



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 - 30

SHEET 1 of 3

FILE NO. 48138.07

CHKD. BY J. Trottier

Boring Co. Atlantic Testing Laboratories, Limited Boring Location northing 2696533.2 easting 814545.8  
Driller A. Carter Mudline El. -19.4 Datum NGVD  
Logged By E. Thibodeau Date Start 8/26/99 Date End 8/30/99

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 and 3-inch I.D. (NW) flush-joint drill casing. 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	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 1 ft. (hydraulic push) Advance 3-7/8 in. button bit from 0 to 1 ft.		
2	Hyd. Push	UO-1	24/21	1-3			Sandy organic clay (OH); 56% organic clay/silt, 38% fine sand, 6% medium sand, strong organic odor, dark gray.	OH	1
3	Hyd. Push						Advance HW drill casing to 4 ft. (hydraulic push) Advance 3-7/8 in. button bit from 1 to 4 ft.		
4	Hyd. Push								2
5	Hyd. Push	UO-2	24/24	4-6			Clayey sand (SC); 40% fine sand, 17% medium sand, 2% coarse sand, 1% gravel, 40% organic clay, moderate organic odor, gray to dark gray.	SC	1
6	Hyd. Push						Advance HW drill casing to 7 ft. (hydraulic push) Advance 3-7/8 in. button bit from 4 to 7 ft.		
7	Hyd. Push								
8	Hyd. Push	UO-3	24/24	7-9			Top: Silty sand (SM); 40% fine sand, 25% medium sand, 35% organic clay, moderate organic odor, gray. Bottom: Sandy organic soil (OH); 40% organic clay, 20% organic silt, 40% fine sand, strong organic odor, dark gray.	SM	
9	Hyd. Push						Advance HW drill casing to 10 ft. (hydraulic push) Very difficult push at 9.5 ft.	OH	
10	Hyd. Push								
11	10	UO-4	24/0	10-12			Advance 3-7/8 in. button bit from 7 to 10 ft. UO-4: No recovery; probable sands.		
12	17						Advance HW drill casing to 12 ft. Advance 3-7/8 in. button bit from 10 to 12 ft.		
13	15	S-1	24/15	12-14	7-5-8-10	13	Poorly graded sand with silt (SP-SM); medium dense, 60% medium sand, 30% fine sand, 10% silt, brown. Approximate 1 in. and 1/2 in. silt/clay lenses noted in sample.	SP-SM	
14	18						Advance HW drill casing to 15 ft. Add bentonite to drilling fluid.		
15	15						Advance 3-7/8 in. button bit from 12 to 15 ft.		
16	0	S-2	24/16	15-17	3-5-6-7	11	S-2A: Clayey sand (SC); medium dense, 50% fine sand, 25% medium sand, 25% clay, brown. (6 in.) S-2B: Poorly graded sand with silt (SP-SM); medium dense, 60% fine sand, 30% medium sand, 10% silt, brown. (10 in.)	SC	
17	0						HW drill casing advanced from 15 to 17 ft. under self-weight.	SP-SM	
18	17						Advance HW drill casing to 20 ft.		
19	19						Advance 3-7/8 in. button bit from 15 to 20 ft.		
20	15								

SOFTNESS		SYMBOLS	
0 to 4 - Very Loose	0 to 2 - Very Soft	1. S denotes split-barrel sampler.	7. PID denotes Photoionization 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. RQD denotes Rock Quality Designation.
	Over 30 - Hard	6. SPT denotes Standard Penetration Test.	12. R denotes core run number.

REMARKS:  
1) Sample description based on laboratory test data and ASTM D2487. Refer to Test Report No. 3, prepared by GeoTesiing Express, dated October 28, 1999.  
2) Strata break changed from 9.5 ft. (shown on the field log) to 4 ft. based on the laboratory test data.  
3)  
4)



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BORING NO. FD-30

SHEET 2 of 3

FILE NO. 48138.07

CHKD. BY J. Trottier

Boring Co. Atlantic Testing Laboratories, Limited

Driller A. Cater

Logged By E. Thibodeau

Boring Location

northing 2696533.2 easting 814545.8

Mudline El.

-19.4

Datum

NGVD

Date Start

8/26/99

Date End

8/30/99

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 and 3-inch I.D. (NW) flush-joint drill casing.

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.	PEN/REC (inches)	DEPTH (feet)	BLOWS PER 6 INCHES	SPT N-Value			
21	22	S-3	24/10	20-22	4-5-6-6	11	Poorly graded sand with gravel (SP); medium dense, 45% medium sand, 20% fine sand, 10% coarse sand, 20% gravel, 5% silt, brown.	SP	
22	25						Advance HW drill casing to 25 ft.		
23	31						Advance 3-7/8 in. button bit from 20 to 25 ft.		
24	28								
25	38								
26	45	S-4	24/6	25-27	9-11-8-12	19	Silty gravel (GM); medium dense, 47% gravel, 16% medium sand, 15% fine sand, 10% coarse sand, 13% silt, brown. (GLACIAL TILL)	GM (GLACIAL TILL)	1
27	61						Advance HW drill casing to 27.4 ft.		
28	5"	S-5	0/0	27.4-	50/0"		No recovery.		
29	Spin			27.4			Telescope and advance NW drill casing to 27.9 ft. for coring. (spin)	Probable Boulder	
30	Spin						Begin NX rock core at 27.4 ft.		
31	Spin	S-6	24/3	30-32	11-7-6-6	13	Poorly graded sand with silt and gravel (SP-SM); medium dense, 20% medium sand, 15% coarse sand, 15% fine sand, 40% gravel, 10% silt, brown. (Glacial Till)	SP-SM (GLACIAL TILL)	
32	Spin						Advance NW inner drill casing to 30 ft.		
33	Spin								
34	Spin								
35	Spin								
36	Spin	S-7	24/4	35-37	20-19-21-13	40	Silty sand with gravel (SM); dense, 40% fine sand, 10% coarse sand, 10% medium sand, 20% gravel, 20% silt, brown. (Glacial Till) Traces of weathered bedrock noted in sample.	SM (GLACIAL TILL)	
37	Spin						Advance NW inner drill casing to 38.7 ft.		
38	Spin						Top of bedrock at 38.7 ft. (assumed)		
39							Advance NW inner drill casing to 39.2 ft. for coring. (spin)		
39		R1		38.7-39.7	3 mins.		Begin NX rock core at 38.7 ft.	Possible Cobble/Boulder	
40				39.7-40.7	4 mins.		38.7 to 39.3 ft. Fresh, medium hard, gray, aphanitic GNEISS with one low angle, rough, undulating, discolored, wide joint. Possible cobble/boulder.	BEDROCK	

0 to 4 - Very Loose	0 to 2 - Very Soft	1 S denotes split-barrel sampler.	7 PID denotes Photoionization 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.
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		Type & No.	PEN/REC (inches)	DEPTH (feet)	BLOWS PER 6 INCHES				
41	R1	40.7-41.7	3.5 mins.			39.3 to 40.1 ft: mixture of apparent fractured bedrock and gravel. 40.1 to 44.7 ft: Fresh, moderately hard, gray, aphanitic GNEISS. No joint pattern noted. REC = 75%; RQD = 49% (poor)	BEDROCK		
42	cont.	41.7-42.7	6 mins.			Core barrel advanced rapidly from 39.3 to 40.1 ft.			
43		42.7-43.7	3.5 mins.			43.1 to 43.7 ft: core barrel dropped. 43.8 to 44.7 ft: core barrel dropped.			
44		43.7-44.7	1 min.			Sound hole at completion of core run; core hole caved from 39.7 to 44.7 ft. Drive 2-in. split-barrel from 39.7 to 41.7 ft. S-8: Poorly graded sand with silt (SP-SM); 55% medium sand, 30% fine sand, 5% coarse sand, 10% silt, reddish brown.			
45	R2	44.7-45.7	1 min.			R2: 44.7 to 46.4 ft. Slightly discolored, very fractured bedrock. REC = 95%; RQD = 0% (very poor)			
46		45.7-46.4	6 mins.			Core barrel advanced rapidly from 44.7 to 46.4 ft. No water return observed during coring operations.			
47	R3	46.4-47.4	6.5 mins.			Core barrel jammed at 46.4 ft; core run terminated. R3: 46.4 to 51.0 ft.			
48		47.4-48.4	3.5 mins.			Fresh, medium hard, gray, aphanitic GNEISS with horizontal to low angle, very close to closely spaced, rough, planar, slightly discolored, wide joints.			
49		48.4-49.4	2 mins.			REC = 100%; RQD = 64% (fair) 49.4 to 49.6 ft: sand filled joint or void noted.			
50		49.4-50.4	4 mins.			No water return observed during coring operations.			
51		50.4-51.0	10 mins.			Core barrel full at 51.0 ft.; core run terminated. Bottom of exploration at 51.0 ft.; boring terminated in bedrock.			
52									
53									
54									
55									
56									
57									
58									
59									
60									

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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