

**APPENDIX I**  
**Previous Environmental Study Exploration Logs**

DRAFT

## CHANGES TO SUMMARY BORE LOGS

### Former Mill A MTCA Support Sample Collection Everett, Washington

#### General Comments and Universal Changes

SAA stands for Same as Above

Trace is 5% or less

Density or Consistency

- ▶ Medium is presented as moderate
- ▶ For silt units moderately firm is presented as moderately stiff
- ▶ Descriptions in parentheses are interpretations based on visual records of the cores.

If trace constituents were not include in the percentages recorded on the field sheets, then the trace amounts were taken from the dominant constituent percentages.

Wood chunks or chips appear to be a coarse machined product, unstained or appeared fresh or recent, that are angular and uniform in size.

Rafting debris includes chunks of bark (often with reddish tints), wood splinters or fibrous wood chunks. Rafting debris may include twigs.

Summary Log	Interval	Changes
ST-1	0 to 1.5 ft	Large riprap <3-inch description changed to angular gravel description in surface unit.
ST-3	1.6 to 2 ft	Moderately dense description added to unit.
ST-3	2 to 2.7 ft	Moderately dense description added to unit.
ST-3	2.7 to 3.5 ft	Moderately dense description added to unit.
ST-3	3.5 to 14.4 ft	Moderately dense description added to unit.
ST-3	14.4 to 15.7 ft	Moderately dense description added to unit.
ST-3	15.7 to 16.8 ft	Moderately dense description added to unit.
ST-3	16.8 to 17.7 ft	Moderately dense description added to unit.
ST-3	14.4 to 15.7 ft	80% wood chips/20% sand changed to 75%/20%/5% to reflect presence of 5% sawdust.
ST-5	0 to 0.4 ft	60% sand/20% silt /10%/wood and shells changed to 70%/20%/10% to equal 100%.
ST-5	19 to 20 ft	60% sand/40% silt changed to 55%/40%/5% to reflect presence of trace constituents.
ST-6	2 to 12 ft	Sawdust and wood chip percentages recorded as ranges on field form, average percentage recorded on bore log.
ST-8	18 to 20 ft	80% silt/20% sand changed to 75%/20%/5% to reflect presence of trace constituents.
ST-11	0 to 10 ft	Moderately loose description estimated from photographs.
ST-14	10.7 to 12.2 ft	Moderately stiff description added to unit.
ST-15	8 to 15.5 ft	Moderately stiff description added to unit.
ST-17	14.8 to 18 ft	100% sand changed to 95%/5% to reflect trace amount of shells and wood fragments.
ST-21	8.1 to 12.3 ft	Moderately dense description added to unit.
ST-21	7 to 8 ft	75% silt/25% sand changed to 70%/25%/5% to reflect presence of trace constituents (wood chips).
ST-29	0 to 0.4 ft	80% sand/20% silt changed to 75%/20%/5% to reflect presence of 5% twigs, shells, gravel. Moderately loose added to description of unit.
ST-29	0.4 to 2 ft	60% silt/40% sand changed to 55%/40%/5% to reflect presence of trace constituents (twigs and shells). Moderately stiff added to description of the unit.
ST-29	2 to 4 ft	60% sand/40% silt changed to 55%/40%/5% to reflect presence of trace constituents (twigs and shells).
ST-37	6.8 to 9.6 ft	100% sand changed to 95%/5% to reflect trace amount of shells.
ST-42	0 to 2.8 ft	75% silt/25% sand changed to 70%/25%/5% to reflect presence of trace constituents (wood chips).
ST-42	2.8 to 11.8 ft	100% sand changed to 95%/5% to reflect trace amount of shells and native wood chunks. Sand estimated as medium from photos.
ST-43	3.2 to 4.4 ft	80% silt/20% sand to 75%/20%/5% wood splinters (trace).

# Mudmole™ Core Summary Log

**Project:** Port of Everett

**Station:** ST-1

**Mudline elevation:** -0.7 ft MLLW

**Maximum depth of retained sediment:** 8.1 ft

**Percent recovery (on-deck):** 61%

	<b>Core collection</b>	<b>Laboratory processing</b>
<b>Date:</b>	5/8/2007	5/8/2007
<b>Time:</b>	9:16	10:00

**Field Log:** NPB  
**Summary Log:** RHG

	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0				13116000016	
1	SW: Well-graded sand with gravel, black, loose, very trace H2S odor. 50% sand, 40% large angular gravel to 3", 5% silt, 5% twigs and wood chips.				
2	SP: Poorly-graded sand, gray, moderately dense, sand is coarse. 90% sand, 10% fine gravel.	Recent			
3					
4	SP: Poorly-graded sand, gray, moderately loose, sand is medium, trace wood chips. 80% sand, 10% silt, 5% fine gravel, 5% wood chips.				
5					
6					
7	SP: Poorly-graded sand, gray, moderately dense, sand is medium to fine. 100 % sand.	Native			
8	End of Core	End of core	End of core	End of core	End of core
9					

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-2

Mudline elevation: -31.0 ft MLLW

Maximum depth of retained sediment: 14.1 ft

Percent recovery (on-deck): 92%

**Core collection**  
Date: 5/14/2007  
Time: 8:36

**Laboratory processing**  
Date: 5/14/2007  
Time: 14:00

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0	Crushed shells with silt, black, moderately dense. 70% shells, 20% silt, 10% bark fragments.	Recent			
2	Wood chips and bark, pieces up to 1" and angular. 45% wood chips, 45% bark, 10% silt.	Wood Chips and Rafting Debris			
4	ML: silt, gray, moderately soft, trace H2S odor. 80% silt, 15% shells, 5% sand.	Indeterminate			
6	Saw dust, black, moderately loose, trace to moderate H2S. 85% saw dust, 10% silt, 5% bark fragments.	Saw Dust		1311600038	
8	ML: silt with sand, gray, moderately soft. 70% silt, 20% sand, 10% shells. Large wood piece with worm holes at 8.9 ft.	Indeterminate			
10					
12	SP: poorly-sorted sand, gray, moderately dense, sand is medium. 100% sand.	Native			
14	End of Core	End of core	End of core	End of core	End of core
16					

**Geomatrix Consultants**

3500 188th ST. SW Suite 600  
Lynnwood, WA 98037

(425) 921-4000  
fax (425) 921-4040

File name: ST-2rhg.xls  
Summary Core Log

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-3

Mudline elevation: -5.4 ft MLLW

Maximum depth of retained sediment: 17.7 ft

Percent recovery (on-deck): 55%

Core collection      Laboratory processing

Date: 5/7/2007

5/7/2007

Time: 11:23

12:25

Field Log: NPB

Summary Log: RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0	SM: sand with silt and wood chips, black, moderately loose, moderate H2S odor, wood chips up to 1/4". 55% sand, 25% wood chips, 20% silt. Large piece of ballast rock at base of unit.	Recent		13116000003	
2	SP: poorly-graded sand, gray, (moderately dense), sand is medium.	Wood Chips			
	SP: poorly-graded sand with wood chips, black, (moderately dense), wood chips up to 1/2". 60% sand, 40 % wood chips.	Indeterminate			
	SP: poorly-graded sand, gray, (moderately dense), sand is coarse, 100% sand.				
4				13116000004	
6					
8					
10	PT: saw dust with sand, black, (moderately loose), moderate to strong H2S odor, sand is medium to coarse. 85% saw dust, 15% sand.	Saw Dust			
12				13116000005	
14					
16	PT: wood chips with sand, olive gray green, (moderately dense), moderate H2S odor, wood chips < 1/4", sand is fine to medium. 75% wood chips, 20% sand, 5% sawdust.	Wood Chips		13116000006	
18	SP: poorly-graded sand; gray; (moderately dense), sand is fine to medium, wood chips < 1/2". 90% sand, 10% wood chips.	Indeterminate			
	SP: poorly-graded sand, gray, (moderately dense), sand is medium to fine, 100% sand.	Native			
18	End of Core	End of core	End of core	End of core	End of core
20					

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-5

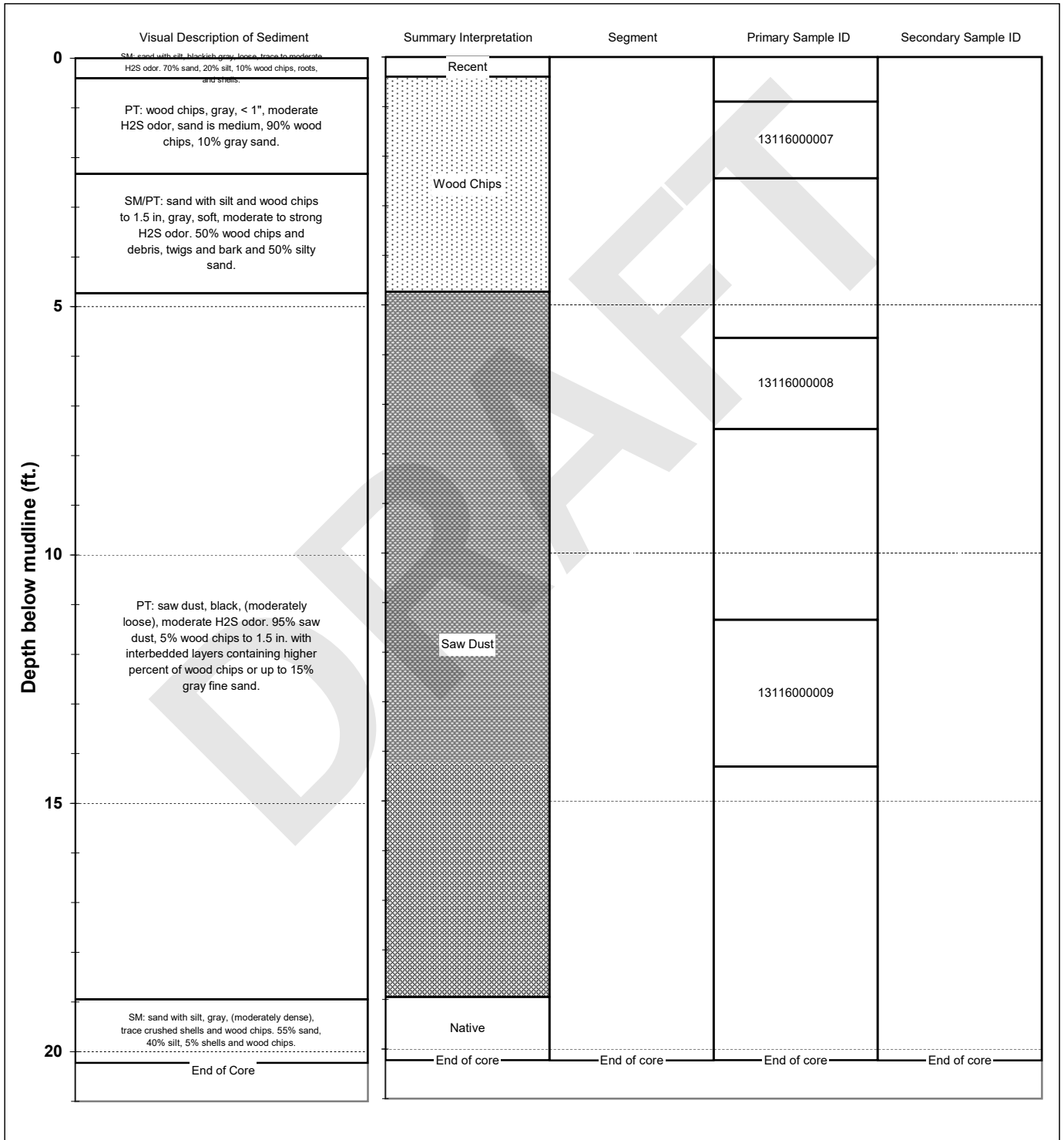
Mudline elevation: -11.4 ft MLLW

Maximum depth of retained sediment: 20.2 ft

Percent recovery (on-deck): 63%

**Core collection**  
**Laboratory processing**  
 Date: 5/7/2007 5/7/2007  
 Time: 12:40 13:30

**Field Log:** NPB  
**Summary Log:** RHG



# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-6

Mudline elevation: -4.8 ft MLLW

Maximum depth of retained sediment: 11.9 ft

Percent recovery (on-deck): 56%

**Core collection**      **Laboratory processing**

Date: 5/14/2007

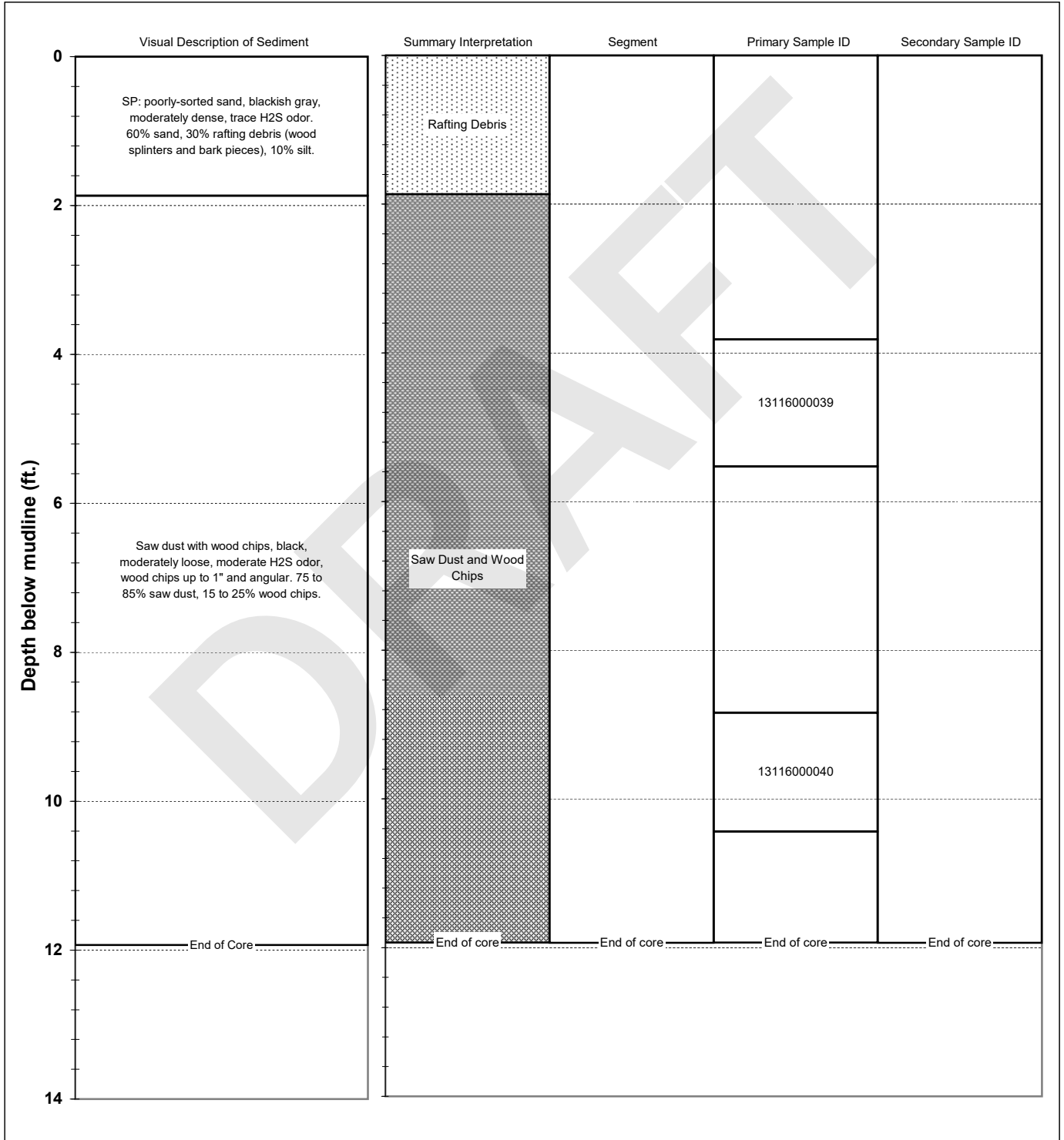
5/14/2007

Field Log: NPB

Time: 13:58

14:50

Summary Log: RHG



# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-8

Mudline elevation: -12.1 ft MLLW

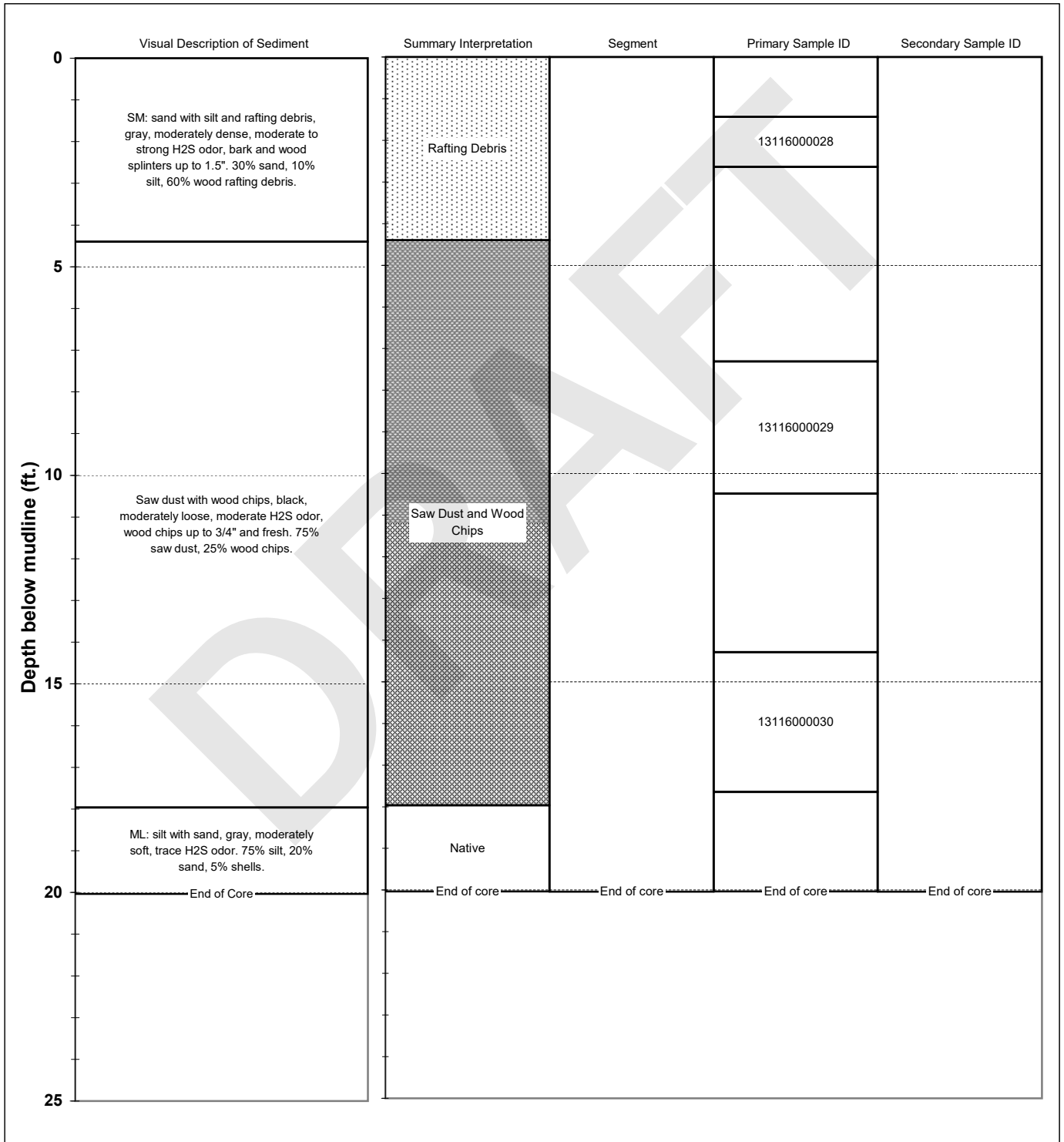
Maximum depth of retained sediment: 20.0 ft

Percent recovery (on-deck): 43%

**Core collection**  
 Date: 5/11/2007  
 Time: 13:10

**Laboratory processing**  
 Date: 5/11/2007  
 Time: 14:10

**Field Log:** NPB  
**Summary Log:** RHG





# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-9

Mudline elevation: -6.1 ft MLLW

Maximum depth of retained sediment: 20.3 ft

Percent recovery (on-deck): 54%

**Core collection**  
 Date: 5/8/2007  
 Time: 9:59

**Laboratory processing**  
 Date: 5/8/2007  
 Time: 11:00

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0	SP: poorly-graded sand, gray, moderately dense, sand is medium, large bark piece at base. 90% sand, 10% 1/8" wood chips.	Recent			
				13116000017	
5	PT: sawdust with wood chips, black, moderately dense, wood chips < 3/4" and fresh, moderate H2S odor. 80% saw dust, 20% wood chips.	Saw Dust and Wood Chips		13116000018	
10				13116000019	
15	PT: rafting debris with sand, olive green, moderately dense, trace creosote and H2S odor. 80% large pieces of bark, 20% medium sand, 80% sand and 20% bark below 14.7ft.	Rafting Debris		13116000020	
		Indeterminate			
20	SP: poorly-graded sand, gray, moderately dense, sand is medium. 100% sand.	Native			
20	End of Core	End of core	End of core	End of core	End of core
25					

**Geomatrix Consultants**

3500 188th ST SW Suite 600  
 Lynnwood, WA 98037

(425) 921-4000  
 fax (425) 921-4040

File name: ST-9rhg.xls  
 Summary Core Log

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-11

Mudline elevation: -22.8 ft MLLW

Maximum depth of retained sediment: 20.3 ft

Percent recovery (on-deck): 54%

**Core collection**  
 Date: 5/7/2007  
 Time: 13:27

**Laboratory processing**  
 Date: 5/7/2007  
 Time: 15:00

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0					
5	PT: saw dust, black, (moderately loose), creosote piling at 1.7-3.0 ft, creosote odor and small creosote blebs at 6.2 ft, moderate H2S odor to 10.2 ft. 85% saw dust, 10% medium sand, 5% shells.	Saw Dust		13116000010	
10	ML: silt with crushed shells, gray, soft, moderate H2S odor, trace creosote odor, large wood piece at base. 60% silt, 10% sand, 30% shells.	Indeterminate			
15	SP: poorly-graded sand, gray, moderately dense, trace H2S odor, sand is fine to medium. 100% sand.	Native		13116000011	
20	End of Core	End of core	End of core	End of core	End of core
25					

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-12

Mudline elevation: -6.6 ft MLLW

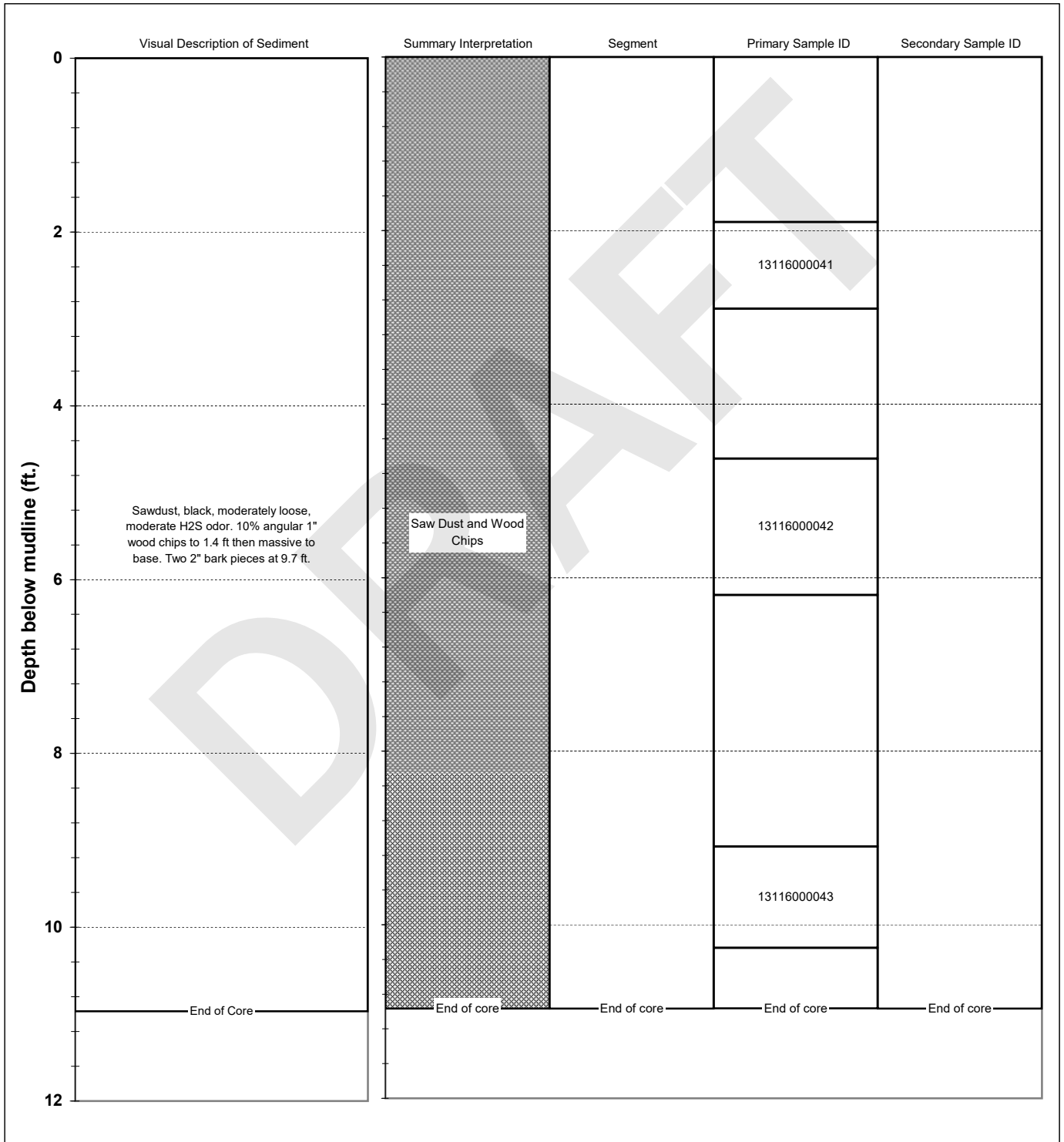
Maximum depth of retained sediment: 11.0 ft

Percent recovery (on-deck): 79%

**Core collection**  
 Date: 5/14/2007  
 Time: 14:49

**Laboratory processing**  
 Date: 5/14/2007  
 Time: 15:45

**Field Log:** NPB  
**Summary Log:** RHG



# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-14

Mudline elevation: -8.5 ft MLLW

Maximum depth of retained sediment: 19.6 ft

Percent recovery (on-deck): 70%

**Core collection**  
 Date: 5/8/2007  
 Time: 10:46

**Laboratory processing**  
 Date: 5/8/2007  
 Time: 11:45

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0	SP: poorly-graded sand with wood debris and saw dust, black, moderately dense, trace H2S odor. Sand is fine to medium. 40% sand, 30% red bark pieces, 30% saw dust.	Recent			
5	PT: saw dust, black, moderately dense, moderate to strong H2S odor, trace wood chips. Sand is fine. 90% saw dust, 10% sand.	Saw Dust		13116000021	
10	ML: silt with wood chunks, gray, (moderately stiff), large 4" by 2" bark piece at 10.8 ft, trace creosote odor. 70% silt, 30% wood chunks.			13116000022	
15	ML: silt with crushed shells, gray, moderately stiff, moderate H2S odor. 50% silt, 40% shells, 10% sand.			13116000023	
20	SP: poorly-graded sand, gray, moderately dense, trace shells, sand is medium. 95% sand, 5% shells.	Indeterminate			
25	End of Core	Native			
	End of Core	End of core	End of core	End of core	End of core

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-15

Mudline elevation: -19.8 ft MLLW

Maximum depth of retained sediment: 19.9 ft

Percent recovery (on-deck): 75%

**Core collection**  
 Date: 5/7/2007  
 Time: 14:33

**Laboratory processing**  
 Date: 5/7/2007  
 Time: 15:45

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0					
0 - 4.5	PT: saw dust, black, moderately dense, moderate H2S odor, trace creosote odor and creosote blebs to 3ft. 85% saw dust, 5% fine sand, 5% wood chips, 5% shells.	Saw Dust		13116000013	
4.5 - 8.5				13116000012	
8.5 - 15.5	ML: silt with shells, gray, (moderately stiff), trace to moderate H2S odor. 30% silt, 70% shells, whole shells to 11.7 then mostly crushed.	Native			
15.5 - 20	SP: poorly-graded sand, gray, moderately dense, trace shell fragments, sand is medium. 95% sand, 5% shell.				
20	End of Core	End of core	End of core	End of core	End of core
25					

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-17

Mudline elevation: -11.7 ft MLLW

Maximum depth of retained sediment: 18.0 ft

Percent recovery (on-deck): 74%

**Core collection**  
 Date: 5/14/2007  
 Time: 11:36

**Laboratory processing**  
 Date: 5/14/2007  
 Time: 13:20

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0					
2				13116000036	
4	Saw dust, black, moderately loose, trace H2S odor, 10% twigs and roots to 1.2 ft, two 2" pieces of bark at 5.4 ft. 90% saw dust, 10% twigs and roots.	Saw Dust			
6				13116000037	
8					
10	ML: silt, gray, moderately stiff, trace H2S odor. Trace of shells and bark fragments. 90% silt, 5% sand, 5% shells.				
12		Indeterminate			
14	ML: silt with crushed shells, gray, moderately stiff, trace H2S odor. 60% silt, 30% shells, 10% sand.				
16					
18	SP: poorly-sorted sand, gray, moderately dense, sand is medium. 95% sand, 5% shells and wood fragments.	Native			
20	End of Core	End of core	End of core	End of core	End of core

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-19

Mudline elevation: -14.9 ft MLLW

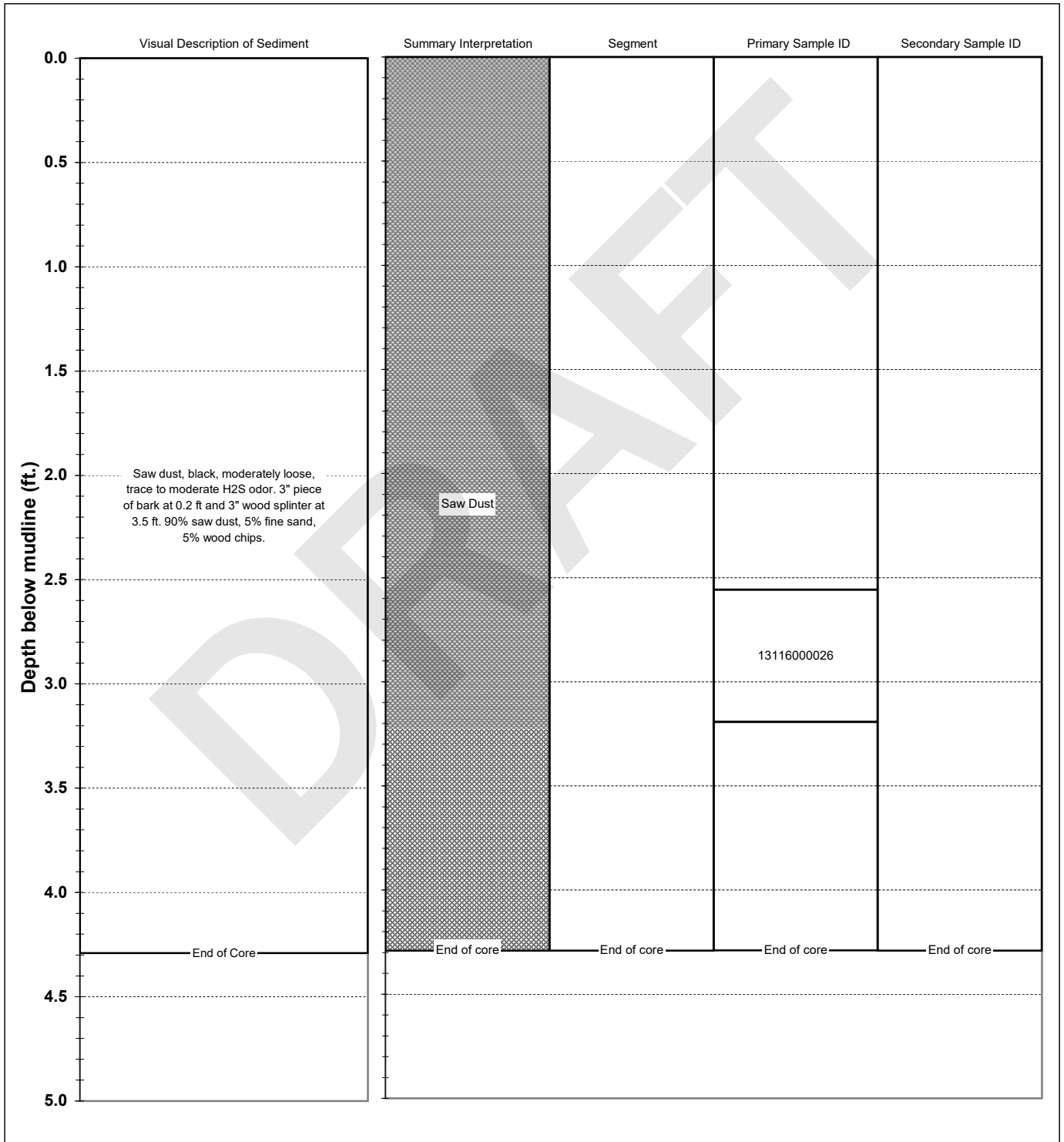
Maximum depth of retained sediment: 4.3 ft

Percent recovery (on-deck): 92%

**Core collection**  
 Date: 5/11/2007  
 Time: 9:40

**Laboratory processing**  
 Date: 5/11/2007  
 Time: 10:20

**Field Log:** NPB  
**Summary Log:** RHG



# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-20

Mudline elevation: -20.9 ft MLLW

Maximum depth of retained sediment: 20.2 ft

Percent recovery (on-deck): 66%

**Core collection**  
 Date: 5/7/2007  
 Time: 15:52

**Laboratory processing**  
 Date: 5/7/2007  
 Time: 17:00

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0	ML: silt and wood splinters, brownish gray, (moderately firm), trace H2S odor. 50% wood splinters, rafting material, 30% silt, 10% sand, 10% shells.	Recent			
5					
10	PT: saw dust, black, moderately dense, moderate H2S odor. 80% saw dust, 10% sand, 10% small wood chips.	Saw Dust		13116000014	
15				13116000015	
20	SP: poorly-graded sand, gray, moderately dense, trace shell fragments, sand is medium. 95% sand, 5% shell fragments.	Native			
25	End of Core	End of core	End of core	End of core	End of core



# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-21

Mudline elevation: -11.9 ft MLLW

Maximum depth of retained sediment: 19.9 ft

Percent recovery (on-deck): 58%

**Core collection**  
 Date: 5/11/2007  
 Time: 11:46

**Laboratory processing**  
 Date: 5/11/2007  
 Time: 13:00

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0					
5	ML: silt with rafting debris, bark and splinters to 2", grayish brown, moderately soft, moderate H2S odor. 60% silt, 40% wood bark and splinters.	Rafting debris			
	ML: silt with sand, gray, moderately soft, trace H2S odor. 70% silt, 25% sand, 5% wood chips.				
10	Rafting debris with silt and sand, brown, (moderately dense), moderate H2S odor, splinters up to 1/2". 70% wood, 15% sand, 15% sand.			13116000027	
15	SP: poorly-graded sand, gray, moderately dense, trace to moderate H2S odor, sand is medium. 95% sand, 5% shells.	Native			
20	End of Core	End of core	End of core	End of core	End of core
25					

**Geomatrix Consultants**

3500 188th ST. SW Suite 600  
 Lynnwood, WA 98037

(425) 921-4000  
 fax (425) 921-4040

File name: ST-21rhg.xls  
 Summary Core Log

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-29

Mudline elevation: -44.4 ft MLLW

Maximum depth of retained sediment: 9.6 ft

Percent recovery (on-deck): 90%

**Core collection**  
 Date: 5/7/2007  
 Time: 9:29

**Laboratory processing**  
 Date: 5/7/2007  
 Time: 10:35

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0	SM: sand with silt, black, (moderately loose), trace twigs, large pieces of gravel at base, trace shells. 75% sand, 20% silt, 5% twigs, shells, gravel.				
1	ML: silt with sand, grayish black, (moderately stiff), trace twigs and shells, trace to moderate H2S odor. 55% silt, 40% sand, 5% twigs and shells.				
2		Recent		1311600001	
3	SM: sand with silt, grayish black, moderately dense, trace shells and twigs, trace H2S odor. 55% sand, 40% silt, 5% twigs and shells.				
4					
5					
6					
7	SP: poorly-graded sand, gray, moderately dense, trace crushed shells, trace H2S odor at base, sand is medium. 95% sand, 5% crushed shells.	Native			
8					
9					
10	End of Core	End of core	End of core	End of core	End of core

**Geomatrix Consultants**

3500 188th ST. SW Suite 600  
 Lynnwood, WA 98037

(425) 921-4000  
 fax (425) 921-4040

File name: ST-29rhg.xls  
 Summary Core Log

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-32

Mudline elevation: -51.0 ft MLLW

Maximum depth of retained sediment: 10.1 ft

Percent recovery (on-deck): 89%

**Core collection**      **Laboratory processing**

Date: 5/7/2007

5/7/2007

Field Log: NPB

Time: 10:24

11:35

Summary Log: RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0	ML: silt, gray, soft to 0.7 ft then moderately stiff, moderate H2S odor, trace shell fragments. 80% silt, 10% sand, 10% bark and shell fragments grading to 70% silt, 20% sand, and 10% bark and shell at 1.6 ft.				
2		Recent		1311600002	
4	ML: silt with sand, gray, moderately stiff, trace H2S odor. 70% silt, 20% sand, 10% bark pieces.				
6	SM: sand with silt, gray, moderately dense, trace H2S odor. 60% sand, 30% silt, 10% bark and shell fragments.				
8		Native			
10	SP: poorly-graded sand, gray, moderately dense, trace crushed shell fragments, sand is medium to fine. 95% sand, 5% crushed shells.				
10.1	End of Core	End of core	End of core	End of core	End of core
12					

**Geomatrix Consultants**

3500 188th ST. SW Suite 600  
Lynnwood, WA 98037

(425) 921-4000  
fax (425) 921-4040

File name: ST-32rhg.xls  
Summary Core Log

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-34

Mudline elevation: -50.8 ft MLLW

Maximum depth of retained sediment: 10.1 ft

Percent recovery (on-deck): 78%

**Core collection**  
 Date: 5/9/2007  
 Time: 9:48

**Laboratory processing**  
 Date: 5/9/2007  
 Time: 12:40

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0					
2	ML: silt with sand, gray, moderately soft, trace to moderate H2S odor, grades to unit below. 65% silt, 20% sand, 15% wood chips.	Recent		13116000025	
4					
6	SM: sand with silt, gray, moderately dense, moderate H2S odor, trace bark pieces. 85% sand, 15% silt.	Native			
8					
10	SP: poorly-graded sand, gray, moderately dense, trace crushed shells, trace H2S odor, sand is fine to medium. 95% sand, 5% crushed shells.				
10	End of Core	End of core	End of core	End of core	End of core
12					

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-37

Mudline elevation: -35.5 ft MLLW

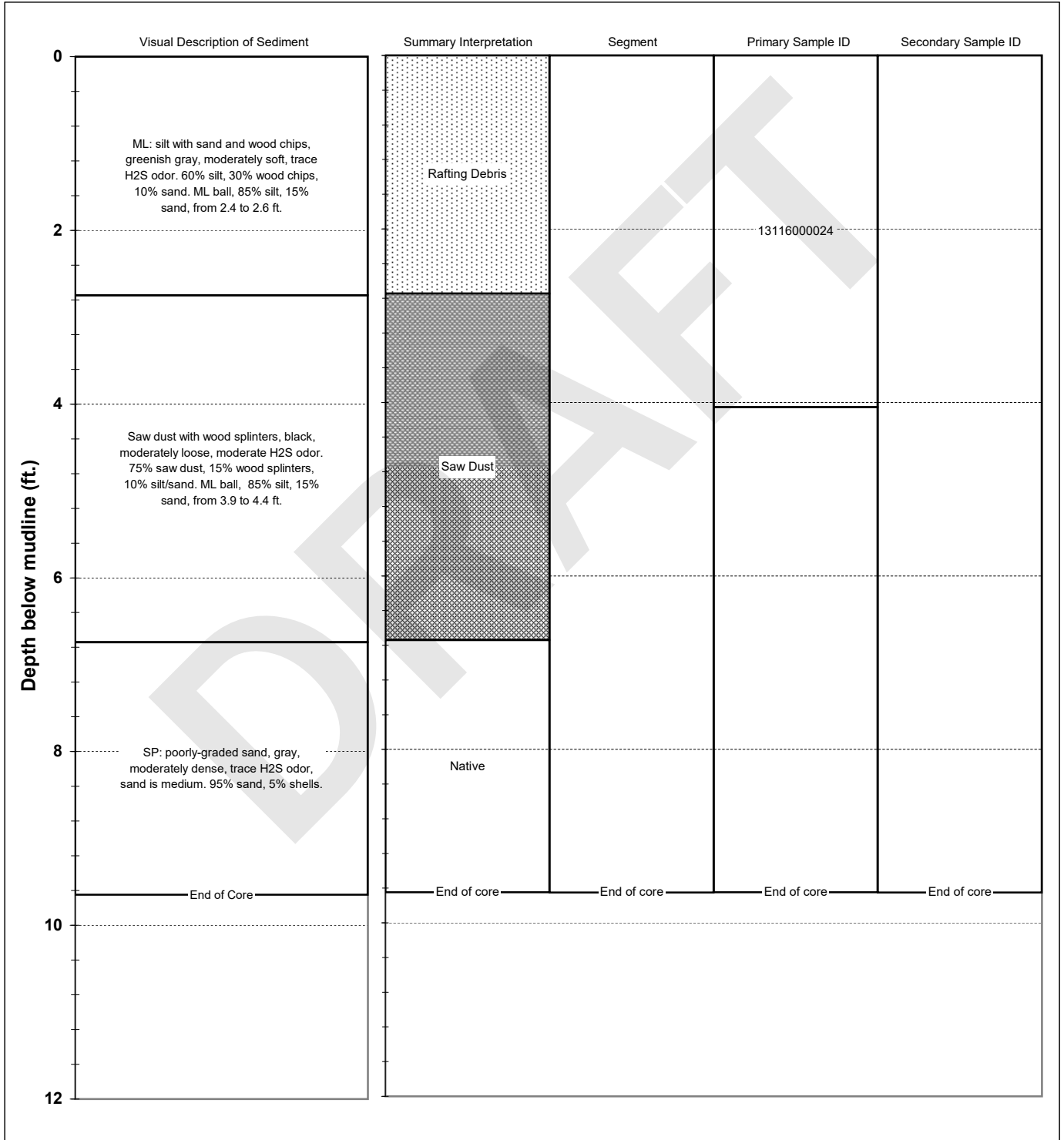
Maximum depth of retained sediment: 9.7 ft

Percent recovery (on-deck): 78%

**Core collection**  
 Date: 5/11/2007  
 Time: 10:20

**Laboratory processing**  
 Date: 5/11/2007  
 Time: 11:00

**Field Log:** NPB  
**Summary Log:** RHG



**Geomatrix Consultants**

3500 188th ST. SW Suite 600  
 Lynnwood, WA 98037

(425) 921-4000  
 fax (425) 921-4040

File name: ST-37rhg.xls  
 Summary Core Log

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-39

Mudline elevation: -49.2 ft MLLW

Maximum depth of retained sediment: 9.7 ft

Percent recovery (on-deck): 79%

**Core collection**  
 Date: 5/14/2007  
 Time: 10:16

**Laboratory processing**  
 Date: 5/14/2007  
 Time: 11:15

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0					
2	ML: silt with sand, gray, moderately soft, trace to moderate H2S odor, sand is fine. 70% silt, 25% sand, 5% twigs, wood splinters, and wood chunks.	Recent		13116000033	
4					
6	SP: poorly-graded sand, gray, moderately dense, trace H2S odor, sand is medium. 95% sand, 5% shells.	Native			
8					
10	End of Core	End of core	End of core	End of core	End of core
12					

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-42

Mudline elevation: -41.0 ft MLLW

Maximum depth of retained sediment: 11.8 ft

Percent recovery (on-deck): 85%

	<b>Core collection</b>	<b>Laboratory processing</b>
Date:	5/11/2007	5/11/2007
Time:	15:40	16:15

Field Log: NPB  
Summary Log: RHG

	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0					
	<p>ML: silt with sand, gray, moderately stiff, trace H2S odor, sand is fine to medium. 70% silt, 25% sand, 5% fresh wood chips. One 2" vesiculated clinker-like piece at 2.5 ft.</p>	<p>Recent</p>		<p>13116000032</p>	
2					
4					
6					
	<p>SP: poorly-graded sand, gray, moderately dense, trace H2S odor, (sand is medium). 95% sand, 5% shells and wood chunks.</p>	<p>Native</p>			
8					
10					
12	End of Core	End of core	End of core	End of core	End of core
14					

**Geomatrix Consultants**

3500 188th ST SW Suite 600  
Lynnwood, WA 98037

(425) 921-4000  
fax (425) 921-4040

File name: ST-42rhg.xls  
Summary Core Log

# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-43

Mudline elevation: -38.7 ft MLLW

Maximum depth of retained sediment: 14.0 ft

Percent recovery (on-deck): 78%

**Core collection**  
 Date: 5/11/2007  
 Time: 14:16

**Laboratory processing**  
 Date: 5/11/2007  
 Time: 15:15

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0					
2	SM: sand with silt, grayish black, moderately loose, moderate H2S, wood splinters up to 2". 50% sand, 20% silt, 30% wood splinters.	Rafting Debris			
4	ML: silt with sand, gray, moderately soft, trace to moderate H2S odor. 75% silt, 20% sand, 5% wood splinters.				
6	Saw dust, black, moderately loose, moderate H2S odor. 95% saw dust, 5% wood chunks.	Saw Dust		13116000031	
8					
10	SP: poorly-graded sand, gray, moderately dense, trace H2S odor, sand is medium. 95% sand, 5% shells.	Native			
12					
14	End of Core	End of core	End of core	End of core	End of core
16					

**Geomatrix Consultants**

3500 188th ST SW Suite 600  
 Lynnwood, WA 98037

(425) 921-4000  
 fax (425) 921-4040

File name: ST-43rhg.xls  
 Summary Core Log



# Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-44

Mudline elevation: -32.3 ft MLLW

Maximum depth of retained sediment: 18.7 ft

Percent recovery (on-deck): 76%

**Core collection**  
 Date: 5/14/2007  
 Time: 9:15

**Laboratory processing**  
 Date: 5/14/2007  
 Time: 12:45

**Field Log:** NPB  
**Summary Log:** RHG

Depth below mudline (ft.)	Visual Description of Sediment	Summary Interpretation	Segment	Primary Sample ID	Secondary Sample ID
0	SM: sand with silt and crushed shells, black, moderately dense, moderate H2S odor. 40% sand, 15% silt, 45% shells.	Recent			
2					
4	SM: sand with silt and bark fragments, black, moderately dense, moderate H2S odor. 40% sand, 15% silt, 30% bark and twigs, 15% shells.				
6	ML: silt with sand and wood rafting debris, bark and twigs, gray, moderately soft, moderate H2S odor. 60% silt, 15% sand, 25% wood.	Rafting Debris			
8					
10	Wood chunks and bark, dark brown, moderately loose, strong H2S odor, wood chunks are angular and up to 1. bark is up to 1". 45% bark, 45% wood chunks, 10% silt.	Rafting Debris and Wood Chips		13116000034	
12				13116000035	
14					
16	SP: poorly-graded sand, gray, moderately dense, trace H2S odor, sand is medium. 95% sand, 5% shells.	Native			
18					
20	End of Core	End of core	End of core	End of core	End of core

**Geomatrix Consultants**

3500 188th ST SW Suite 600  
 Lynnwood, WA 98037

(425) 921-4000  
 fax (425) 921-4040

File name: ST-44rhg.xls  
 Summary Core Log



# SEDIMENT CORING LOG

Core Number 3

PROJECT NAME: Port Gardner  
 DATE SAMPLED: 8-13-08  
 LOCATION: A1-15-C1  
 TIME: 12:27  
 UNCORRECTED DEPTH (-FT): 56.4ft  
 NOS WATER LEVEL (TIDE): \_\_\_\_\_  
 WATER DEPTH MLLW: \_\_\_\_\_  
 SAMPLED BY: L. Delwiche  
S. Boas

CORE PENETRATION: 13.0ft  
 CORE RECOVERY: 12.16ft  
 % RECOVERY: 94%  
 SAMPLING METHOD: Vibracore  
 POSITION METHOD: DGPS  
 LATITUDE: 47 58.7824N  
 LONGITUDE: 122 13.5189W  
 NORTHING: \_\_\_\_\_  
 EASTING: \_\_\_\_\_  
 WEATHER: Sunny, slight breeze 65°F

DEPTH				
Recovered Core Length	Feet Below Mudline Based on Actual % Recovery	SAMPLE ID	SEDIMENT DESCRIPTION	COMMENTS
		1	0-0.9	11 8.5-10.3
		3	0.9-2.8	13 10.3-12.2
		5	2.9-4.7	
		7	4.7-6.6	
		9	6.6-8.5	
				Cut core in 4.0ft sections
0-4ft		PG-A1-15-C1-1	0-0.5' loose, moist dark gray silty f. sand w/ scattered gravels, scattered wood pieces (10%)	sl. H <sub>2</sub> S odor
		C1-3	0.5-1.0 damp, sl. hard, dark gray (2.5Y/4/1) sl. silty f. sand.	
			1.0-1.7 coarse-med sand layer	
		C3-5	1.7-10.2 sl. damp, dark gray f. sand, scattered shell pieces (native)	wood pieces c 8.7'
		C5-7		
		C7-9		
		C9-11		
4-8ft		C11-13	10.2-12.2 similar to above but ~50% f. sand!	50% silt, trace shell pieces.
8-12ft	B.O.C		See very fine sandy clay in core catcher	B.O.C. 12.2'
			medium grey no odor	



# SEDIMENT CORING LOG

Core Number 11

PROJECT NAME: Port Gardner  
 DATE SAMPLED: 8-14-08  
 LOCATION: A1-18-C1  
 TIME: 10:33  
 UNCORRECTED DEPTH (-FT): 78.0ft  
 NOS WATER LEVEL (TIDE): \_\_\_\_\_  
 WATER DEPTH MLLW: \_\_\_\_\_  
 SAMPLED BY: C. Delwiche  
J. Boas

CORE PENETRATION: 13.0ft  
 CORE RECOVERY: ~~11.3ft~~ 12.3ft  
 % RECOVERY: 95%  
 SAMPLING METHOD: Vibracore  
 POSITION METHOD: DGPS  
 LATITUDE: 47 58.7386 N  
 LONGITUDE: 122 13.7878 W  
 NORTHING: \_\_\_\_\_  
 EASTING: \_\_\_\_\_  
 WEATHER: Sunny calm

DEPTH				
Recovered Core Length	Feet Below Mudline Based on Actual % Recovery	SAMPLE ID	SEDIMENT DESCRIPTION	COMMENTS
		1	0-1	9 6.7-8.6 4' rep by 3'10"
		2	1-2.9	11 8.6-10.5
		5	2.9-4.8	13 10.5-12.3
		7	4.8-6.7	
		PG-A1-18-C0-1	0 - 0.6' soft, wet, v. dark grayish brown (10YR 3/2) silty f. sand w/ 5% fine wood particles	f. sand.
2		C1-3	0.6 - 1.3 f. sandy silt. long wood piece @ 1.3'	
			1.3 - 1.7 f-m sand layer	
		C3-5	1.4 - 2.9 soft, moist, v. dark gray (10YR 3/1) clayey silt	
4			2.9 - 3.3 similar to above, grades to silty f. sand w/ depth scattered wood fibers (3%) trace shell particles	
		C5-7	3.3 - 4.9 soft, moist, v. dark gray (10YR 3/1) silt.	
6			4.1 - 5.2 loose, damp, dark gray (10YR 4/1) M-F sand grading to C sand w/ depth.	
		C7-9	5.2 - 6.4 mod hard, damp, brown (7.5YR 4/2) silty f. sand	
8			6.4 - 7.9 similar to above w/ mod shell pieces (10%), 2 small @ 8'	(@ 5cm)
		C9-11	7.9 - 10' similar to 5.2 - 6.4' interval	
10			10 - 11.2 sh. hard clay, brown (7.5YR 4/2) silt w/ f. sand. twigs @ 10.6'	
		C11-13	11.2 - 11.5 similar to 5.2 - 6.4' interval	
12			B.O.C. 11.5'	
	B.O.C		fine grain slightly wet sand No odor some clay medium grey	
14				



# SEDIMENT CORING LOG

Core Number 12

PROJECT NAME: Port Gardner  
 DATE SAMPLED: 8-14-08  
 LOCATION: A1-24-C1  
 TIME: 11:06  
 UNCORRECTED DEPTH (-FT): 54.0 ft  
 NOS WATER LEVEL (TIDE): \_\_\_\_\_  
 WATER DEPTH MLLW: \_\_\_\_\_  
 SAMPLED BY: L. Delwiche  
S. Boas

CORE PENETRATION: 13.0 ft  
 CORE RECOVERY: 12.2 ft  
 % RECOVERY: 94 %  
 SAMPLING METHOD: Vibracore  
 POSITION METHOD: DGPS  
 LATITUDE: 47 58.5880 N  
 LONGITUDE: 122 13.6451 W  
 NORTHING: \_\_\_\_\_  
 EASTING: \_\_\_\_\_  
 WEATHER: Sunny Calm

DEPTH					
Recovered Core Length	Feet Below Mudline Based on Actual % Recovery	SAMPLE ID	SEDIMENT DESCRIPTION	COMMENTS	
		1	0-0.9	9 6.6-8.5	4' rep by 3'9"
		3	0.9-2.8	11 8.5-10.3	
		5	2.8-4.7	13 10.3-12.2	
		7	4.7-6.6		
					strong H <sub>2</sub> S odor
		PG-A1-24-C1-1	0-1.1 soft, wet, v. dark grayish brown (10YR/3/2) silt w/ fine sand, mud wood debris (20%)		
2		C1-3	1.1-5.4' soft, moist v. dark grayish brown (10YR/3/2) silt w/ fine sand, (25-30%) wood debris		
		C3-5			
4					
		C5-7	5.4-11.3' loose, damp, dark gray (10YR/4/1) f. sand scattered shell pieces (ambient sed)		
6					
		C7-9			
8					
		C9-11			
10					
		C11-13			
12					B.O.C. 11.3'
		B.O.C	fine grain slightly wet sand medium grey no odor slightly sticky		
14					

# Surface Sediment Collection Form

Project: 2008 Port Gardner Sediment

Investigation

Station: \_\_\_\_\_

Sampling Event: \_\_\_\_\_

Date: 8/1/08

Crew: JHW, CE, LO, AG, JSN, RM

Grab #: <u>A1-12</u>	Bottom depth: <u>14.6 m</u>	Penetration Depth: <u>+15 cm</u>	Time: <u>1518</u>
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b> <u>oil sheen globule.</u> <u>soft, wet, black, organic</u> <u>clayey silt. Wood debris</u> <u>in jaws.</u> <u>overpenetrated</u>
Cobble Gravel Sand C M F <u>Silt/clay</u> <u>Organic matter</u> Woody debris Shell debris	Drab olive Brown Brown surface Gray <u>Black</u> Other:	None Slight Moderate <u>Strong to</u> <u>Overwhelming</u> <u>H<sub>2</sub>S</u> Petroleum	
Grab #: <u>A1-15</u>	Bottom depth: <u>18.5 m</u>	Penetration Depth: <u>14-15 cm</u>	Time: <u>1533</u>
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b> <u>brittle star, polychaetes in</u> <u>sed. scattered woody debris</u> <u>(cedar)</u> <u>olive + olive gray, silty F sand</u> <u>scattered quartz gravels, shell</u> <u>particles, barnacles</u>
Cobble <u>Gravel scattered</u> <u>Sand C M F</u> Silt/clay Organic matter <u>Woody debris</u> Shell debris	Drab olive Brown Brown surface Gray Black <u>(olive gray)</u> Other:	None Slight Moderate Strong Overwhelming H <sub>2</sub> S Petroleum	
Grab #: <u>A1-15 #2</u>	Bottom depth: <u>18.6 m</u>	Penetration Depth: <u>13-14 cm</u>	Time: <u>1546</u>
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b> <u>snail, small gravel, polychaete</u> <u>(spio) on surface, thumb size</u> <u>bark chunk on surface,</u> <u>shell pieces, scattered wood</u>
Cobble Gravel <u>Sand C M F</u> Silt/clay Organic matter <u>Woody debris</u> Shell debris	Drab olive Brown Brown surface Gray Black <u>(olive gray)</u> Other:	None Slight Moderate Strong Overwhelming H <sub>2</sub> S Petroleum	
Grab #:	Bottom depth:	Penetration Depth:	Time:
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble Gravel Sand C M F Silt/clay Organic matter Woody debris Shell debris	Drab olive Brown Brown surface Gray Black Other:	None Slight Moderate Strong Overwhelming H <sub>2</sub> S Petroleum	

Recorded By: [Signature]

Page \_\_\_ of \_\_\_

# Surface Sediment Collection Form

Project: 2008 Port Gardner Sediment

Investigation

Station: \_\_\_\_\_

Sampling Event: \_\_\_\_\_

Date: 8/4/08

Crew: SMN, JLN, AG, CE, CR

Grab #: A1-31	Bottom depth: 3.0	Penetration Depth: 12 cm	Time: 15:35
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	<u>None</u>	organic layer on top homogenous sand
Gravel	Brown	Slight	
Sand <u>C</u> <u>M</u> <u>F</u>	Brown surface	Moderate	
Silt/clay	<u>Gray</u>	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	
Grab #: A2-10	Bottom depth: 4.2	Penetration Depth: 15+	Time: 15:56
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	None	fine woody debris on surface leafy wood debris more silty than sandy
Gravel	Brown	<u>Slight</u>	
Sand <u>C</u> <u>M</u> <u>F</u>	Brown surface	Moderate	
<u>Silt</u> /clay	<u>Gray</u>	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	
Grab #: A2-11	Bottom depth: 6.2	Penetration Depth: 10	Time: 16:19
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	None	Dark gray 5-10% woody debris twigs & chunks shell debris
Gravel	Brown	<u>Slight</u>	
Sand <u>C</u> <u>M</u> <u>F</u>	Brown surface	Moderate	
Silt/clay	<u>Gray</u>	Strong	
Organic matter	<u>Black</u>	Overwhelming	
<u>Woody debris</u>	Other:	H <sub>2</sub> S	
<u>Shell debris</u>		Petroleum	
Grab #: A2-13	Bottom depth: 6.2	Penetration Depth: 15+	Time: 16:34
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	<u>None</u>	- very soft silt - grab overpenetrated - no debris
Gravel	Brown	Slight	
Sand <u>C</u> <u>M</u> <u>F</u>	Brown surface	Moderate	
<u>Silt</u> /clay	<u>Gray</u>	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	

Recorded By: J Num

Page 6 of \_\_\_\_\_

# Surface Sediment Collection Form

Project: 2008 Port Gardner Sediment

Investigation

Station: \_\_\_\_\_

Sampling Event: \_\_\_\_\_

Date: 8/4/08

Crew: JMN, JNak, CE, Andy, Collin Ray

Grab #: <u>A1-16</u>	Bottom depth: <u>15.2</u>	Penetration Depth: <u>+ 15 cm</u>	Time: <u>11:33</u>
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble Gravel <input checked="" type="checkbox"/> Sand C M (F) <input checked="" type="checkbox"/> Silt/clay Organic matter Woody debris Shell debris	Drab olive Brown Brown surface <u>Gray olive</u> <u>Black</u> Other:	None <input checked="" type="checkbox"/> Slight Moderate Strong Overwhelming <input checked="" type="checkbox"/> H <sub>2</sub> S Petroleum	- pockets of sand - some shell & wood debris
Grab #: <u>A1-17</u>	Bottom depth: <u>19.7</u>	Penetration Depth: <u>11 cm</u>	Time: <u>11:48</u>
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble Gravel <input checked="" type="checkbox"/> Sand C M (F) <input checked="" type="checkbox"/> Silt/clay Organic matter <input checked="" type="checkbox"/> Woody debris Shell debris	Drab olive Brown Brown surface <u>Gray olive</u> Black Other:	None <input checked="" type="checkbox"/> Slight Moderate Strong Overwhelming H <sub>2</sub> S Petroleum	- moderate wood debris ~ 25% - snails of surface wood - a few rocks
Grab #: <u>A1-18</u>	Bottom depth: <u>29.0</u>	Penetration Depth: <u>11 cm</u>	Time: <u>12:01</u>
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble Gravel <input checked="" type="checkbox"/> Sand C M (F) <input checked="" type="checkbox"/> Silt/clay Organic matter <input checked="" type="checkbox"/> Woody debris Shell debris	Drab olive Brown Brown surface <u>Gray</u> Black Other:	None Slight Moderate Strong Overwhelming H <sub>2</sub> S Petroleum	Woody debris at bottom - 50% wood below 10cm - trace shell debris - snails on surface - polychaetes
Grab #: <u>A1-20</u>	Bottom depth: <u>14.2</u>	Penetration Depth: <u>13 cm</u>	Time: <u>12:19</u>
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble Gravel <input checked="" type="checkbox"/> Sand C M (F) <input checked="" type="checkbox"/> Silt/clay Organic matter <input checked="" type="checkbox"/> Woody debris Shell debris	Drab olive Brown <u>Brown surface</u> Gray <u>&gt; below 1cm</u> Black Other:	None Slight <input checked="" type="checkbox"/> Moderate Strong Overwhelming H <sub>2</sub> S Petroleum	- polychaetes - 1cm olive brown surface over gray-black 10% woody debris, mostly on surface

Recorded By: JMN

# Surface Sediment Collection Form

Project: 2008 Port Gardner Sediment

Investigation

Station: \_\_\_\_\_

Sampling Event: \_\_\_\_\_

Date: 8/4/08

Crew: SMN, JLN, CE, AG, Colin Ray

Grab #: A1-23	Bottom depth: 72.0	Penetration Depth: 15+	Time: 12:41
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	None	- slightly sandy silt - wood debris @ 10cm 25% wood below 10cm
Gravel	Brown	Slight	
Sand C M F	Brown surface	Moderate	
Silt/clay	Gray → olive gray	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	
Grab #: A1-24	Bottom depth: 16.6	Penetration Depth: 15	Time: 12:53
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	None	sandy silt 35% woody debris organic rich a few polycates
Gravel	Brown	Slight	
Sand C M F	Brown surface	Moderate	
Silt/clay	Gray	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	
Grab #: A1-33	Bottom depth: 102.2	Penetration Depth: 15+	Time: 13:54
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	None	silty fine sand no wood debris over penetration into sed
Gravel	Brown	Slight	
Sand C M F	Brown surface	Moderate	
Silt/clay	Gray	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	
Grab #: A1-40	Bottom depth: 15.2	Penetration Depth: 12 cm	Time: 14:12
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	None	- snails on surface - phytoplankton surface coating
Gravel	Brown	Slight	
Sand C M F	Brown surface	Moderate	
Silt/clay	Gray	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	

Recorded By: J. Ray

Page 4 of \_\_\_\_\_



# Surface Sediment Collection Form

**Project:** 2008 Port Gardner Sediment

**Investigation**


**Sampling Event:** \_\_\_\_\_

**Station:** \_\_\_\_\_

**Date:** 8/12/08

**Crew:** WH CH JN MB

<b>Grab #:</b> A1-31B	<b>Bottom depth:</b> 0	<b>Penetration Depth:</b> 10 cm	<b>Time:</b> 0920
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	None	Intertidal sample, collected with a spoon
Gravel	Brown	Slight	
Sand C M F	Brown surface	Moderate	
Silt/clay	Gray	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	
<b>Grab #:</b> A1-49	<b>Bottom depth:</b> 0	<b>Penetration Depth:</b> 10 cm	<b>Time:</b> 0906
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	None	Intertidal sample, collected w/ a spoon
Gravel	Brown	Slight	
Sand C M F	Brown surface	Moderate	
Silt/clay	Gray	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	
<b>Grab #:</b>	<b>Bottom depth:</b>	<b>Penetration Depth:</b>	<b>Time:</b>
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	None	
Gravel	Brown	Slight	
Sand C M F	Brown surface	Moderate	
Silt/clay	Gray	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	
<b>Grab #:</b>	<b>Bottom depth:</b>	<b>Penetration Depth:</b>	<b>Time:</b>
<b>Sediment type:</b>	<b>Sediment color:</b>	<b>Sediment Odor:</b>	<b>Comments:</b>
Cobble	Drab olive	None	
Gravel	Brown	Slight	
Sand C M F	Brown surface	Moderate	
Silt/clay	Gray	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H <sub>2</sub> S	
Shell debris		Petroleum	

**Recorded By:** 

**Page** \_\_\_ **of** \_\_\_



**SOIL CLASSIFICATION CHART**

MAJOR DIVISIONS			SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES
			GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SILT MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-SILT MIXTURES
	SAND AND SANDY SOILS	CLEAN SANDS	SW	WELL-GRADED SANDS, GRAVELLY SANDS
			SP	POORLY-GRADED SANDS, GRAVELLY SAND
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50	ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY
			OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS
DEBRIS	WOOD		WD	WOOD DEBRIS, WOOD CHIPS, DIMENSIONAL LOG, SAWDUST

**GRAPHIC LOG CONTACTS**

- Contact between sediment type
- Division of sample interval
- End of boring
- ===== Sampler core division

**SYMBOL DESCRIPTIONS**

-  Sample not recovered
-  Less than 75% sample recovered

## SEDIMENT CORING LOG

CORING LOCATION: PT-1

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 14, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 5.75	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 39.75	<b>Latitude:</b> N 47° 58' 37.768"
<b>Mudline Elevation (feet MLLW):</b> -34	<b>Longitude:</b> W 122° 13' 33.965"
<b>Total Coring Depth (feet MLLW):</b> -49	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		ML + WD	ML + WD	100	PT-1-34-35	Dark brown to gray silt with wood debris (sawdust 30%, wood chips 15%, dimensional lumber 5%)	NS	50	
1					PT-1-35-36				
2					PT-1-36-37				
3					PT-1-37-37				
4					PT-1-38-39				
5		SM	SM	100	PT-1-39-40	Gray silty fine to medium sand with wood debris (wood chips)	NS	10	
6					PT-1-40-41	Gray silty fine to medium sand with occasional shell fragments	NS	0	
7					PT-1-41-42				
8					PT-1-42-43				
9					PT-1-43-44				
10									

## SEDIMENT CORING LOG

CORING LOCATION: PT-1

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 14, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 5.75	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 39.75	<b>Latitude:</b> N 47° 58' 37.768"
<b>Mudline Elevation (feet MLLW):</b> -34	<b>Longitude:</b> W 122° 13' 33.965"
<b>Total Coring Depth (feet MLLW):</b> -49	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10		SM	SM	100	PT-1-44-45	Gray silty fine to medium sand with occasional shell fragments	NS	0	
11					PT-1-45-46				
12					PT-1-46-47				
13					PT-1-47-48				
14					PT-1-48-49				
15									

# SEDIMENT CORING LOG

CORING LOCATION: PT-2

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 14, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 8.5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 38	<b>Latitude:</b> N 47° 58' 38.268"
<b>Mudline Elevation (feet MLLW):</b> -29.5	<b>Longitude:</b> W 122° 13' 33.139"
<b>Total Coring Depth (feet MLLW):</b> -49.5	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		WD	WD	92	PT-2-29.5-30	Dark brown wood debris (wood chips and dimensional lumber) with silt	NS	60	
					PT-2-30-31				
					PT-2-31-32				
					PT-2-32-33				
3		WD			PT-2-33-34	Light brown wood debris (dimensional lumber)	NS	100	
4			WD		PT-2-34-35				
4.6									
5		SM	SM	80	PT-2-34-35	Gray silty fine to medium sand with wood debris (wood chips)	NS	<5	Sluff found in top 1-foot of core
		SM			PT-2-35-36	Gray silty fine to medium sand	NS	0	
			SM		PT-2-36-37				
					PT-2-37-38				
					PT-2-38-39				
					PT-2-39-40				
9									
10									

# SEDIMENT CORING LOG

CORING LOCATION: PT-2

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 14, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 8.5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 38	<b>Latitude:</b> N 47° 58' 38.268"
<b>Mudline Elevation (feet MLLW):</b> -29.5	<b>Longitude:</b> W 122° 13' 33.139"
<b>Total Coring Depth (feet MLLW):</b> -49.5	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10		SM	SM	80	PT-2-39-40 PT-2-40-41	Gray silty fine to medium sand	NS	0	
11					PT-2-41-42				
12					PT-2-42-43				
13					PT-2-43-44				
14		SM			PT-2-44-45	Gray silty fine to medium sand with occasional shell fragments			
15			SM						
16		SM	SM	100	PT-2-44-45 PT-2-45-46	Gray silty fine to medium sand with rare wood debris	NS	0	Piece of dimensional lumber observed at ~15.25 feet below mudline
17					PT-2-46-47				
18		SM	SM		PT-2-47-48 PT-2-48-49	Gray silty fine to medium sand with occasional shell fragments	NS	0	
19					Discard				
20									

## SEDIMENT CORING LOG

CORING LOCATION: PT-3

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 13, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 42.5	<b>Latitude:</b> N 47° 58' 38.498"
<b>Mudline Elevation (feet MLLW):</b> -37.5	<b>Longitude:</b> W 122° 13' 32.540"
<b>Total Coring Depth (feet MLLW):</b> -47.5	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		SM	SM	80	PT-3-37.5-38 PT-3-38-39	Gray to brown silty fine to medium sand with wood debris	NS	20	
1		WD	WD		PT-3-39-40	Dark brown wood debris (sawdust, wood chips) with silty sand	NS	80	
2					PT-3-40-41		NS	80	
3					PT-3-41-42				
4		SM			PT-3-42-43	Gray silty fine to medium sand with wood debris (wood chips) and occasional shell fragments	NS	15	
5			SM						
6		SM	SM	100	PT-3-42-43	Gray silty fine to medium sand with occasional shell fragments	NS	0	
7					PT-3-43-44				
8					PT-3-44-45				
9					PT-3-45-46				
10					PT-3-46-47				
					Discard				

## SEDIMENT CORING LOG

CORING LOCATION: PT-4

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 14, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9.25	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 36.5	<b>Latitude:</b> N 47° 58' 37.447"
<b>Mudline Elevation (feet MLLW):</b> -27.25	<b>Longitude:</b> W 122° 13' 33.405"
<b>Total Coring Depth (feet MLLW):</b> -47.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		ML + WD	ML + WD	100	PT-4-27.25-28	Dark brown to gray silt and wood debris (sawdust 30%, wood chips 15%, dimensional lumber 5%)	NS	50	
1	PT-4-28-29								
2	PT-4-29-30								
3	PT-4-30-31								
4	PT-4-31-32								
5	PT-4-32-33								
6		ML +WD	ML + WD	100	PT-4-32-33	Dark brown to gray silt and wood debris (sawdust 30%, wood chips 15%, dimensional lumber 5%)	NS	50	
7		SP-SM	SP-SM		PT-4-33-34				
8					PT-4-34-35	Gray fine to medium sand with silt	NS	0	
9					PT-4-35-36				
10					PT-4-36-37				
11					PT-4-37-38				



# SEDIMENT CORING LOG

CORING LOCATION: PT-4

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 14, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9.25	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 36.5	<b>Latitude:</b> N 47° 58' 37.447"
<b>Mudline Elevation (feet MLLW):</b> -27.25	<b>Longitude:</b> W 122° 13' 33.405"
<b>Total Coring Depth (feet MLLW):</b> -47.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10		SP-SM	SP-SM	100		Gray fine to medium sand with silt	NS	0	
11					PT-4-38-39				
12					PT-4-39-40				
13		SM	SM		PT-4-40-41	Gray silty fine to medium sand	NS	0	
14					PT-4-41-42				
15					PT-4-42-43				
16		SM	SM	100	PT-4-42-43	Gray silty fine to medium sand with occasional shell fragments	NS	0	
17					PT-4-43-44	A piece of wood observed (tree bark?)			
18		SM	SM		PT-4-44-45	Gray silty fine to medium sand	NS	0	
19					PT-4-45-46				
20					PT-4-46-47				
20					Discard				

## SEDIMENT CORING LOG

CORING LOCATION: **PT-5**

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 13, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 33.25	<b>Latitude:</b> N 47° 58' 37.709"
<b>Mudline Elevation (feet MLLW):</b> -24.25	<b>Longitude:</b> W 122° 13' 32.275"
<b>Total Coring Depth (feet MLLW):</b> -49.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		ML	ML	100	PT-5-24.25-25	Gray to dark brown silt with wood debris (sawdust 10% and wood chips 10%) and organics (roots)	NS	20	
1		WD	WD		PT-5-25-26	Dark brown wood debris (sawdust 40% and wood chips 50%) with silt	NS	90	
2					PT-5-26-27				
3					PT-5-27-28				
4					PT-5-28-29				
5		WD	WD	80	PT-5-29-30	Dark brown wood debris (sawdust 40% and wood chips 50%) with silt	NS	90	
6					PT-5-30-31				
7					PT-5-31-32				
8					PT-5-32-33				
9		SM			PT-5-33-34	Dark brown wood debris (sawdust 40% and wood chips 20%) with silt	NS	60	
9					PT-5-34 - 35	Gray silty fine to medium Sand with occasional wood debris (wood chips)	NS	<5	
10			SM						

## SEDIMENT CORING LOG

CORING LOCATION: **PT-5**

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 13, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 33.25	<b>Latitude:</b> N 47° 58' 37.709"
<b>Mudline Elevation (feet MLLW):</b> -24.25	<b>Longitude:</b> W 122° 13' 32.275"
<b>Total Coring Depth (feet MLLW):</b> -49.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10		SM	SM	100	PT-5- 34 - 35	Gray silty fine to medium sand	NS	0	
11					PT-5-35-36				
12					PT-5-36-37				
13					PT-5-37-38				
14		SM	SM		PT-5-38-39	Gray silty fine to medium sand with occasional shell fragments			
15					PT-5-39-40				
16		SM	SM	100	PT-5-39-40	Gray silty fine to medium sand with occasional shell fragments	NS	0	
17					PT-5-40-41				
18					PT-5-41-42				
19					PT-5-42-43				
20					PT-5-43-44				
21					PT-5-44-45				

## SEDIMENT CORING LOG

CORING LOCATION: PT-5

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 13, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 33.25	<b>Latitude:</b> N 47° 58' 37.709"
<b>Mudline Elevation (feet MLLW):</b> -24.25	<b>Longitude:</b> W 122° 13' 32.275"
<b>Total Coring Depth (feet MLLW):</b> -49.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
20		SM	SM	100	PT-5-44-45	Gray silty fine to medium sand with occasional shell fragments	NS	0	
21					PT-5-45-46				
22					Discard				
23									
24									
25									

## SEDIMENT CORING LOG

CORING LOCATION: PT-6

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 13, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9.75	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 25	<b>Latitude:</b> N 47° 58' 36.952"
<b>Mudline Elevation (feet MLLW):</b> -15.25	<b>Longitude:</b> W 122° 13' 31.504"
<b>Total Coring Depth (feet MLLW):</b> -45.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		WD	WD	100	PT-6-15.25-16	Wood debris (sawdust 40%, wood chips 55%) with silt	NS	95	Clam (alive) observed at 0.5 feet below mudline
1					PT-6-16-17				
2					PT-6-17-18				
3					PT-6-18-19				
4		SM + WD	SM + WD		PT-6-19-20	Dark brown silt and wood debris (sawdust 25%, wood chips 25% to 50%)	NS	50-75	
5		WD	WD		PT-6-20-21	Wood debris (wood chips 90%) with silt	NS	90	
6		WD	WD	84	PT-6-20-21	Wood debris (wood chips 50%, sawdust 40%)	NS	90	
7					PT-6-21-22		NS	70	
8					PT-6-22-23				
9		SM	SM		PT-6-23-24	Gray silty fine to medium sand with trace wood debris (sawdust)	NS	20	
10					Discard		NS	10	

## SEDIMENT CORING LOG

CORING LOCATION: PT-6

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 13, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9.75	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 25	<b>Latitude:</b> N 47° 58' 36.952"
<b>Mudline Elevation (feet MLLW):</b> -15.25	<b>Longitude:</b> W 122° 13' 31.504"
<b>Total Coring Depth (feet MLLW):</b> -45.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10				20				100	Core rejected due to insufficient recovery
11									
12									
13									
14									
15		SM	SM	100	PT-6-30.25-31	Gray silty fine to medium sand with occasional shell fragments	NS	0	
16					PT-6-31-32				
17					PT-6-32-33				
18					PT-6-33-34				
19					PT-6-34-35				
20					PT-6-35-36				

## SEDIMENT CORING LOG

CORING LOCATION: PT-6

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 13, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9.75	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 25	<b>Latitude:</b> N 47° 58' 36.952"
<b>Mudline Elevation (feet MLLW):</b> -15.25	<b>Longitude:</b> W 122° 13' 31.504"
<b>Total Coring Depth (feet MLLW):</b> -45.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
20		SM	SM	100	PT-6- 35 - 36	Gray silty fine to medium sand with occasional shell fragments	NS	0	
21					PT-6-36-37				
22					PT-6-37-38				
23					PT-6-38-39				
24					PT-6-39-40				
25					PT-6- 40 - 41				
26		SM	SM	100	PT-6- 40 - 41	Gray silty fine to medium sand with occasional shell fragments	NS	0	
27					PT-6-41-42				
28		SP-SM	SP-SM		PT-6-41-42	Gray fine to medium sand with trace silt and occasional shell fragments	NS	0	
29					PT-6-43-44				
30					PT-6-44-45				
					Discard				

## SEDIMENT CORING LOG

CORING LOCATION: PT-106

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 16, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 8	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 25	<b>Latitude:</b> N 47° 58' 37.038"
<b>Mudline Elevation (feet MLLW):</b> -17	<b>Longitude:</b> W 122° 13' 31.408"
<b>Total Coring Depth (feet MLLW):</b> -32	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		WD	WD	100	Discard	Dark brown to gray wood debris (sawdust 50%, wood chips 45%) with silt	NS	95	
1									
2									
3		ML + WD	ML + WD			Dark brown to gray silt and wood debris (sawdust 25% and wood chips 25%)	NS	50	
4		WD	WD			Dark brown wood debris (sawdust 50%, wood chips 45%) with silt	NS	95	
5		WD	WD	100	Discard	Light brown wood debris (pieces of log)	NS	100	
6									
7		WD	WD	100	Discard	Light brown wood debris (pieces of log)	NS	100	Approximately 1.5 feet of sluff observed on top of the core.
8		WD	WD	88	Discard	Dark brown wood debris (sawdust 60% and wood chips 30%) with silt	NS	90	
9					PT-106-25-26				
9					PT-106-26-27				
10									



## SEDIMENT CORING LOG

CORING LOCATION: PT-106

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 16, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 8	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 25	<b>Latitude:</b> N 47° 58' 37.038"
<b>Mudline Elevation (feet MLLW):</b> -17	<b>Longitude:</b> W 122° 13' 31.408"
<b>Total Coring Depth (feet MLLW):</b> -32	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10				5					Core rejected due to insufficient recovery.
11									
12									
13									
14									
15									

## SEDIMENT CORING LOG

CORING LOCATION: PT-7

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 14, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 10.5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 40.5	<b>Latitude:</b> N 47° 58' 37.456"
<b>Mudline Elevation (feet MLLW):</b> -30	<b>Longitude:</b> W 122° 13' 30.776"
<b>Total Coring Depth (feet MLLW):</b> -45	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		WD	WD	100	PT-7-30-31	Dark brown to gray wood debris (sawdust 60%, wood chips and dimensional lumber 20%)	NS	80	
1		SM	SM		PT-7-31-32	Gray silty fine to medium sand with occasional shell fragments and wood debris	NS	20	
2		SM	SM		PT-7-32-33	Gray silty fine to medium sand with occasional shell fragments	NS	0	
3					PT-7-33-34				
4					PT-7-34-35				
5		SM	SM	100	PT-7-35-36	Gray silty fine to medium Sand with occasional shell fragments	NS	0	
6					PT-7-36-37				
7					PT-7-37-38				
8					PT-7-38-39				
9					PT-7-39-40				
10									

## SEDIMENT CORING LOG

CORING LOCATION: PT-7

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 14, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 10.5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 40.5	<b>Latitude:</b> N 47° 58' 37.456"
<b>Mudline Elevation (feet MLLW):</b> -30	<b>Longitude:</b> W 122° 13' 30.776"
<b>Total Coring Depth (feet MLLW):</b> -45	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10		SM	SM	100	PT-7-40-41	Gray silty fine to medium sand with occasional shell fragments	NS	0	
11					----- PT-7-41-42				
12					----- PT-7-42-43				
13					----- PT-7-43-44				
14					----- PT-7-44-45				
15									

## SEDIMENT CORING LOG

CORING LOCATION: **PT-8**

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 12, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 11	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 34.25	<b>Latitude:</b> N 47 ° 58' 36.806"
<b>Mudline Elevation (feet MLLW):</b> -23.25	<b>Longitude:</b> W 122 ° 13' 30.297"
<b>Total Coring Depth (feet MLLW):</b> -45.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		SM	SM	100	PT-8-23.25-24	Gray silty fine to medium sand with wood debris (sawdust)	NS	40	
		WD	WD		PT-8-24-25	Dark brown wood debris (sawdust) with sand	NS	90	
1					Discard				
2				20		N/A			Core rejected due to insufficient recovery. Refer core log of PT-108.
3									
4									
5									
6									
7		SP-SM	SP-SM	100	PT-8-30.25-31	Gray fine to medium sand with silt	NS	0	
8					PT-8-31-32				
9					PT-8-32-33				
10					PT-8-33-34				

## SEDIMENT CORING LOG

CORING LOCATION: PT-8

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 12, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 11	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 34.25	<b>Latitude:</b> N 47 ° 58' 36.806"
<b>Mudline Elevation (feet MLLW):</b> -23.25	<b>Longitude:</b> W 122 ° 13' 30.297"
<b>Total Coring Depth (feet MLLW):</b> -45.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10		SP-SM	SP-SM		PT-8-33-34	Gray fine to medium sand with silt	NS	0	
11					PT-8-34-35				
12					PT-8-35-36				
13		SP-SM	SP-SM	100	PT-8-35-36	Gray fine to medium sand with silt and occasional shell fragments	NS	0	
14					PT-8-36-37				
15					PT-8-37-38				
16					PT-8-38-39				
17					PT-8-39-40				
18					PT-8-40-41				
19		SP-SM	SP-SM	100	PT-8-40-41	Gray fine to medium sand with silt and occasional shell fragments	NS	0	
20					PT-8-41-42				
					PT-8-42-43				
					PT-8-43-44				

**SEDIMENT CORING LOG**

**CORING LOCATION: PT-8**

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 12, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 11	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 34.25	<b>Latitude:</b> N 47 ° 58' 36.806"
<b>Mudline Elevation (feet MLLW):</b> -23.25	<b>Longitude:</b> W 122 ° 13' 30.297"
<b>Total Coring Depth (feet MLLW):</b> -45.25	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
20		SP-SM	SP-SM		PT-8-43-44	Gray fine to medium sand with silt and occasional shell fragments	NS	0	
21					PT-8-44-45				
22					Discard				

DRAFT

## SEDIMENT CORING LOG

CORING LOCATION: PT-108

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 16, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 31	<b>Latitude:</b> N 47° 58' 36.783"
<b>Mudline Elevation (feet MLLW):</b> -22	<b>Longitude:</b> W 122° 13' 30.543"
<b>Total Coring Depth (feet MLLW):</b> -30	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0									Top 3 feet were water jetted to get to the desired sampling depth of 3 feet bml.
1									
2									
3		ML	ML	80	PT-108-25-26	Gray silt with wood debris (wood chips)	NS	20	
4					PT-108-26-27				
5					PT-108-27-28				
6		WD			PT-108-28-29	Dark brown to gray wood debris (sawdust 60%, wood chips 25 % and dimensional lumber 5%)	NS	90	
7			WD		PT-108-29-30				
8									
9									
10									

## SEDIMENT CORING LOG

CORING LOCATION: PT-9

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 12, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 5.5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 34	<b>Latitude:</b> N 47° 58' 36.772"
<b>Mudline Elevation (feet MLLW):</b> -28.5	<b>Longitude:</b> W 122° 13' 29.631"
<b>Total Coring Depth (feet MLLW):</b> -48.5	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATIO N	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0				50					Core rejected due to insufficient recovery
1									
2									
3									
4									
5		SP-SM	SP-SM	100	PT-9-33.5-34	Gray fine to medium sand with silt	NS	0	
6					PT-9-34-35				
7					PT-9-35-36				
8		SP-SM	SP-SM		PT-9-36-37	Gray fine to medium sand with silt with occasional shell fragments			
9					PT-9-37-38				
10					PT-9-38-39				



## SEDIMENT CORING LOG

CORING LOCATION: PT-9

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 12, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 5.5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 34	<b>Latitude:</b> N 47° 58' 36.772"
<b>Mudline Elevation (feet MLLW):</b> -28.5	<b>Longitude:</b> W 122° 13' 29.631"
<b>Total Coring Depth (feet MLLW):</b> -48.5	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10		SP-SM	SP-SM	100	PT-9-38-39	Gray fine to medium sand with silt	NS	0	
11	PT-9-39-40								
12	PT-9-40-41								
13	PT-9-41-42								
14	PT-9-42-43								
15	PT-9-43-44								
16	PT-9-43-44				SP-SM				
17	PT-9-44-45								
18	PT-9-45-46								
19	PT-9-46-47								
20	PT-9-47-48								
21	Discard								

## SEDIMENT CORING LOG

CORING LOCATION: PT-109

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 12, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 5.5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 34	<b>Latitude:</b> N 47° 58' 36.737"
<b>Mudline Elevation (feet MLLW):</b> -28.5	<b>Longitude:</b> W 122° 13' 29.649"
<b>Total Coring Depth (feet MLLW):</b> -48.5	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		SP-SM	SP-SM	96	PT-9-28.5-29	Gray fine to medium sand with silt, occasional wood debris (wood chips) and gravel	NS	<5	Initial core between 0 to 5 feet bml was rejected due to insufficient (50%) recovery. At the same location, second core was completed which achieved 96% recovery. Second core was accepted, logged and used to collect samples.
1		SP-SM	SP-SM		PT-9-29-30	Gray fine to medium sand with silt	NS	0	
2					PT-9-30-31				
3					PT-9-31-32				
4					PT-9-32-33				
5					PT-9-33-33.5				
6									
7									
8									
9									
10									

## SEDIMENT CORING LOG

CORING LOCATION: PT-10

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 14, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 10.5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 39.5	<b>Latitude:</b> N 47° 58' 37.039"
<b>Mudline Elevation (feet MLLW):</b> -29	<b>Longitude:</b> W 122° 13' 33.906"
<b>Total Coring Depth (feet MLLW):</b> -44	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		ML + WD	ML + WD	100	PT-10-29-30	Dr. Brown to gray silt with wood debris (sawdust 30%, wood chips 15%, dimensional lumber 5%)	NS	50	
1				-----	PT-10-30-31				
2				-----	PT-10-31-32				
3				-----	PT-10-32-33				
4				-----	PT-10-33-34				
5		SM	SM	90	PT-10-34-35	Gray silty fine to medium sand with wood debris (wood chips and dimensional lumber)	NS	20	
6				-----	PT-10-35-36				
7				-----	PT-10-36-37				
8		SP-SM	SP-SM		PT-10-37-38	Gray fine to medium sand with silt and occasional shell fragments	NS	0	
9				-----	PT-10-38-39				
10									

## SEDIMENT CORING LOG

CORING LOCATION: PT-10

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 14, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 10.5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 39.5	<b>Latitude:</b> N 47° 58' 37.039"
<b>Mudline Elevation (feet MLLW):</b> -29	<b>Longitude:</b> W 122° 13' 33.906"
<b>Total Coring Depth (feet MLLW):</b> -44	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10		SM	SM	100		Gray silty fine to medium sand with occasional shell fragments	NS	0	
11					PT-10-38-39				
12					PT-10-38-39				
13					PT-10-38-39				
14					PT-10-38-39				
15									

## SEDIMENT CORING LOG

CORING LOCATION: PT-11

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 15, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9.75	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 29.75	<b>Latitude:</b> N 47° 58' 36.822"
<b>Mudline Elevation (feet MLLW):</b> -20	<b>Longitude:</b> W 122° 13' 32.695"
<b>Total Coring Depth (feet MLLW):</b> -40	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0		ML + WD	ML + WD	100	PT-11-20-21	Gray silt and wood debris (sawdust 30%, wood chips 15% and dimensional lumber 5%)	NS	50	
1					PT-11-21-22				
2					PT-11-22-23				
3		WD	WD		PT-11-23-24	Dark brown wood debris (sawdust 90% and wood chips 10%)	MS	100	
4					PT-11-24-25				
5		WD	WD	100	PT-11-25-26	Dark brown wood debris (sawdust 90% and wood chips 10%)	SS	100	
6					PT-11-26-27				
7					PT-11-27-28				
8					PT-11-28-29		MS	100	
9		SM	SM		PT-11-29-30	Gray silty fine to medium sand with wood debris (wood chips)	NS	15	
10									

## SEDIMENT CORING LOG

CORING LOCATION: PT-11

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 15, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9.75	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 29.75	<b>Latitude:</b> N 47° 58' 36.822"
<b>Mudline Elevation (feet MLLW):</b> -20	<b>Longitude:</b> W 122° 13' 32.695"
<b>Total Coring Depth (feet MLLW):</b> -40	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
10		SM	SM	100	PT-11-30-31	Gray silty fine to medium sand with wood debris (wood chips)	NS	<5	
11		SM	SM		PT-11-31-32	Gray silty fine to medium sand with occasional shell fragments	NS	0	
12					PT-11-32-33				
13					PT-11-33-34				
14					PT-11-34-35				
15		SM	SM	100	PT-11-35-36	Gray silty fine to medium sand with occasional shell fragments	NS	0	
16					PT-11-36-37				
17					PT-11-37-38				
18					PT-11-38-39				
19					PT-11-39-40				
20									

## SEDIMENT CORING LOG

CORING LOCATION: PT-12

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 15, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 8	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 22	<b>Latitude:</b> N 47° 58' 36.577"
<b>Mudline Elevation (feet MLLW):</b> -14	<b>Longitude:</b> W 122° 13' 31.431"
<b>Total Coring Depth (feet MLLW):</b> -39	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN					
0		WD	WD	100	PT-12-14-15 Dark brown to gray wood debris (sawdust 40%, wood chips 45% and dimensional lumber 5%)	NS	90	
1					PT-12-15-16			
2					PT-12-16-17			
3					PT-12-17-18	NS	90	
4					PT-12-18-19	NS	100	
5				20				Core rejected due to insufficient recovery. Refer core log of PT-112
6								
7								
8								
9								
10								

## SEDIMENT CORING LOG

CORING LOCATION: PT-12

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 15, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 8	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 22	<b>Latitude:</b> N 47° 58' 36.577"
<b>Mudline Elevation (feet MLLW):</b> -14	<b>Longitude:</b> W 122° 13' 31.431"
<b>Total Coring Depth (feet MLLW):</b> -39	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS	
		FEET RECOVERED	FEET DRIVEN						
10		WD	WD	80	PT-12-24-25	Light brown wood debris (wood chips)	NS	100	
11		WD	WD		PT-12-25-26	Dark brown to gray wood debris (sawdust 70% and wood chips 20%)	NS	90	
12					PT-12-26-27				
13					PT-12-27-28				
14					PT-12-28-29				
15									
16		WD	WD	100	PT-12-29-30	Dark brown to gray wood debris (sawdust 70% and wood chips 20%)	NS	90	
17		SM	SM		PT-12-30-31	Gray silty fine to medium sand with wood debris	NS	10	
18					PT-12-31-32				
19					PT-12-32-33				
20					PT-12-33-34				



## SEDIMENT CORING LOG

CORING LOCATION: PT-12

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 15, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 8	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 22	<b>Latitude:</b> N 47° 58' 36.577"
<b>Mudline Elevation (feet MLLW):</b> -14	<b>Longitude:</b> W 122° 13' 31.431"
<b>Total Coring Depth (feet MLLW):</b> -39	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN					
20		SM	SM	100	PT-12-34-35 Gray silty fine to medium sand with occasional shell fragments	NS	0	
21					PT-12-35-36			
22					PT-12-36-37			
23					PT-12-37-38			
24					PT-12-38-39			
25								

# SEDIMENT CORING LOG

CORING LOCATION: PT-112

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 16, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 9.5	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 24	<b>Latitude:</b> N 47° 58' 36.605"
<b>Mudline Elevation (feet MLLW):</b> -14.5	<b>Longitude:</b> W 122° 13' 31.454"
<b>Total Coring Depth (feet MLLW):</b> -24	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN						
0									Top 4.5 feet were water jetted to get to the desired sampling depth of 3 feet bml.
1									
2									
3									
4									
5		WD + ML	WD + ML	100	PT-112-19-20	Dark brown to gray silt and wood debris	NS	50	
6		WD	WD		PT-112-20-21	Dark brown wood debris (sawdust 70%, wood chips 20% and dimensional lumber 5%)	NS	95	
7					PT-112-21-22				
8					PT-112-22-23				
9					PT-112-23-24				
10									

# SEDIMENT CORING LOG

CORING LOCATION: **PT-13**

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 15, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 10.75	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 26.75	<b>Latitude:</b> N 47° 58' 36.314"
<b>Mudline Elevation (feet MLLW):</b> -16	<b>Longitude:</b> W 122° 13' 30.222"
<b>Total Coring Depth (feet MLLW):</b> -36	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN					
0		SM + WD	SM + WD	80	PT-13-16-17 Dark brown to gray silty fine to medium sand and wood debris (wood chips)	NS	50	
1					PT-13-17-18			
2					PT-13-18-19			
3		WD			PT-13-19-20 Reddish brown sawdust 80% and wood chips 10% w/ trace silt	NS	95	
4			WD		PT-13-20-21			
5								
6		WD	WD	90	PT-13-21-22 Dark brown wood debris (sawdust 45%, wood chips 40% and dimensional lumber 5%) with trace silt	NS	95	
7		SM	SM		PT-13-22-23 Gray silty fine to medium sand with occasional wood debris (wood chips)	NS	<5	
8		SM	SM		PT-13-23-24 Gray silty fine to medium sand with occasional shell fragments	NS	0	
9					PT-13-24-25			
10					PT-13-25-26			

## SEDIMENT CORING LOG

CORING LOCATION: **PT-13**

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 15, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 10.75	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 26.75	<b>Latitude:</b> N 47° 58' 36.314"
<b>Mudline Elevation (feet MLLW):</b> -16	<b>Longitude:</b> W 122° 13' 30.222"
<b>Total Coring Depth (feet MLLW):</b> -36	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN					
10		SM	SM	100	PT-13-26-27 Gray silty fine to medium sand with occasional shell fragments	NS	0	
11					PT-13-27-28			
12					PT-13-28-29			
13					PT-13-29-30			
14					PT-13-30-31			
15		SM	SM		PT-13-31-32 Gray silty fine to medium sand with occasional shell fragments	NS	0	
16					PT-13-32-33			
17		WD	WD		Light brown wood chips with silty sand	NS	80	
17		SM	SM		PT-13-33-34 Gray silty fine to medium sand with occasional shell fragments	NS	0	
18					PT-13-34-35			
19					PT-13-35-36			
20								

## SEDIMENT CORING LOG

CORING LOCATION: PT-14

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 15, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 10	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 28	<b>Latitude:</b> N 47° 58' 36.278"
<b>Mudline Elevation (feet MLLW):</b> -18	<b>Longitude:</b> W 122° 13' 29.604"
<b>Total Coring Depth (feet MLLW):</b> -38	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN					
0		SM	SM	100	PT-14-18-19	NS	20	
1					PT-14-19-20			
2		ML	ML		PT-14-20-21	NS	5	
3					PT-14-21-22			
4		SM	SM		PT-14-22-23	NS	<10	
5		SM	SM	96	PT-14-23-24	NS	<5	
6					PT-14-24-25			
7					PT-14-25-26			
8					PT-14-26-27			A piece of wood debris observed
9					PT-14-27-28			
10								

## SEDIMENT CORING LOG

CORING LOCATION: PT-14

<b>Project Name:</b> Weyerhaeuser Mill A Former Cleanup Site, Everett, Washington	
<b>GeoEngineers, Inc. Project Number:</b> 0676-020-03	
<b>Date:</b> January 15, 2015	<b>Coring Performed By:</b> Cascade Drilling, L.P.
<b>Water Surface Elevation (feet MLLW):</b> 10	<b>Coring Method:</b> Sonic (Barge Mounted)
<b>Depth of Water Column (feet):</b> 28	<b>Latitude:</b> N 47° 58' 36.278"
<b>Mudline Elevation (feet MLLW):</b> -18	<b>Longitude:</b> W 122° 13' 29.604"
<b>Total Coring Depth (feet MLLW):</b> -38	<b>Horizontal Datum:</b> Geographic NAD83

Depth Below Mudline (ft)	Scale	GROUP	CLASSIFICATION	Recovery (%)	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
		FEET RECOVERED	FEET DRIVEN					
10		SM	SM	100	PT-14-28-29	NS	0	
11					PT-14-29-30			
12					PT-14-30-31			
13					PT-14-31-32			
14					PT-14-32-33			
15		SM	SM	100	PT-14-33-34	NS	0	
16					PT-14-34-35			
17					PT-14-35-36			
18					PT-14-36-37			
19					PT-14-37-38			
20								

Start Drilled 10/24/2018	End 10/24/2018	Total Depth (m) 0.18	Logged By Checked By RST RCL	Driller Gravity Marine Service	Drilling Method Power Grab
Mudline Elevation (ft) -34.5	Vertical Datum MLLW	Drilling Equipment Research Vessel Mazama			
Easting (X) Northing (Y) 1298112.24 358063.72	Horizontal Datum WA State Plane, North NAD83 (feet)	<u>Surface Water</u>	<u>Time Measured</u>	<u>Depth to Mudline (ft)</u>	<u>Water Elevation (ft)</u>
Notes:		10:20:00 AM	38.7	4.2	

Depth (meters)	FIELD DATA			Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Interval	Recovered %	Collected Sample Sample Name Testing						
0.0	100		ST-101S 0-10 CA		SM	Dark gray silty fine sand with occasional shell fragments	NS	0%	Moderate H <sub>2</sub> S odor, trace organics (roots)
0.1					SP-SM	Gray fine to medium sand with silt and occasional shell fragments			

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-101S



Project: Weyerhaeuser Mill South Terminal  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-16  
 Sheet 1 of 1

Start Drilled 10/24/2018	End 10/24/2018	Total Depth (m) 0.17	Logged By Checked By RST RCL	Driller Gravity Marine Service	Drilling Method Power Grab
Mudline Elevation (ft) -16.8	Vertical Datum MLLW	Drilling Equipment Research Vessel Mazama			
Easting (X) Northing (Y) 1298109.15 358013.67	Horizontal Datum WA State Plane, North NAD83 (feet)	<u>Surface Water</u>	<u>Time Measured</u>	<u>Depth to Mudline (ft)</u>	<u>Water Elevation (ft)</u>
Notes:		11:00:00 AM	20.6	3.8	

Depth (meters)	FIELD DATA				Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Interval	Recovered %	Collected Sample	Sample Name Testing						
0.0		100		ST-102S 0-10 CA		SM	Gray silty fine sand	NS	0%	Slight H <sub>2</sub> S odor
0.1						SP	Black fine to medium sand			

DRAFT

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-102S



Project: Weyerhaeuser Mill South Terminal  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-17  
Sheet 1 of 1



Start Drilled 10/24/2018	End 10/24/2018	Total Depth (m) 0.18	Logged By Checked By RST RCL	Driller Gravity Marine Service	Drilling Method Power Grab
Mudline Elevation (ft) -13.1	Vertical Datum MLLW	Drilling Equipment Research Vessel Mazama			
Easting (X) Northing (Y) 1298182.18 358040.1	Horizontal Datum WA State Plane, North NAD83 (feet)	<u>Surface Water</u> Time Measured 11:30:00 AM	Depth to Mudline (ft) 16.8	Water Elevation (ft) 3.7	
Notes:					

Depth (meters)	FIELD DATA				Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Interval	Recovered %	Collected Sample	Sample Name Testing						
0.0	100		ST-103S 0-10 CA		SM	Gray silty fine to medium sand with shell fragments	NS	0%	Slight H <sub>2</sub> S odor	
0.1					SP	Dark gray fine to medium sand with shell fragments				

DRAFT

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-103S



Project: Weyerhaeuser Mill South Terminal  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-18  
Sheet 1 of 1


Start Drilled 10/24/2018	End 10/24/2018	Total Depth (m) 0.16	Logged By Checked By RST RCL	Driller Gravity Marine Service	Drilling Method Power Grab
Mudline Elevation (ft) -14.7		Vertical Datum MLLW		Drilling Equipment Research Vessel Mazama	
Easting (X) 1298256.99 Northing (Y) 358075.83		Horizontal Datum WA State Plane, North NAD83 (feet)		Surface Water	
Notes:		Time Measured 12:20:00 PM		Depth to Mudline (ft) 18.9 Water Elevation (ft) 4.2	

Depth (meters)	FIELD DATA				Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Interval	Recovered %	Collected Sample	Sample Name Testing						
0.0	100		ST-104S 0-10 CA		SM	Gray silty fine to medium sand	NS	0%	Slight H <sub>2</sub> S odor	
0.1					SP	Dark gray fine to medium sand				

DRAFT

Note: See Figure A-1 for explanation of symbols.

Redmond: Date: 2/19/19 Path: P:\0676020\GINT\067602006.GPJ DBTemplate\LibTemplate\GEOENGINEERS8\_GDT\GE18\_ENVIRONMENTAL\_STANDARD

<b>Log of Boring ST-104S</b>		
	Project: Weyerhaeuser Mill South Terminal Project Location: Everett, Washington Project Number: 0676-020-06	Figure A-19 Sheet 1 of 1

Drilled	Start 10/24/2018	End 10/24/2018	Total Depth (m)	0.16	Logged By Checked By	RST RCL	Driller	Gravity Marine Service	Drilling Method	Power Grab	
Mudline Elevation (ft)			-33.1		Vertical Datum		MLLW		Drilling Equipment	Research Vessel Mazama	
Easting (X) Northing (Y)		1298270.41 358164.97		Horizontal Datum		WA State Plane, North NAD83 (feet)		Surface Water		Depth to Mudline (ft)	Water Elevation (ft)
Notes:								Time Measured	1:40:00 PM	38.7	5.6

Depth (meters)	FIELD DATA				Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Interval	Recovered %	Collected Sample	Sample Name Testing						
0.0	100		ST-105S 0-10 CA		SM SP	Gray silty fine to medium sand with occasional shell fragments Dark gray fine to medium sand	NS	0%	Moderate H <sub>2</sub> S odor, trace organic (plant debris)	
0.1										

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-105S



Project: Weyerhaeuser Mill South Terminal  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-20  
 Sheet 1 of 1

Start Drilled 10/24/2018	End 10/24/2018	Total Depth (m) 0.17	Logged By Checked By RST RCL	Driller Gravity Marine Service	Drilling Method Power Grab
Mudline Elevation (ft) -18	Vertical Datum MLLW	Drilling Equipment Research Vessel Mazama			
Easting (X) Northing (Y) 1298332.63 358167.01	Horizontal Datum WA State Plane, North NAD83 (feet)	<u>Surface Water</u>	<u>Time Measured</u> 1:45:00 PM	<u>Depth to Mudline (ft)</u> 24.2	<u>Water Elevation (ft)</u> 6.2
Notes:					

Depth (meters)	FIELD DATA			Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Interval	Recovered %	Collected Sample Sample Name Testing						
0.0	100		ST-106S 0-10 CA		SM	Gray silty fine to medium sand with occasional shell fragments	NS	0%	Slight H <sub>2</sub> S odor, trace organic (plant debris)
					SP	Gray fine to medium sand with occasional shell fragments			
0.1					SP	Dark gray medium sand			

DRAFT

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-106S



Project: Weyerhaeuser Mill South Terminal  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-21  
Sheet 1 of 1

Start Drilled 10/24/2018	End 10/24/2018	Total Depth (m) 0.17	Logged By Checked By RST RCL	Driller Gravity Marine Service	Drilling Method Power Grab
Mudline Elevation (ft)	-36.9	Vertical Datum	MLLW	Drilling Equipment	Research Vessel Mazama
Easting (X) Northing (Y)	1298375.88 358297.99	Horizontal Datum	WA State Plane, North NAD83 (feet)	<u>Surface Water</u> Time Measured	Depth to Mudline (ft) Water Elevation (ft)
Notes:				2:50:00 PM	44.8 7.9

FIELD DATA				Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
Depth (meters)	Interval	Recovered %	Collected Sample Sample Name Testing						
0.0		100	ST-107S 0-10 CA		SP-SM	Dark gray fine to medium sand with silt, occasional shell fragments	NS	0%	Heavy H <sub>2</sub> S odor, trace organics (plant debris)
0.1					SP-SM	Dark gray fine to medium sand with silt			

DRAFT

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-107S



Project: Weyerhaeuser Mill South Terminal  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-22  
Sheet 1 of 1

Start Drilled 10/24/2018	End 10/24/2018	Total Depth (m) 0.16	Logged By Checked By RST RCL	Driller Gravity Marine Service	Drilling Method Power Grab
Mudline Elevation (ft) -36.4		Vertical Datum MLLW		Drilling Equipment Research Vessel Mazama	
Easting (X) 1298786.25 Northing (Y) 358792.39		Horizontal Datum WA State Plane, North NAD83 (feet)		Surface Water	
Notes:		Time Measured 3:20:00 PM		Depth to Mudline (ft) 44.9 Water Elevation (ft) 8.5	

Depth (meters)	FIELD DATA				Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Interval	Recovered %	Collected Sample	Sample Name Testing						
0.0	100		ST-108S 0-10 CA		ML	Dark gray to black silt with sand and occasional shell fragments	NS	0%	Moderate H <sub>2</sub> S odor	
0.1										

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-108S



Project: Weyerhaeuser Mill South Terminal  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-23  
Sheet 1 of 1

Drilled	Start 10/24/2018	End 10/24/2018	Total Depth (m)	0.16	Logged By Checked By	RST RCL	Driller	Gravity Marine Service	Drilling Method	Power Grab	
Mudline Elevation (ft)			-33.1		Vertical Datum		MLLW		Drilling Equipment	Research Vessel Mazama	
Easting (X) Northing (Y)		1298815.49 358863.17		Horizontal Datum		WA State Plane, North NAD83 (feet)		Surface Water		Depth to Mudline (ft)	Water Elevation (ft)
Notes:								Time Measured	4:00:00 PM	43.2	10.1

Depth (meters)	FIELD DATA				Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Interval	Recovered %	Collected Sample	Sample Name Testing						
0.0	100			ST-109S 0-10 CA		ML	Dark gray to black silt and sand with shell fragments and wood debris (sawdust and chips)	NS	25%	Moderate H <sub>2</sub> S odor
0.1										

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-109S



Project: Weyerhaeuser Mill South Terminal  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-24  
 Sheet 1 of 1

Start Drilled	10/22/2018	End	10/23/2018	Total Depth (ft)	18	Logged By	RST	Checked By	RCL	Driller	Gravity Marine Service	Drilling Method	Vibracore
Mudline Elevation (ft)	-33.7			Vertical Datum	MLLW			Drilling Equipment	MV Prudhoe Bay				
Easting (X)	1298117.92			Horizontal Datum	WA State Plane, North NAD83 (feet)			Surface Water	Depth to Mudline (ft)	Water Elevation (ft)			
Notes:								Time Measured	9:30:00 AM	37.7	4		

Elevation (feet)	FIELD DATA				Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Depth (feet)	Interval	Recovered %	Collected Sample						
0	0	97			ML	Gray-brown silt with sand and occasional shell fragments and trace wood debris	NS	<1%	<u>DMMU-1A-COMP</u> CA	
			ST-101C 0-0.2				NS	<1%		
			ST-101C 0.2-1.2				NS	<1%	<u>DMMU-1B-COMP</u> CA	
			ST-101C 1.2-2.2				NS	10%		
			ST-101C 2.2-3.2		ML	Gray-brown silt with sand	NS	0%	<u>DMMU-1C-COMP</u> CA	
			ST-101C 3.2-4.2		SP	Gray medium to coarse sand	NS	0%		
			ST-101C 4.2-5.2				NS	0%	<u>DMMU-1D-COMP</u> CA	
			ST-101C 5.2-6.2				NS	0%		
			ST-101C 6.2-7.2				NS	0%	<u>DMMU-1 Keyway and Backslope</u> CA	
			ST-101C 7.2-8.2				NS	0%		
			ST-101C 8.2-9.2				NS	0%	Z-Layer CA	
			ST-101C 9.2-10.2		SM	Gray silty fine to coarse sand	NS	0%		
			ST-101C 10.2-11.2				NS	0%	<u>DMMU-1 Keyway and Backslope</u> CA	
			ST-101C 11.2-12.2				NS	0%		
			ST-101C 12.2-13.2				NS	0%	<u>DMMU-1 Keyway and Backslope</u> CA	
			ST-101C 13.2-14.2		SP	Gray fine to coarse sand with gravel	NS	0%		
			ST-101C 14.2-15.2				NS	0%	<u>DMMU-1 Keyway and Backslope</u> CA	
			ST-101C 15.2-16.2				NS	0%		
			ST-101C 16.2-17.2				NS	0%	<u>DMMU-1 Keyway and Backslope</u> CA	
			ST-101C 17.2-17.5				NS	0%		

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-101C



Project: South Terminal Maintenance Dredge  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-25  
 Sheet 1 of 1



Start Drilled	10/23/2018	End	10/23/2018	Total Depth (ft)	10.5	Logged By	RST	Checked By	RCL	Driller	Gravity Marine Service	Drilling Method	Vibracore
Mudline Elevation (ft)	-15.7			Vertical Datum	MLLW			Drilling Equipment	MV Prudhoe Bay				
Easting (X)	1298107.96			Horizontal Datum	WA State Plane, North NAD83 (feet)			Surface Water	Depth to Mudline (ft)	Water Elevation (ft)			
Notes:				Time Measured	1:00:00 PM			21.1	5.4				

Elevation (feet)	FIELD DATA				Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Depth (feet)	Interval	Recovered %	Collected Sample					
0		91			SP	Gray fine to medium sand with occasional shell fragments	NS	0%	DMMU-1A-COMP CA
			ST-102C 0-1.0				NS	0%	
			ST-102C 1.0-2.0		SM	Dark gray silty fine to medium sand and occasional wood debris (twigs, fibers, chips)	NS	10%	DMMU-1B-COMP CA
			ST-102C 2.0-3.0				NS	10%	
			ST-102C 3.0-4.0				NS	10%	DMMU-1C-COMP CA
5			ST-102C 4.0-5.0				NS	10%	DMMU-1 Keyway and Backslope
			ST-102C 5.0-5.3				NS	10%	
			ST-102C 5.3-6.3				NS	1%	Z-Layer CA
			ST-102C 6.3-7.3 CA		SM	Dark gray silty fine to medium sand	NS	0%	
			ST-102C 7.3-8.3 CA				NS	0%	
10			ST-102C 8.3-9.3		SP	Dark gray fine to medium sand with occasional gravel	NS	0%	
			ST-102C 9.3-10.3						

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-102C



Project: South Terminal Maintenance Dredge  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-26  
 Sheet 1 of 1

Start Drilled	10/23/2018	End	10/23/2018	Total Depth (ft)	18	Logged By	RST	Checked By	RCL	Driller	Gravity Marine Service	Drilling Method	Vibracore	
Mudline Elevation (ft)	-12.9			Vertical Datum	MLLW			Drilling Equipment	MV Prudhoe Bay					
Easting (X)	1298182.102			Horizontal Datum	WA State Plane, North NAD83 (feet)			Surface Water	Time Measured	3:30:00 PM	Depth to Mudline (ft)	22.9	Water Elevation (ft)	10
Notes:														

Elevation (feet)	FIELD DATA				Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Depth (feet)	Interval	Recovered %	Collected Sample						
0	0	75			SP	Gray fine to medium sand with trace shell fragments	NS	<1%	DMMU-1A-COMP CA	
				ST-103C 0-0.7			NS	<1%		
				ST-103C 0.7-1.7			NS	<1%		
				ST-103C 1.7-2.7 CA			NS	<1%		
				ST-103C 2.7-3.7			NS	5%	DMMU-1B-COMP CA	
				ST-103C 3.7-4.7 CA			NS	5%		
				ST-103C 4.7-5.7	SM	Gray-brown silty fine to medium sand and occasional wood debris (twigs, bark, chips)	NS	5%	DMMU-1C-COMP CA	
				ST-103C 5.7-6.7 CA			NS	5%		
				ST-103C 6.7-7.7			NS	10%		
				ST-103C 7.7-8.7 CA			NS	5%	DMMU-1D-COMP CA	
				ST-103C 8.7-9.7	SM	Gray silty fine to medium sand	NS	<1%	DMMU-1E-COMP CA	
				ST-103C 9.7-10.7 CA			NS	<1%		
				ST-103C 10.7-11.7			NS	<1%	DMMU-1F-COMP	
				ST-103C 11.7-12.7 CA			NS	1%		
				ST-103C 12.7-13.7			NS	1%	DMMU-1G-COMP	
				ST-103C 13.7-14.7 CA			NS	<1%		
				ST-103C 14.7-15.7	SP	Gray fine to medium sand with trace gravel	NS	0%	DMMU-1H-COMP	
				ST-103C 15.7-16.7 CA			NS	0%		
				ST-103C 16.7-17.7			NS	0%		

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-103C



Project: South Terminal Maintenance Dredge  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-27  
 Sheet 1 of 1

Redmond: Date: 2/19/19 Path: P:\0676020\GINT\067602006.GPJ DBTemplate\LibTemplate:GEOENGINEERS8\_GDT\GEI8\_ENVIRONMENTAL\_STANDARD

Start Drilled	10/26/2018	End	10/26/2018	Total Depth (ft)	19	Logged By	RST	Checked By	RCL	Driller	Gravity Marine Service	Drilling Method	Vibracore
Mudline Elevation (ft)	-17.1			Vertical Datum	MLLW			Drilling Equipment	MV Prudhoe Bay				
Easting (X)	1298254.73			Horizontal Datum	WA State Plane, North NAD83 (feet)			Surface Water	Depth to Mudline (ft)	Water Elevation (ft)			
Notes:							Time Measured	9:50:00 AM	25.4	8.3			

Elevation (feet)	FIELD DATA				Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Depth (feet)	Interval	Recovered %	Collected Sample Sample Name Testing					
0		96			SP	Gray fine to medium sand with trace shell fragments	NS	0%	DMMU-1A-COMP CA
				ST-104C 0.1-1.1			NS	0%	
				ST-104C 1.1-2.1			NS	0%	DMMU-1B-COMP CA
				ST-104C 2.1-3.1			NS	0%	
				ST-104C 3.1-4.1			NS	0%	DMMU-1C-COMP CA
				ST-104C 4.1-5.1			NS	0%	
				ST-104C 5.1-6.1			NS	0%	DMMU-1D-COMP CA
				ST-104C 6.1-6.7			NS	0%	
				ST-104C 6.7-7.3			NS	0%	DMMU-1 Keyway and Backslope
				ST-104C 7.3-8.3 CA			NS	0%	Z-Layer CA
				ST-104C 8.3-9.3 CA	SM	Gray-brown silty fine to medium sand and occasional wood debris (twigs and chips)	NS	10%	
				ST-104C 9.3-10.3			NS	10%	
				ST-104C 10.3-11.3			NS	5%	
				ST-104C 11.3-12.3			NS	5%	
				ST-104C 12.3-13.3	SP	Gray fine to medium sand	NS	5%	
				ST-104C 13.3-14.3			NS	0%	
				ST-104C 14.3-15.3			NS	0%	
				ST-104C 15.3-16.3			NS	0%	
				ST-104C 16.3-17.3			NS	0%	
				ST-104C 17.3-18.3			NS	0%	

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-104C



Project: South Terminal Maintenance Dredge  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-28  
 Sheet 1 of 1

Start Drilled	10/26/2018	End	10/26/2018	Total Depth (ft)	19	Logged By	RST	Checked By	RCL	Driller	Gravity Marine Service	Drilling Method	Vibracore	
Mudline Elevation (ft)	-34.2			Vertical Datum	MLLW			Drilling Equipment	MV Prudhoe Bay					
Easting (X)	1298269.76			Horizontal Datum	WA State Plane, North NAD83 (feet)			Surface Water	Time Measured	1:00:00 PM	Depth to Mudline (ft)	39.5	Water Elevation (ft)	5.3
Notes:														

Elevation (feet)	FIELD DATA				Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Depth (feet)	Interval	Recovered %	Collected Sample Sample Name Testing					
0	0	100			ML	Dark gray silt with sand and trace wood debris (chips and fibers)	SS	5%	DMMU-1A-COMP CA
			ST-105C 0.2-1.2				SS	5%	
			ST-105C 1.2-2.2				SS	5%	DMMU-1B-COMP CA
			ST-105C 2.2-3.2				SS	5%	
			ST-105C 3.2-4.2		SM	Dark gray silty fine to medium sand and trace wood debris (fibers)	NS	<5%	DMMU-1C-COMP CA
			ST-105C 4.2-5.2				NS	<5%	
			ST-105C 5.2-6.2				NS	<1%	DMMU-1D-COMP CA
			ST-105C 6.2-6.8				NS	<1%	
			ST-105C 6.8-7.8		SM	Gray silty fine to medium sand	NS	0%	DMMU-1 Keyway and Backslope CA
			ST-105C 7.8-8.8				NS	0%	
			ST-105C 8.8-9.8				NS	0%	
			ST-105C 9.8-10.8				NS	0%	
			ST-105C 11-12 CA		SP	Gray fine to coarse sand	NS	0%	Z-Layer CA
			ST-105C 12-13				NS		
			ST-105C 13-14				NS		
			ST-105C 14-15				NS		
			ST-105C 15-16				NS		
			ST-105C 16-17				NS		
			ST-105C 17-18				NS		
			ST-105C 18-19				NS		

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-105C



Project: South Terminal Maintenance Dredge  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-29  
 Sheet 1 of 1

Start Drilled	10/26/2018	End	10/26/2018	Total Depth (ft)	16.1	Logged By	RST	Checked By	RCL	Driller	Gravity Marine Service	Drilling Method	Vibracore
Mudline Elevation (ft)	-20			Vertical Datum	MLLW			Drilling Equipment	MV Prudhoe Bay				
Easting (X)	1298325.12			Horizontal Datum	WA State Plane, North NAD83 (feet)			Surface Water	Time Measured	Depth to Mudline (ft)	Water Elevation (ft)		
Notes:								11:30:00 AM	25.4	5.4			

Elevation (feet)	FIELD DATA				Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Depth (feet)	Interval	Recovered %	Collected Sample Sample Name Testing					
0	75				SP	Dark gray fine to medium sand with trace shell fragments	NS	0%	DMMU-1A-COMP CA
				ST-106C 0.0-0.7			NS	0%	DMMU-1 Keyway and Backslope
				ST-106C 0.7-1.7			NS	0%	
				ST-106C 1.7-2.7			NS	0%	
				ST-106C 2.7-3.1			NS	0%	Z-Layer CA
				ST-106C 3.1-4.1 CA	SM	Dark gray-black silty fine to medium sand with trace shell fragments	NS	0%	
				ST-106C 4.1-5.1 CA			NS	0%	
				ST-106C 5.1-6.1			NS	0%	
				ST-106C 6.1-7.1			NS	0%	
				ST-106C 7.1-8.1	SP	Dark gray fine to medium sand with trace shell fragments	NS	0%	
				ST-106C 8.1-9.1			NS	0%	
				ST-106C 9.1-10.1			NS	0%	
				ST-106C 10.1-11.1			NS	0%	
				ST-106C 11.1-12.1			NS	0%	
				ST-106C 12.1-13.1			NS	0%	
				ST-106C 13.1-14.1			NS	0%	
				ST-106C 14.1-15.1			NS	0%	

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-106C



Project: South Terminal Maintenance Dredge  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-30  
 Sheet 1 of 1

Start Drilled	10/25/2018	End	10/25/2018	Total Depth (ft)	14.3	Logged By	RST	Checked By	RCL	Driller	Gravity Marine Service	Drilling Method	Vibracore
Mudline Elevation (ft)	-36.7			Vertical Datum	MLLW			Drilling Equipment	MV Prudhoe Bay				
Easting (X)	1298372.353			Horizontal Datum	WA State Plane, North NAD83 (feet)			Surface Water	Depth to Mudline (ft)	Water Elevation (ft)			
Notes:				Time Measured	10:30:00 AM			43.2	6.5				

Elevation (feet)	FIELD DATA					MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Depth (feet)	Interval	Recovered %	Collected Sample	Graphic Log				
0		85				SM			DMMU-1A-COMP CA
				ST-107C 0-0.9			NS	0%	
				ST-107C 0.9-1.9			NS	0%	
				ST-107C 1.9-2.9			NS	0%	DMMU-1B-COMP CA
				ST-107C 2.9-3.9			NS	0%	
				ST-107C 3.9-4.2		SP	NS	0%	DMMU-1C-COMP CA
				ST-107C 4.2-5.2 CA			NS	0%	Z-Layer CA
				ST-107C 5.2-6.2			NS	0%	
				ST-107C 6.2-7.2			NS	0%	
				ST-107C 7.2-8.2			NS	0%	
				ST-107C 8.2-9.2			NS	0%	
				ST-107C 9.2-10.2			NS	0%	
				ST-107C 10.2-11.2			NS	0%	
				ST-107C 11.2-12.2			NS	0%	
				ST-107C 12.2-13.2			NS	0%	
				ST-107C 13.2-14.2			NS	0%	

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-107C



Project: South Terminal Maintenance Dredge  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-31  
 Sheet 1 of 1

Start Drilled	10/25/2018	End	10/25/2018	Total Depth (ft)	16	Logged By	RST RCL	Checked By		Driller	Gravity Marine Service	Drilling Method	Vibracore
Mudline Elevation (ft)	-37			Vertical Datum	MLLW			Drilling Equipment	MV Prudhoe Bay				
Easting (X)	1298784.327			Horizontal Datum	WA State Plane, North NAD83 (feet)			Surface Water	Depth to Mudline (ft)	Water Elevation (ft)			
Notes:							Time Measured	4:00:00 PM	45.9	8.9			

Elevation (feet)	FIELD DATA				Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Depth (feet)	Interval	Recovered %	Collected Sample					
0		98			SM	Gray-brown silty fine sand with wood debris (chips, bark)	SS	50%	DMMU-2A-COMP CA
				ST-108C 0.2-1.2	SM	Gray-brown silty fine sand with gravel, wood debris (chips, sawdust) and occasional shell fragments	SS	30%	DMMU-2B-COMP CA
				ST-108C 1.2-2.2		With sulfur nodules	NS	30%	
				ST-108C 2.2-3.2			NS	30%	DMMU-2C-COMP CA
				ST-108C 3.2-4.2			NS	30%	
				ST-108C 4.2-5.2			NS	30%	DMMU-2D-COMP CA Z-Layer CA
				ST-108C 5.2-6.2	SP	Gray fine to medium sand with occasional shell fragments	NS	30%	
				ST-108C 6.2-6.6			NS	0%	
				ST-108C 6.6-7.6 CA			NS	0%	
				ST-108C 7.6-8.6			NS	0%	
				ST-108C 8.6-9.6 CA			NS	0%	
				ST-108C 9.6-10.6			NS	0%	
				ST-108C 10.6-11.6			NS	0%	
				ST-108C 11.6-12.6			NS	0%	
				ST-108C 12.6-13.6			NS	0%	
				ST-108C 13.6-14.6			NS	0%	
				ST-108C 14.6-15.6			NS	0%	

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-108C



Project: South Terminal Maintenance Dredge  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Redmond: Date: 2/19/19 Path: P:\0676020\GINT\067602006.GPJ DBTemplate\LibTemplate\GEOENGINEERS\GDT\GEI8\_ENVIRONMENTAL\_STANDARD

Start Drilled	10/25/2018	End	10/25/2018	Total Depth (ft)	18.3	Logged By	RST	Checked By	RCL	Driller	Gravity Marine Service	Drilling Method	Vibracore
Mudline Elevation (ft)	-28.8			Vertical Datum	MLLW			Drilling Equipment	MV Prudhoe Bay				
Easting (X)	1298854.602			Horizontal Datum	WA State Plane, North NAD83 (feet)			Surface Water	Time Measured	Depth to Mudline (ft)	Water Elevation (ft)		
Notes:								1:45:00 PM	34.3	5.5			

Elevation (feet)	FIELD DATA				Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	Depth (feet)	Interval	Recovered %	Collected Sample Sample Name Testing					
0	0	95			WD	Dark gray-black wood debris (sawdust and chips) with shell hash	MS	75%	DMMU-2A-COMP
				ST-109C 0.4-1.4			MS	75%	
				ST-109C 1.4-2.4			MS	75%	DMMU-2B-COMP
				ST-109C 2.4-3.4			MS	75%	
				ST-109C 3.4-4.4			MS	75%	DMMU-2C-COMP
				ST-109C 4.4-5.4			MS	75%	
				ST-109C 5.4-6.4			MS	75%	DMMU-2D-COMP
				ST-109C 6.4-7.4		Gray silt with shell fragments and wood debris	NS	50%	
				ST-109C 7.4-8.3	ML		NS	30%	Z-Layer CA
				ST-109C 8.3-9.3 CA	SM	Gray silty fine to medium sand	NS	0%	
				ST-109C 9.3-10.3			NS	0%	
				ST-109C 10.3-11.3 CA			NS	0%	
				ST-109C 11.3-12.3			NS	0%	
				ST-109C 12.3-13.3			NS	0%	
				ST-109C 13.3-14.3			NS	0%	
				ST-109C 14.3-15.3			NS	0%	
				ST-109C 15.3-16.3			NS	0%	
				ST-109C 16.3-17.3			NS	0%	
				ST-109C 17.3-18.3			NS	0%	

Note: See Figure A-1 for explanation of symbols.

### Log of Boring ST-109C



Project: South Terminal Maintenance Dredge  
 Project Location: Everett, Washington  
 Project Number: 0676-020-06

Figure A-33  
 Sheet 1 of 1

Redmond: Date: 2/19/19 Path: P:\0676020\GINT\067602006.GPJ DBTTemplate\LibTemplate\GEOENGINEERS8\_GDT\GEI8\_ENVIRONMENTAL\_STANDARD