter

Blank Contamination

Metals Data

Calcium was detected at 11.4 mg/kg in the method blank. The results for each of the associated samples is greater than the action limit; no action is needed.

Surrogate Recovery

SVOC Data

Sample TP-D13(13-13.5) had a recovery of 165% for the surrogate p-Terphenyl-d14. Results for the other surrogates were acceptable. There is no affect on the data.

Pesticides

Sample TP-D13(13-13.5) had a DCB surrogate recovery of 36%. Surrogate TCMX has an acceptable recovery. Sample results do not appear to have been affected.

Matrix Spike/Matrix Spike Duplicate

Pesticides (8081)

The following is a table that summarizes the MS/MSD recovery and/or RPD that did not meet criteria:

Sample ID: TP-D10-(0-0.5) (from Data Package 90160)

Compound	MS%R	MSD%R	Limits	RPD
4,4'-DDT	0	0	70-130	0
Endrin	53	56	70-130	5.5
Lindane	64	64	70-130	0
Heptachlor	32	31	70-130	3.2

Results for Endrin, Lindane and Heptachlor in each of the samples are non-detect, and reporting limits for these compounds may be biased low. The laboratory did detect DDD and DDE indicating significant degradation. The amount of degradation and the potential impact on reported data could not be determined. Based on the 0% recovery of 4,4'-DDT, it is recommended that results for DDT, DDD and DDE in each of the samples associated with this MS/MSD be rejected as unusable.

SVOC Data

Sample TP-D10-(0-0.5) from Data Package 90160 was analyzed as an MS/MSD. Di-n-octylphthalate has an MS %R of 182, the limits are 20-171%, the MSD was acceptable. The result for this analyte is not affected.

Metals Data

The following is a table that summarizes the MS recovery data that did not meet the 75-125% criteria:

Sample ID: TP-D13-(13-13.5) (from Date Package 90138)

Analyte	MS%R	PDS%R
Aluminum	3,104	114
Antimony	30	89
Arsenic	57	91
Barium	31	90
Beryllium	56	87
Cadmium	48	83
Chromium	50	91
Cobalt	60	98
Copper	37	91
Iron	13,129	681
Manganese	51	87
Nickel	48	88
Potassium	0	91
Selenium	47	83
Silver	53	88
Sodium	57	93
Thallium	40	75
Vanadium	49	91
Zinc	34	83

MS recovery exceedences are most likely a result of high sample concentrations and sample matrix. The results for each of the analytes except iron were acceptable in the post digestion spike. MS recoveries for aluminum, iron, manganese, and potassium did exceed criteria, but the results for these analytes in this sample are greater than 4x the spike amount (30 mg/kg) and do not affect the data. Results for each of the above, listed analytes may be considered estimated, but are not significantly affected.

Field and Laboratory Duplicates

Metals Data

The laboratory duplicate, TP-D13(13-13.5) had one result non-detect and the other 5.86mg/kg. This is most likely a result of sample non-homogeneity and may cause results to be estimated.

Laboratory Control Sample

VOC Data

2-Butanone has an LCS recovery of 123%, the limits are 80-120%. This does not appear to have an affect on the reported data.

Summary:

After review if the data there is some data that may be considered estimated due to surrogate and MS/MSD recoveries that were out of the required limits as well as some field duplicate data that did not meet criteria. Results for DDT, DDE and DDD are rejected. Trip blanks were inadvertently omitted by the field team for this sampling task. Overall, the data in this package are acceptable for project use.



FOSTER WHEELER ENVIRONMENTAL CORPORATION

NEW BEDFORD HARBOR TEST PIT SAMPLES DATA REVIEW

Project: NE TERC – T017
Source: ESS Laboratories

Prepared by: Heather A. Jemo Date: 2-22-01

Reviewed by: J. Neuman Date: 02-22-01

Project ID: 90137

Reviewed by: W. D. J. Date: 2/22/01

Analyses: PCB Aroclors, Pesticides, SVOCs, VOCs, Metals, Cyanide, TOC

Sample ID's: TP-D12-(0-0.5), TP-D12-(9-10), TP-D12-(9-10)Dup., TP-D12-(14-15)

A data review was performed on the organic and inorganic analytical data for test pit samples collected from the New Bedford Harbor site. The samples were analyzed by the following methods:

PCB Aroclors: 8082

Pesticides: 8081A

SVOCs: 8270C

VOCs: 8260B

Metals: 6010

Mercury: 7471

The data review is based on the following parameters:

- * Sample Preservation and Technical Holding times
 - Method Blank Analysis
 - Field/Equipment Blank Analysis
 - Matrix Spike/Matrix Spike Duplicates
- * Surrogate Recovery
 - Field Duplicates
 - Laboratory Control Sample

* - All criteria were met for this parameter

NA – Not applicable to this SDG

Note: The laboratory reports data as the groups in which they arrive at the lab, but samples are analyzed in batches of twenty. As a result some duplicate and MS/MSD samples may be reported under several ESS project ID's.

US EPA ARCHIVE DOCUMENT

Blank Contamination

Metals Data

Calcium was detected in the method blank at 11.4 mg/kg. The results for each of the associated samples is greater than the action limit, therefore no action is needed.

Matrix Spike/Matrix Spike Duplicate

Pesticides (8081)

The following is a table that summarizes the MS/MSD recovery and/or RPD that did not meet criteria:

Sample ID: TP-D10(0-0.5) (from Data Package 90160)

Compound	MS%R	MSD%R	Limits	RPD
4,4'-DDT	0	0	70-130	0
Endrin	53	56	70-130	5.5
Lindane	64	64	70-130	0
Heptachlor	32	31	70-130	3.2

Results for Endrin, Lindane and Heptachlor in each of the samples are non-detect; reporting limits for these compounds may be biased low. The laboratory detected DDD and DDE indicating significant DDT degradation. The amount of degradation and the potential impact on reported data could not be determined. Based on the 0% recovery of 4,4'-DDT, it is recommended that results for DDT, DDD and DDE in each of the samples associated with this MS/MSD be rejected as unusable.

SVOC Data

Sample TP-D10(0-0.5) (from Data Package # 90160) was analyzed as an MS/MSD. Di-n-octylphthalate has an MS %R of 182, the limits are 20-171%, and the MSD result was deemed acceptable.

Metals Data

The following summarizes the MS recovery data that did not meet the 75-125% criteria:

Sample ID: TP-D13-(13-13.5) (from Data Package 90138)

Analyte	MS %R	PDS %R
Aluminum	3,104	114
Antimony	30	89
Arsenic	57	91
Barium	31	90
Beryllium	56	87
Cadmium	48	83
Chromium	50	91
Cobalt	60	98
Copper	37	91
Iron	13,129	681
Manganese	51	87
Nickel	48	88
Potassium	0	91
Selenium	47	83
Silver	53	88
Sodium	57	93
Thallium	40	75
Vanadium	49	91
Zinc	34	83

MS recovery exceedences for Al and Fe are the result of high sample concentrations and sample matrix. The results for each of the analytes except iron were acceptable in the post digestion spike. MS recoveries for aluminum, iron, manganese, and potassium did exceed criteria, but the results for these analytes in this sample are greater than 4x the spike amount (30 mg/kg) and do not affect the data. Results for each of the above, listed analytes may be considered estimated, but are not significantly affected.

Mercury

Sample TP-D12-(0-0.5) was analyzed as a Matrix Spike. The percent recovery is 146% and the limits are 75-125%. The unspiked result was non-detect; no action is necessary.

Post Digestion Spike

Sample TP-D13-(13-13.5) (from data package 90138) was run as a post digestion spike. The recovery for Fe was 681%. Results from this package may be considered estimated.

Field and Laboratory Duplicates

VOC Data

The following summarizes the Field Duplicate data from TP-D12-(9-10) that did not meet the <50% limit:

Compound	(9-10) Result	(9-10)dup Dup Result	RPD
Benzene	0.83J	5.24U	NC
Tetrahydrofuran	10.1U	2.31J	NC
Trichlorofluoromethane	1.84J	7.51	121

These differences appear to be associated with low levels of target analytes, near or below the reporting limit. No action required.

SVOC Data

The following summarizes the field duplicate data from TP-D12-(9-10) that did not meet the <50% RPD limit:

Compound	Result (ug/kg)	Dup Result (ug/kg)	RPD
Acenaphthene	691	201	110
Acenaphthylene	1360	190	151
Anthracene	3840	801	131
Benzo(a)anthracene	5850	1860	104
Benzo(a)pyrene	4900	1690	97
Benzo(b)fluoranthene	3320	1520	74
Benzo(g,h,i)perylene	1870	482	118
Benzo(k)fluoranthene	4330	1830	81
Chrysene	5650	1930	98
Bis(2-ethylhexyl)phthalate	ND	105	NC
Dibenzo(a,h)anthracene	886	257	110
Dibenzofuran	1230	167	152
Fluoranthene	14,400	4320	108
Fluorene	1780	467	117
Indeno(1,2,3-cd)pyrene	1950	509	117
Naphthalene	ND	164	NC
Phenanthrene	15,200	3610	123
Pyrene	10,500	3730	95

Elevated (100-10,000 ug/kg) concentrations of PAHs were detected in field duplicate samples. In general, results from the initial sample were significantly higher (greater than 2x) the duplicate results. This indicates field variability possibly from a poorly homogenized sample and potentially affecting both samples collected as duplicates. No action required.

Metals Data

Sample TP-D13(13-13.5) was analyzed as a lab duplicate. Cobalt was non-detect in the original sample and the duplicate had a result of 5.86 mg/kg. These results do not appear to have a significant affect on the reported results.

Mercury

Samples TP-D12-(9-10) and TP-D12-(9-10)Dup were analyzed as field duplicates and had an RPD of 168%. The results for these samples may be considered estimated.

Laboratory Control Sample

VOC Data

2-Butanone has an LCS recovery of 123%, the limits are 80-120%. This is a minor deviation and does not appear to have affected the reported data.

Summary:

Overall the data in this package are acceptable for project use. There is some data that may be considered estimated due to surrogate and MS/MSD recoveries that were out of the required limits as well as some field duplicate data that did not meet criteria. Results for 4,4'-DDT, 4,4'-DDE and 4,4'-DDD were rejected. Trip blanks were inadvertently omitted by the field team for this sampling task.



FOSTER WHEELER ENVIRONMENTAL CORPORATION

NEW BEDFORD HARBOR TEST PIT SAMPLES DATA REVIEW

Project: NE TERC - T017
Source: ESS Laboratories

Prepared by: Kathleen A. Fumo Date: 2-22-01

Reviewed by: J.D. Nelson Date: 02-22-01

Project ID: 90050

Reviewed by: W.L. [Signature] Date: 2/22/01

Analyses: PCB Aroclors, Pesticides, SVOCs, VOCs, Metals, Cyanide, TOC

Sample ID's: TP-D2A-(0-0.5), TP-D2A-(4-5), TP-D2A-(7), TP-D3-(0-0.5), TP-D3-(2-3),
TP-D3-(9-10),

A data review was performed on the organic and inorganic analytical data for test pit samples collected from the New Bedford Harbor site. The samples were analyzed by the following methods:

PCB Aroclors: 8082

Pesticides: 8081A

SVOCs: 8270C

VOCs: 8260B

Metals: 6010

Mercury: 7471

The data review is based on the following parameters:

- * Sample Preservation and Technical Holding times
- * Method Blank Analysis
- * Field/Equipment Blank Analysis
- * Surrogate Recovery
- * Matrix Spike/Matrix Spike Duplicates
- * Field and/or Laboratory Duplicate
- * Laboratory Control Sample

* - All criteria were met for this parameter

Surrogate Recovery

PCB Aroclors

The following table summarizes the DCB surrogate recovery data that do not meet the (30-150%) criteria:

<u>Sample</u>	<u>%R</u>
TP-D3-(0-0.5)	441

The result for the above sample is non-detect and requires no action.

Pesticide Data

The following summarizes the surrogate recovery data that do not meet criteria:

Sample	%R (DCB)	%R (TCMX)
TP-D2A-(4-5)	81	22
TP-D2A-(7)	83	23
TP-D3-(2-3)	72	14
TP-D3-(9-10)	74	14
TP-D3-(0-0.5)	75	57

Results for each of the above samples are non-detect. No action is needed for the surrogate deviations because only one of the surrogates (for each sample) failed to meet the QC limits.

SVOC Data

Sample TP-D3-(2-3) had a surrogate (TPH) recovery of 178%. No action is needed for the non-detect result.

Matrix Spike/Matrix Spike Duplicate***Pesticides (8081)***

The following is a table that summarizes the MS/MSD recovery and/or RPD that did not meet criteria:

Sample ID: TP-D2A-(0-0.5)

Compound	Samp. Conc. (ug/Kg)	MS%R	MSD%R	Limits	RPD (<50%)
4,4'-DDT	ND	64	36	70-130	56
Endrin	ND	75	56	70-130	29
Lindane	ND	76	66	70-130	14

Endrin and Lindane results are non-detect and do not need to be qualified in this sample because the MS %R is acceptable and the RPD values are well below the 50% limit. These results compare well. The non-detect result for 4,4'-DDT may be considered estimated due to low MS/MSD recovery, but the surrogate %R for this sample is acceptable and results between the MS and MSD compare fairly well; therefore no action was required.

SVOC Data

The following summarizes the MS/MSD recovery and/or RPD that did not meet criteria:

Sample ID: TP-D1(0-2) (from Data Package 90049)

Compound	Samp. Conc. (ug/Kg)	MS%R	MSD%R	QC Limits	(<50%) RPD
3,3'-Dichlorobenzidine	ND	0	0	7-126	NC
4-Nitroaniline	ND	0	0	37-132	NC
4-Nitrophenol	ND	0	0	8-143	NC
Benzo(a)anthracene	27,100	175	196	47-141	11
Benzo(a)pyrene	27,800	174	201	27-164	14
Benzo(g,h,i)perylene	16,900	172	188	18-159	9
Benzo(k)fluoranthene	23,300	200	206	21-175	3
Benzyl Alcohol	ND	0	0	52-131	NC
Bis(2-Chloroisopropyl)Ether	ND	0	0	36-144	NC
Chrysene	29,400	183	206	47-143	12
Fluoranthene	71,700	266	317	51-142	17
Indeno(1,2,3-cd)Pyrene	15,700	163	185	21-160	13
N-Nitrosodimethylamine	ND	0	0	49-133	NC
Phenanthrene	84,300	197	266	36-201	30

Compounds with a %R > the QC limit with positive results may be considered estimated due to sample concentrations that may be biased high. The non-detect results with %R <10% for 3,3'-Dichlorobenzidine and 4-Nitrophenol should be considered estimated because the control limits indicate that these compounds may be difficult to recover. The remaining four compounds, 4-Nitroaniline, Benzyl Alcohol, Bis(2-Chloroisopropyl)Ether, and N-Nitrosodimethylamine, with 0% recovery, should have their non-detect results rejected in all associated samples. The 0% recoveries are not a result of sample dilution.

Metals Data

The following table summarizes the MS recoveries that do not meet the (75-125%) criteria:

Sample ID: TP-D3-(9-10)

Analyte	Sample Conc. (mg/Kg)	MS%R	PDS%R
Aluminum	5160	1611	3302
Antimony	ND	52	88
Calcium	1320	25	17
Iron	7370	496	7040
Manganese	109	68	84
Magnesium	1930	43	84
Selenium	ND	41	42

The above sample may have estimated results for Al, Ca, Fe, and Se. Recovery results for Sb, Mn and Mg were acceptable in the post digestion spike; no action is necessary.

Mercury

Sample TP-D2A-(7) was analyzed as an MS and PDS. The percent recovery for the MS for mercury is 136% and PDS recovery is 109% (acceptable), the limits are 75-125%. The positive result for Hg are acceptable.

Laboratory Control Sample

SVOC Data

4-Nitroaniline and N-nitroso-di-n-propylamine had LCS recoveries out of the required criteria. Their recoveries are 134% (limits: 37-132%) and 48% (limits: 50-145%) respectively. Results for N-Nitroso-di-n-propylamine in the associated samples were non-detect and should be considered estimated. The non-detect results for 4-Nitroaniline were rejected due to 0% MS/MSD recoveries.

Summary:

Overall the data from this SDG are acceptable for project use. There were some minor exceedences of surrogate, MS/MSD, post digestion spike, and LCS recoveries and some data may be considered estimated. Results for 4-Nitroaniline, Benzyl Alcohol, Bis(2-Chloroisopropyl)Ether, and N-Nitrosodimethylamine were rejected. Trip blanks were inadvertently omitted by the field team for this sampling task.



FOSTER WHEELER ENVIRONMENTAL CORPORATION

NEW BEDFORD HARBOR TEST PIT SAMPLES DATA REVIEW

Project: NE TERC - T017
Source: ESS Laboratories

Prepared by: Heather A. Jensen Date: 2-22-01

Reviewed by: J. Valen Date: 02-22-01

Project ID: 90136

Reviewed by: Heather A. Jensen Date: 2/22/01

Analyses: PCB Aroclors, Pesticides, SVOCs, VOCs, Metals, Cyanide, TOC

Sample ID's: TP-D5A(0-0.5), TP-D5A(13-14)

A data review was performed on the organic and inorganic analytical data for test pit samples collected from the New Bedford Harbor site. The samples were analyzed by the following methods:

PCB Aroclors: 8082
Pesticides: 8081A
SVOCs: 8270C
VOCs: 8260B
Metals: 6010
Mercury: 7471

The data review is based on the following parameters:

- * Sample Preservation and Technical Holding times
- Method Blank Analysis
- Field/Equipment Blank Analysis
- Surrogate Recovery
- Laboratory control sample
- Matrix Spike/Matrix Spike Duplicates
- Field and Laboratory Duplicates

* - All criteria were met for this parameter

Note: The laboratory reports data as the group in which they arrive at the lab, but samples are analyzed in batches of twenty. As a result some duplicate and MS/MSD samples may be reported under several ESS project ID's.

Blank Analysis

SVOC Data

Equipment blank EB090700 had a result of 17.0 ug/l for phenol. The results for phenol in both of the associated samples were non-detect. No action is needed.

Metals Data

Equipment blank EB090700 had positive results for calcium, iron, and zinc. Those results were 0.1 mg/l, 0.9 mg/l, and 0.06 mg/l, respectively. Calcium was detected in the method blank at 11.4 mg/l with an action level of 57 mg/l. The results for the samples in this SDG are well above the action level so no action is needed. Soil sample results for these elements are high relative to the blank results and do not appear attributable to field or lab contamination.

Surrogate Recovery***PCB Aroclors***

The recovery of DCB was 225% for sample TP-D5A(13-14). PCB results for this sample may be biased high. The recovery of TCMX in each sample was acceptable.

Pesticides (8081, soils)

The recovery of DCB was high (193%) in sample TP-D5A(13-14). Pesticide results for this sample were non-detect; no action is needed.

Pesticides (608, aqueous)

The DCB recovery in the equipment blank was 15%, but TCMX recovery was acceptable. This result does not affect the equipment blank results.

SVOCs

Surrogate p-Terphenyl-d14 (TPH) had a recovery of 171% in sample TP-D5A(0-0.5). The other surrogates were within the criteria; no action is needed.

Laboratory Control Sample***VOC Data***

The LCS result for 2-butanone was 123%, the limits are 80-120%. The results for this compound in the associated samples were non-detect. No action is needed.

Matrix Spike/Matrix Spike Duplicate***Pesticides (8081, soils)***

The following is a table that summarizes the MS/MSD recovery and/or RPD that did not meet the criteria, 70-130%:

Sample ID: TP-D10-(0-0.5) (from Data Package 90160)

Compound	MS Conc. (ug/kg)	MS %R (ug/kg)	MSD Conc.	MSD %R
4,4' DDT	ND	0	ND	0
Endrin	ND	53	ND	56
Lindane	ND	64	ND	64
Heptachlor	ND	32	ND	31

Results for Endrin, Lindane and Heptachlor in each of the samples are non-detect, reporting limits for these compounds may be biased low. The laboratory did detect DDD and DDE indicating significant DDT degradation. The amount of degradation and the potential impact on reported data could not be determined. Based on the 0% recovery of 4,4'-DDT, it is recommended that results for DDT, DDD and DDE in each of the samples associated with this MS/MSD be rejected as unusable.

SVOC Data

The MS recovery of Di-n-octylphthalate is outside of the 20-171% limit at 182% in sample TP-D10(0-0.5). MSD recovery is acceptable (164%). Results for this analyte in the sample are non-detect and are not affected by this exceedence.

Metals Data

The following is a table that summarizes the MS recovery data that did not meet the 75-125% criteria:

Sample ID: TP-D13-(13-13.5) (from Data Package 90138)

Analyte	MS%R	PDS%R
Aluminum	3,104	114
Antimony	30	89
Arsenic	57	91
Barium	31	90
Beryllium	56	87
Cadmium	48	83
Chromium	50	91
Cobalt	60	98
Copper	37	91
Iron	13,129	681
Manganese	51	87
Nickel	48	88
Potassium	0	91
Selenium	47	83
Silver	53	88
Sodium	57	93
Thallium	40	75
Vanadium	49	91
Zinc	34	83

MS recovery exceedences for Al and Fe are a result of high sample concentrations and sample matrix. The results for each of the analytes except iron were acceptable in the post digestion spike. MS recoveries for aluminum, iron, manganese, and potassium did exceed criteria, but the results for these analytes in this sample are greater than 4x the spike amount (30 mg/kg) and do not affect the data. Results for each of the above listed analytes may be considered estimated, but are not significantly affected.

Dissolved Metals Data (associated with the equipment blank only)

In sample 90158-06 sodium and manganese had MS recoveries that did not meet criteria, 580% and 74% respectively. These results for this sample may be considered estimated.

Mercury

Sample TP-D2A(7)MS from data package 90050 had a spike recovery of 129% and a post digestion spike recovery of 127%; the limits are 85-115%. Results for mercury in this sample may be biased high.

Field Duplicate

Metals Data

Sample TP-D13(13-13.5) was analyzed as a lab duplicate. Cobalt was non-detect in the original sample and the duplicate had a result of 5.86 mg/kg. These results do not appear to have a significant affect on the reported results.

Summary:

There were some minor deviations from blank contamination, and surrogate, MS/MSD and blank spike recoveries, and some duplicate data with poor precision. Results for 4,4'-DDT, 4,4'-DDD and 4,4'-DDE were rejected. Trip blanks were inadvertently omitted by the field team for this sampling task. The rest of the data are acceptable for project use.



FOSTER WHEELER ENVIRONMENTAL CORPORATION

NEW BEDFORD HARBOR TEST PIT SAMPLES DATA REVIEW

Project: NE TERC - T017
Source: ESS Laboratories

Prepared by: Matthew A. Finner Date: 2-22-01

Reviewed by: J. W. Nelson Date: 02-22-01

Project ID: 90049

Reviewed by: H. D. D. Date: 2/22/01

Analyses: PCB Aroclors, Pesticides, SVOCs, VOCs, Metals, Cyanide, TOC

Sample ID's: TP-D1-(0-2), TP-D1(5-5.5), TP-D1(5.5-5.6)

A data review was performed on the organic and inorganic analytical data for test pit samples collected from the New Bedford Harbor site. The samples were analyzed by the following methods:

PCB Aroclors: 8082
Pesticides: 8081A
SVOCs: 8270C
VOCs: 8260B
Metals: 6010
Mercury: 7471

The data review is based on the following parameters:

- * Sample Preservation and Technical Holding times
- * Method Blank Analysis
- * Field/Equipment Blank Analysis
 - Surrogate Recovery
 - Laboratory Control Sample
- * Field and Laboratory Duplicates
 - Matrix Spike/Matrix Spike Duplicates

* - All criteria were met for this parameter

Note: The laboratory reports data as the group in which they arrive at the lab, but samples are analyzed in batches of twenty. As a result some duplicate and MS/MSD samples may be reported under several ESS project ID's.

Surrogate Recovery

PCB Aroclors

The surrogate recovery (DCB) in the matrix spike was 61%. No action is needed on the MS sample.

Pesticides

The surrogate DCB had low recovery in all three of the samples in this data package. Sample TP-D1(0-2) had a recovery of 31%, sampleTP-D1(5-5.5) had a recovery of 13% and the recovery for sample TP-D1(5.6-6.0) was 13%. Recovery results for surrogate TCMX were acceptable in each sample. The non-detect results for these samples may be considered estimated.

Laboratory Control Sample

SVOC Data

4-Nitroaniline and N-nitroso-di-n-propylamine had LCS recoveries out of the required criteria. Their recoveries are 134% (limits: 37-132%) and 48% (limits: 50-145%) respectively. Results for N-Nitroso-di-n-propylamine in the associated samples were non-detect and should be considered estimated.

Matrix Spike/Matrix Spike Duplicate

Pesticides (8081)

The following is a table that summarizes the MS/MSD recovery and/or RPD that did not meet criteria:

Sample ID: TP-D2A(0-0.5)

<u>Compound</u>	<u>MS %R</u>	<u>MSD %R</u>	<u>Limits</u>	<u>RPD (<50%)</u>
4,4'-DDT	64	36	70-130	56
Endrin	75	56	70-130	29
Lindane	76	66	70-130	14

No positive results were reported, therefore no action is required for the listed compounds.

SVOC Data

The following summarizes the MS/MSD recovery and/or RPDs that did not meet criteria:

Sample ID: TP-D1-(0-2)

Compound	(ug/kg) Sample Conc	MS %R	MSD %R	QC Limits	(<50%) RPD
3,3'-Dichlorobenzidine	ND	0	0	7-126	0
4-Nitroaniline	ND	0	0	37-132	0
4-Nitrophenol	ND	0	0	8-143	0
Benzo(a)anthracene	27,100	175	196	47-141	11
Benzo(a)pyrene	27,800	174	201	27-164	14
Benzo(g,h,i)perylene	16,900	172	188	18-159	9
Benzo(k)fluoranthene	23,300	200	206	21-175	3
Benzyl Alcohol	ND	0	0	52-131	0
bis(2-Chloroisopropyl)ether	ND	0	0	36-144	0
Chrysene	29,400	183	206	47-143	12
Fluoranthene	71,700	266	317	51-142	17
Indeno(1,2,3-cd)pyrene	15,700	163	185	21-160	13
N-Nitrosodimethylamine	ND	0	0	49-133	0
Phenanthrene	84,300	197	266	36-201	30

Compounds with a %R > the QC limit and with positive results may be considered estimated due to sample concentrations that may be biased high. The non-detect results with %R <10% for 3,3'-Dichlorobenzidine and 4-Nitrophenol should be considered estimated because the control limits indicate that these compounds may be difficult to recover. The remaining four compounds, 4-Nitroaniline, Benzyl Alcohol, bis(2-Chloroisopropyl)ether and N-Nitrosodimethylamine, with 0% recoveries should have their non-detect results rejected in all associated samples. The 0% recoveries are not a result of sample dilution.

Metals Data

The following is a table that summarizes the MS recoveries that did not meet the 75-125% criteria:

Sample ID: MPS-NWSAND-090800

Analyte	MS%R
Aluminum	1694
Manganese	16
Calcium	4273
Potassium	127
Iron	4151
Zinc	40
Magnesium	15

No action is necessary on the field sample results because the LCS recoveries are acceptable and the duplicate results agree well. The post digestion spike results for zinc and magnesium were only slightly out of criteria. The above exceedences appear to have no significant impact on this data.

Mercury

The percent recovery for the MS for mercury is 37%, the post digestion spike recovery is 119%, the limits are 75-125%. The sample result may be biased low.

Post Digestion Spike

The following is a table that summarizes the post digestion spike recoveries that did not meet the 75-125% criteria:

Sample ID: MPS-NWSAND-090800

Analyte	PDS %R
Aluminum	425
Calcium	28
Potassium	5847
Iron	983
Zinc	73
Magnesium	69

No action is required.

Summary:

The majority of the results in this data package are acceptable for project use. There were some minor deviations of surrogate, blank spike and MS/MSD recoveries and duplicate RPDs. The SVOC MS/MSD from sample TP-D1(0-2) had results for 4-Nitroaniline, Benzyl Alcohol, bis(2-Chloroisopropyl)ether and N-Nitrosodimethylamine rejected due to recoveries of 0%. Trip blanks were inadvertently omitted by the field team for this sampling task.



FOSTER WHEELER ENVIRONMENTAL CORPORATION

NEW BEDFORD HARBOR TEST PIT SAMPLES DATA REVIEW

Project: NE TERC - T017
Source: ESS Laboratories

Prepared by: Kathleen A. Zeno Date: 2-22-01

Reviewed by: J. A. Nelan Date: 02-22-01

Project ID: 90160

Reviewed by: U. D. J. Date: 2/22/01

Analyses: PCB Aroclors, Pesticides, SVOCs, VOCs, Metals, Cyanide, TOC

Sample ID's: TP-D10(0-0.5), TP-D10(7-7.5), TP-D10(9-10)

A data review was performed on the organic and inorganic analytical data for test pit samples collected from the New Bedford Harbor site. The samples were analyzed by the following methods:

PCB Aroclors: 8082

Pesticides: 8081A

SVOCs: 8270C

VOCs: 8260B

Metals: 6010

Mercury: 7471

The data review is based on the following parameters:

- * Sample Preservation and Technical Holding times
- Method Blank Analysis
- * Field/Equipment Blank Analysis
- Surrogate Recovery
- Matrix Spike/Matrix Spike Duplicates
- * Field and/or Laboratory Duplicates
- Laboratory Control Sample

* - All criteria were met for this parameter

Blank Contamination

Metals Data

Calcium was detected in the method blank at 11.4 mg/kg. Results in each of the samples are above the action level. No action is needed.

Surrogate Recovery***PCB Aroclors***

The following table summarizes the surrogate recovery data that do not meet criteria:

<u>Sample</u>	<u>DCB %R</u>
TP-D10(0-0.5)	55
TP-D10(9-10)	61
TP-D10(7-7.5)	45

The surrogate recoveries for TCMX were acceptable in each of the samples. These exceedences do not appear to affect the reported data.

Pesticide Data

The following is a table that summarizes the surrogate recovery data that do not meet criteria:

<u>Sample</u>	<u>DCB %R</u>
TP-D10(9-10)	64
TP-D10(7-7.5)	33

The surrogate recoveries for TCMX were acceptable and these exceedences do not have a significant impact on the sample results.

SVOC Data

Samples TP-D10(9-10) and TP-D10(7-7.5) had surrogate recoveries for TPH (p-Terphenyl-d1) of 175 and 180%, respectively. The recoveries for the other surrogates were acceptable. Positive results may be biased high, but non-detect results are not affected.

Matrix Spike/Matrix Spike Duplicate***Pesticides (8081)***

The following is a table that summarizes the MS/MSD recovery and/or RPD that did not meet criteria:

Sample ID: TP-D10(0-0.5)

<u>Compound</u>	<u>MS Conc. (ug/kg)</u>	<u>MS%R</u>	<u>MSD Conc. (ug/kg)</u>	<u>MSD%R</u>	<u>Limits</u>	<u>RPD (<50%)</u>
4,4'-DDT	ND	0	ND	0	70-130	0
Endrin	ND	53	ND	56	70-130	6
Lindane	ND	64	ND	64	70-130	0
Heptachlor	ND	32	ND	31	70-130	3

Results for Endrin, Lindane and Heptachlor in each of the samples are non-detect, reporting limits for these compounds may be biased low. The laboratory did detect DDD and DDE indicating significant degradation. The amount of degradation and the potential impact on reported data could not be determined. Based on the 0% recovery of 4,4'-DDT, it is recommended that results for DDT, DDD and DDE in each of the samples associated with this MS/MSD be rejected as unusable.

SVOC Data

The MS recovery for Di-n-octylphthalate was 182%. The non-detect results for this compound in the samples are not affected.

Metals Data

The following is a table that summarizes the MS recoveries that do not meet the (75-125%) criteria:

Sample ID: TP-D10(7-7.5)

Analyte	Sample Conc. (mg/Kg)	MS%R
Aluminum	7420	214
Antimony	ND	53
Barium	66.8	69
Iron	10200	2269
Lead	183	5
Magnesium	2180	48
Managanese	120	64
Selenium	ND	73
Thallium	ND	72
Zinc	49	126

Recovery exceedences may be a result of the high concentration of certain analytes in the samples. Results may be considered estimated. The low recovery for lead does not have an affect on the data because the sample result is greater than 4 times the spike amount.

Laboratory Control Sample***VOC Data***

Chloroethane was outside of the 80-120% limits with an LCS recovery of 78%. Results are not affected by the exceedence.

Summary:

Overall the data from this SDG are acceptable for project use. There were some minor exceedences of surrogate, MS/MSD and LCS recoveries and some data may be considered estimated. Results for DDT, DDD and DDE in each of the samples are rejected as unusable. Trip blanks were inadvertently omitted by the field team for this sampling task.