APPENDIX I
Previous Environmental Study Exploration Logs

Geomatrix

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%2/0%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%2/0%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**

Maximum depth of retained sediment: 8.1 ft

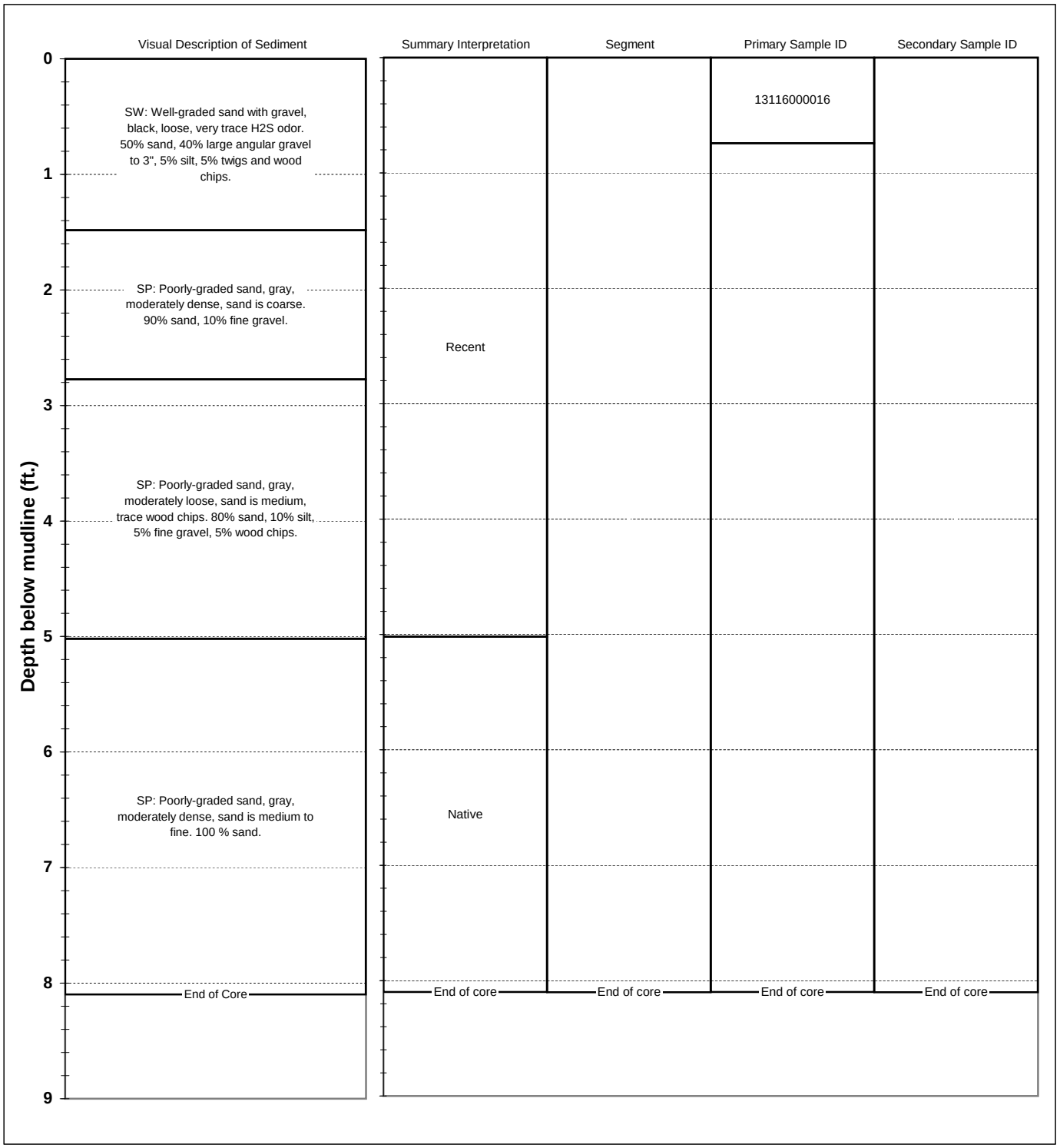
Mudline elevation: -0.7 **ft MLLW**

Percent recovery (on-deck): 61%

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

Field Log: NPB

Summary Log: RHG



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File name: ST-1rhg.xls
Summary Core Log

Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-2**

Maximum depth of retained sediment: 14.1 ft

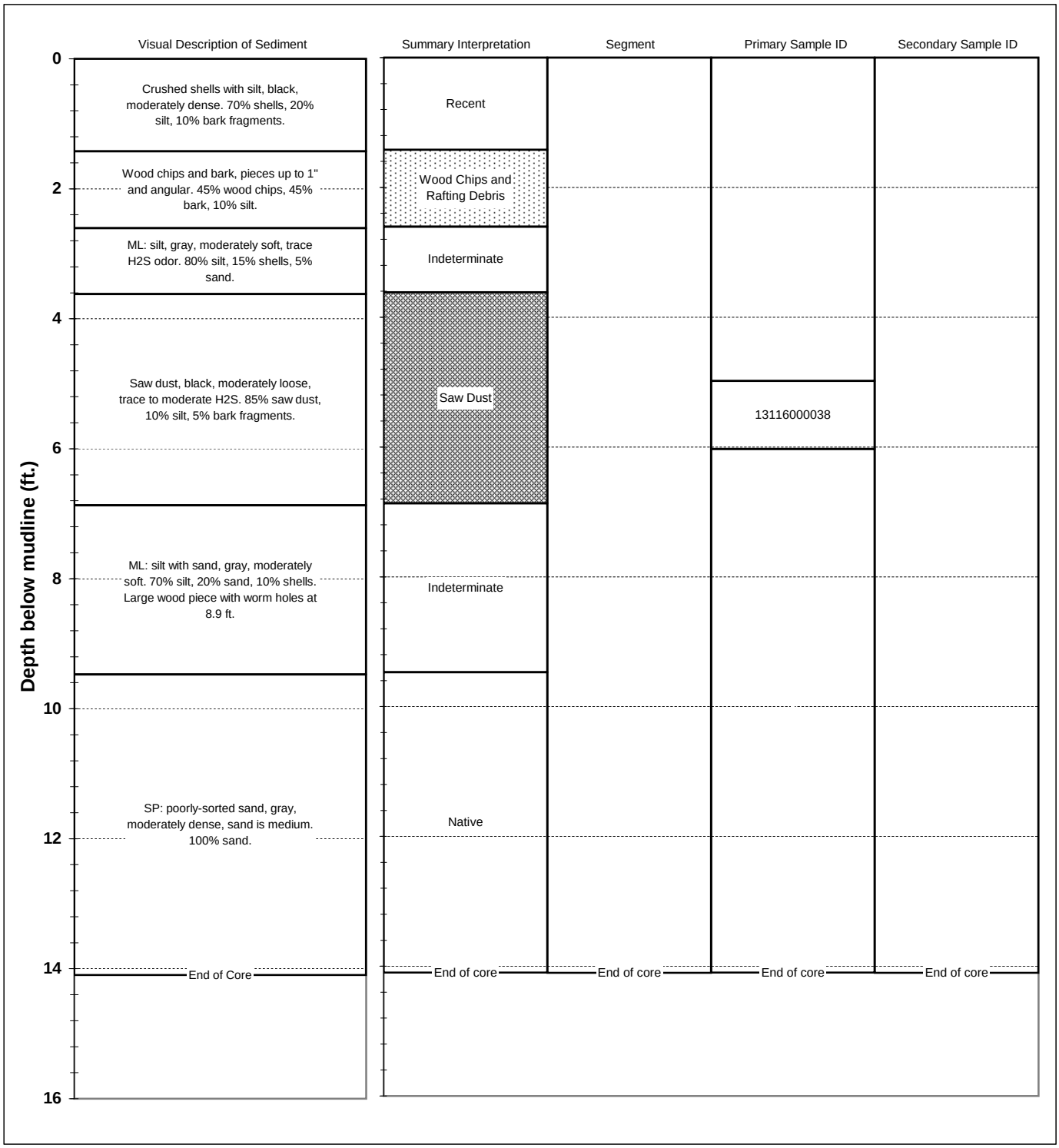
Mudline elevation: -31.0 **ft MLLW**

Percent recovery (on-deck): 92%

	Core collection	Laboratory processing
Date:	5/14/2007	5/14/2007
Time:	8:36	14:00

Field Log: NPB

Summary Log: RHG



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

Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-3

Maximum depth of retained sediment: 17.7 ft

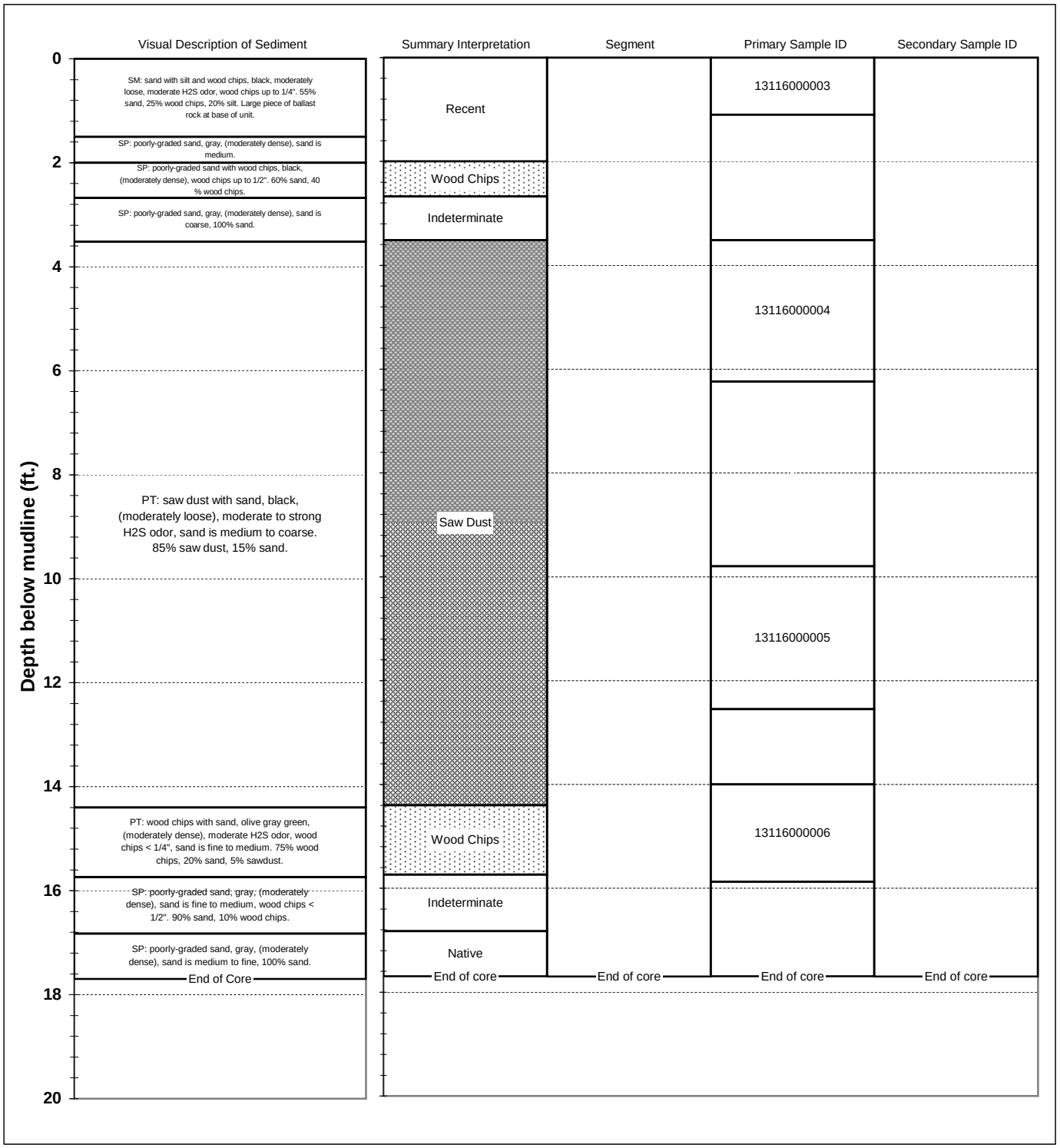
Mudline elevation: -5.4 **ft MLLW**

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



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File name: ST-3rhg.xls
Summary Core Log

Mudmole™ Core Summary Log

Project: Port of Everett

Station: ST-5

Maximum depth of retained sediment: 20.2 ft

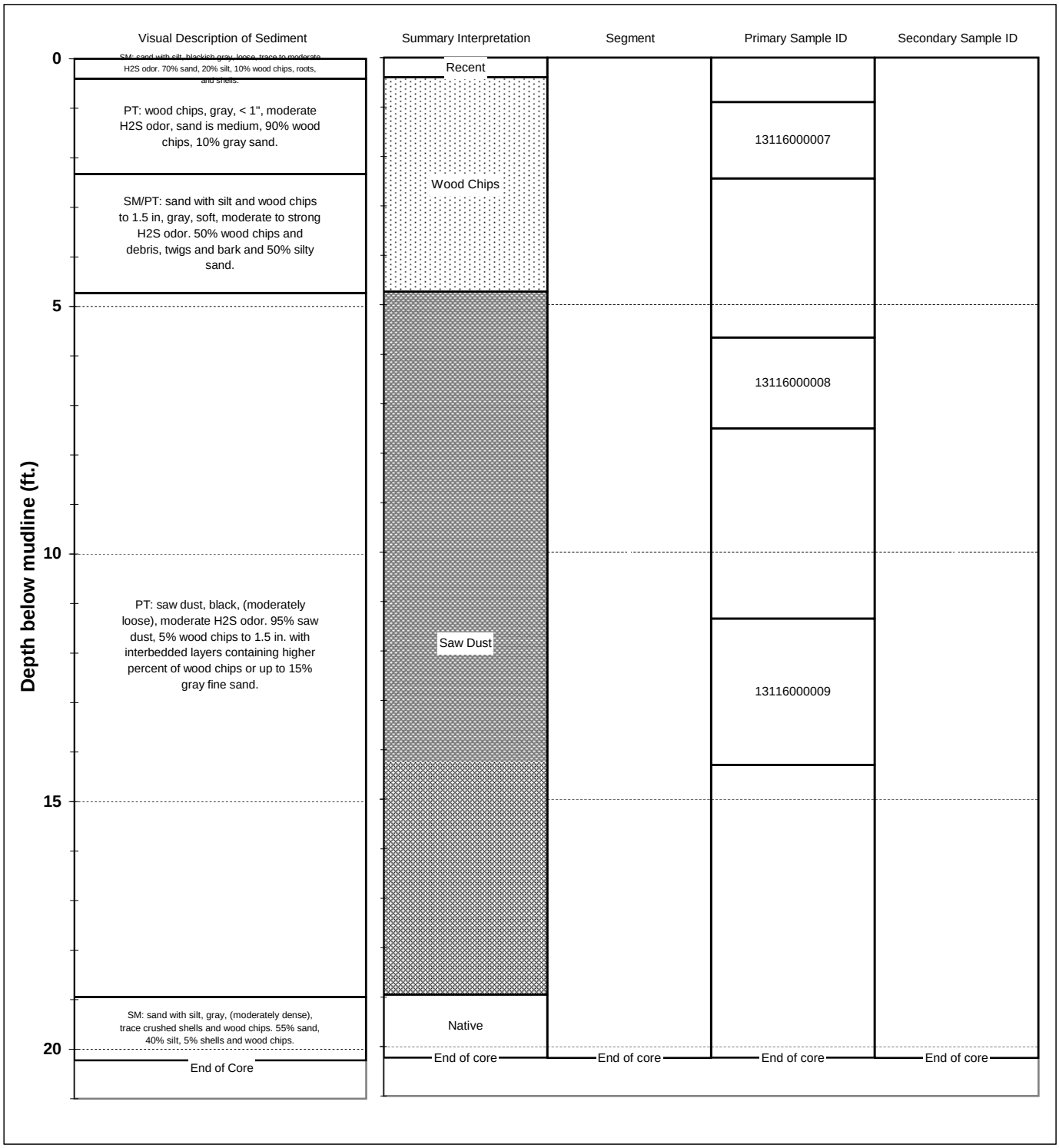
Mudline elevation: -11.4 **ft MLLW**

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



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-6**

Maximum depth of retained sediment: 11.9 ft

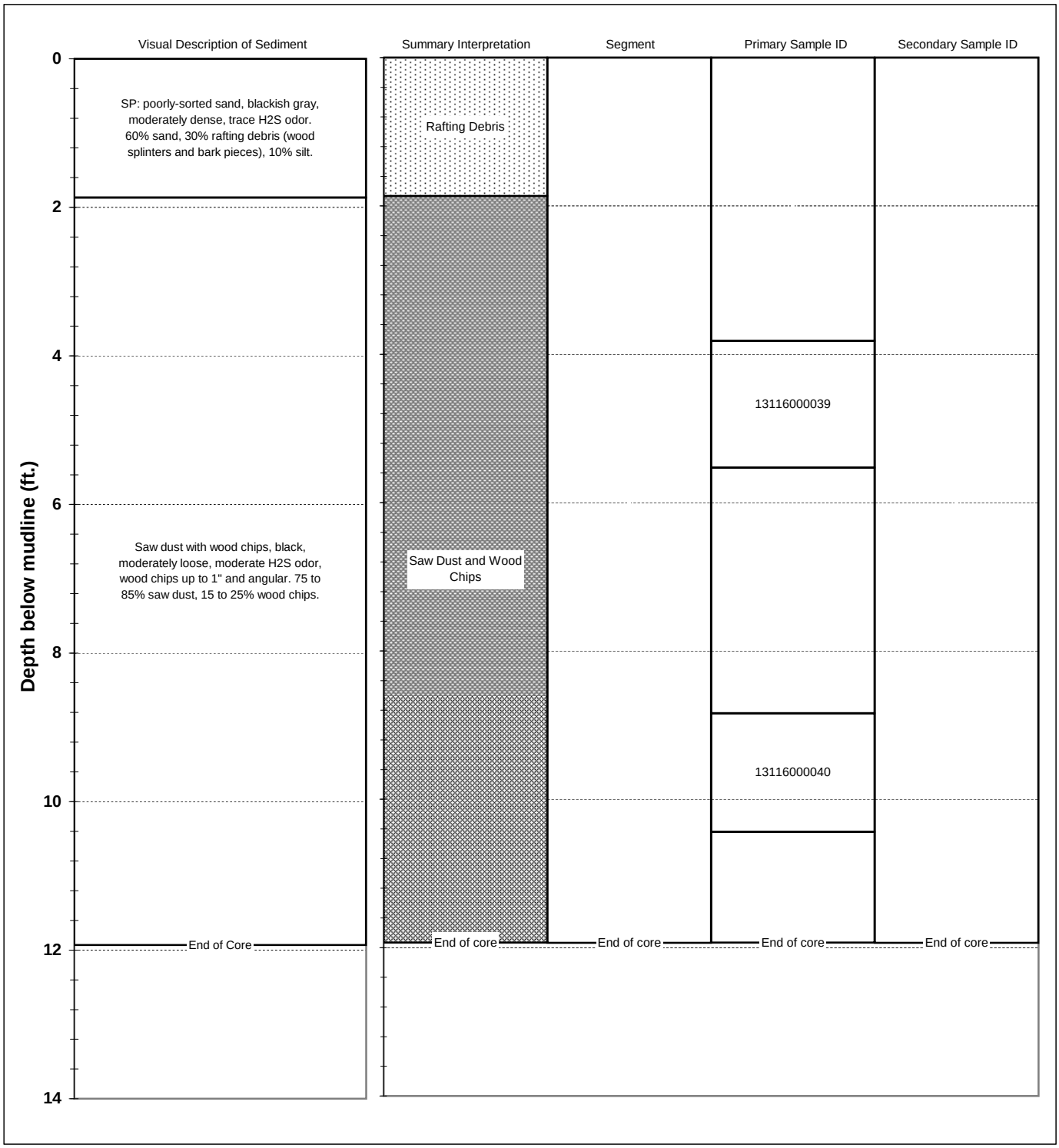
Mudline elevation: -4.8 **ft MLLW**

Percent recovery (on-deck): 56%

	Core collection	Laboratory processing
Date:	5/14/2007	5/14/2007
Time:	13:58	14:50

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-8**

Maximum depth of retained sediment: 20.0 ft

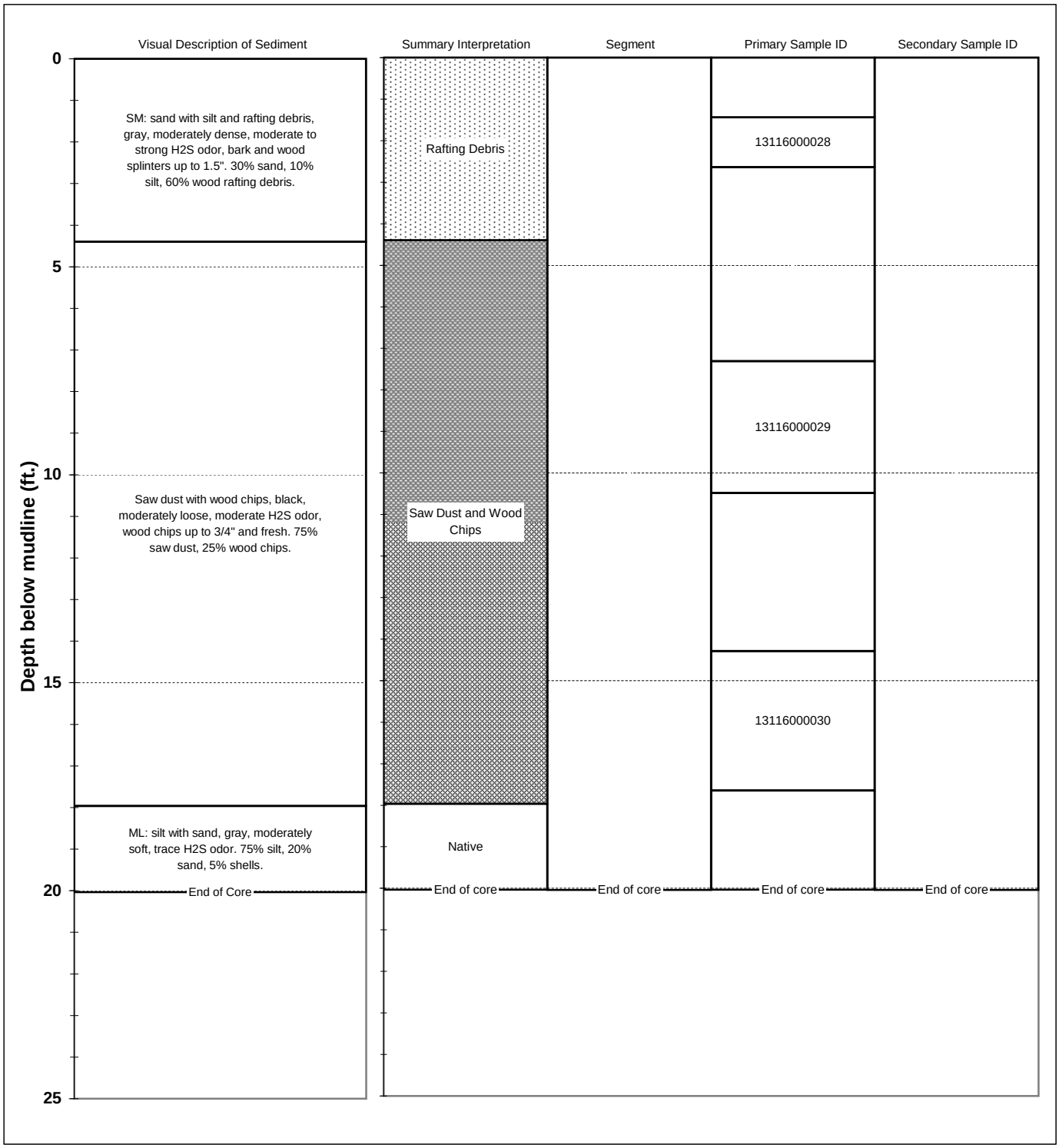
Mudline elevation: -12.1 **ft MLLW**

Percent recovery (on-deck): 43%

	Core collection	Laboratory processing
Date:	5/11/2007	5/11/2007
Time:	13:10	14:10

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-9**

Maximum depth of retained sediment: 20.3 ft

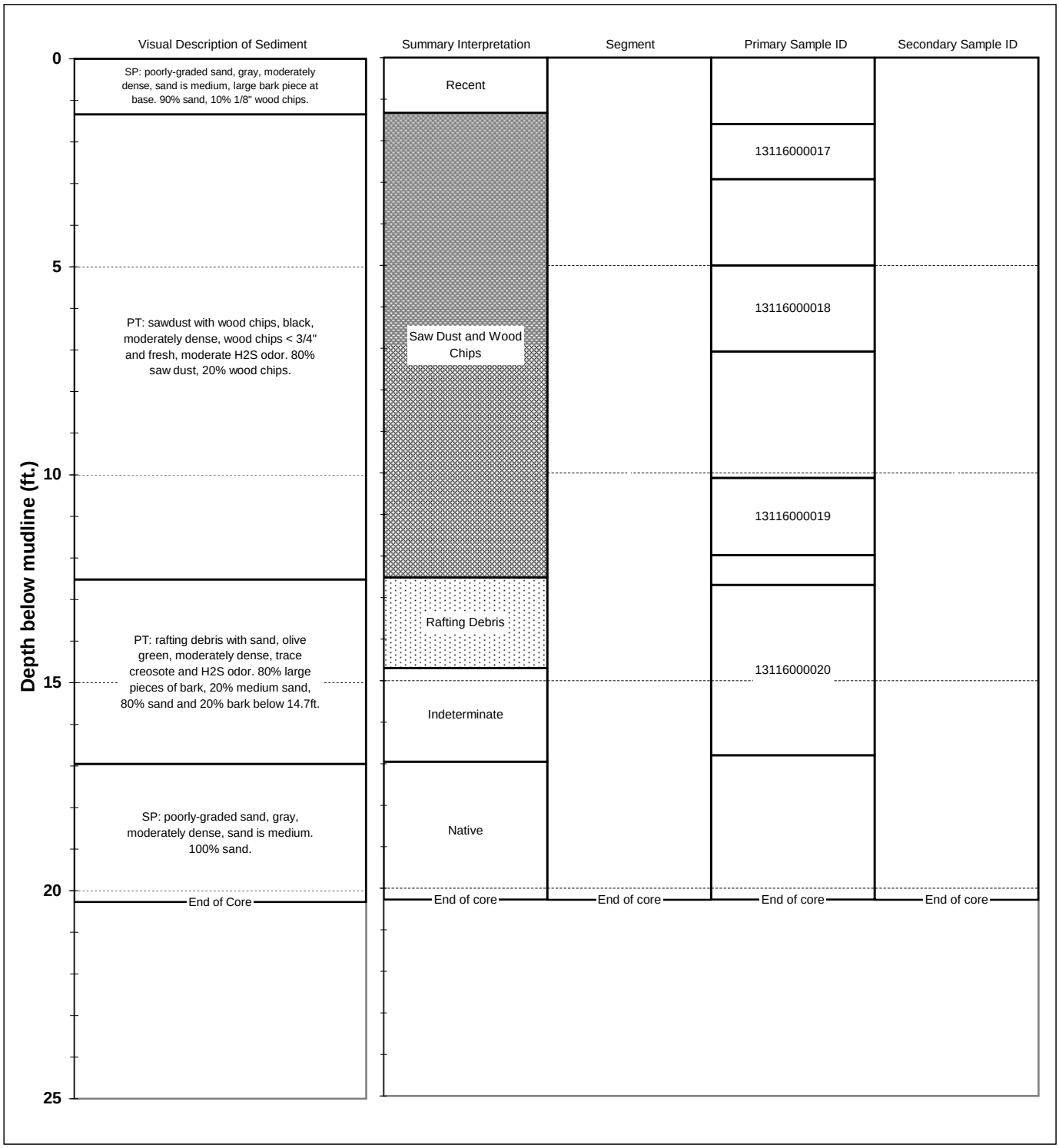
Mudline elevation: -6.1 **ft MLLW**

Percent recovery (on-deck): 54%

	Core collection	Laboratory processing
Date:	5/8/2007	5/8/2007
Time:	9:59	11:00

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-11**

Maximum depth of retained sediment: 20.3 ft

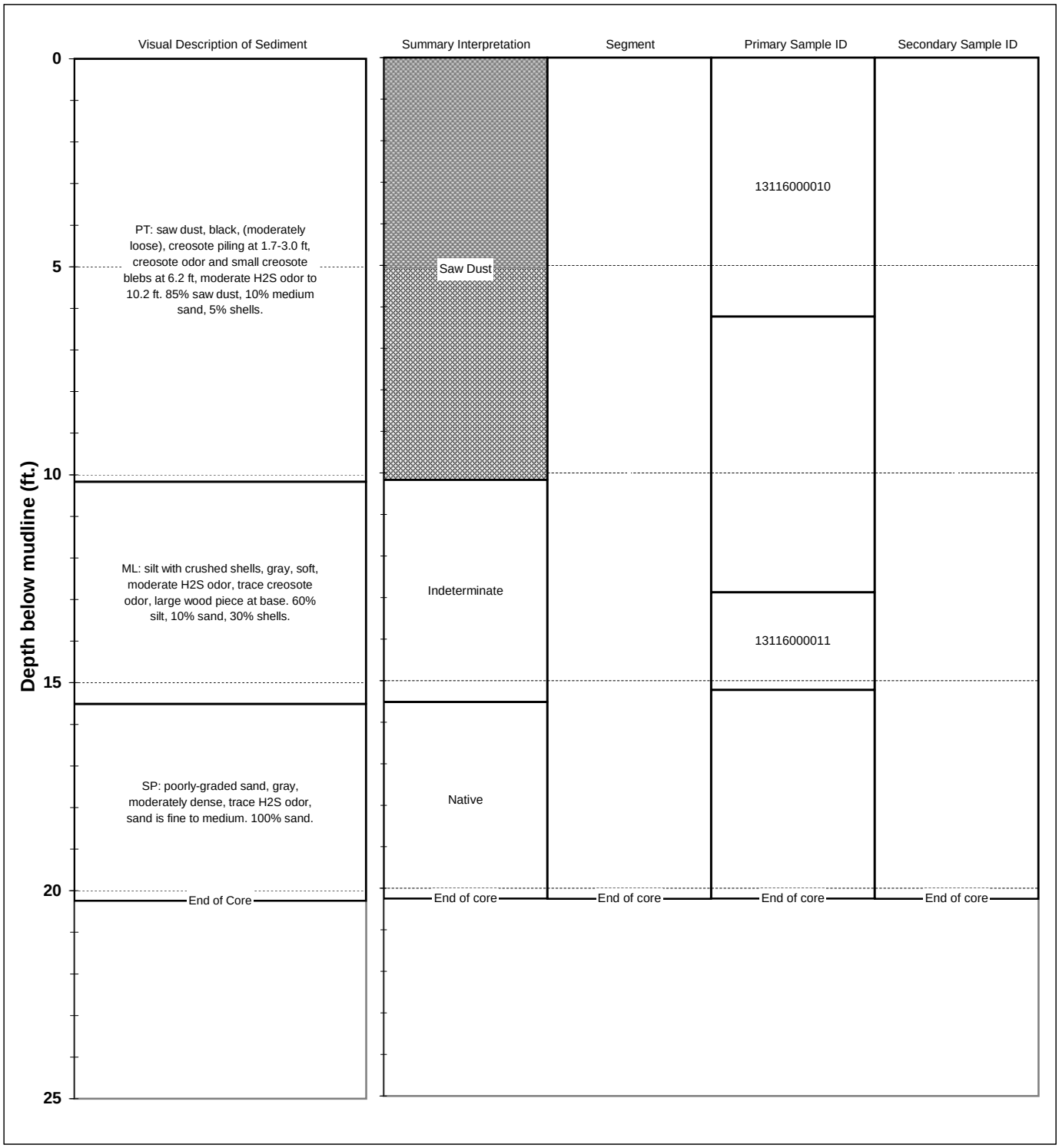
Mudline elevation: -22.8 **ft MLLW**

Percent recovery (on-deck): 54%

	Core collection	Laboratory processing
Date:	5/7/2007	5/7/2007
Time:	13:27	15:00

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-12**

Maximum depth of retained sediment: 11.0 ft

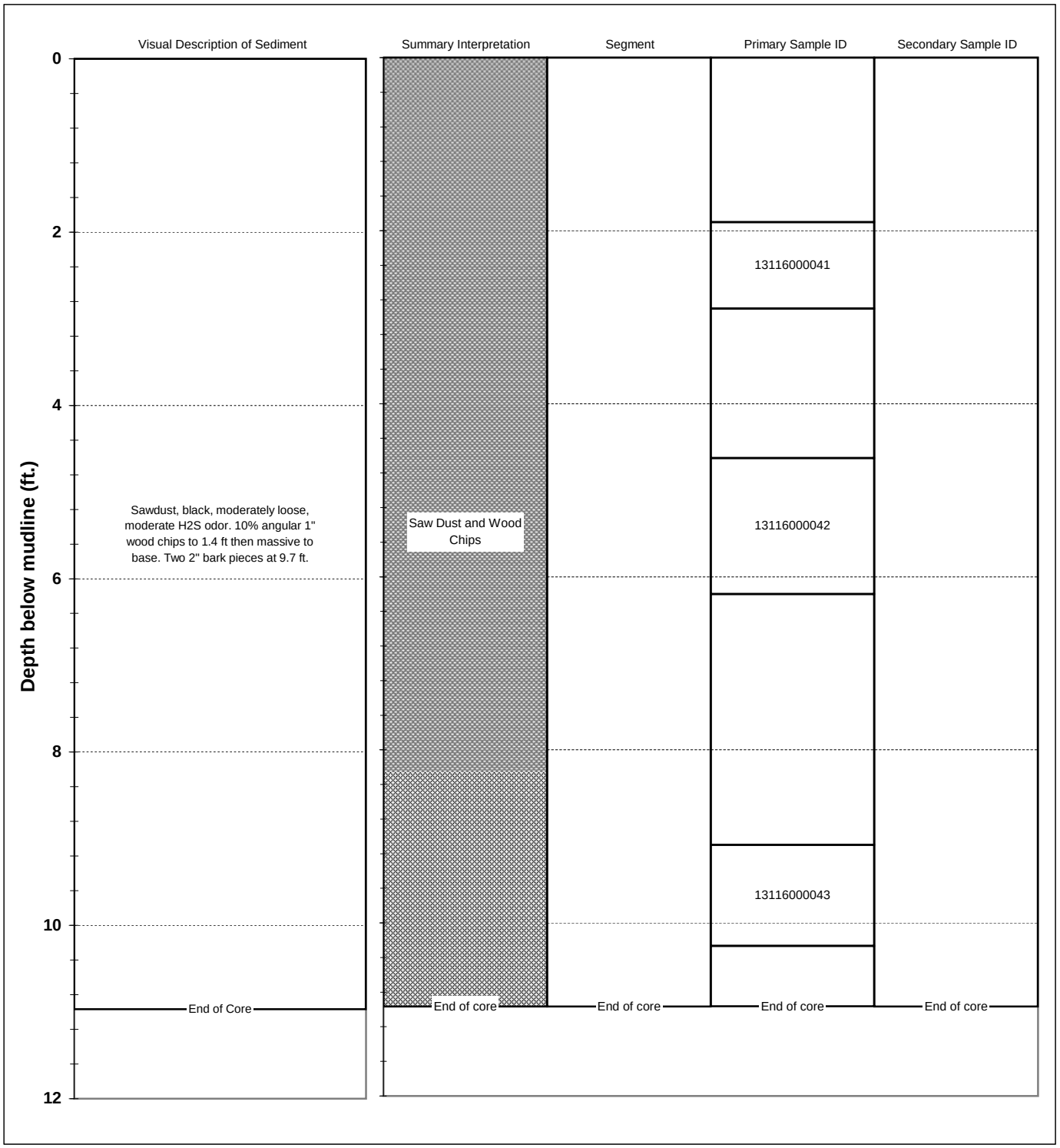
Mudline elevation: -6.6 **ft MLLW**

Percent recovery (on-deck): 79%

	Core collection	Laboratory processing
Date:	5/14/2007	5/14/2007
Time:	14:49	15:45

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-14**

Maximum depth of retained sediment: 19.6 ft

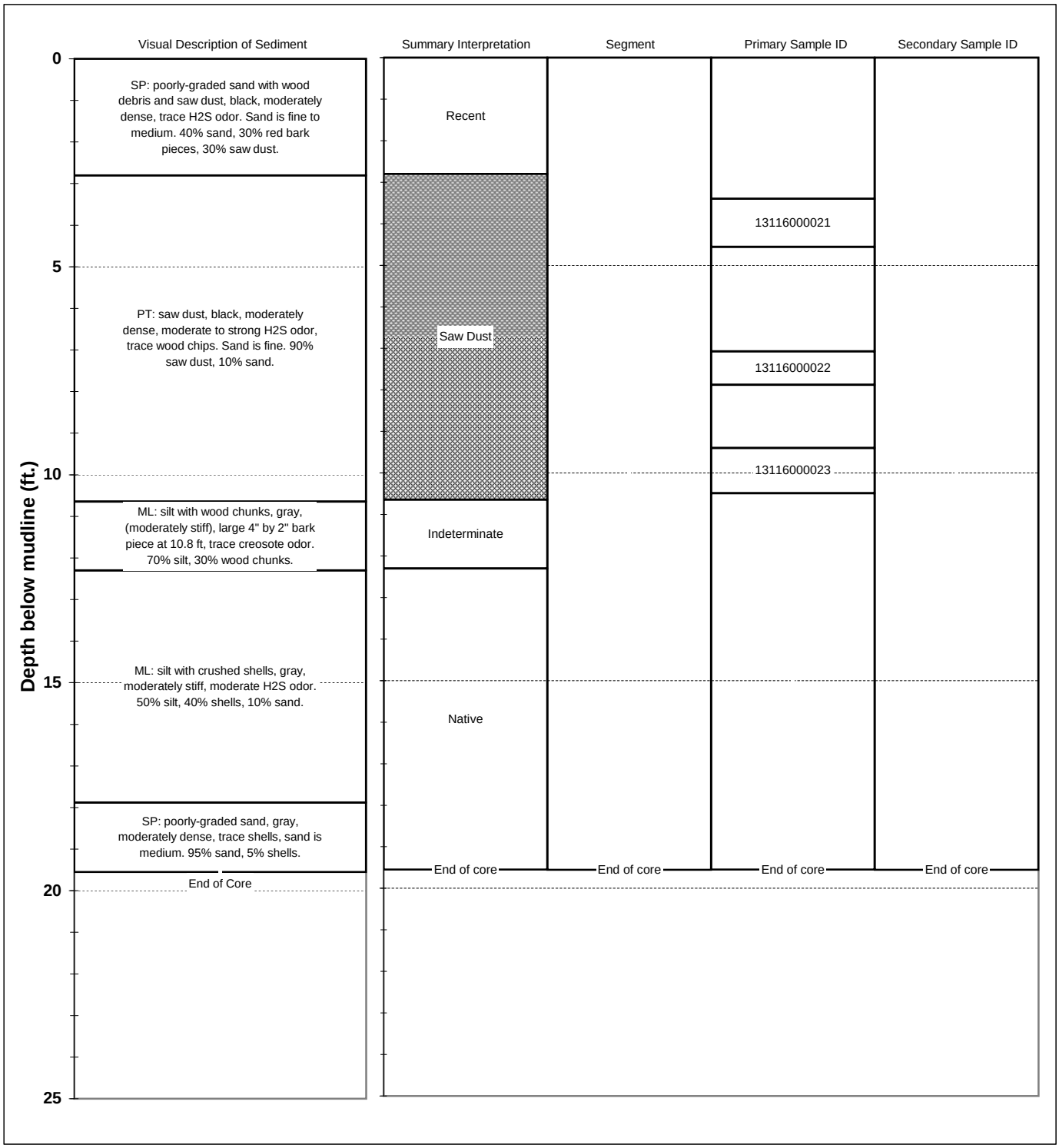
Mudline elevation: -8.5 **ft MLLW**

Percent recovery (on-deck): 70%

	Core collection	Laboratory processing
Date:	5/8/2007	5/8/2007
Time:	10:46	11:45

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-15**

Maximum depth of retained sediment: 19.9 ft

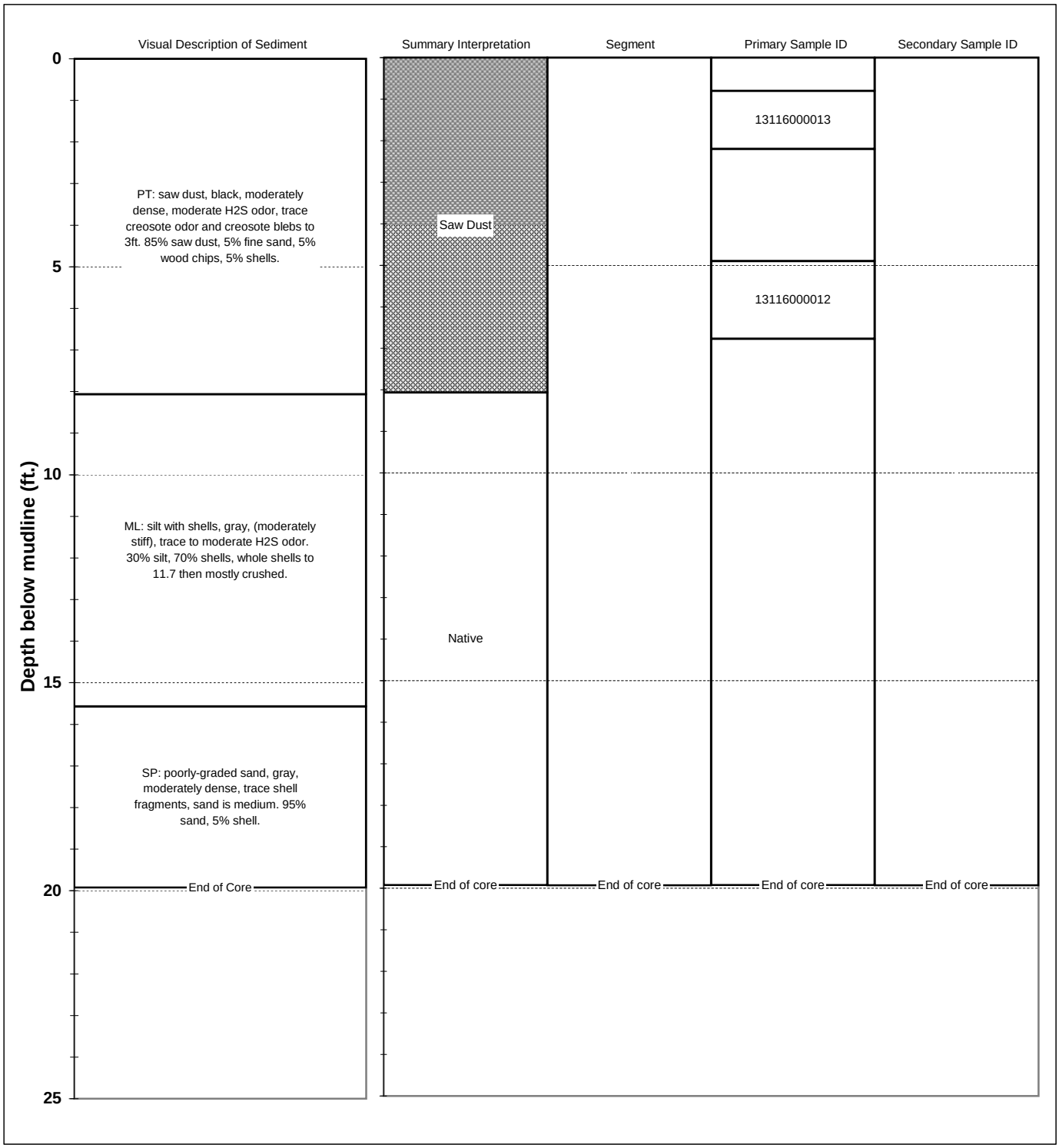
Mudline elevation: -19.8 **ft MLLW**

Percent recovery (on-deck): 75%

	Core collection	Laboratory processing
Date:	5/7/2007	5/7/2007
Time:	14:33	15:45

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-17**

Maximum depth of retained sediment: 18.0 ft

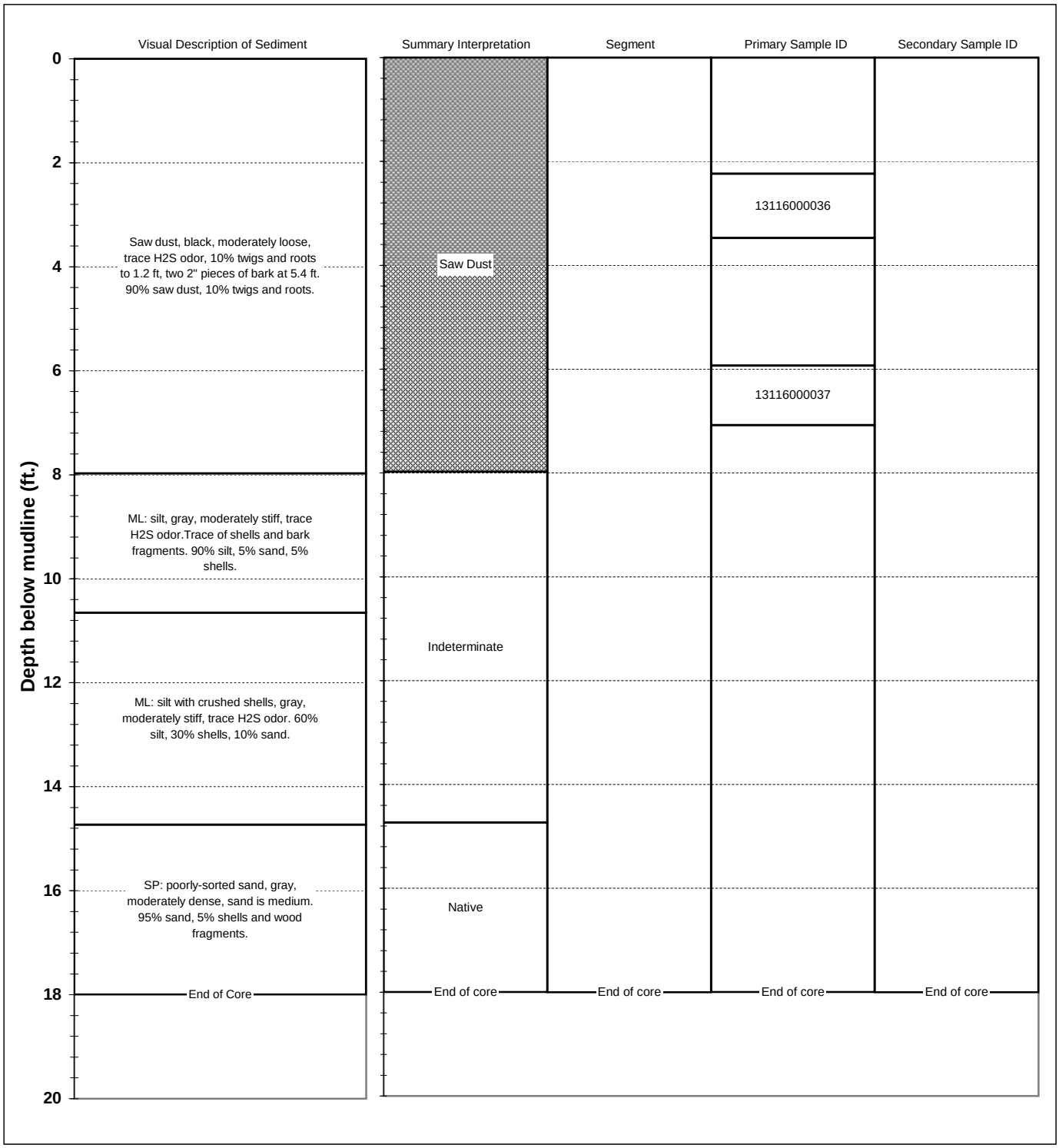
Mudline elevation: -11.7 **ft MLLW**

Percent recovery (on-deck): 74%

	Core collection	Laboratory processing
Date:	5/14/2007	5/14/2007
Time:	11:36	13:20

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-19**

Maximum depth of retained sediment: 4.3 ft

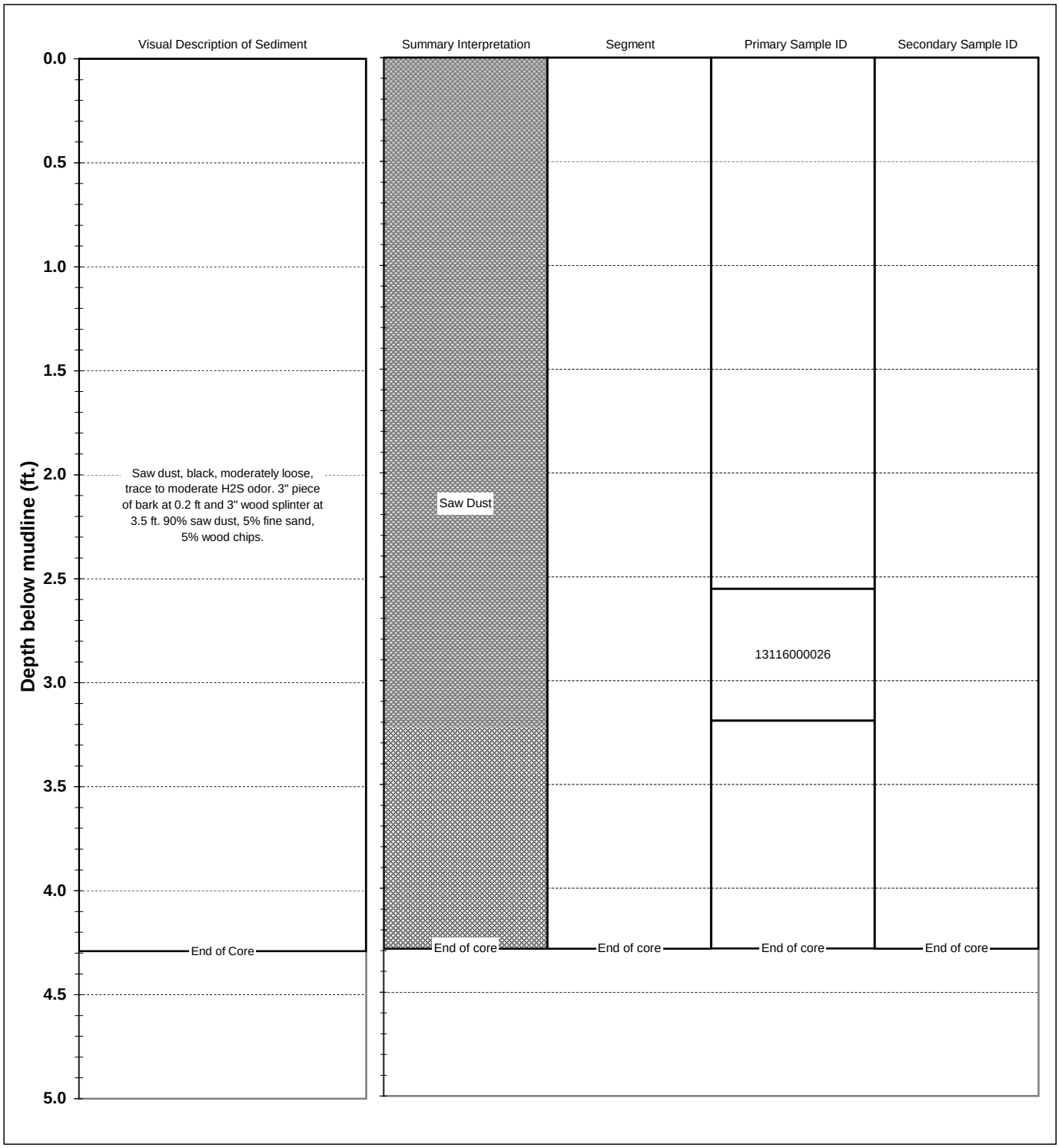
Mudline elevation: -14.9 **ft MLLW**

Percent recovery (on-deck): 92%

	Core collection	Laboratory processing
Date:	5/11/2007	5/11/2007
Time:	9:40	10:20

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-20**

Maximum depth of retained sediment: 20.2 ft

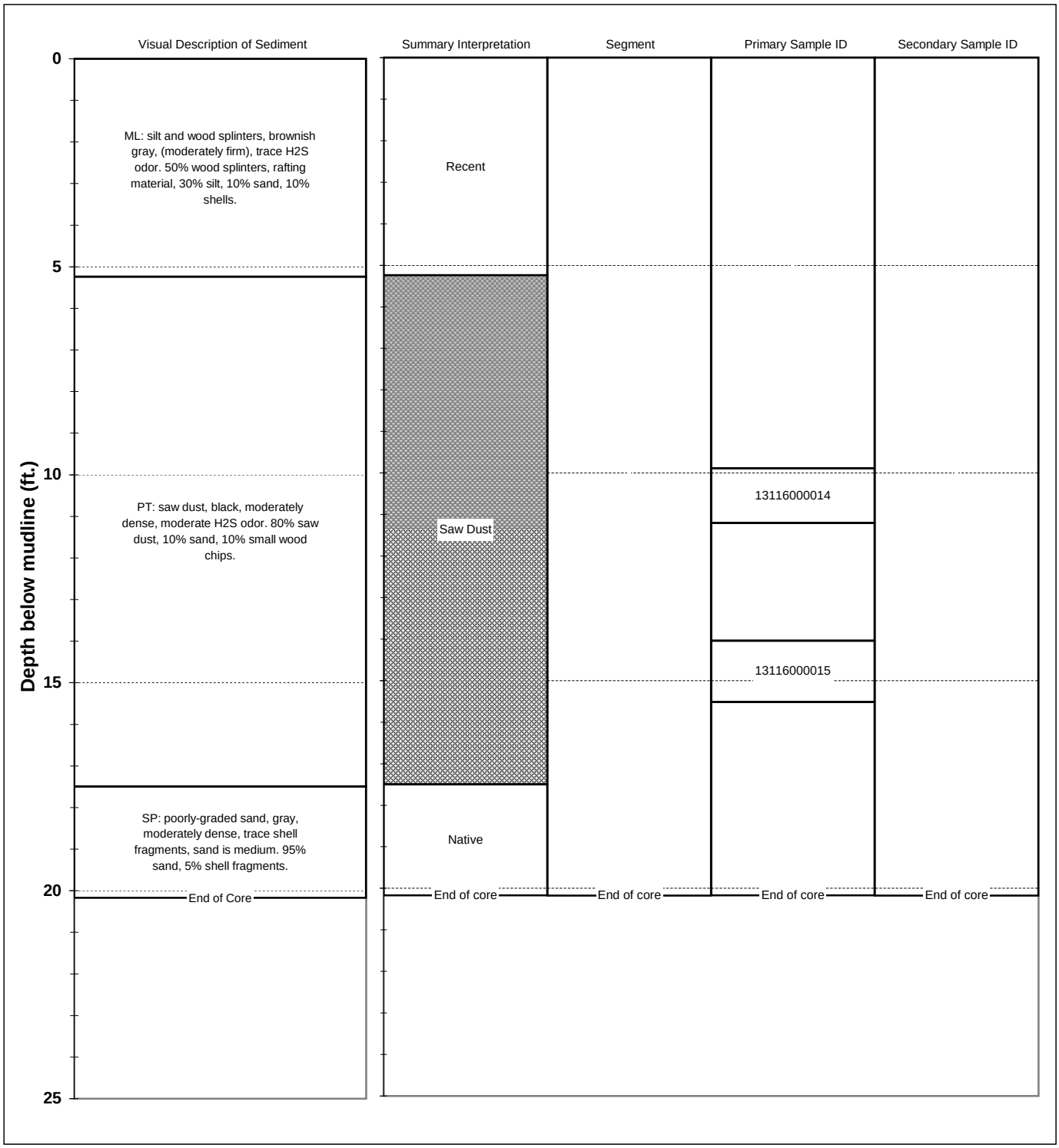
Mudline elevation: -20.9 **ft MLLW**

Percent recovery (on-deck): 66%

	Core collection	Laboratory processing
Date:	5/7/2007	5/7/2007
Time:	15:52	17:00

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-21**

Maximum depth of retained sediment: 19.9 ft

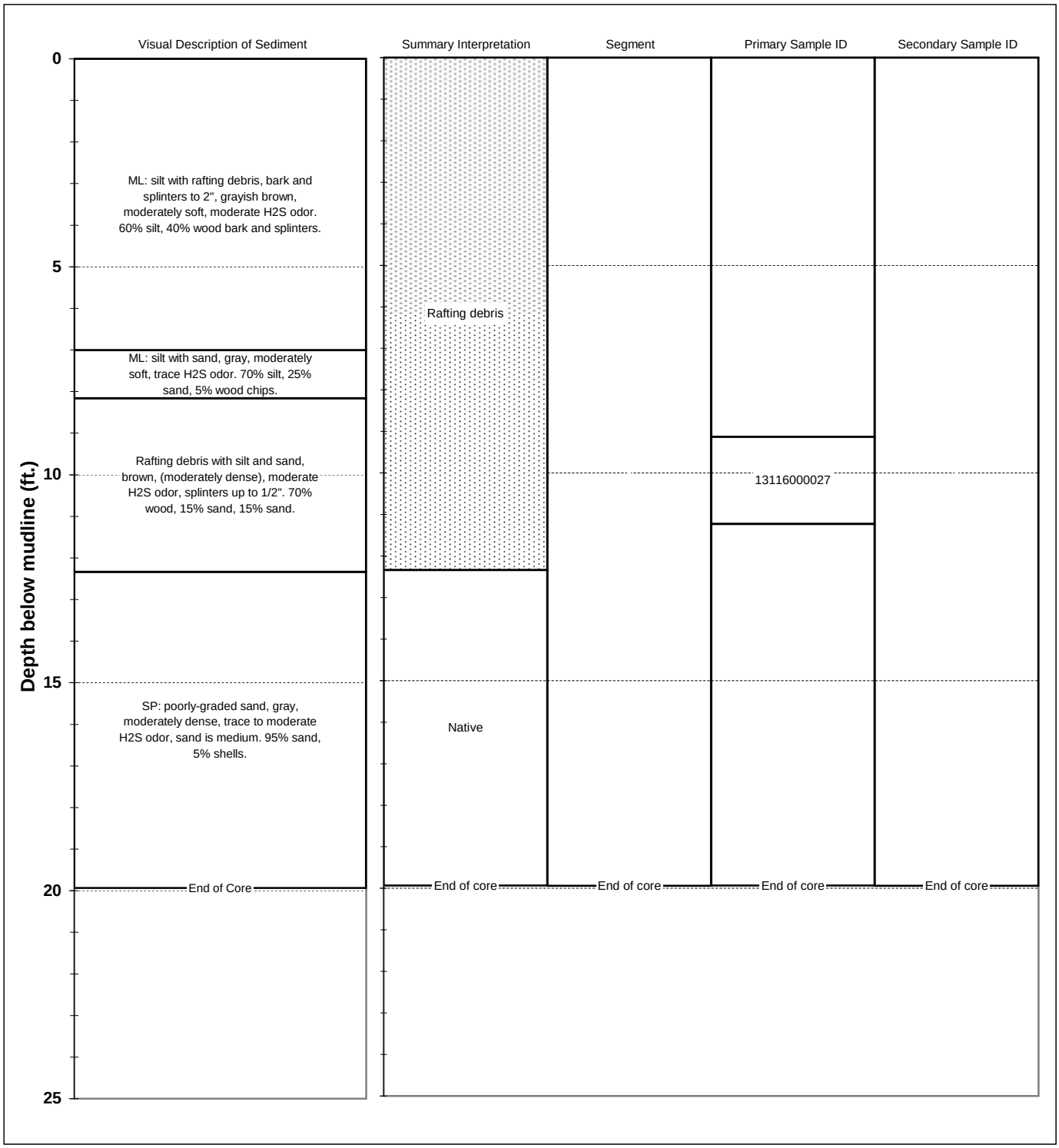
Mudline elevation: -11.9 **ft MLLW**

Percent recovery (on-deck): 58%

	Core collection	Laboratory processing
Date:	5/11/2007	5/11/2007
Time:	11:46	13:00

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-29**

Maximum depth of retained sediment: 9.6 ft

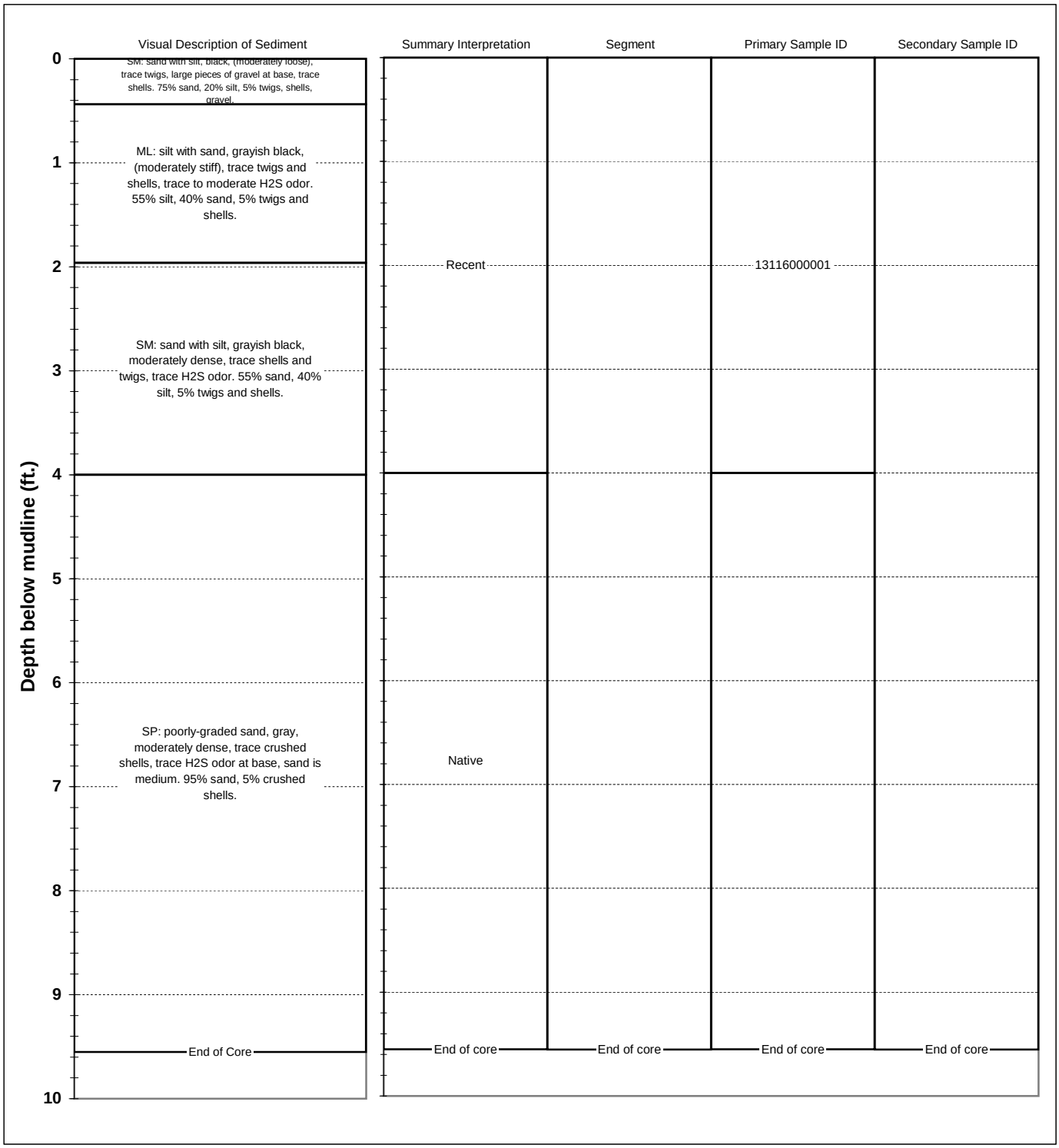
Mudline elevation: -44.4 **ft MLLW**

Percent recovery (on-deck): 90%

	Core collection	Laboratory processing
Date:	5/7/2007	5/7/2007
Time:	9:29	10:35

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-32**

Maximum depth of retained sediment: 10.1 ft

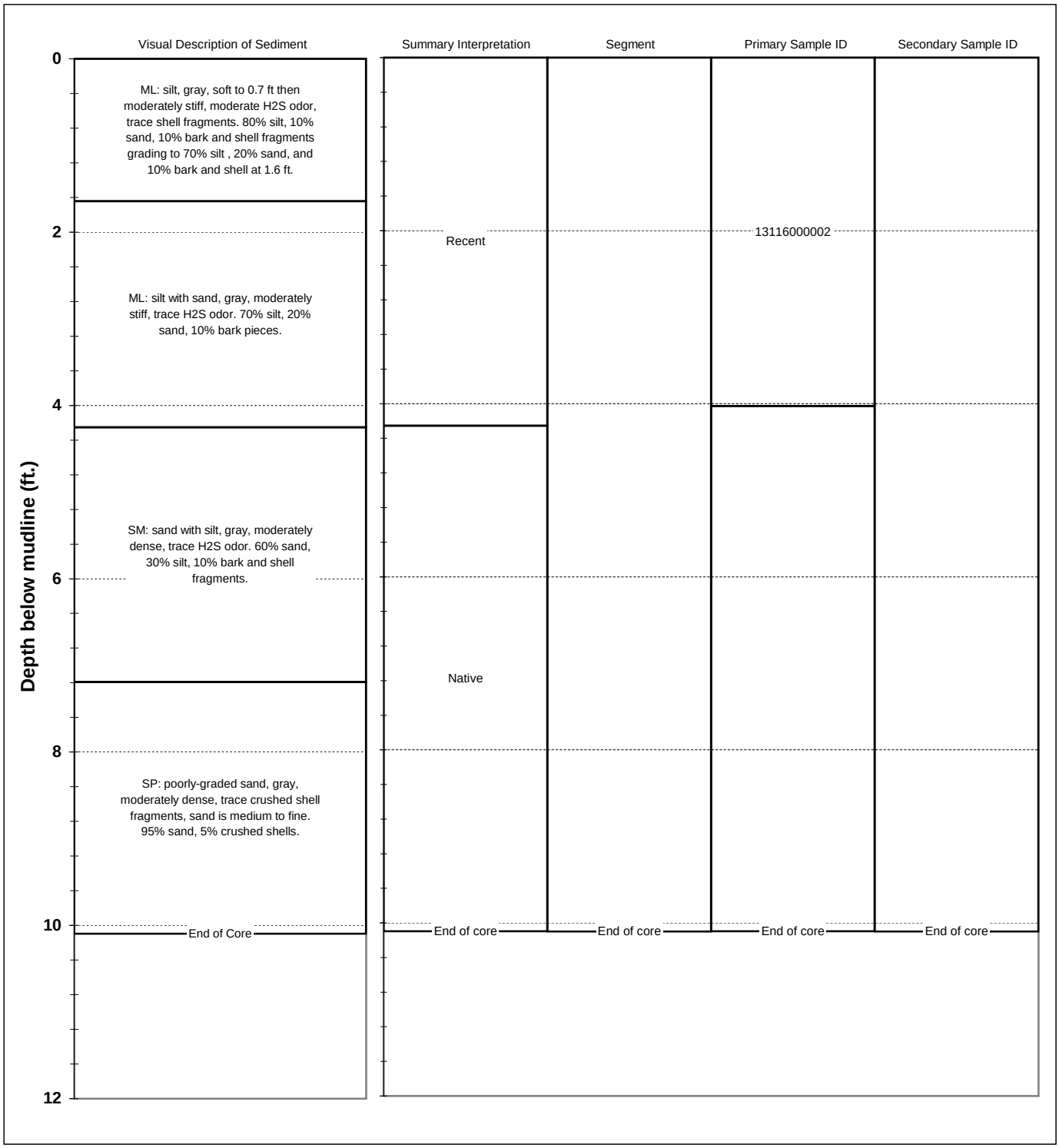
Mudline elevation: -51.0 **ft MLLW**

Percent recovery (on-deck): 89%

	Core collection	Laboratory processing
Date:	5/7/2007	5/7/2007
Time:	10:24	11:35

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-34**

Maximum depth of retained sediment: 10.1 ft

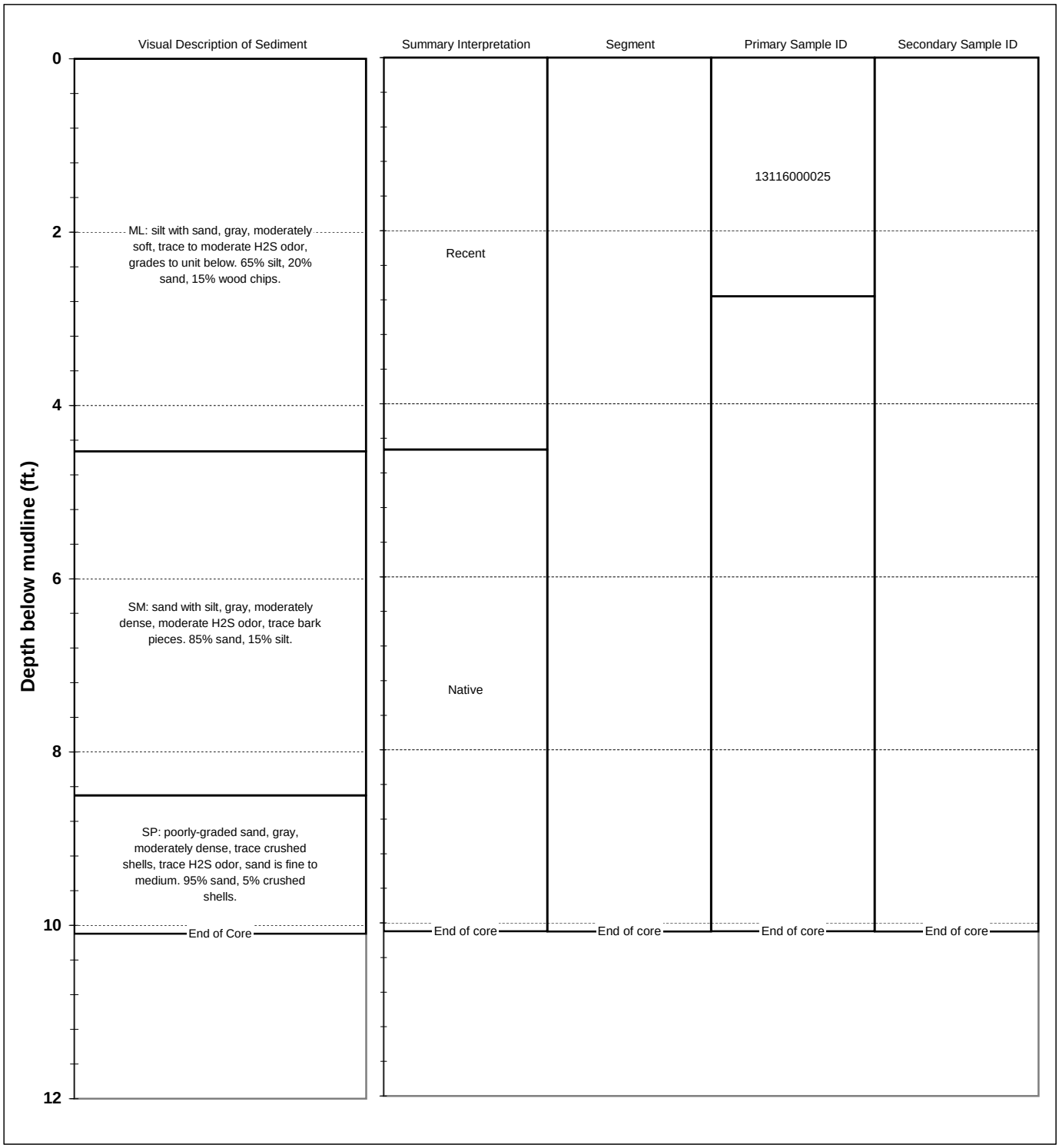
Mudline elevation: -50.8 **ft MLLW**

Percent recovery (on-deck): 78%

	Core collection	Laboratory processing
Date:	5/9/2007	5/9/2007
Time:	9:48	12:40

Field Log: NPB

Summary Log: RHG



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File name: ST-34rhg.xls
Summary Core Log

Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-37**

Maximum depth of retained sediment: 9.7 ft

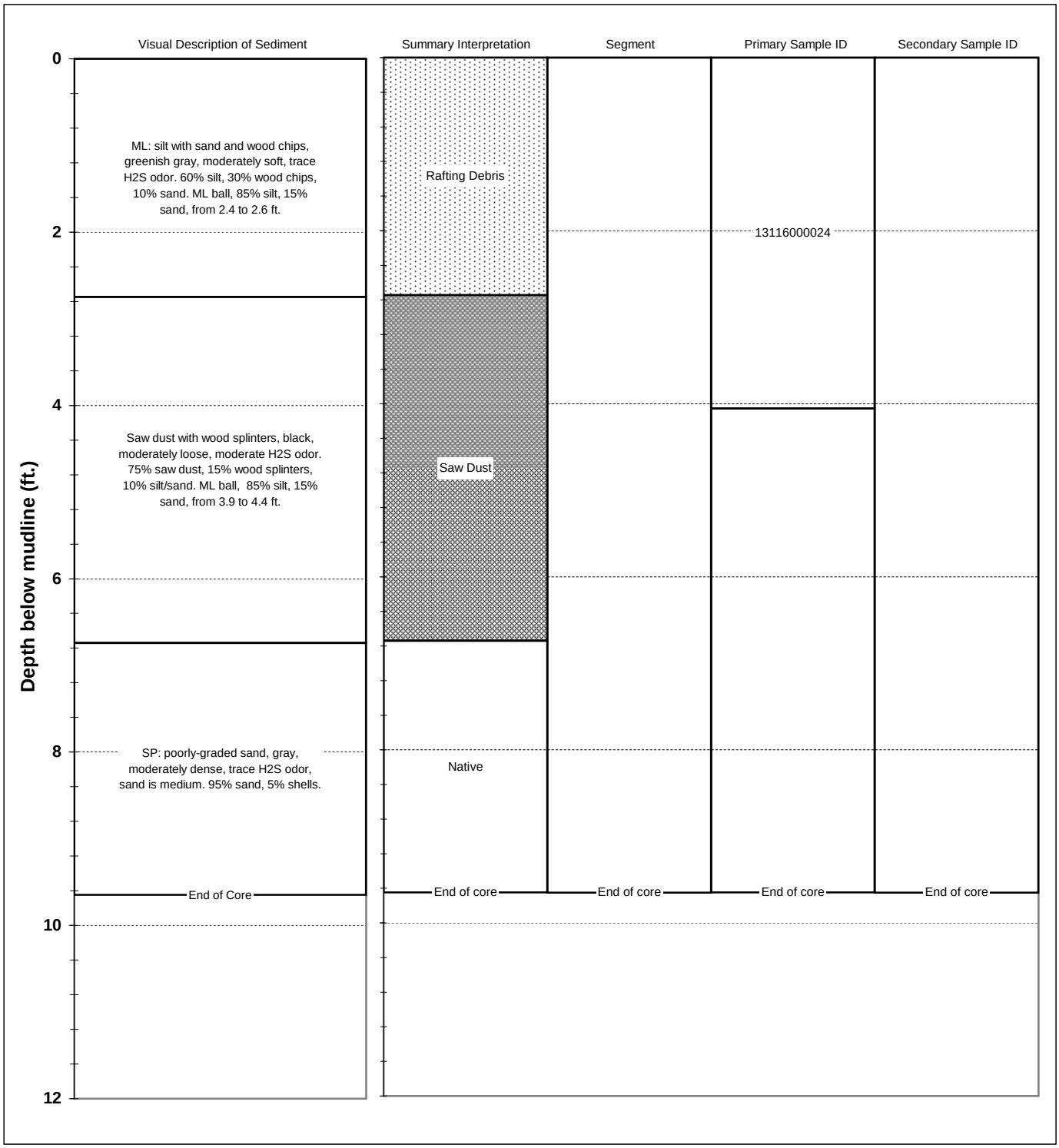
Mudline elevation: -35.5 **ft MLLW**

Percent recovery (on-deck): 78%

	Core collection	Laboratory processing
Date:	5/11/2007	5/11/2007
Time:	10:20	11:00

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-39**

Maximum depth of retained sediment: 9.7 ft

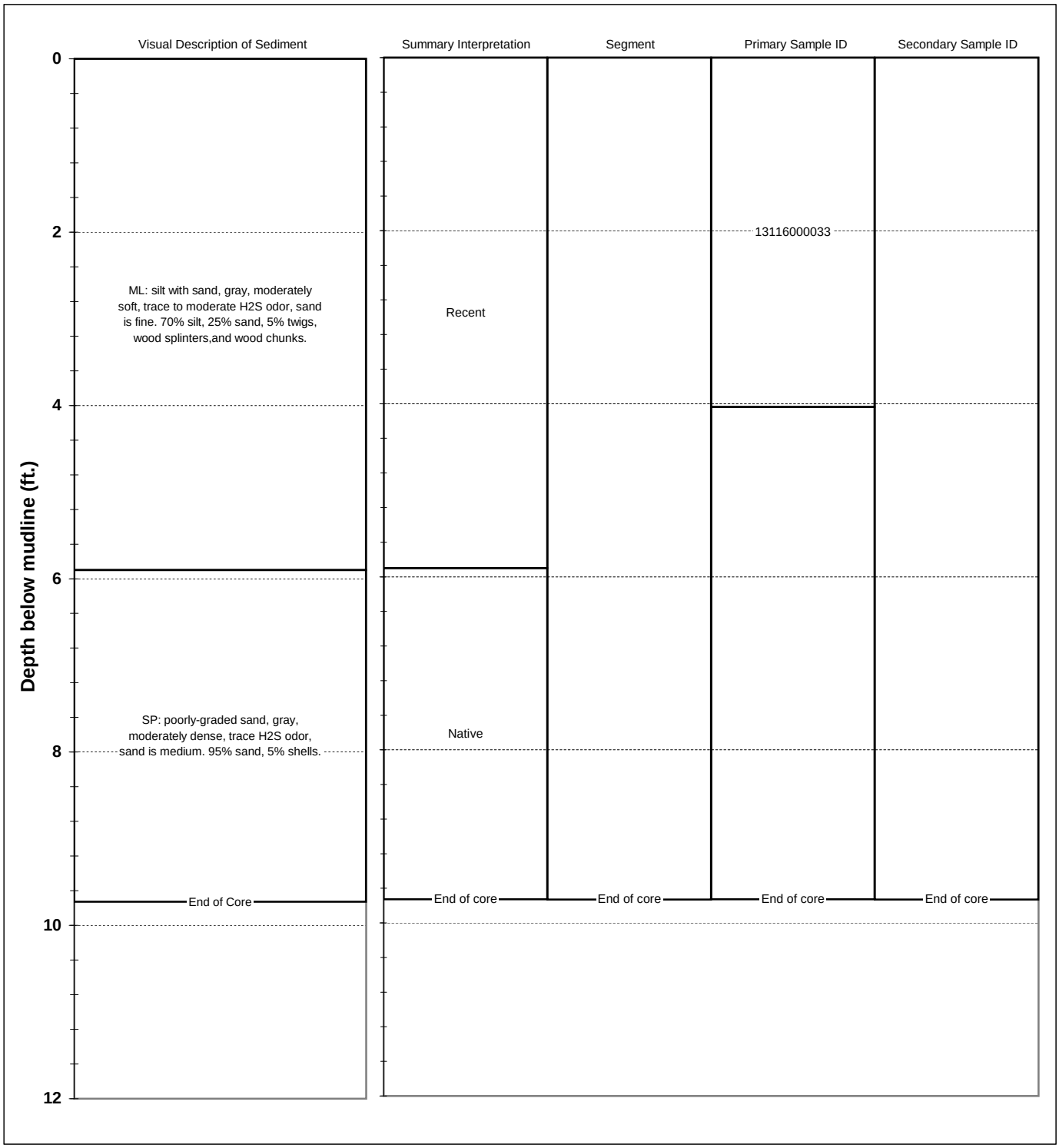
Mudline elevation: -49.2 **ft MLLW**

Percent recovery (on-deck): 79%

	Core collection	Laboratory processing
Date:	5/14/2007	5/14/2007
Time:	10:16	11:15

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-42**

Maximum depth of retained sediment: 11.8 ft

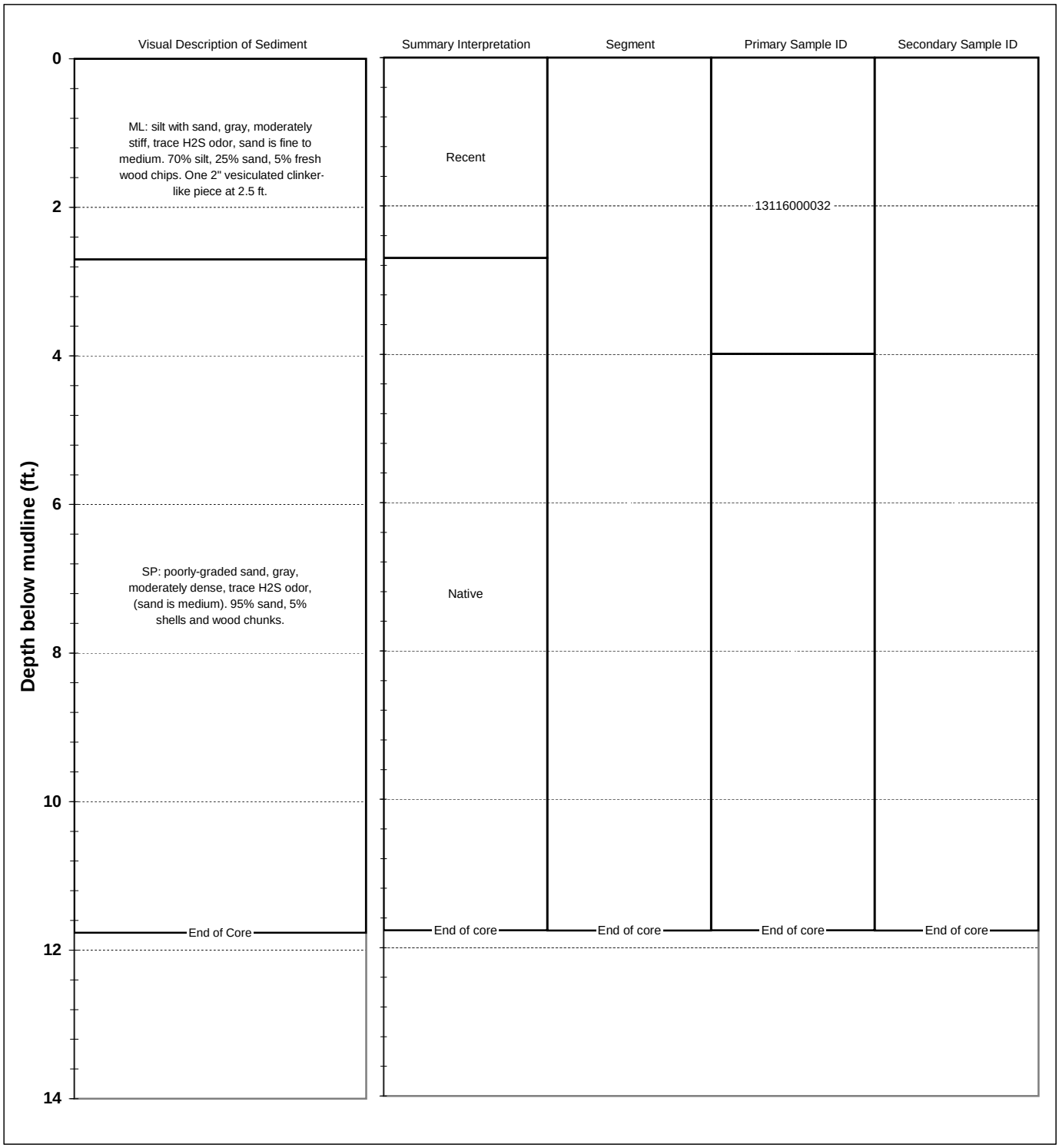
Mudline elevation: -41.0 **ft MLLW**

Percent recovery (on-deck): 85%

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

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-43**

Maximum depth of retained sediment: 14.0 ft

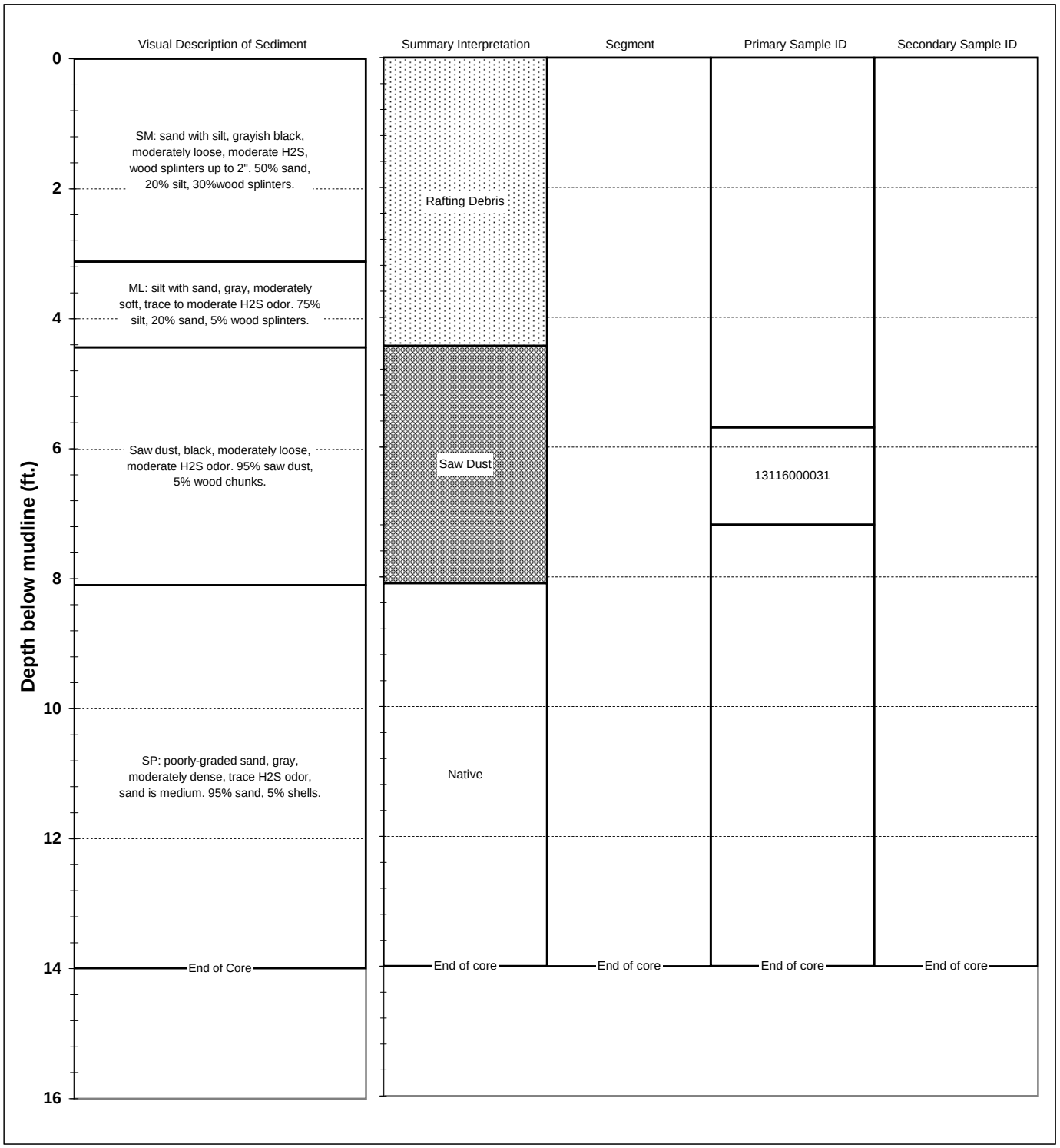
Mudline elevation: -38.7 **ft MLLW**

Percent recovery (on-deck): 78%

	Core collection	Laboratory processing
Date:	5/11/2007	5/11/2007
Time:	14:16	15:15

Field Log: NPB

Summary Log: RHG



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Mudmole™ Core Summary Log

Project: Port of Everett

Station: **ST-44**

Maximum depth of retained sediment: 18.7 ft

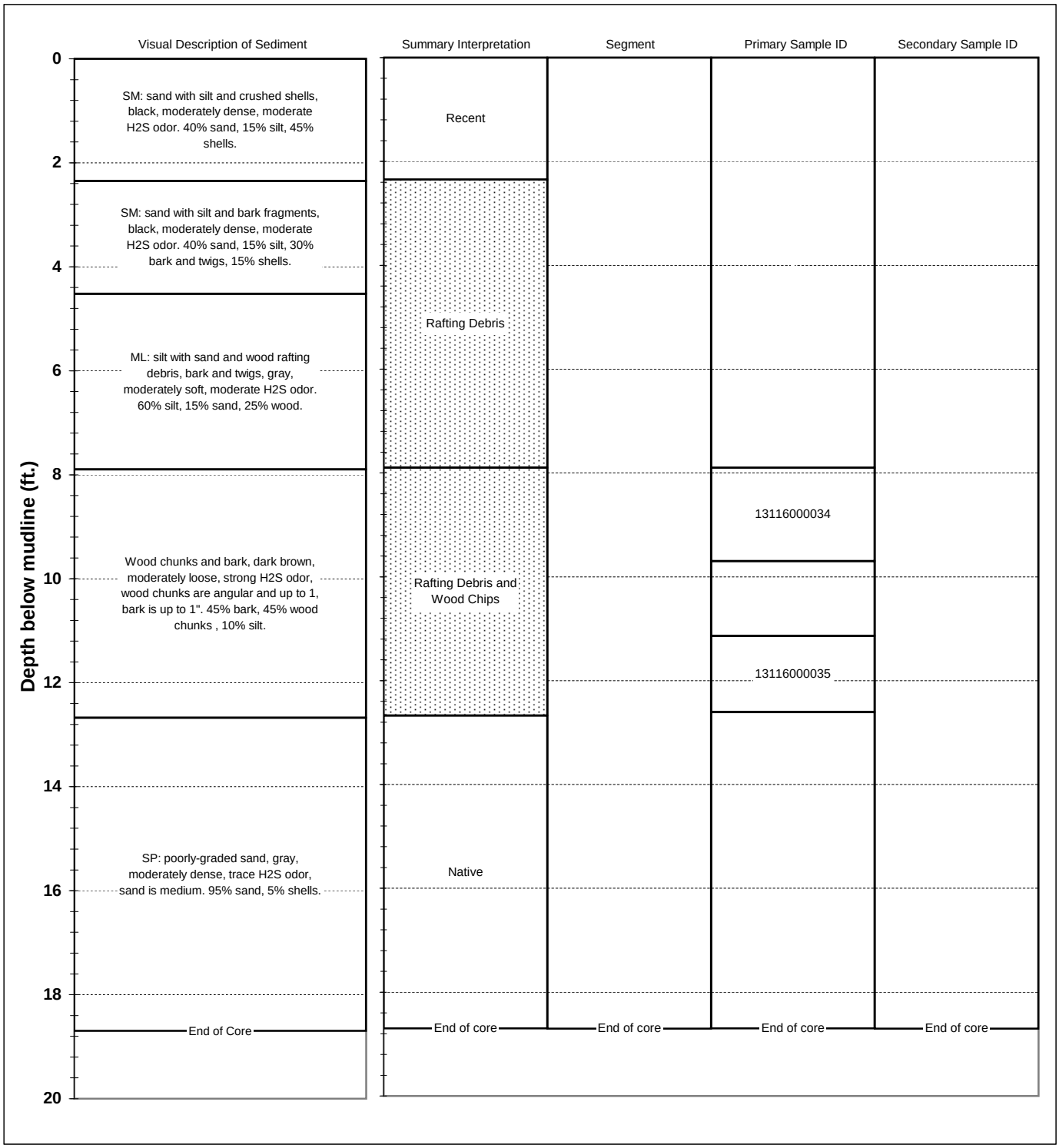
Mudline elevation: -32.3 **ft MLLW**

Percent recovery (on-deck): 76%

	Core collection	Laboratory processing
Date:	5/14/2007	5/14/2007
Time:	9:15	12:45

Field Log: NPB

Summary Log: RHG



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SEDIMENT CORING LOG

Core Number 3

SAIC From Science to Solutions

PROJECT NAME:	Port Gardner	CORE PENETRATION:	13.0 ft
DATE SAMPLED:	8-13-08	CORE RECOVERY:	12.16 ft
LOCATION:	A1-15-C1	% RECOVERY:	94%
TIME:	12:27	SAMPLING METHOD:	Vibracore
UNCORRECTED DEPTH (-FT)	56.4 ft	POSITION METHOD:	DGPS
NOS WATER LEVEL (TIDE):		LATITUDE:	47 58.7924 N
WATER DEPTH MLLW:		LONGITUDE:	122 13.5189 W
		NORTHING:	
SAMPLED BY:	L. Delwiche	EASTING:	
	J. Boas	WEATHER:	Sunny, slight breeze 65°F

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 4.0 ft sections

DEPTH				
Recovered Core Length	Feet Below Mudline Based on Actual % Recovery	SAMPLE ID	SEDIMENT DESCRIPTION	COMMENTS
0-4ft		PG-A1-15-C#-1	0-0.5' loose, moist, dark gray & silty f. Sand w/ scattered gravels, scattered wood pieces (10%) sl. H_2S odor	
		C1-3	0.5-1.6 damp, sl. hard, dark gray (2.5Y/4/1) sl. silty f. sand.	
			1.6-1.7. Coarse-med sand layer	
		C3-5	1.7-10.2 sl. damp, dark gray f. sand, scattered shell pieces (native) wood pieces @ 8.7'	
4-8ft		C5-7		
		C7-9		
		C9-11		
8-12ft		C11-13	10.2-12.2 similar to above but ~50% f sand! 50% silt, trace shell pieces.	
	B.O.C		Sa very fine sandy clay in core catcher medium grey no odor	B.O.C. 12.2'

REVIEWED BY: _____ PAGE ____ OF ____

SEDIMENT CORING LOG

SAIC — From Science to Solutions

Core Number 11

PROJECT NAME:	Port Gardner	CORE PENETRATION:	13.0ft
DATE SAMPLED:	8-14-08	CORE RECOVERY:	~~11.3ft~~ 12.3 ft
LOCATION:	A1-18-C1	% RECOVERY:	95%
TIME:	10:33	SAMPLING METHOD:	Vibracore
UNCORRECTED DEPTH (-FT)	98.0ft	POSITION METHOD:	DGPS
NOS WATER LEVEL (TIDE):		LATITUDE:	47 58.7386 N
WATER DEPTH MLLW:		LONGITUDE:	122 13.7878 W
		NORTHING:	
SAMPLED BY:	C. Delwiche, J. Burns	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"
		3	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-C#-1	0 - 0.6' soft, wet, v. dark grayish brown (10YR/3/2) silty f. sand w/<5% fine wood particles		
		C1-3	0.6 - 1.3 f. sandy silt. 1cm wood piece @ 1.3'		
2			1.3 - 1.4 f-m sand layer		
			1.4 - 2.9 soft, moist, v. dark gray (10YR/3/1) clayey silt		
		C3-5	2.9 - 3.3 similar to above, grades to silty f. Sand w/ depth Scattered wood fibers (3%) trace shell particles		
4			3.3 - 4.1 soft, moist, v. dark gray (10YR/3/1) Silt.		
		C5-7	4.1 - 5.2 loose, damp, dark gray (10YR/4/1) M-F sand grading to C Sand w/ depth.		
6			5.2 - 6.4 Mod hard, damp, brown (7.5YR/4/2) sl. silty f. sand		
		C7-9	6.4 - 7.9 similar to above w/ mod shell pieces (10%), 2 small (0.5cm) wood pieces @ 7.8'		
8					
		C9-11	7.9 - 10' similar to 5.2 - 6.4' interval		
			10 - 11.2 sl. hard, damp, brown (7.5YR/4/2) silt w/ f. sand. twigs @ 10.6'		
10		C11-13	11.2 - 11.5 similar to 5.2 - 6.4' interval		
					B.O.C. 11.5'
12					
	B.O.C		fine grain slightly wet sand No odor some clay medium grey		
14					

REVIEWED BY: _____ PAGE ____ OF ____

SEDIMENT CORING LOG

SAIC — From Science to Solutions

Core Number 12

PROJECT NAME:	Port Gardner	CORE PENETRATION:	13.0 ft
DATE SAMPLED:	8-14-08	CORE RECOVERY:	12.2 ft
LOCATION:	A1-24-C1	% RECOVERY:	94 %
TIME:	11:06	SAMPLING METHOD:	Vibracore
UNCORRECTED DEPTH (-FT)	54.0 ft	POSITION METHOD:	DGPS
NOS WATER LEVEL (TIDE):		LATITUDE:	47 58.5880 N
WATER DEPTH MLLW:		LONGITUDE:	122 13.6451 W
		NORTHING:	
SAMPLED BY:	L. Delwiche	EASTING:	
	J. Boas	WEATHER:	Sunny Calm

DEPTH: Recovered Core Length	DEPTH: Feet Below Mudline Based on Actual % Recovery	SAMPLE ID	SEDIMENT DESCRIPTION	COMMENTS
		1 0-0.9 3 0.9-2.8 5 2.8-4.7 7 4.7-6.6 9 6.6-8.5 11 8.5-10.3 13 10.3-12.2		4' rep by 3'9" Strong H_2S odor
		PG-A1-24-C1-1	0-1.1 soft, wet, v. dark sand, mod wood	grayish brown (10YR/3/2) silt w/ trace debris (20%)
2		C1-3	1.1 - ~~5.4~~ 8.8' soft, moist v. dark grayish brown (10YR/3/2) silt w/ trace sand, (25-30%) wood debris	
4		C3-5		
6		C5-7	11.3' 5.4 - ~~7.5~~ loose, damp, dark gray (10YR/4/1) f. sand scattered shell pieces	(ambient sed)
8		C7-9		
10		C9-11		
12		C11-13		B.O.C. 11.3'
14	B.O.C		fine grain slightly wet sand medium grey no odor slightly sticky	

REVIEWED BY: _____ PAGE ____ OF ____

Surface Sediment Collection Form

Project: 2008 Port Gardner Sediment Investigation
Sampling Event: _____
Station: _____
Date: 8/1/08

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

Grab #: A1-12	**Bottom depth:** 14.6 m	**Penetration Depth:** +15 cm	**Time:** 1518
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	oil sheen globule.
Gravel	Brown	Slight	soft, wet, black, organic
Sand C M F	Brown surface	Moderate	clayey silt. Wood debris
Silt/clay	Gray	Strong to Overwhelming	in jaws.
Organic matter	Black	H_2S	
Woody debris	Other:	Petroleum	overpenetrated
Shell debris			

Grab #: A1-15	**Bottom depth:** 18.5 m	**Penetration Depth:** 14-15 cm	**Time:** 1533
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	brittlestar, polychaetes in
Gravel scattered	Brown	Slight	sed., scattered woody debris
Sand C M F	Brown surface	Moderate	(cedar)
Silt/clay	Gray	Strong	Olive + olive gray, silty F-M Sand
Organic matter	Black Olive gray	Overwhelming	Scattered quartz gravels, shell
Woody debris	Other:	H_2S	particles, barnacles
Shell debris		Petroleum	

Grab #: A1-15 #2	**Bottom depth:** 18.6 m	**Penetration Depth:** 13-14 cm	**Time:** 1546
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	snail, small gravel, polychaete
Gravel	Brown	Slight	(spio) on surface, thumb size
Sand C M F	Brown surface	Moderate	bark chunk on surface,
Silt/clay	Gray	Strong	shell pieces, scattered wood
Organic matter	Black Olive gray	Overwhelming	
Woody debris	Other:	H_2S	
Shell debris		Petroleum	

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
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_2S	
Shell debris		Petroleum	

Recorded By: _____

Surface Sediment Collection Form

Project: 2008 Port Gardner Sediment Investigation
Sampling Event: _____
Station: _____
Date: 8/4/08

Crew: JMN, JLN, AG, CE, CR

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
A1-31	3.0	12 cm	15:35
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	(None)	organic layer on top
Gravel	Brown	Slight	homogenous sand
(Sand) (C) (M) F	Brown surface	Moderate	
Silt/clay	(Gray)	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H_2S	
Shell debris		Petroleum	

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
A2-10	4.2	15+	15:56
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	fine woody debris on surface
Gravel	Brown	(Slight)	leafy wood debris
(Sand) C M (F)	Brown surface	Moderate	more silty than sandy
(Silt/clay)	(Gray)	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H_2S	
Shell debris		Petroleum	

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
A2-11	6.2	10	16:19
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	Dark gray
Gravel	Brown	(Slight)	5-10% woody debris
(Sand) C (M) F	Brown surface	Moderate	twigs & chucks
Silt/clay	(Gray)	Strong	shell debris
Organic matter	(Black)	Overwhelming	
(Woody debris)	Other:	H_2S	
(Shell debris)		Petroleum	

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
A2-13	6.2	15+	16:34
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	(None)	- very soft silt
Gravel	Brown	Slight	- grab overpenetrated
Sand C M F	Brown surface	Moderate	- no debris
(Silt/clay)	(Gray)	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H_2S	
Shell debris		Petroleum	

Recorded By: _____

SAIC
An Employee-Owned Company

Surface Sediment Collection Form

Project: 2008 Port Gardner Sediment Investigation
Sampling Event: _____
Station: _____
Date: 8/4/08

Crew: JMN, JWak, CE, Andy, Colin Ray

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
A1-16	15.2	+ 15 cm	11:33
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	- pockets of sand
Gravel	Brown	(Slight)	- some shell & wood debris
(Sand) C M (F)	Brown surface	Moderate	
(Silt/clay)	(Gray olive)	Strong	
Organic matter	(Black)	Overwhelming	
Woody debris	Other:	(H_2S)	
Shell debris		Petroleum	

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
A1-17	19.7	11 cm	11:48
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	- moderate wood debris ~25%
Gravel	Brown	(Slight)	- shells of surface wood
(Sand) C M (F)	Brown surface	Moderate	- a few rocks
(Silt/clay)	(Gray olive)	Strong	
Organic matter	Black	Overwhelming	
(Woody debris)	Other:	H_2S	
Shell debris		Petroleum	

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
A1-18	29.0	11 cm	12:01
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	Woody debris at bottom - 50% wood below 10cm
Gravel	Brown	Slight	- trace shell debris
(Sand) C M (F)	Brown surface	Moderate	- snails on surface
(Silt/clay)	(Gray)	Strong	- polycaetes
Organic matter	Black	Overwhelming	
(Woody debris)	Other:	H_2S	
Shell debris		Petroleum	

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
A1-20	14.2	13 cm	12:19
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	- polycaetes
Gravel	Brown	Slight	- 1cm olive brown surface over gray-black
(Sand) C M (F)	(Brown surface)	(Moderate)	10% woody debris, mostly on surface
(Silt/clay)	Gray → below 1cm	Strong	
Organic matter	Black	Overwhelming	
(Woody debris)	Other:	H_2S	
Shell debris		Petroleum	

Recorded By: _____

SAIC
An Employee-Owned Company

Surface Sediment Collection Form

Project: 2008 Port Gardner Sediment Investigation
Sampling Event: _____
Station: _____
Date: 8/4/08

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

Grab #:	Bottom depth:	Penetration Depth:	Time:
A1-23	72.0	15+	12:41
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	- slightly sandy silt
Gravel	Brown	(Slight)	- wood debris @ 10cm
Sand C M (F)	Brown surface	Moderate	25% wood below 10cm
(Silt/clay)	(Gray) → o/NL gray	Strong	
Organic matter	Black	Overwhelming	
(Woody debris)	Other:	H_2S	
Shell debris		Petroleum	

Grab #:	Bottom depth:	Penetration Depth:	Time:
A1-24	16.6	15	12:53
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	sandy silt
Gravel	Brown	Slight	35% woody debris
(Sand) C M (F)	Brown surface	(Moderate)	organic rich
(Silt/clay)	(Gray)	Strong	a few polycates
Organic matter	(Black)	Overwhelming	
(Woody debris)	Other:	H_2S	
Shell debris		Petroleum	

Grab #:	Bottom depth:	Penetration Depth:	Time:
A1-33	102.2	15+	13:54
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	None	silty fine sand
Gravel	Brown	(Slight)	no wood debris
(Sand) C M (F)	Brown surface	Moderate	overpenetration into sed
(Silt/clay)	(Gray)	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H_2S	
Shell debris		Petroleum	

Grab #:	Bottom depth:	Penetration Depth:	Time:
A1-40	15.2	12 cm	14:12
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
Cobble	Drab olive	(None)	- snails on surface
Gravel	Brown	Slight	- phytoplankton surface coating
(Sand) C (M F)	Brown surface	Moderate	
Silt/clay	(Gray)	Strong	
Organic matter	Black	Overwhelming	
Woody debris	Other:	H_2S	
Shell debris		Petroleum	

Recorded By: _____

SAIC
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Surface Sediment Collection Form

Project: 2008 Port Gardner Sediment Investigation
Sampling Event: _____
Station: _____
Date: 8/12/08
Crew: WH CH JN MB

Grab #: A1-31B	**Bottom depth:** 0	**Penetration Depth:** 10 cm	**Time:** 0820
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
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_2S	
Shell debris		Petroleum	

Grab #: A1-49	**Bottom depth:** 0	**Penetration Depth:** 10 cm	**Time:** 0906
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
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_2S	
Shell debris		Petroleum	

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
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_2S	
Shell debris		Petroleum	

Grab #:	**Bottom depth:**	**Penetration Depth:**	**Time:**
Sediment type:	***Sediment color:***	***Sediment Odor:***	***Comments:***
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_2S	
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 CONTACS

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

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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	
						Gray silty fine to medium sand with occasional shell fragments	NS	0	
6					PT-1-40-41				
7					PT-1-41-42				
8					PT-1-42-43				
9					PT-1-43-44				
10									

SEDIMENT CORING LOG

CORING LOCATION: PT-1

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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

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

Depth Below Mudline (ft)	Scale	GROUP FEET RECOVERED	CLASSIFICATION FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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				
1					PT-2-31-32				
2					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	
6			SM		PT-2-36-37				
7					PT-2-37-38				
8					PT-2-38-39				
					PT-2-39-40				
9									
10									

SEDIMENT CORING LOG

CORING LOCATION: PT-2

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-3

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-4

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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				
		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	
6					PT-4-33-34				
		SP-SM	SP-SM			Gray fine to medium sand with silt	NS	0	
7					PT-4-34-35				
8					PT-4-35-36				
9					PT-4-36-37				
10					PT-4-37-38				

SEDIMENT CORING LOG

CORING LOCATION: PT-4

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-5

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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					PT-5-29-30				
		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				
					PT-5-33-34	Dark brown wood debris (sawdust 40% and wood chips 20%) with silt	NS	60	
		SM				Gray silty fine to medium Sand with occasional wood debris (wood chips)	NS	<5	
9					PT-5- 34 - 35				
			SM						
10									

SEDIMENT CORING LOG

CORING LOCATION: PT-5

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-5

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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				
		SM + WD	SM + WD			Dark brown silt and wood debris (sawdust 25%, wood chips 25% to 50%)	NS	50-75	
4					PT-6-19-20				
		WD	WD			Wood debris (wood chips 90%) with silt	NS	90	
5					PT-6-20-21				
		WD	WD	84	PT-6-20-21	Wood debris (wood chips 50%, sawdust 40%)	NS	90	
					PT-6-21-22				
6							NS	70	
					PT-6-22-23				
7					PT-6-23-24				
8									
		SM			PT-6-23-24	Gray silty fine to medium sand with trace wood debris (sawdust)	NS	20	
9			SM		Discard		NS	10	
10									

SEDIMENT CORING LOG

CORING LOCATION: PT-6

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-106

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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	
					PT-106-25-26				
9					PT-106-26-27				
10									

SEDIMENT CORING LOG

CORING LOCATION: PT-106

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-7

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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					PT-7-31-32				
		SM	SM			Gray silty fine to medium sand with occasiona; 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

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
0		SM	SM	100	PT-8-23.25-24	Gray silty fine to medium sand with wood debris (sawdust)	NS	40	
		WD	WD			Dark brown wood debris (sawdust) with sand	NS	90	
1					PT-8-24-25				
					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	
					PT-8-31-32				
8									
					PT-8-32-33				
9									
					PT-8-33-34				
10									

SEDIMENT CORING LOG

CORING LOCATION: PT-8

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-8

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-108

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-109

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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.
		SP-SM	SP-SM		PT-9-29-30	Gray fine to medium sand with silt	NS	0	
1					PT-9-30-31				
2					PT-9-31-32				
3					PT-9-32-33				
4					PT-9-33-33.5				
5									
6									
7									
8									
9									
10									

SEDIMENT CORING LOG

CORING LOCATION: PT-10

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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				
		SP-SM	SP-SM			Gray fine to medium sand with silt and occasoinal shell fragments	NS	0	
8					PT-10-37-38				
9					PT-10-38-39				
10									

SEDIMENT CORING LOG

CORING LOCATION: PT-10

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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	
		SM	SM			Gray silty fine to medium sand with wood debris (wood chips)	NS	15	
9					PT-11-29-30				
10									

SEDIMENT CORING LOG

CORING LOCATION: PT-11

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)		SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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	Dark brown wood debris (sawdust 70% and wood chips 20%)	NS	90	
4					PT-12-18-19	Light brown wood debris (wood chips)	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

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-12

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)		SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)	SAMPLE ID	SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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	
		WD	WD		PT-112-20-21	Dark brown wood debris (sawdust 70%, wood chips 20% and dimensional lumber 5%)	NS	95	
6					PT-112-21-22				
7					PT-112-22-23				
8					PT-112-23-24				
9									
10									

SEDIMENT CORING LOG

CORING LOCATION: PT-13

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

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

SEDIMENT CORING LOG

CORING LOCATION: PT-13

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)		SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
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				
		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

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)		SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
0		SM	SM	100	PT-14-18-19	Gray silty fine to medium sand with occasional wood debris (wood chips), shell fragments and gravel	NS	20	
1					PT-14-19-20				
2					PT-14-20-21				
		ML	ML			Gray silt with occasional wood debris (wood chips)	NS	5	
3					PT-14-21-22				
4					PT-14-22-23				
		SM	SM			Gray silty fine to medium sand with occasional wood debris (wood chips) and gravel	NS	<10	
5		SM	SM	96	PT-14-23-24	Gray silty fine to medium sand with occasional wood debris (wood chips) and shell fragments	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

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

Depth Below Mudline (ft)	Scale	GROUP / FEET RECOVERED	CLASSIFICATION / FEET DRIVEN	Recovery (%)		SEDIMENT DESCRIPTION	Sheen	Wood Content (%)	COMMENTS
10		SM	SM	100	PT-14-28-29	Gray silty fine to medium sand with occasional shell fragments	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	Gray silty fine to medium sand with occasional shell f	NS	0	
16					PT-14-34-35				
17					PT-14-35-36				
18					PT-14-36-37				
19					PT-14-37-38				
20									

Drilled Start	End	Total Depth (m)	Logged By / Checked By	Driller	Drilling Method
10/24/2018	10/24/2018	0.18	RST / RCL	Gravity Marine Service	Power Grab

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-34.5	MLLW	Research Vessel Mazama

Easting (X) / Northing (Y)	Horizontal Datum
1298112.24 / 358063.72	WA State Plane,North NAD83 (feet)

Notes:

Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
10:20:00 AM	38.7	4.2

Depth (meters)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
0.0		100		ST-101S 0-10 CA		SM	Dark gray silty fine sand with occasional shell fragments	NS	0%	Moderate H_2S odor, trace organics (roots)
						SP-SM	Gray fine to medium sand with silt and occasional shell fragments			
0.1										

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

Log of Boring ST-101S

GeoEngineers

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

Figure A-16
Sheet 1 of 1

Drilled Start	End	Total Depth (m)	Logged By / Checked By	Driller	Drilling Method
10/24/2018	10/24/2018	0.17	RST / RCL	Gravity Marine Service	Power Grab

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-16.8	MLLW	Research Vessel Mazama

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298109.15 / 358013.67	WA State Plane,North NAD83 (feet)	11:00:00 AM	20.6	3.8

Notes:

Depth (meters)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
0.0		100		ST-102S 0-10 CA		SM	Gray silty fine sand	NS	0%	Slight H_2S odor
						SP	Black fine to medium sand			
0.1										

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

Log of Boring ST-102S

GeoEngineers

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

Figure A-17
Sheet 1 of 1

Drilled Start	End	Total Depth (m)	Logged By / Checked By	Driller	Drilling Method
10/24/2018	10/24/2018	0.18	RST / RCL	Gravity Marine Service	Power Grab

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-13.1	MLLW	Research Vessel Mazama

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298182.18 / 358040.1	WA State Plane,North NAD83 (feet)	11:30:00 AM	16.8	3.7

Notes:

Depth (meters)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
0.0		100		ST-103S 0-10 CA		SM	Gray silty fine to medium sand with shell fragments	NS	0%	Slight H_2S odor
						SP	Dark gray fine to medium sand with shell fragments			
0.1										

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

Log of Boring ST-103S

GeoEngineers

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

Figure A-18
Sheet 1 of 1

Drilled Start	End	Total Depth (m)	Logged By / Checked By	Driller	Drilling Method
10/24/2018	10/24/2018	0.16	RST / RCL	Gravity Marine Service	Power Grab

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-14.7	MLLW	Research Vessel Mazama

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298256.99 / 358075.83	WA State Plane,North NAD83 (feet)	12:20:00 PM	18.9	4.2

Notes:

Depth (meters)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
0.0		100		ST-104S 0-10 CA		SM	Gray silty fine to medium sand	NS	0%	Slight H_2S odor
						SP	Dark gray fine to medium sand			
0.1										

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

Log of Boring ST-104S

GeoEngineers

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

Figure A-19
Sheet 1 of 1

Drilled Start	End	Total Depth (m)	Logged By / Checked By	Driller	Drilling Method
10/24/2018	10/24/2018	0.16	RST / RCL	Gravity Marine Service	Power Grab

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-33.1	MLLW	Research Vessel Mazama

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298270.41 / 358164.97	WA State Plane,North NAD83 (feet)	1:40:00 PM	38.7	5.6

Notes:

Depth (meters)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
0.0		100		ST-105S 0-10 CA		SM	Gray silty fine to medium sand with occasional shell fragments	NS	0%	Moderate H_2S odor, trace organic (plant debris)
						SP	Dark gray fine to medium sand			
0.1										

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

Log of Boring ST-105S

GeoEngineers

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

Figure A-20
Sheet 1 of 1

Drilled Start	End	Total Depth (m)	Logged By / Checked By	Driller	Drilling Method
10/24/2018	10/24/2018	0.17	RST / RCL	Gravity Marine Service	Power Grab

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-18	MLLW	Research Vessel Mazama

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298332.63 / 358167.01	WA State Plane,North NAD83 (feet)	1:45:00 PM	24.2	6.2

Notes:

Depth (meters)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
0.0		100		ST-106S 0-10 CA		SM	Gray silty fine to medium sand with occasional shell fragments	NS	0%	Slight H_2S odor, trace organic (plant debris)
						SP	Gray fine to medium sand with occasional shell fragments			
0.1						SP	Dark gray medium sand			

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

Log of Boring ST-106S

GeoEngineers

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

Figure A-21
Sheet 1 of 1

Drilled Start	End	Total Depth (m)	Logged By / Checked By	Driller	Drilling Method
10/24/2018	10/24/2018	0.17	RST / RCL	Gravity Marine Service	Power Grab

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-36.9	MLLW	Research Vessel Mazama

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298375.88 / 358297.99	WA State Plane,North NAD83 (feet)	2:50:00 PM	44.8	7.9

Notes:

Depth (meters)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
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_2S odor, trace organics (plant debris)
0.1						SP-SM	Dark gray fine to medium sand with silt			

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

Log of Boring ST-107S

GeoEngineers

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

Figure A-22
Sheet 1 of 1

Drilled Start	End	Total Depth (m)	Logged By / Checked By	Driller	Drilling Method
10/24/2018	10/24/2018	0.16	RST / RCL	Gravity Marine Service	Power Grab

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-36.4	MLLW	Research Vessel Mazama

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298786.25 / 358792.39	WA State Plane,North NAD83 (feet)	3:20:00 PM	44.9	8.5

Notes:

Depth (meters)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
0.0		100		ST-108S 0-10 CA		ML	Dark gray to black silt with sand and occasional shell fragments	NS	0%	Moderate H_2S odor
0.1										

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

Log of Boring ST-108S

GeoEngineers

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

Figure A-23
Sheet 1 of 1

Drilled Start	End	Total Depth (m)	Logged By / Checked By	Driller	Drilling Method
10/24/2018	10/24/2018	0.16	RST / RCL	Gravity Marine Service	Power Grab

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-33.1	MLLW	Research Vessel Mazama

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298815.49 / 358863.17	WA State Plane,North NAD83 (feet)	4:00:00 PM	43.2	10.1

Notes:

Depth (meters)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
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_2S odor
0.1										

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

Log of Boring ST-109S

GeoEngineers

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

Figure A-24
Sheet 1 of 1

Drilled	Start 10/22/2018	End 10/23/2018	Total Depth (ft)	18	Logged By / Checked By	RST / RCL	Driller	Gravity Marine Service	Drilling Method	Vibracore
Mudline Elevation (ft)	-33.7		Vertical Datum	MLLW	Drilling Equipment	MV Prudhoe Bay				
Easting (X) / Northing (Y)	1298117.92 / 358064.95		Horizontal Datum	WA State Plane,North NAD83 (feet)	Surface Water Time Measured	9:30:00 AM	Depth to Mudline (ft)	37.7	Water Elevation (ft)	4
Notes:										

Elevation (feet)	Depth (feet)	Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	0		97		ST-101C 0-0.2		ML	Gray-brown silt with sand and occasional shell fragments and trace wood debris	NS	<1%	DMMU-1A-COMP CA
-35					ST-101C 0.2-1.2				NS	<1%	
					ST-101C 1.2-2.2				NS	10%	DMMU-1B-COMP CA
					ST-101C 2.2-3.2		ML	Gray-brown silt with sand	NS	0%	
							SP	Gray medium to coarse sand			
					ST-101C 3.2-4.2				NS	0%	DMMU-1C-COMP CA
	5				ST-101C 4.2-5.2				NS	0%	
-40					ST-101C 5.2-6.2				NS	0%	DMMU-1D-COMP CA
					ST-101C 6.2-7.2				NS	0%	DMMU-1 Keyway and Backslope CA
					ST-101C 7.2-8.2				NS	0%	
					ST-101C 8.2-9.2				NS	0%	
	10				ST-101C 9.2-10.2		SM	Gray silty fine to coarse sand	NS	0%	
-45					ST-101C 10.2-11.2				NS	0%	
					ST-101C 11.2-12.2				NS	0%	
					ST-101C 12.2-13.2				NS	0%	Z-Layer CA
					ST-101C 13.2-14.2 CA		SP	Gray fine to coarse sand with gravel	NS	0%	
	15				ST-101C 14.2-15.2				NS	0%	
-50					ST-101C 15.2-16.2				NS	0%	
					ST-101C 16.2-17.2				NS	0%	
					ST-101C 17.2-17.5						

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

Log of Boring ST-101C

GeoEngineers

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

Figure A-25
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	10/23/2018	10/23/2018	10.5	RST	RCL	Gravity Marine Service	Vibracore

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-15.7	MLLW	MV Prudhoe Bay

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298107.96 / 358010.38	WA State Plane,North NAD83 (feet)	1:00:00 PM	21.1	5.4

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	0		91		ST-102C 0-1.0		SP	Gray fine to medium sand with occasional shell fragments	NS	0%	DMMU-1A-COMP CA
					ST-102C 1.0-2.0				NS	0%	
					ST-102C 2.0-3.0		SM	Dark gray silty fine to medium sand and occasional wood debris (twigs, fibers, chips)	NS	10%	DMMU-1B-COMP CA
					ST-102C 3.0-4.0				NS	10%	
-20					ST-102C 4.0-5.0				NS	10%	DMMU-1C-COMP CA
	5				ST-102C 5.0-5.3				NS	10%	
					ST-102C 5.3-6.3				NS	10%	DMMU-1 Keyway and Backslope
					ST-102C 6.3-7.3 CA				NS	1%	Z-Layer CA
					ST-102C 7.3-8.3 CA		SM	Dark gray silty fine to medium sand	NS	0%	
-25					ST-102C 8.3-9.3		SP	Dark gray fine to medium sand with occasional gravel	NS	0%	
	10				ST-102C 9.3-10.3				NS	0%	

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

Log of Boring ST-102C

GeoEngineers

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

Figure A-26
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	10/23/2018	10/23/2018	18	RST	RCL	Gravity Marine Service	Vibracore

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-12.9	MLLW	MV Prudhoe Bay

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298182.102 / 358040.15	WA State Plane,North NAD83 (feet)	3:30:00 PM	22.9	10

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	0		75		ST-103C 0-0.7		SP	Gray fine to medium sand with trace shell fragments	NS	<1%	DMMU-1A-COMP CA
					ST-103C 0.7-1.7				NS	<1%	
-15					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%	
	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
-20					ST-103C 5.7-6.7 CA				NS	10%	
					ST-103C 6.7-7.7				NS	5%	DMMU-1D-COMP CA
					ST-103C 7.7-8.7 CA				NS	<1%	
					ST-103C 8.7-9.7		SM	Gray silty fine to medium sand	NS	<1%	DMMU-1E-COMP CA
	10				ST-103C 9.7-10.7 CA				NS	<1%	
-25					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%	
	15				ST-103C 14.7-15.7		SP	Gray fine to medium sand with trace gravel	NS	0%	DMMU-1H-COMP
-30					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

GeoEngineers

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

Figure A-27
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
	10/26/2018	10/26/2018	19	RST / RCL	Gravity Marine Service	Vibracore

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-17.1	MLLW	MV Prudhoe Bay

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water: Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298254.73 / 358082.89	WA State Plane,North NAD83 (feet)	9:50:00 AM	25.4	8.3

Notes:

Elevation (feet)	Depth (feet)	Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	0		96		ST-104C 0.1-1.1		SP	Gray fine to medium sand with trace shell fragments	NS	0%	DMMU-1A-COMP CA
					ST-104C 1.1-2.1				NS	0%	
-20					ST-104C 2.1-3.1				NS	0%	DMMU-1B-COMP CA
					ST-104C 3.1-4.1				NS	0%	
	5				ST-104C 4.1-5.1				NS	0%	DMMU-1C-COMP CA
					ST-104C 5.1-6.1				NS	0%	
					ST-104C 6.1-6.7				NS	0%	DMMU-1D-COMP CA
					ST-104C 6.7-7.3				NS	0%	DMMU-1 Keyway and Backslope
-25					ST-104C 7.3-8.3 CA		SM	Gray-brown silty fine to medium sand and occasional wood debris (twigs and chips)	NS	0%	Z-Layer CA
					ST-104C 8.3-9.3 CA				NS	10%	
	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%	
-30					ST-104C 12.3-13.3		SP	Gray fine to medium sand	NS	5%	
					ST-104C 13.3-14.3				NS	0%	
	15				ST-104C 14.3-15.3				NS	0%	
					ST-104C 15.3-16.3				NS	0%	
					ST-104C 16.3-17.3				NS	0%	
-35					ST-104C 17.3-18.3				NS	0%	

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

Log of Boring ST-104C

GeoEngineers

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

Figure A-28
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	10/26/2018	10/26/2018	19	RST	RCL	Gravity Marine Service	Vibracore

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-34.2	MLLW	MV Prudhoe Bay

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298269.76 / 358173.09	WA State Plane,North NAD83 (feet)	1:00:00 PM	39.5	5.3

Notes:

Elevation (feet)	Depth (feet)	Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
-35	0		100		ST-105C 0.2-1.2		ML	Dark gray silt with sand and trace wood debris (chips and fibers)	SS	5%	DMMU-1A-COMP CA
					ST-105C 1.2-2.2				SS	5%	
					ST-105C 2.2-3.2				SS	5%	DMMU-1B-COMP CA
					ST-105C 3.2-4.2		SM	Dark gray silty fine to medium sand and trace wood debris (fibers)	NS	<5%	
					ST-105C 4.2-5.2				NS	<5%	DMMU-1C-COMP CA
-40	5				ST-105C 5.2-6.2				NS	<1%	
					ST-105C 6.2-6.8				NS	<1%	DMMU-1D-COMP CA
					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%	
-45	10				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		
-50	15				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

GeoEngineers

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

Figure A-29
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	10/26/2018	10/26/2018	16.1	RST	RCL	Gravity Marine Service	Vibracore

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-20	MLLW	MV Prudhoe Bay

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298325.12 / 358160.23	WA State Plane,North NAD83 (feet)	11:30:00 AM	25.4	5.4

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	0		75		ST-106C 0.0-0.7		SP	Dark gray fine to medium sand with trace shell fragments	NS	0%	DMMU-1A-COMP CA
					ST-106C 0.7-1.7				NS	0%	DMMU-1 Keyway and Backslope
					ST-106C 1.7-2.7				NS	0%	
					ST-106C 2.7-3.1				NS	0%	
					ST-106C 3.1-4.1 CA		SM	Dark gray-black silty fine to medium sand with trace shell fragments	NS	0%	Z-Layer CA
-25	5				ST-106C 4.1-5.1 CA				NS	0%	
					ST-106C 5.1-6.1				NS	0%	
					ST-106C 6.1-7.1		SP	Dark gray fine to medium sand with trace shell fragments	NS	0%	
					ST-106C 7.1-8.1				NS	0%	
					ST-106C 8.1-9.1				NS	0%	
-30	10				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%	
-35	15				ST-106C 14.1-15.1						

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

Log of Boring ST-106C

GeoEngineers

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

Figure A-30
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	10/25/2018	10/25/2018	14.3	RST	RCL	Gravity Marine Service	Vibracore

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-36.7	MLLW	MV Prudhoe Bay

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298372.353 / 358293.227	WA State Plane,North NAD83 (feet)	10:30:00 AM	43.2	6.5

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
-40	0		85		ST-107C 0-0.9		SM	Gray-black silty fine to medium sand with occasional shell fragments	NS	0%	DMMU-1A-COMP CA
					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	Gray fine to medium sand with occasional shell fragments	NS	0%	DMMU-1C-COMP CA
	5				ST-107C 4.2-5.2 CA				NS	0%	Z-Layer CA
					ST-107C 5.2-6.2				NS	0%	
-45					ST-107C 6.2-7.2				NS	0%	
					ST-107C 7.2-8.2			Decreasing shell fragment content	NS	0%	
					ST-107C 8.2-9.2				NS	0%	
	10				ST-107C 9.2-10.2			Trace shell fragments	NS	0%	
					ST-107C 10.2-11.2				NS	0%	
					ST-107C 11.2-12.2				NS	0%	
-50					ST-107C 12.2-13.2				NS	0%	
					ST-107C 13.2-14.2						

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

Log of Boring ST-107C

GeoEngineers

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

Figure A-31
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
10/25/2018	10/25/2018	16	RST / RCL	Gravity Marine Service	Vibracore

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-37	MLLW	MV Prudhoe Bay

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298784.327 / 358793.859	WA State Plane,North NAD83 (feet)	4:00:00 PM	45.9	8.9

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	0		98		ST-108C 0.2-1.2		SM	Gray-brown silty fine sand with wood debris (chips, bark)	SS	50%	DMMU-2A-COMP CA
					ST-108C 1.2-2.2		SM	Gray-brown silty fine sand with gravel, wood debris (chips, sawdust) and occasional shell fragments	SS	30%	
-40					ST-108C 2.2-3.2			With sulfur nodules	NS	30%	DMMU-2B-COMP CA
					ST-108C 3.2-4.2				NS	30%	
	5				ST-108C 4.2-5.2				NS	30%	DMMU-2C-COMP CA
					ST-108C 5.2-6.2				NS	30%	
					ST-108C 6.2-6.6		SP	Gray fine to medium sand with occasional shell fragments	NS	30%	DMMU-2D-COMP CA
-45					ST-108C 6.6-7.6 CA				NS	0%	Z-Layer CA
					ST-108C 7.6-8.6				NS	0%	
					ST-108C 8.6-9.6 CA				NS	0%	
	10				ST-108C 9.6-10.6				NS	0%	
					ST-108C 10.6-11.6				NS	0%	
-50					ST-108C 11.6-12.6				NS	0%	
					ST-108C 12.6-13.6				NS	0%	
					ST-108C 13.6-14.6				NS	0%	
	15				ST-108C 14.6-15.6				NS	0%	

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

Log of Boring ST-108C

GeoEngineers

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

Figure A-32
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	10/25/2018	10/25/2018	18.3	RST	RCL	Gravity Marine Service	Vibracore

Mudline Elevation (ft)	Vertical Datum	Drilling Equipment
-28.8	MLLW	MV Prudhoe Bay

Easting (X) / Northing (Y)	Horizontal Datum	Surface Water Time Measured	Depth to Mudline (ft)	Water Elevation (ft)
1298854.602 / 358853.896	WA State Plane,North NAD83 (feet)	1:45:00 PM	34.3	5.5

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered %	Collected Sample	Sample Name / Testing	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Wood Content (%)	REMARKS
	0		95		ST-109C 0.4-1.4		WD	Dark gray-black wood debris (sawdust and chips) with shell hash	MS	75%	DMMU-2A-COMP
-30					ST-109C 1.4-2.4				MS	75%	
					ST-109C 2.4-3.4				MS	75%	DMMU-2B-COMP
					ST-109C 3.4-4.4				MS	75%	
	5				ST-109C 4.4-5.4				MS	75%	DMMU-2C-COMP
-35					ST-109C 5.4-6.4				MS	75%	
					ST-109C 6.4-7.4		ML	Gray silt with shell fragments and wood debris	MS	75%	DMMU-2D-COMP
					ST-109C 7.4-8.3				NS	50%	
					ST-109C 8.3-9.3 CA		SM	Gray silty fine to medium sand	NS	30%	Z-Layer CA
	10				ST-109C 9.3-10.3				NS	0%	
-40					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%	
	15				ST-109C 14.3-15.3				NS	0%	
-45					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

GeoEngineers

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

Figure A-33
Sheet 1 of 1