



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-23

SHEET 1 of 4

FILE NO. 48138.07

CHKD. BY J. Trotter

Boring Co. Atlantic Testing Laboratories, Limited Boring Location northing 2696825.4 easting 814041.8
 Driller R. Pryce Ground Surface El. 9.82 Datum NGVD
 Logged By R. Chase Date Start 9/2/99 Date End 9/7/99

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 I.D. (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.	PEN/REC (inches)	DEPTH (feet)	BLOWS PER 6 INCHES	SPT N-Value			
1	Spin							ASPHALT	
2	Spin	S-1	24/7	1-3	8-6-5-9	11	Silty sand (SM); wet, medium dense, 75% fine sand, 5% coarse sand, 5% medium sand, 15% silt, brown. (FILL)	SM (FILL)	
3	Spin								
4	Spin	S-2	24/12	3-5	15-8-7-8	15	Similar to S-1. Advance HW drill casing to 6 ft. Advance 3-7/8 in. roller bit from 6 to 7.5 ft.	SM (FILL)	
5	Spin						Advance HW drill casing to 8 ft.		
6	Spin								
7	Spin						Probable boulder from 6 to 7.5 ft.	Probable Boulder	
8	Spin								
9	Spin	S-3	24/4	8-10	8-4-6-9	10	Poorly graded sand with gravel (SP); wet, loose, 50% fine sand, 10% medium sand, 5% coarse sand, 30% fine gravel, 5% silt, gray. (FILL)	SP (FILL)	
10	Spin								
11	Spin								
12	Spin								
13	Spin						Probable boulder from 12.5 to 13.5 ft.	Probable Boulder	
14	Spin	S-4	24/18	13.5-15.5	6-4-6-7	10	Silty sand (SM); wet, loose, 50% fine sand, 50% silt, asphalt like odor, oily sheen, black. PID = 36 ppm when sampler was opened. (FILL)	SM (FILL)	
15	Spin								
16	Spin								
17	Spin								
18	Spin								
19	Spin	S-5	24/5	18-20	42-19-15-20	34	Poorly graded gravel with sand (GP); wet, dense, 70% fine gravel, 10% coarse sand, 10% medium sand, 5% fine sand, 5% silt, gray. Traces of wood and brick noted in sample. (FILL)	GP (FILL)	
20	Spin						Advance HW drill casing to 23 ft.		

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|---|--|--|--|
| 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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REMARKS:
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BORING NO. FD-23
SHEET 2 of 4
FILE NO. 48138.07
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Boring Co. Atlantic Testing Laboratories, Limited Boring Location northing 2696825.4 easting 814041.8
Driller R. Pryce Ground Surface El. 9.82 Datum NGVD
Logged By R. Chase Date Start 9/2/99 Date End 9/7/99

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 I.D. (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 D2486)	STRATUM DESCRIPTION	REMARKS
		Blows (ft)	Type & No.	PENREC (inches)	DEPTH (feet)	BLOWS PER 6 INCHES			
21	Spin								
22	Spin								
23	Spin								
24	Spin	S-6	24/5	23-25	15-7-9-9	16	Organic soil (OL); wet, very stiff, 99% organic silt, 1% brick, gray. Brick fragments noted in top 1 in. of sample. Advance HW drill casing to 28 ft.	OL	
25	Spin								
26	Spin								
27	Spin								
28	Spin								
29	Spin	S-7	24/16	28-30	6-5-8-16	13	Organic soil (OL); wet, stiff, 100% organic clay/silt. Advance HW drill casing to 33 ft.	OL	
30	Spin								
31	Spin								
32	Spin								
33	Spin								
34	Spin	S-8	24/6	33-35	30-15-15-18	30	Poorly graded sand (SP); wet, medium dense, 50% fine sand, 10% medium sand, 5% sand, 30% fine gravel, 5% silt, gray. Advance HW drill casing to 38 ft.	SP	
35	Spin								
36	Spin								
37	Spin								
38	Spin								
39	Spin	S-9	24/12	38-40	8-12-13-17	25	Silty sand (SM); wet, medium dense, 85% fine sand, 15% silt, gray. Advance HW drill casing to 43 ft.	SM	
40	Spin								

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|---|--|--|---|
| 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.
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New Bedford, Massachusetts

BORING NO. FD-23

SHEET 3 of 4

FILE NO. 48138.07

CHKD. BY J. Trottier

Boring Co. Atlantic Testing Laboratories, Limited Boring Location northing 2696825.4 easting 814041.8
 Driller R. Pryce Ground Surface El. 9.82 Datum NGVD
 Logged By R. Chase Date Start 9/2/99 Date End 9/7/99

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 I.D. (HW) flush-joint casing; spin and wash.

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

DEPTH	Casing Blows (ft)	SAMPLE INFORMATION					SAMPLE DESCRIPTION (ASTM D2488)	STRATUM DESCRIPTION	R E M K S
		Type & No.	PEN/REC (inches)	DEPTH (feet)	BLOWS PER 6 INCHES	SPT N-Value			
41	Spin								
42	Spin								
43	Spin								
44	Spin	S-10	24/15	43-45	23-14-14-19	28	Silty sand (SM); wet, medium dense, 85% fine sand, 15% silt, gray. Advance HW drill casing to 48 ft.	SM	
45	Spin								
46	Spin								
47	Spin								
48	Spin								
49	Spin	S-11	2/0	48-	50/2"	>50	No recovery. Advance HW drill casing to 53 ft. Advance 3-7/8 in. roller bit to 56 ft.		
50	Spin								
51	Spin								
52	Spin								
53	Spin						Probable nested boulders from 52.5 to 55.8 ft.		
54	Spin							Probable Nested Boulders	
55	Spin								
56	Spin								
57	Spin	S-12	20/10	56-	18-48-60-50/2"	108	Poorly graded sand (SP); wet, very dense, 75% fine sand, 10% medium sand, <5% coarse sand, 5% fine gravel, <5% silt. Advance HW drill casing to 57.9 ft.	SP	
58	Spin						Top of bedrock at 57.9 ft. Advance 3-7/8 in. roller bit to 60 ft. (boring log continued on next page)		
59								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. 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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SHEET 4 of 4
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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 I.D. (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
		Blows (ft)	Type & No.	PENREC (inches)	DEPTH (feet)			
60						Begin NX rock core at 60 ft.		
61	R1		60-61		9.5 mins.	R1: 60 to 65 ft.		
62			61-62		7.5 mins.	Fresh, medium hard, gray, aphanitic GNEISS with low angle, very closely spaced, rough, planar, fresh, open joints.		
63			62-63		8.5 mins.	REC = 100%; RQD = 65%		
64			63-64		8.5 mins.	Approximately 80% of rock core breaks are mechanical.		
65			64-65		8.5 mins.		BEDROCK	
66	R2		65-66		7 mins.	R2: 65 to 70 ft.		
67			66-67		7.5 mins.	Similar to R1.		
68			67-68		7 mins.	REC = 100%; RQD = 91%		
69			68-69		6 mins.			
70			69-70		6.5 mins.			
71						Bottom of exploration at 70 ft.; boring terminated in bedrock.		
72								
73								
74								
75								
76								
77								
78								
79								

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. ROD denotes Rock Quality Designation. 12. R denotes core run number
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