



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-27

SHEET 1 of 4

FILE NO. 48138.07

CHKD. BY J. Trottier

Boring Co. Atlantic Testing Laboratories, Limited Boring Location northing 2697480.4 easting 814091.9  
 Driller R. Pryce Ground Surface El. 7.47 Datum NGVD  
 Logged By R. Chase Date Start 8/19/99 Date End 8/23/99

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: CME 75 truck mount

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

Groundwater Readings (from ground surface)

Date	Time	Depth	Elev.	Stabilization Time
No water levels recorded				

DEPTH (ft)	Casing	SAMPLE INFORMATION					SAMPLE DESCRIPTION (ASTM D2488)	STRATUM DESCRIPTION	REMARKS
		Type & No.	PEN/REC (inches)	DEPTH (feet)	BLOWS PER 8 INCHES	SPT N-Value			
1	Spin	S-1	24/17	0-2	5-10-12-6	22	Poorly graded sand with gravel (SP); dry, medium dense, 50% fine sand, 10% coarse sand, 5% medium sand, 30% fine gravel, 5% silt, brown. (FILL) Advance HW drill casing to 3 ft.	SP (FILL)	
2	Spin								
3	Spin								
4	Spin	S-2	24/12	3-5	10-13-11-10	24	Poorly graded sand with gravel (SP); wet, medium dense, 20% coarse sand, 20% medium sand, 20% fine sand, 35% fine gravel, 5% silt, brown. (FILL) Advance HW drill casing to 8 ft.	SP (FILL)	
5	Spin								
6	Spin								
7	Spin								
8	Spin								
9	Spin	S-3	24/6	8-10	7-6-7-45	13	Silty sand (SM); wet, medium dense, 10% medium sand, 50% fine sand, 10% gravel, 30% silt, brown. (FILL) Advance HW drill casing to 13 ft.	SM (FILL)	
10	Spin								
11	Spin								
12	Spin								
13	Spin								
14	Spin	S-4	24/20	13-15	WOH/24"	0	Sandy organic soil (OH); moist to wet, very soft, 65% organic clay/silt, 30% fine sand, 5% shell fragments, slight organic odor, dark gray.	OH	
15	Spin								
16	Spin	S-5	24/24	15-17	WOH/12"-1-1	1	Sandy organic soil (OH); moist, very soft, 60% organic clay/silt, 35% fine sand, 5% shell fragments, dark gray. Advance HW drill casing to 17 ft.	OH	
17	Spin								
18	Spin	S-6	24/20	17-19	1-2-4-6	6	Silty sand (SM); wet, loose, 80% fine sand, 20% silt, gray to brown.	SM	
19	Spin								
20	Spin	S-7	24/21	19-21	4-6-8-10	14	Poorly graded sand (SP); wet, medium dense, 20% medium sand, 75% fine sand, 5% silt, brown.	SP	

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)
- 2)
- 3)
- 4)



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SHEET 2 of 4

FILE NO. 48138.07

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Boring Co. Atlantic Testing Laboratories, Limited

Driller R. Pryce

Logged By R. Chase

Boring Location

northing 2697480.4 easting 814091.9

Ground Surface El.

7.47

Datum NGVD

Date Start

8/19/99

Date End

8/23/99

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: CME 75 truck mount

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

Groundwater Readings (from ground surface)

Date	Time	Depth	Elev.	Stabilization Time
No water levels recorded				

DEPTH	Casing	SAMPLE INFORMATION					SAMPLE DESCRIPTION (ASTM D2488)	STRATUM DESCRIPTION	REMARKS
		Type & No.	PENREC (inches)	DEPTH (feet)	BLOWS PER 6 INCHES	SPT N-Value			
21	Spin						Advance HW drill casing to 23 ft.		
22	Spin								
23	Spin								
24	Spin	S-8	24/12	23-25	3-3-5-5	8	Silty sand (SM); wet, loose, 85% fine sand, 15% silt, brown.	SM	
25	Spin								
26	Spin	S-9	24/24	25-27	9-8-10-10	18	Poorly graded sand with silt (SP-SM); wet, medium dense, 10% coarse sand, 10% medium sand, 60% fine sand, 10% gravel, 10% silt, brown.	SP-SM	
27	Spin						Advance HW drill casing to 28 ft.		
28	Spin								
29	Spin	S-10	24/10	28-30	1-5-5-6	10	Poorly graded sand (SP); loose, 80% fine sand, 10% medium sand, 5% coarse sand, 5% silt, brown.	SP	
30	Spin						Advance HW drill casing to 33 ft.		
31	Spin								
32	Spin								
33	Spin								
34	Spin	S-11	22/7	33-34.8	7-9-9-50/4"	18	Poorly graded sand (SP); wet, medium dense, 35% coarse sand, 35% medium sand, 15% fine sand, 10% gravel, 5% silt, brown.	SP	
35	Spin						Advance HW drill casing to 36 ft.		
36	Spin						Begin NX rock core at 36 ft. Not bedrock; probable boulder from 35 to 36.5 ft.	Probable Boulder	
37	Spin						Advance HW drill casing to 38 ft.		
38	Spin								
39	Spin	S-12	24/7	38-40	16-6-4-5	10	Well-graded sand with gravel (SW); loose, 35% medium sand, 25% coarse sand, 15% fine sand, 20% gravel, 5% silt, gray.	SW	
40	Spin						Advance HW drill casing to 43 ft.		

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.  
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9. PP denotes Pocket Penetrometer.  
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SHEET 3 of 4

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 Drill Rig: CME 75 truck mount  
 Drilling Method: 4-inch (HW) flush-joint casing; spin and wash.

Groundwater Readings (from ground surface)				
Date	Time	Depth	Elev.	Stabilization Time
No water levels recorded				

DEPTH (ft)	Casing	SAMPLE INFORMATION					SAMPLE DESCRIPTION (ASTM D2488)	STRATUM DESCRIPTION	REMARKS
		Type & No.	PENREC (inches)	DEPTH (feet)	BLOWS PER 8 INCHES	SPT N-Value			
41	Spin								
42	Spin								
43	Spin								
44	Spin	S-13	24/1	43-45	5-5-4	10	Poorly graded gravel (GP); loose, 100% fine gravel, gray. Advance HW drill casing to 47 ft. Advance 3-7/8 in. roller bit to 48 ft.	GP	
45	Spin								
46	Spin								
47	Spin								
48	Spin						Probable boulder from 47 to 48 ft.	Probable Boulder	
49	Spin	S-14	24/10	48-50	10-8-8-9	16	Poorly graded sand (SP); wet, medium dense, 80% fine sand, 5% medium sand, 10% fine gravel, 5% silt, gray. Advance 3-7/8 in. roller bit to 53 ft. Advance HW drill casing to 53 ft.	SP	
50	Spin								
51	Spin								
52	Spin								
53	Spin								
54	Spin	S-15	24/17	53-55	12-11-10-8	21	Poorly graded sand (SP); wet, medium dense, 85% fine sand, 5% medium sand, 5% fine gravel, 5% silt, gray. Advance HW drill casing to 58 ft.	SP	
55	Spin								
56	Spin								
57	Spin								
58	Spin								
59	Spin	S-16	14/4	58-59.2	23-30-50/2"	>50	Poorly graded sand with gravel (SP); wet, very dense, 75% fine sand, 5% medium sand, 15% fine gravel, 5% silt, gray. Top of bedrock at 59.2 ft. (boring log continued on next page)	SP	
								BEDROCK	

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. UD 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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DEPTH (ft)	Casing Type & No.	PENREC (inches)	DEPTH (feet)	BLOWS PER 6 INCHES	SPT N-Value	SAMPLE DESCRIPTION (ASTM D2488)	STRATUM DESCRIPTION	REMARKS
60						Begin NX rock core at 60 ft.	BEDROCK	
61	R1	60-61		5 mins.		R1: 60 to 65 ft.		
62		61-62		5.5 mins.		Fresh, medium hard, gray, aphanitic GNEISS with low angle, very closely spaced, rough, planar, fresh, open, joints.		
63		62-63		6 mins.		REC = 100%; RQD = 70%		
64		63-64		6 mins.		90% of rock core breaks are mechanical.		
65		64-65		6.75 mins.				
66	R2	65-66		7.75 mins.		R2: 65 to 70 ft.		
67		66-67		6.5 mins.		Similar to R1.		
68		67-68		6.5 mins.		REC = 100%; RQD = 90%		
69		68-69		6.75 mins.				
70		69-70		7.5 mins.				
71						Bottom of exploration at 70 ft.; boring terminated in bedrock.		
72								
73								
74								
75								
76								
77								
78								
79								

80 0 to 4 - Very Loose  
5 to 10 - Loose  
11 to 30 - Medium Dense  
31 to 50 - Dense  
Over 50 - Very Dense

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