Date:	12/13/2011

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815210
Location: New Bedford Harbor		North of Popes Island	Y: 2697039
Elevation at grade: -4.2	Datum:	MLLW	Boring No: A2011-CAD4-B-1
Casing Type: Steel	Boring Depth:	-88	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 1 of 4
Driller: N. Studdard	Log By:	GCD & GAD	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
0		24.0"	2,1,3,3	3" Black, organic SILT, some shell hash, some fine sand.	
2		6.0"		3" Dark grey, fine to medium SAND and organic SILT, trace shell hash.	-6.2
4		24.0" 12.0"	6,23,16, 12	Light grey, fine SAND, little inorganic SILT.	-8.2
6		24.0" 15.0"	14,8,9,12	Grey, inorganic SILT.	-10.2
8		24.0" 8.0"	6,6,4,6	Grey, inorganic SILT and fine SAND.	-12.2
10		24.0" 16.0"	5,4,10,24	Grey, inorganic SILT, little fine sand.	-14.2
12		24.0" 9.0"	6,4,7,10	Grey, inorganic SILT, little fine sand.	-16.2
14		24.0" 8.0"	7,4,5,5	Grey, inorganic SILT, little fine sand.	-18.2
16		24.0" 11.0"	6,5,5,7	Grey, inorganic SILT, little fine sand.	-20.2
18		24.0" 18.0"	6,4,4,6	Tan grey, SILT, little fine sand, grades to tan grey, fine SAND, little silt.	-22.2
20		24.0" 12.0"	9,9,12,9	Tan, fine SAND, grades to tan, SILT, little to some fine sand.	-24.2
22		24.0" 12.0"	4,6,6,9	Tan, fine SAND, little silt.	-26.2
24		24.0" 12.0"	9,9,12,9	Tan, fine SAND, little silt.	-28.2
26		24.0" 13.0"	8,5,7,7	Tan grey, SILT.	-30.2

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	12/13/2011

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815210
Location: New Bedford Harbor		North of Popes Island	Y: 2697039
Elevation at grade: -4.2	Datum:	MLLW	Boring No: A2011-CAD4-B-1
Casing Type: Steel	Boring Depth:	-88	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 2 of 4
Driller: N. Studdard	Log By:	GCD & GAD	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
26 28		24.0" 9.0"	3,3,5,9	Tan grey, SILT.	-32.2
30		24.0" 7.0"	7,4,6,8	Tan grey, SILT, little fine sand.	-34.2
32		24.0" 9.0"	8,9,14,14	Interbedded grey and tan, fine SAND and SILT.	-36.2
34		24.0" 15.0"	6,8,8,11	Interbedded grey and tan, fine SAND grades to SILT.	-38.2
36		24.0" 13.0"	2,2,5,8	Interbedded grey and tan, fine SAND grades to SILT.	-40.2
38		24.0" 12.0"	1,1,8,12	Interbedded grey and tan, fine SAND grades to SILT.	-42.2
40		24.0" 16.0"	6,6,8,6	2" Tan, fine SAND. 14" Grey, fine SAND, grades to SILT.	-44.2
42		24.0" 12.0"	3,5,5,7	Grey, fine SAND, little SILT.	-46.2
44		24.0" 9.0"	9,12,11, 11	Tan grey, SILT, some fine sand.	-48.2
46		24.0" 14.0"	18,16,18, 18	Grey, SILT.	-50.2
48		24.0" 12.0"	9,11,11,8	Grey, SILT, little fine sand.	-52.2
49		12.0" 6.0"	19,*	Grey, SILT, little fine sand. *Casing advancing with split spoon - casing dropped 4' on removal of split spoon.	-53.2
52		24.0" 11.0"	wor,wor, wor, 21	Grey, SILT - Casing penetrated through interval, split spoon driven inside of casing to collect sample.	-56.2

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	12/13/2011

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815210
Location: New Bedford Harbor		North of Popes Island	Y: 2697039
Elevation at grade: -4.2	Datum:	MLLW	Boring No: A2011-CAD4-B-1
Casing Type: Steel	Boring Depth:	-88	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 3 of 4
Driller: N. Studdard	Log By:	GCD & GAD	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
52		24.0"	8,17,17, 10	7" Grey, fine SAND, little silt.	
54		9.0"		2" Grey fine to coarse SAND, some fine to coarse gravel, little silt.	-58.2
56		24.0" 2.0"	18,22,16, 23	Grey, fine to coarse GRAVEL, little silt, little fine to coarse sand - TILL.	-60.2
58		24.0" 0.0"	20,23,16, 33	Coarse GRAVEL plugging nose of spoon - probable TILL.	-62.2
60		24.0" 13.0"	28,33,72, 33	Grey, SILT, some fine to coarse sand, some fine to coarse gravel - TILL.	-64.2
62		24.0" 4.0"	20,25,17, 44	Grey, SILT, some fine to coarse sand, some fine to coarse gravel - TILL.	-66.2
64		24.0" 1.0"	8,13,18,2 3	Grey, fine to coarse GRAVEL, some fine to coarse sand, some silt - TILL.	-68.2
66		3.0" 1.5"	150/3"	Coarse GRAVEL. Obstruction encountered - drilled with roller bit through 6" cobble.	-70.2
68		24.0" 0.0"	30,21,33, 46	No Recovery	-72.2
70		24.0" 3.0"	46,26,33, 38	Grey, fine to coarse SAND, some silt, some fine to coarse gravel - TILL.	-74.2
72		24.0" 0.0"	33,26,27, 42	No Recovery	-76.2
72.4		5.0" 0.0"	150/5"	Grey, fine to coarse SAND, some silt, some fine to coarse gravel - TILL.	-76.6
73.8				Obstruction Encountered - 76.6' MLLW. Advanced roller bit to 78.0' MLLW and began coring.	-78.0
78.8	85%	5' 3.7'	5-4-5-4-8	Rock Core #1 -78.0 to -83.0 MLLW Grey, moderately fractured, GRANITE, slight gneissic banding. Pink granitic PEGMATITE 1.9'-2.3'.	-83.0

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	12/13/2011

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815210
Location: New Bedford Harbor		North of Popes Island	Y: 2697039
Elevation at grade: -4.2	Datum:	MLLW	Boring No: A2011-CAD4-B-1
Casing Type: Steel	Boring Depth:	-88	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 4 of 4
Driller: N. Studdard	Log By:	GCD & GAD	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
83.1	0%	4.3' 0.6'		Rock Core #2 -83.0 to -87.3 MLLW Grey, intensely fractured, GRANITE. Drill Rig stalling during core run - no drill times recorded.	-87.3
83.8	77%	0.7' 5.1'		Rock Core #3 -87.3 to -88.0 MLLW Grey, intensely to moderately fractured, GRANITE. Drill Rig stalling during core run - no drill times recorded.	-88.0

Notes/ Comments:

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2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	12/19/2011

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815567
Location: New Bedford Harbor		North of Popes Island	Y: 2697300
Elevation at grade: -3.7	Datum:	MLLW	Boring No: A-2011-CAD4-B-2
Casing Type: Steel	Boring Depth:	-82.7	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 1 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
0		24.0"	1, 1, 2, 2	Black, organic SILT, some fine sand, little silt, trace shell hash.	
2		12.0"			-3.7
		24.0"	1, 1, 1, 2	Gray brown, fine SAND, trace silt.	
4		9.0"			-7.7
		24.0"	1, 2, 4, 5	Brown, fine SAND, trace shell hash.	
6		10.5"			-9.7
		24.0"	3, 7, 11, 17	Brown, fine to medium SAND.	
8		9.5"			-11.7
		24.0"	4, 4, 8, 8	Brown, fine to medium SAND.	
10		10.0"			-13.7
		24.0"	2, 5, 11, 12	Brown, fine to coarse SAND, trace silt.	
12		9.0"			-15.7
		21.0"	12, 23, 30, 130-3	Brown, fine to coarse SAND, trace silt.	
14		2.0"			-17.7
		24.0"	39, 45, 39, 29	Light brown, fine to coarse SAND.	
16		17.0"			-19.7
		24.0"	23, 12, 19, 16	Light brown, fine to coarse SAND.	
18		10.0"			-21.7
		24.0"	11, 9, 11, 17	Light brown, fine to coarse SAND.	
20		5.5"			-23.7
		24.0"	12, 20, 37, 17	Light brown, fine to coarse SAND.	
22		11.0"			-25.7
		24.0"	15, 12, 10, 12,	Light brown, fine to coarse SAND.	
24		8.0"			-27.7
		24.0"	1, 3, 6, 7	Light brown, fine to coarse SAND.	
26		5.0"			-29.7

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

APEX

BORING LOG

Date:	12/19/2011		
Project: EPA LHCC	Project No: 6724.001	X:	815567
Location: New Bedford Harbor	North of Popes Island	Y:	2697300
Elevation at grade: -3.7	Datum: MLLW	Boring No:	A-2011-CAD4-B-2
Casing Type: Steel	Boring Depth: -82.7		
Casing Diameter: 4"	Drill Rig: CME 55		
Drill Co: NH Boring	Method: Drive and Wash	Sheet: 2	of 3
Driller: N. Studdard	Log By: CAS		

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
26 28		24.0" 12.0"	5, 6, 5, 5	Light brown, very fine to coarse SAND.	-29.7
30		24.0" 13.0"	1, 2, 4, 3	Light brown, very fine to coarse SAND.	-33.7
32		24.0" 13.0"	5, 14, 15, 13	Light brown reddish, fine to coarse SAND.	-35.7
34		24.0" 4.0"	16, 18, 11, 13	Light brown reddish fine to coarse SAND, some fine gravel.	-37.7
36		24.0" 8.0"	18, 15, 27, 40	Brown red, fine to coarse SAND and fine to coarse GRAVEL.	-39.7
38		24.0" 8.0"	50, 15, 26, 21	Dark brown, fine to coarse SAND, some medium gravel.	-41.7
40		24.0" 7.5"	90, 16, 10, 17	Dark brown, fine to coarse SAND, trace coarse gravel.	-43.7
42		24.0" 7.0"	20, 24, 15, 29	Light brown, fine to coarse SAND, trace gravel.	-45.7
44		20.0" 8.5"	32, 31, 47, 100-4	Gray, fine to coarse SAND, some gravel.	-47.7
44.25		3.0" 0.0"	120-3	Obstruction encountered, no recovery.	-48.0
48		0.0" 0.0"	100-0"	Advanced with roller bit through coarse gravel to -51.7' MLLW.	-51.7
50		0.0" 0.0"	100-0"	Advanced with roller bit through coarse gravel to 53.7' MLLW.	-53.7
51.1		11.0" 0.0"	50,120-5	Obstruction encountered at 54.8' MLLW, no recovery, roller bit to -55.7' MLLW.	-54.8

Notes/ Comments:

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2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

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APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815567
Location: New Bedford Harbor		North of Popes Island	Y: 2697300
Elevation at grade: -3.7	Datum:	MLLW	Boring No: A-2011-CAD4-B-2
Casing Type: Steel	Boring Depth:	-82.7	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 3 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
52 53		12" 4.5"	73, 100-6"	Gray/black, fine to coarse SAND, some gravel. Obstruction encountered at -56.7' MLLW, advanced with roller bit to -57.7' MLLW.	-56.7
54.75		9.0" 8.0"	15, 120-3"	Light gray, fine to coarse SAND and GRAVEL.	-58.5
56.2		2.0" 0.0"	120-2"	Obstruction Encountered: 59.9' MLLW.	-59.9
59				Advanced roller bit through cobbles and boulders to -62.7' MLLW and began core run.	-62.7
64		5' 4.8'	8-8-8-8-8	Rock Core #1: -62.7' to -67.7' MLLW Grey, moderately fractured, Granitic GNEISS.	-67.7
69		5' 5'	9-9-9-9-9	Rock Core #2: -67.7 to -72.7' MLLW Grey, moderately fractured, Granitic GNEISS.	-72.7

Notes/ Comments:

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2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	12/23/2011

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815854
Location: New Bedford Harbor		North of Popes Island	Y: 2696087
Elevation at grade: -6.7	Datum:	MLLW	Boring No: A2011-CAD4-B-3
Casing Type: Steel	Boring Depth:	-94.3	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 1 of 4
Driller: N. Studdard	Log By:	GCD & GAD	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
0 2		24.0" 7.0"	WOR/24"	Black, organic SILT.	-8.7
4		24.0" 2.0"	WOH/24"	Black, organic SILT.	-10.7
6		24.0" 20.0"	WOH/24"	Black, organic SILT.	-12.7
8		24.0" 16.0"	1, WOH, 1, WOH	Black, organic SILT, grades to dark grey, organic SILT, trace shell hash.	-14.7
10		24.0" 21.0"	WOR/24"	Dark grey, organic SILT, trace shell hash.	-16.7
12		24.0" 7.0"	WOR/24"	Dark grey, organic SILT, trace shell hash.	-18.7
14		24.0" 19.0"	WOR/12" WOH/12"	Dark grey, organic SILT.	-20.7
16		24.0" 24.0"	WOR/12" WOH/12"	Dark grey, organic SILT.	-22.7
18		24.0" 12.0"	WOR/24"	Dark grey, organic SILT.	-24.7
20		24.0" 12.0"	WOR/24"	Dark grey, organic SILT.	-26.7
22		24.0" 9.0"	WOR/12" 3,2	Dark brown, PEAT and organic SILT	-28.7
24		24.0" 24.0"	WOR,2,2, 1	Dark brown to black, organic SILT, trace peat.	-30.7
26		24.0" 20.0"	WOR/12" 3,2	Dark grey, organic SILT, some plant fibers - PEAT.	-32.7

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	12/23/2011

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815854
Location: New Bedford Harbor		North of Popes Island	Y: 2696087
Elevation at grade: -6.7	Datum:	MLLW	Boring No: A2011-CAD4-B-3
Casing Type: Steel	Boring Depth:	-94.3	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 2 of 4
Driller: N. Studdard	Log By:	GCD & GAD	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
26		24.0"	8,9,8,7	Grey, fine SAND, little inorganic silt.	
28		3.0"			-34.7
		24.0"	8,9,25,45	Grey, fine SAND, trace medium sand.	
30		10.0"			-36.7
		24.0"	3,4,8,12	Grey, fine SAND.	
32		10.0"			-38.7
		24.0"	5,8,7,8	Grey, fine SAND.	
34		6.0"			-40.7
		24.0"	3,4,8,9	Grey, fine SAND.	
36		8.0"			-42.7
		24.0"	4,6,6,10	Grey, fine to medium SAND.	
38		12.0"			-44.7
		24.0"	5,6,10,18	Grey, fine to coarse SAND.	
40		6.0"			-46.7
		24.0"	7,8,8,10	Grey, fine to coarse SAND and fine GRAVEL, trace silt.	
42		2.0"			-48.7
		24.0"	9,8,8,11	Grey, fine SAND. Grades to fine SAND, some silt.	
44		9.0"			-50.7
		24.0"	46,41,41, 30	Grey, fine to coarse SAND, trace silt	
46		6.0"			-52.7
		24.0"	30,28,26, 21	Greenish grey, fine to coarse SAND, trace silt - TILL.	
48		3.0"			-54.7
50				Obstruction Encountered - advanced with roller-bit to -57.7' MLLW.	-56.7
		24.0"	32,11,15, 23	rock fragment in nose of spoon	
53		0.0"			-59.7

Notes/ Comments:

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2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	12/23/2011

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815854
Location: New Bedford Harbor		North of Popes Island	Y: 2696087
Elevation at grade: -6.7	Datum:	MLLW	Boring No: A2011-CAD4-B-3
Casing Type: Steel	Boring Depth:	-94.3	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 3 of 4
Driller: N. Studdard	Log By:	GCD & GAD	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
53 55		24.0" 4.0"	30,24,29, 46	Greenish grey, fine to coarse SAND, trace fine gravel, trace silt, TILL.	-61.7
57		24.0" 3.0"	28,14,12, 11	Greenish grey, fine to coarse SAND, trace fine gravel, trace silt, TILL.	-63.7
59		24.0" 6.0"	12,16,11, 15	Tan, fine to coarse SAND.	-65.7
61		24.0" 12.0"	52,38,21, 28	Tan, fine to coarse SAND.	-67.7
63		na na	na	Obstruction encountered at -67.7' MLLW. Advanced with roller bit to -69.7' MLLW.	-69.7
65		24.0" 18.0"	11,14,27, 39	Tan, fine to medium SAND, trace silt.	-71.7
67		24.0" 8.0"	12,14,28, 62	Olive green, fine to coarse SAND, trace silt, trace fine gravel, TILL	-73.7
68		na na	NA	Obstruction encountered at -73.7' MLLW. Advanced with roller bit to -74.7' MLLW.	-74.7
70		24.0" 4.0"	19,25,31, 77	Olive green, fine to coarse SAND, trace silt, trace fine gravel - TILL.	-76.7
72		24.0" 12.0"	20,25,30, 30	Olive green, fine to coarse SAND, trace silt, trace fine gravel - TILL.	-78.7
74		24.0" 8.0"	25,37,41, 66	Olive green, fine to coarse SAND, trace silt, trace fine gravel - TILL.	-80.7
75.3		16.0" 5.0"	25,39, 100/4"	Olive green, fine to coarse SAND, trace silt, trace fine gravel - TILL.	-82.0
				Obstruction Encountered - elevation -82.0' MLLW. Advanced roller bit to -84.3' MLLW and began core run.	

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	12/23/2011

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815854
Location: New Bedford Harbor		North of Popes Island	Y: 2696087
Elevation at grade: -6.7	Datum:	MLLW	Boring No: A2011-CAD4-B-3
Casing Type: Steel	Boring Depth:	-94.3	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 4 of 4
Driller: N. Studdard	Log By:	GCD & GAD	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
77.55 82.55	26%	5' 2.9'	8-7-8-7-7	Rock Core #1 -84.3 to -89.3 MLLW Grey, intensely fractured, granitic GNEISS	-89.3
87.55	63%	5' 4.8'	7-7-8-7-7	Rock Core #2 -89.3 to -94.3 MLLW Grey, intensely to moderately fractured, granitic GNEISS	-94.3

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/6/2012

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 816005
Location: New Bedford Harbor		North of Popes Island	Y: 2695847
Elevation at grade: -7.2	Datum:	MLLW	Boring No: A-2011-CAD4-B-4
Casing Type: Steel	Boring Depth:	-69.2	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 1 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
0 2		24.0" 2.0"	WOR	Black, organic SILT.	-9.2
4		24.0" 8.0"	WOR	Black, organic SILT.	-11.2
6		24.0" 10.0"	WOR	Black, organic SILT.	-13.2
8		24.0" 12.0"	WOR	Black, organic SILT.	-15.2
10		24.0" 12.0"	WOR	Black, organic SILT.	-17.2
12		24.0" 8.0"	WOR	Black/grey, organic SILT.	-19.2
14		24.0" 24.0"	WOR, WOR, 1, 1	Black, organic SILT.	-21.2
16		24.0" 20.0"	WOR, 6, 12, 15	Black, organic SILT, some fine to medium sand.	-23.2
18		24.0" 4.0"	19, 21, 24, 30	Grey, fine to medium SAND.	-25.2
20		24.0" 12.0"	15, 15, 12, 11	Grey, inorganic SILT.	-27.2
22		24.0" 16.0"	6, 7, 14, 16	Grey, inorganic SILT.	-29.2
24		24.0" 19.0"	25, 22, 19, 11	Grey, inorganic SILT.	-31.2
26		24.0" 9.0"	10, 15, 19, 25	Grey, inorganic SILT.	-33.2

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/6/2012

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 816005
Location: New Bedford Harbor		North of Popes Island	Y: 2695847
Elevation at grade: -7.2	Datum:	MLLW	Boring No: A-2011-CAD4-B-4
Casing Type: Steel	Boring Depth:	-69.2	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 2 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
26 28		24.0" 11.0"	7, 14, 17, 21	Grey, inorganic SILT.	-35.2
30		24.0" 11.0"	19, 24, 25, 30	Grey, inorganic SILT.	-37.2
32		24.0" 11.0"	17, 23, 25, 31	Grey, inorganic SILT.	-39.2
34		24.0" 7.0"	4, 6, 7, 6	Grey, fine to medium SAND.	-41.2
36		NA NA	NA	Obstruction encountered at - 41.2' MLLW. Advanced Roller bit to -43.2 MLLW.	-43.2
38		24.0" 10.0"	21, 13, 16, 25	Grey, fine to coarse SAND - TILL.	-45.2
39		NA NA	NA	Obstruction encountered at --45.2 MLLW, Advanced with roller bit to -46.2 MLLW.	-46.2
41		24.0" 8.0"	30, 24, 21, 11	Grey, fine to coarse SAND, trace gravel - TILL.	-48.2
43		24.0" 6.0"	13, 13, 10, 19	Grey, fine to coarse SAND - TILL.	-50.2
45		24.0" 6.0"	24, 14, 18, 24	Brown, fine to medium SAND - TILL.	-52.2
47		24.0" 4.0"	23, 20, 38, 25	Brown, fine to medium SAND - TILL.	-54.2
49.8		22.0" 4.0"	37, 25, 15, 25/4"	Brown, fine to medium SAND - TILL.	-57.0
52				Obstruction encountered at -57.0 through -59.0 MLLW, advanced with roller bit to -59.2 MLLW and began coring.	-59.2

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/6/2012

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 816005
Location: New Bedford Harbor		North of Popes Island	Y: 2695847
Elevation at grade: -7.2	Datum:	MLLW	Boring No: A-2011-CAD4-B-4
Casing Type: Steel	Boring Depth:	-69.2	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 3 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
52	76%	5'	8-8-8-8-8	Rock Core #1 -59.2 to -64.2 MLLW	
57		4.5'		Grey, moderate to intensily fractured granitic GNEISS.	-64.2
	80%	5'	8-8-8-8-8	Rock Core #2 -64.2 to -69.2 MLLW	
62		4.6'		Grey, moderate to intensily fractured granitic GNEISS.	-69.2

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/10/2012

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815579
Location: New Bedford Harbor		North of Popes Island	Y: 2697429
Elevation at grade: -6.0	Datum:	MLLW	Boring No: A-2011-CAD4-B-5
Casing Type: Steel	Boring Depth:	-56.0	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 1 of 2
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
2		24.0" 12.0"	WOR,12, 1, 1	Black, organic SILT, trace shell hash.	-8.0
4		24.0" 12.0"	WOR, 6, 1, 1	Black/brown, fine to medium SAND, some organic silt.	-10.0
6		24.0" 16.0"	18, 15, 14, 10	Black/brown, fine to medium SAND, some organic silt, trace shell hash.	-12.0
8		24.0" 7.0"	4, 4, 8, 10	Black/brown, fine to medium SAND, trace shell hash.	-14.0
10		24.0" 9.0"	14, 22, 23, 29	Brown, fine to medium SAND.	-16.0
12		24.0" 14.0"	5, 9, 7, 11	Brown, fine to medium SAND, little silt.	-18.0
14		24.0" 10.0"	15, 16, 22,	Brown red to grey, fine to medium SAND, trace silt.	-20.0
16		24.0" 8.0"	42, 25, 31, 47	Grey, fine to medium SAND, trace silt.	-22.0
18		24.0" 4."0	45, 9, 9, 15	Grey, medium to coarse gravel. Obstruction encountered at -24.0 MLLW. Advanced with roller bit to -25.0 MLLW.	-24.0
21		24.0" 8.0"	10, 14, 20, 19	Brown, fine to coarse SAND and GRAVEL.	-27.0
23		24.0" 6.0"	23, 21, 25, 25	Brown, medium to coarse SAND and GRAVEL.	-29.0
25		24.0" 5.0"	31, 30, 22, 25	Brown, fine to coarse SAND.	-31.0
27		24.0" 7.0"	35, 21, 12, 40	Brown, fine to coarse SAND, some gravel.	-33.0

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/10/2012

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815579
Location: New Bedford Harbor		North of Popes Island	Y: 2697429
Elevation at grade: -6.0	Datum:	MLLW	Boring No: A-2011-CAD4-B-5
Casing Type: Steel	Boring Depth:	-56.0	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 2 of 2
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
27 30		NA NA	NA	Obstruction encountered at -33.0' MLLW. Advanced with rollerbit to -36.0' MLLW	-36.0
31.3		16.0" 4.0"	24, 11, 120/4"	Brown, fine to coarse SAND - TILL. Obstruction encountered at -37.3 MLLW, advanced with roller bit to -38.0 MLLW.	-37.3
33.3		16.0" 0.0"	30, 32, 140/4"	No recovery. Obstruction encountered at -39.3 MLLW, advanced with roller bit to -40.0' MLLW.	-39.3
36		24.0" 2.0"	40, 46, 42, 41	Brown, fine to coarse SAND - TILL.	-42.0
37		NA NA	NA	Obstruction encountered at -42.0 MLLW, advanced with roller bit to -43.0' MLLW.	-43.0
37.75		9.0" 6.0"	47, 125/3"	Red brown, fine to coarse SAND - TILL. Obstruction encountered at -43.8' MLLW.	-43.8
40			NA	Advanced with roller bit to -46.0' MLLW and began coring.	-46.0
45	90%	5.0' 5.0'	8-8-8-8-8	C1- Rock Core -46' to -51' MLLW Grey, moderately to slightly fractured granitic GNEISS.	-51.0
50	34%	5.0' 5.0'	8-8-8-8-8	C2- Rock Core -51' to -56' MLLW Grey, intensely fractured granitic GNEISS.	-56.0
			23, 21, 25, 25		

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/16/2012

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 816110
Location: New Bedford Harbor		North of Popes Island	Y: 2696504
Elevation at grade: -8.6	Datum:	MLLW	Boring No: A-2011-CAD4-B-6
Casing Type: Steel	Boring Depth:	-76.6	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 1 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
0		24.0"	WOR/24"	Black, organic SILT.	
2		10.0"			-10.6
		24.0"	WOR/24"	Black, organic SILT.	
4		7.0"			-12.6
		24.0"	WOR/24"	Black, organic SILT.	
6		22.0"			-14.6
		24.0"	WOR/24"	Black, organic SILT.	
8		22.0"			-16.6
		24.0"	WOH/24"	Black, organic SILT.	
10		18.0"			-18.6
		24.0"	WOH/24"	Black, organic SILT.	
12		20.0"			-20.6
		24.0"	WOR, WOR, 7,14	Black, organic SILT, grades to grey, inorganic SILT.	
14		24.0"			-22.6
		24.0"	7, 6, 4, 4	Grey, inorganic SILT.	
16		7.0"			-24.6
		24.0"	6, 7, 6, 6	Grey, inorganic SILT.	
18		8.0"			-26.6
		24.0"	6, 7, 7, 10	Grey, inorganic SILT.	
20		8.0"			-28.6
		24.0"	17, 17, 32, 14	Grey, fine to medium SAND, trace silt.	
22		2.0"			-30.6
		24.0"	17, 20, 21, 7	Grey, fine to medium SAND.	
24		13.0"			-32.6
		24.0"	28, 14, 12, 12	Grey, fine to medium SAND.	
26		6.0"			-34.6

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/16/2012

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 816110
Location: New Bedford Harbor		North of Popes Island	Y: 2696504
Elevation at grade: -8.6	Datum:	MLLW	Boring No: A-2011-CAD4-B-6
Casing Type: Steel	Boring Depth:	-76.6	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 2 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
26 28		24.0" 8.0"	22, 25, 38, 31	Brown/grey, fine to medium SAND, trace silt.	-36.6
30		24.0" 10.0"	WOH, 4, 3, 1	Brown, fine to medium SAND.	-38.6
32		24.0" 11.0"	5, 4, 6, 4	Brown, fine to medium SAND.	-40.6
34		24.0" 4.0"	24, 29, 24, 14	Brown, fine to coarse SAND, trace silt.	-42.6
36		24.0" 3.0"	WOR, 13, 21, 33	Brown, fine to coarse SAND, trace silt.	-44.6
38		24.0" 1.0"	11, 9, 7, 6	Brown, fine to coarse SAND, trace silt.	-46.6
40		24.0" 2.0"	17, 39, 46, 25	Brown, fine to coarse SAND, trace silt.	-48.6
42		24.0" 1.0"	9, 15, 18, 7	Brown, medium to coarse SAND, trace silt.	-50.6
44		24.0" 3.0"	12, 56, 6, 10	Brown, fine to coarse SAND, trace silt.	-52.6
46		NA NA	NA	Cobbles encountered at -52.6' MLLW. Advanced with roller bit to -54.6' MLLW.	-54.6
46.4		5.0" 1.0"	120/5"	Brown, fine to medium SAND. Obstruction encountered at -55.0' MLLW advanced with roller bit to -55.6' MLLW.	-55.0
49		24.0" 7.0"	35, 27, 70, 90	Brown, fine to medium SAND, some gravel- obstruction encountered at -57.6' MLLW, advanced with roller bit to -59.6' MLLW	-57.6
53		24.0 5.0	65, 28, 33, 43	Brown, fine to medium SAND, trace gravel	-61.6

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/16/2012

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 816110
Location: New Bedford Harbor		North of Popes Island	Y: 2696504
Elevation at grade: -8.6	Datum:	MLLW	Boring No: A-2011-CAD4-B-6
Casing Type: Steel	Boring Depth:	-76.6	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 3 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
53		2.0	120/2"	Obstruction encountered at 61.8 MLLW, advanced with roller bit to -64.6' MLLW.	
53.2		0.0			-61.8
		4.0	144/4"	Brown, very fine to medium SAND. Obstruction encountered -64.9' MLLW.	
56.3		2.0			-64.9
58				Advanced with roller bit to -66.6' MLLW, and began coring	-66.6
	40%	5'	7-7-7-7-7	C1- Rock core -66.6 to -71.6 MLLW	
63		4'		Grey, intensely fractured granitic GNEISS.	-71.6
	34%	5'	8-8-8-8-8	C2- Rock core -71.6 to -76.6 MLLW	
68		5'		Grey, moderately fractured granitic GNEISS.	-76.6

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/19/2012

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815079
Location: New Bedford Harbor		North of Popes Island	Y: 2697445
Elevation at grade: -8.1	Datum:	MLLW	Boring No: A-2011-CAD4-B-7
Casing Type: Steel	Boring Depth:	-70.1	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 1 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
0 2		24.0" 20.0"	WOR/24"	Black, organic SILT.	-10.1
4		24.0" 10.0"	WOR/24"	Black, organic SILT.	-12.1
6		24.0" 23.0"	WOR/24"	Grey/Black, organic SILT.	-14.1
8		24.0" 22.0"	15, 12, 12, 10	6" Black, organic SILT. 16" Grey, fine SAND.	-16.1
10		24.0" 20.0"	6, 13, 10, 8	Brown, very fine to fine SAND, some inorganic silt.	-18.1
12		24.0" 13.0"	9, WOH/18"	Brown, very fine to fine SAND, some silt, trace red fine sand.	-20.1
14		24.0" 23.0"	WOH,8, 12, 8	Brown, very fine to fine SAND.	-22.1
16		24.0" 7.0"	13, 9, 14, 15	Red-brown, very fine to fine SAND.	-24.1
18		24.0" 7.0"	9, 10, 14, 14	Brown, fine to medium SAND.	-26.1
19.9		21.0" 19.0"	11, 17, 36, 160/5"	Brown, fine to medium SAND.	-28.0
20		NA NA	NA	Obstruction encountered - cobble. Advanced with roller bit to -29.1' MLLW.	-28.1
23		24.0" 19.0"	8, 8, 20, 30	Brown red, very fine to medium SAND, trace shell hash.	-31.1
25		24.0" 15.0"	12, 12, 13, 18	Brown, very fine to fine SAND, trace medium sand.	-33.1

Notes/ Comments:

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2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/19/2012

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815079
Location: New Bedford Harbor		North of Popes Island	Y: 2697445
Elevation at grade: -8.1	Datum:	MLLW	Boring No: A-2011-CAD4-B-7
Casing Type: Steel	Boring Depth:	-70.1	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 2 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
25 27		24.0" 18.0"	7, 5, 5, 5	Brown, very fine to fine SAND.	-35.1
29		24.0" 22.0"	5, 18, 33, 28	Brown, very fine to medium SAND.	-37.1
31		24.0" 21.0"	14, 19, 26, 26	Brown grey, very fine to fine SAND.	-39.1
32		24.0" 20.0"	WOH/12" 3,2	Brown, fine to medium SAND.	-40.1
34		24.0" 20.0"	WOH/18", 2	Brown, very fine to fine SAND.	-42.1
36		24.0" 17.0"	4, 6, 8, 10	Brown, very fine to fine SAND.	-44.1
38		24.0" 24.0"	9, 11, 12, 14	Brown, very fine to fine SAND.	-46.1
40		24.0" 7.0"	6, 12, 15, 23	2" Red brown, very fine to fine SAND, trace gravel. 5" Red brown, fine to coarse SAND.	-48.1
42		24.0" 8.0"	3, 5, 11, 13	Red brown, fine to coarse SAND.	-50.1
44		24.0" 6.0"	42, 22, 14, 15	Brown grey, fine to coarse SAND.	-52.1
46		24.0" 0.0"	WOH, 5, 12, 13	No recovery.	-54.1
46.5		6.0" 1.0"	120/6"	Brown, fine to coarse SAND, trace gravel.	-54.6
48		NA NA	NA	Obstruction encountered at -54.6' MLLW, Advanced with roller bit to -56.1' MLLW.	-56.1

Notes/ Comments:

1). Numbers in "Depth below mudline (ft)" column represent the depth below mudline of the bottom of the respective split-spoon, core run, or drill tool advancement.

2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/19/2012

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 815079
Location: New Bedford Harbor		North of Popes Island	Y: 2697445
Elevation at grade: -8.1	Datum:	MLLW	Boring No: A-2011-CAD4-B-7
Casing Type: Steel	Boring Depth:	-70.1	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drive and Wash	Sheet: 3 of 3
Driller: N. Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
48		5.0"	120/5"	Brown, fine to medium SAND. Obstruction encountered at -56.5' MLLW.	
48.4		5.0"			-56.5
52				Advanced with roller bit to -60.1' MLLW, and began coring.	-60.1
	92%	5'	7-8-8-7-8	C1- Rock core -60.1 to -65.1 MLLW	
57		5'		Grey, slightly fractured granitic GNEISS.	-65.1
	80%	5'	7-7-7-7-7	C2- Rock core -65.1 to -70.1 MLLW	
62		5'		Grey, slightly fractured granitic GNEISS.	-70.1

Notes/ Comments:

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3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/23/2012

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 816040
Location: New Bedford Harbor		North of Popes Island	Y: 2696259
Elevation at grade: -7.9	Datum:	MLLW	Boring No: A-2011-CAD4-B-8
Casing Type: Steel	Boring Depth:	-79.9	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drill and Wash	Sheet: 1 of 3
Driller: N Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
0		24.0"	WOR/24"	Black, organic, SILT.	
2		12.0"			-9.9
		24.0"	WOH/24"	Black, organic, SILT.	
4		10.0"			-11.9
		24.0"	WOH/24"	Black, organic, SILT.	
6		24.0"			-13.9
		24.0"	WOH/12" 1, WOH	Black, organic, SILT.	
8		12.0"			-15.9
		24.0"	WOH/24"	Black, organic, SILT.	
10		7.0"			-17.9
		24.0"	WOH/24"	Dark grey to black, organic SILT.	
12		24.0"			-19.9
		24.0"	1,2,1,2	Dark grey to black, organic SILT.	
14		24.0"			-21.9
		36.0"	WOR/12" 2,2, WOH/12"	Dark grey to black, organic SILT.	
17		24.0"			-24.9
		12.0"	3,4	Dark grey to black, organic SILT, trace peat.	
18		12.0"			-25.9
		24.0"	WOR,12, 5,6	Dark grey to black, organic SILT and PEAT.	
20		24.0"			-27.9
		24.0"	WOR, 3,3,6	Black, organic SILT and PEAT.	
22		24.0"			-29.9
		24.0"	WOR, 2,8,9	Black to dark brown, organic SILT and PEAT.	
24		23.0"			-31.9
		24.0"	8,8,7,9	Dark brown, PEAT, trace to some organic silt.	
26		24.0"			-33.9

Notes/ Comments:

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2). Numbers in "Elevation (MLLW)" column represent the elevation of the bottom of the respective split-spoon, core run, or drill tool.

3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

Date:	1/23/2012

APEX

BORING LOG

Project: EPA LHCC		Project No: 6724.001	X: 816040
Location: New Bedford Harbor		North of Popes Island	Y: 2696259
Elevation at grade: -7.9	Datum:	MLLW	Boring No: A-2011-CAD4-B-8
Casing Type: Steel	Boring Depth:	-79.9	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drill and Wash	Sheet: 2 of 3
Driller: N Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
26 28		24.0" 24.0"	7,8,9,7	Brown, PEAT, trace organic silt.	-35.9
30		24.0" 9.0"	7,7,8,7	Brown grey, very fine to coarse SAND and inorganic SILT, trace gravel.	-37.9
32		24.0" 7.0"	8,9,10,22	5" Grey, fine to coarse SAND. 2" Grey, inorganic SILT.	-39.9
34		24.0" 10.0"	25,18,19,29	Grey, inorganic SILT.	-41.9
36		24.0" 8.0"	15,15,28,24	Grey, inorganic SILT.	-43.9
38		24.0" 1.0"	13,17,16,13	Grey, inorganic SILT.	-45.9
40		24.0" 10.0"	10,11,6,10	Grey, very fine to fine SAND.	-47.9
42		24.0" 15.0"	11,13,14,9	Grey, very fine to fine SAND.	-49.9
44		24.0" 11.0"	16,10,16,29	9" Grey, very fine to fine SAND. 2" Grey, inorganic SILT.	-51.9
46		24.0" 18.0"	4,11,12,14	Grey, very fine to fine SAND.	-53.9
48		NA NA	NA	Obstruction Encountered. Advanced with roller bit to -55.9' MLLW.	-55.9
50		24.0" 18.0"	15,18,20,17	Grey, very fine to medium SAND.	-57.9
51		NA NA	NA	Obstruction encountered. Advanced with roller bit to -58.9' MLLW.	-58.9

Notes/ Comments:

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3). SPT tests conducted using a 2" Split Spoon, driven with a 140 lb donut hammer dropped from a height of 30". In instances of poor sample recovery, a 2" or 3" split spoon was readvanced through the same interval for increased sample recovery only.

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Project: EPA LHCC		Project No: 6724.001	X: 816040
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Casing Type: Steel	Boring Depth:	-79.9	
Casing Diameter: 4"	Drill Rig:	CME 55	
Drill Co: NH Boring	Method:	Drill and Wash	Sheet: 3 of 3
Driller: N Studdard	Log By:	CAS	

Depth below mudline (ft)	RQD	Penetration/ Recovery	SPT Blows per 6" / Drill Min. per Foot	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%	Elevation (MLLW)
51 53		NA NA	NA	Obstruction encountered. Advanced with roller bit to -60.9' MLLW.	-60.9
55		24.0" 4.0"	23,18,20, 40	Grey, fine to coarse SAND. Coarse gravel in nose of spoon.	-62.9
57		24.0" 10.0"	46,70, 84,62	Grey, fine to medium SAND.	-64.9
59		NA NA	NA	Obstruction encountered. Advanced with roller bit to -66.9' MLLW.	-66.9
61		24.0" 7.0"	40,30, 30, 21	Grey, fine to medium SAND.	-68.9
61.8		10.0" 10.0"	47, 100/4"	Brown red, fine to coarse SAND. Obstruction Encountered -69.7' MLLW.	-69.7
62				Advanced with roller bit to -69.9' MLLW, and began coring.	-69.9
67	32%	5' 5'	7-7-7-7-7	C1 - Rock core -69.9 to -74.9' MLLW Grey, intensely to moderately fractured granitic GNEISS.	-74.9
72	80%	5' 5'	8-8-8-8-8	C2 - Rock core -74.9 to - 79.9' MLLW Grey, moderately fractured granitc GNEISS. Pink, PEGMATITE 2.4 to 2.8' and 3.8 to 5.0'.	-79.9

Notes/ Comments:

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