



Nobis Engineering
PO Box 2890
Concord, New Hampshire 03302

PROJECT

Remedial Design For Operable Unit 01
New Bedford Harbor Superfund Site
New Bedford, Massachusetts

BORING NO. FD-24
SHEET 1 of 3
FILE NO. 48138.07
CHKD. BY J. Trottier

Boring Co. Atlantic Testing Laboratories, Limited Boring Location northing 2697050.8 easting 814049.7
Driller A. Carter Mudline El. -2.3 Datum NGVD
Logged By E. Thibodeau Date Start 9/14/99 Date End 9/14/99

Sampler: 2-inch O.D. split-barrel sampler driven 24 inches with a 140 lb safety hammer free falling from a height of 30 inches.
Drill Rig: Acker AD2 truck mount
Drilling Method: 4-inch I.D. (H-W) flush-joint casing; wash and drive.
All casing driven with a 300 lb center hole hammer free falling from a height of 30-inches.

Groundwater Readings Not Applicable for Offshore Borings				
Date	Time	Depth	Elev.	Stabilization Time

D E P T H	Casing Blows (ft)	SAMPLE INFORMATION					SAMPLE DESCRIPTION (ASTM D2488)	STRATUM DESCRIPTION	R E M A R K S
		Type & No.	PEN/REC (inches)	DEPTH (feet)	BLOWS PER 6 INCHES	SPT N-Value			
1	Hyd. Push						Advance HW drill casing to 3 ft. (hydraulic push) Advance 3-7/8 in. roller bit from 0 to 3 ft.		
2	Hyd. Push								
3	Hyd. Push								
4	5	S-1	24/3	3-5	6-1-2/12"	0	Poorly graded sand with silt (SP-SM); very loose, 50% medium sand, 30% fine sand, 10% coarse sand, 10% silt, strong petroleum based odor, black. (Probable sediments) Advance HW drill casing to 5 ft.	SP-SM	
5	2						Advance 3-7/8 in. roller bit from 3 to 5 ft.		
6	4	S-2	24/0	5-7	WOH/24"	0	Distinct sheen noted in drilling water return. S-2: No recovery. Advance HW drill casing to 7 ft.		
7	3						Advance 3-7/8 in. roller bit from 5 to 7 ft.		
8	5	S-3	24/12	7-9	WOR/24"	0	Organic soil with sand (OH); very soft, 80% organic clay/silt, 15% fine sand, 5% shells, strong organic odor, dark gray. Advance HW drill casing to 11 ft.	OH	
9	3						Advance 3-7/8 in. roller bit from 7 to 11 ft.		
10	3								
11	4								
12	7	S-4	24/16	11-13	WOH/12" WOH/12"	0	Organic soil with sand (OH); very soft, 80% organic clay/silt, 15% fine sand, 5% medium sand, <5% shells, strong organic odor, dark gray. Advance HW drill casing to 15 ft.	OH	
13	5						Advance 3-7/8 in. roller bit from 11 to 15 ft.		
14	4								
15	5								
16	9	S-5	24/6	15-17	WOH/12"	0	Organic soil with sand (OH); very soft, 75% organic clay/silt, 25% fine sand, <5% shell fragments, strong organic odor, dark gray. Advance HW drill casing to 20 ft.	OH	
17	7						Advance 3-7/8 in. roller bit from 15 to 20 ft.		
18	7								
19	8								
20	15								

SOILS (NPT)	ROCKS (NPT)	SYMBOLS
0 to 4 - Very Loose 5 to 10 - Loose 11 to 30 - Medium Dense 31 to 50 - Dense Over 50 - Very Dense	0 to 2 - Very Soft 3 to 4 - Soft 5 to 8 - Medium Stiff 9 to 15 - Stiff 16 to 30 - Very Stiff Over 30 - Hard	1. S denotes split-barrel sampler. 2. U denotes 3-inch O.D. undisturbed sample. 3. UO denotes 3-inch Osterberg undisturbed sample. 4. PEN denotes penetration length of sampler 5. REC denotes recovered length of sample. 6. SPT denotes Standard Penetration Test.
		7. PID denotes Photoionization Detector 8. PPM denotes parts per million. 9. PP denotes Pocket Penetrometer. 10. FVST denotes field vane shear test. 11. RQD denotes Rock Quality Designation 12. R denotes core run number.

REMARKS:
1)
2)
3)
4)



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SHEET 2 of 3

FILE NO. 48138.07

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Boring Co. Atlantic Testing Laboratories, Limited

Driller A. Carter

Logged By E. Thibodeau

Boring Location

northing 2697050.8 easting 814049.7

Mudline El.

-2.3

Datum

NGVD

Date Start

9/14/99

Date End

9/14/99

Sampler: 2-inch O.D. split-barrel sampler driven 24 inches with a 140 lb safety hammer free falling from a height of 30 inches.

Drill Rig: Acker AD2 truck mount

Drilling Method: 4-inch I.D. (HW) flush-joint casing; wash and drive.

All casing driven with a 300 lb center hole hammer free falling from a height of 30-inches.

Groundwater Readings Not Applicable for Offshore Borings

Date	Time	Depth	Elev.	Stabilization Time

DEPTH (ft)	Casing Blows (ft)	SAMPLE INFORMATION					SAMPLE DESCRIPTION (ASTM D2488)	STRATUM DESCRIPTION	REMARKS
		Type & No.	PENREC (inches)	DEPTH (feet)	BLOWS PER 6 INCHES	SPT N-Value			
21	22	S-6	24/18	20-22	4-6-10-11	16	S-6A: Silty sand (SM); medium dense, 50% fine sand, 30% medium sand, 20% silt, moderate organic odor, gray. (6 in.)	SM	
22	25						S-6B: Poorly graded sand with silt and gravel (SP-SM); medium dense, 40% medium sand, 15% coarse sand, 15% fine sand, 20% gravel, 10% silt, slight organic odor, gray. (12 in.)	SP-SM	
23	25						Advance HW drill casing to 25 ft.		
24	26						Advance 3-7/8 in. roller bit from 20 to 25 ft.		
25	24								
26	30	S-7	24/14	25-27	21-16-7-8	23	Poorly graded sand with silt and gravel (SP-SM); medium dense, 25% medium sand, 20% coarse sand, 20% fine sand, 25% gravel, 10% silt, gray.	SP-SM	
27	35						Advance HW drill casing to 30 ft.		
28	41						Add bentonite to drilling fluid.		
29	45						Advance 3-7/8 in. roller bit from 25 to 30 ft		
30	47								
31	30	S-8	24/6	30-32	28-9-5-3	14	Silty sand with gravel (SM); medium dense, 30% medium sand, 20% fine sand, 10% coarse sand, 20% gravel, 20% silt, gray.	SM	
32	24						Advance HW drill casing to 35 ft.		
33	25						Advance 3-7/8 in. roller bit from 30 to 35 ft.		
34	26								
35	44								
36	55	S-9	24/12	35-37	29-45-23-15	68	Silty sand with gravel (SM); very dense, 20% coarse sand, 10% medium sand, 10% fine sand, 40% gravel, 20% silt, gray.	SM	
37	72						Advance HW drill casing to 40 ft.		
38	97						Advance 3-7/8 in. roller bit from 35 to 40 ft.		
39	97								
40	156								

0 to 4 - Very Loose 5 to 10 - Loose 11 to 30 - Medium Dense 31 to 50 - Dense Over 50 - Very Dense	0 to 2 - Very Soft 3 to 4 - Soft 5 to 8 - Medium Stiff 9 to 15 - Stiff 16 to 30 - Very Stiff Over 30 - Hard	1 S denotes split-barrel sampler. 2. U denotes 3-inch O.D. undisturbed sample. 3. UO denotes 3-inch Osterberg undisturbed sample. 4. PEN denotes penetration length of sampler. 5. REC denotes recovered length of sample. 6. SPT denotes Standard Penetration Test.	7. PID denotes Photoionization Detector 8. PPM denotes parts per million. 9. PP denotes Pocket Penetrometer. 10. FVST denotes field vane shear test. 11. RQD denotes Rock Quality Designation. 12. R denotes core run number
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Boring Location

Mudline El. -2.3

Date Start 9/14/99

northing 2697050.8 easting 814049.7

Datum NGVD

Date End 9/14/99

Sampler: 2-inch O.D. split-barrel sampler driven 24 inches with a 140 lb safety hammer free falling from a height of 30 inches.

Drill Rig: Acker AD2 truck mount

Drilling Method: 4-inch I.D. (HW) flush-joint casing; wash and drive.

All casing driven with a 300 lb center hole hammer free falling from a height of 30-inches.

Groundwater Readings Not Applicable for Offshore Borings				
Date	Time	Depth	Elev.	Stabilization Time

DEPTH (ft)	Casing	SAMPLE INFORMATION					SAMPLE DESCRIPTION (ASTM D2488)	STRATUM DESCRIPTION	REMARKS
		Type & No.	PENREC (inches)	DEPTH (feet)	BLOWS PER 6 INCHES	SPT N-Value			
41	Open Hole	S-10	5/4	40-	125/5"	---	Silty sand with gravel (SM); 25% fine sand, 15% coarse sand, 10% medium sand, 30% gravel, 20% silt, brown. (GLACIAL TILL)	SM (GLACIAL TILL)	
42	Open Hole						Advance 3-7/8 in. button bit from 40 to 42 ft. (open hole)		
43	Open Hole	S-11	8/6	42-	27-17/2"	---	Silty sand with gravel (SM); 25% fine sand, 10% coarse sand, 10% medium sand, 35% gravel, 20% silt, brown. (GLACIAL TILL)	SM (GLACIAL TILL)	
44							Advance 3-7/8 in. button bit from 42 to 42.7 ft. (open hole)		
45							Top of bedrock at 42.7 ft.		
46							Advance 3-7/8 in. button bit from 42.7 to 44.7 ft. to confirm bedrock.	BEDROCK	
47							Bottom of exploration at 44.7 ft.; boring terminated in probable bedrock.		
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0 to 4 - Very Loose	0 to 2 - Very Soft	1. S denotes split-barrel sampler.	7. PID denotes Photolonization Detector
5 to 10 - Loose	3 to 4 - Soft	2. U denotes 3-inch O.D. undisturbed sample.	8. PPM denotes parts per million.
11 to 30 - Medium Dense	5 to 8 - Medium Stiff	3. UO denotes 3-inch Osterberg undisturbed sample.	9. PP denotes Pocket Penetrometer.
31 to 50 - Dense	9 to 15 - Stiff	4. PEN denotes penetration length of sampler.	10. FVST denotes field vane shear test.
Over 50 - Very Dense	16 to 30 - Very Stiff	5. REC denotes recovered length of sample.	11. ROD denotes Rock Quality Designation.
	Over 30 - Hard	6. SPT denotes Standard Penetration Test.	12. R denotes core run number.

REMARKS:

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