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TRANSIT

All-Weather Notebook
No. 301

East Waterway - Recontamination Monitoring 2007

4 5/8" x 7" - 48 Numbered Pages

"Rite in the Rain"®
ALL-WEATHER WRITING PAPER

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CONTENTS

PAGE	REFERENCE	DATE

2/6/07 A. Rodriguez

Project: EW Recontamination Monitoring

0815 Arrive at Harbor Island Marina & load boat w/ supplies

Weather: Overcast, foggy, 45°C, S 5-10 wind

Crew: Thai Do, Windward
Kathleen Hurley, Windward
Angelita Rodriguez, Windward
Charlie Eaton, Bio-Marine
Tom Putman, Bio-Marine

Objective: To collect depth cores & to identify locations that have sed deposition > 2cm that trigger a grab sample; need target penetration depth of 80cm (2.7')

0830 Set up core sampling equipment w/ Shawn Hinz

0845 Peter Leon, Parametrix representing EPA oversight arrives

0908 Contact US Coast Guard traffic control to inform of sampling area in East waterway

2/6/07 A. Rodriguez

0911 Health & Safety meeting

0915 Head to station EW-RM-31

0938 Arrive at station

0940 Contact Shawn Hinz for details to setup Vibracore float package

1009 EW-RM-31, depth core 1
Water depth = 18.2m
Penetration = 6'
Recovery = 1.3'
Initial depth = 55'
Final depth = 61', Rejected

1035 AF ~~EW-RM-31~~ EW-RM-31, depth core 2
Water depth = 19m
Initial depth = 65'
Final depth = 71'
Penetration = 6'
Recovery = 34"
Sed deposition ~1.5cm, no grab sample
Photos taken (3)
Cap depth = 14cm

2/6/07 A. Rodriguez

1125 Arrive at location EW-RM-33

1128 Attempt depth core 1 at EW-RM-33
Water depth = 19m
Initial depth = 65ft
Final depth = 69'
Penetration = 4'
Recovery = 39"
Depositional layer depth varied b/w 1-3cm therefore a grab sample will need to be collected for chemistry. Cap depth = 18cm
Photos taken (2)

1200 Lunch break

1231 Arrive at location EW-RM-37
1235 Attempt depth core 1
Water depth = 18m
Initial depth = 63'
Final depth = 69'
Penetration = 6'
Recovery = 31"

2/6/07 A. Rodriguez

EW-RM-37 Cont'd
Depositional layer depth varied b/w 3-5cm thus a grab sample will be collected for chemistry
Photos taken (2) Cap depth: 14cm

1258 Arrive at location EW-RM-39
1300 Attempt depth core 1
Water depth = 17.9m
Initial depth = 63'
Final depth = 70'
Penetration = 7'
AR ~~Rec~~ Recovery = none, core tube empty due to insufficient penetration
Rejected

1308 Attempt depth core 2
Water depth = 18.2m
Initial depth = 63'
Final depth = 68'
Penetration = 5'
Recovery = 33"

2/6/07 A. Rodriguez

EW-RM-39 Cont'd
Depositional layer depth varied b/w 2.5-5cm, thus a grab sample will be collected for chemistry
Photos taken (2) Cap depth = 15cm

1339 Arrive at location EW-RM-40
1343 Attempt depth core 1
Water depth = 18m
Initial depth = 63'
Final depth = Tape fell off core tube
Pentration = none
Recovery = none, core tube empty due to lack of penetration; rejected

1355 Attempt depth core 2
Water depth = 18.1m
Initial depth = 62'
Final depth = 65'
Penetration = 3'
Recovery = 20" Photos taken (2)
Depositional layer depth varied b/w 1.5 - 2.5cm, thus a grab sample will be collected for chemistry. Cap depth 15cm

2/6/07 A. Rodriguez

EW-RM-40 Con'td
Depth core 2 may be the best recovery the vibracore can get but a 3rd attempt will be made. If the 3rd attempt is unsuccessful or produces a recovery < 20" the field crew will base their best professional judgement on attempt 2.

1428 Attempt depth core 3
Water depth = 18m
Initial depth = 61'
Final depth = 67'
Penetration = 6'
Recovery = 44" Photo taken
Can not distinguish the cap layer (e.g. sand) & (fines) depositional layer. Recommend taking a grab sample for chemistry.

2/6/07 A. Rodriguez

1500 Arrive at ~~loc~~ AR location EW-RM-42

1503 Attempt depth core 1
Water depth = 17.7m
Initial depth = 61'
Final depth = 66'
Penetration = 5'
Recovery = 32" Photo taken
Depositional layer depth varied b/w 0- 2.3 cm and cap layer depth is ~ 12 cm. WW & Peter agree to recommend a grab sample be collected for chemistry.

1532 Arrive at location EW-RM-44

1533 Attempt depth core 1
Water depth = 18.2 m
Initial depth = 63'
Final depth = 68'
Penetration = 5'
Recovery = 40.5" Photos taken (2)
Can not distinguish the interface layer b/w the depositional layer (~6cm) & cap layer (~ 38cm depth).

2/6/07 A. Rodriguez

EW-RM-44 Cont'd
Therefore, the depositional layer may be > 2cm so WW & Peter agree to recommend a grab sample be collected for chemistry.

1616 Arrive at location EW-RM-43

1619 Attempt depth core 1
Water depth = 18.5m
Initial depth = 63'
Final depth = 68'
Penetration = 5'
Recovery = 31"
Depositional layer depth was > 2cm and the cap layer (sand) was ~ 24cm.
Photos taken (2)

Peter had recommendations
1) Change the core tube after about 8 core attempts b/c the core tube becomes difficult to observe the interface layer

2/6/07 A. Rodriguez

Peter's recommendations cont'd

2) Sed grabs only collected from Zone 3, The Mound according to 2005 Recontamination Monitoring Plan.

1717 Arrive at Harbor Island Marina

1745 Arrive at office

1830 End of day

2/6/07

2/7/07 A. Rodriguez

0800 Arrive at Harbor Island Marina

0820 Load boat w/ larger vibracore head & boat package & assemble. Set vibracore to ~50 Hz

Weather: Overcast, 49°C

Field crew: A. Rodriguez (WW)
K. Hurley (WW)
T. Do (WW)
C. Eaton (Bio Marine)
T. Putnam (" ")

Vessel: Kittiwake

0840 Susie McGroddy calls to discuss EW-RM-40 activity from 2/6/07 & to confirm that all locations in Zone 3 are core & grab locations. In addition, the max level of effort for each location is 3 core attempts.

0853 Contact US Coast Guard traffic control

Objective: To complete core sampling at all 10 core & grab locations

2/7/07 A. Rodriguez

0900 Head to station EW-RM-30

0930 Attempt depth core 1, good
Water depth = 19.8m
Initial depth = 70'
Final depth: NR b/c tape broke off
* NOTE Penetration = NR
Recovery = 64"
Depositional layer depth = 4cm
Cap layer depth = 24cm
* NR = Not recorded

0952 Contact Shawn Hinz, Anchor to confirm measurements of Vibracore equipment
Base of large vibracore 20" x 24"
Base of float package 20" x 14"

EW-RM-32

0956 Attempt depth core 1, rejected
Water depth = 19.5m
Initial depth = 70"
Final depth = 76"

2/7/07 A. Rodriguez

EW-RM-32 Cont'd
Penetration = 6'
Recovery = 15"
Depositional layer depth = NR
Cap layer depth = NR
Core rejected b/c of low recovery
It appears the core material fell out the bottom on the way up for retrieval.

1012 Attempt depth core 2, good
Water depth = 19.8m
Initial depth = 71'
Final depth = 76'
Penetration = 5'
Recovery = 63"
Depositional layer depth = 2-4cm
Cap layer depth = 40cm
Photos taken (4)

1033 EW-RM-10
Attempt depth core 1, good
Water depth = 19.9m
Initial depth = 69'

2/7/07 A. Rodriguez

EW-RM-10 Cont'd
Final depth = 74'
Penetration = 5'
Recovery = 32"
Depositional layer depth = 2-5cm
Cap layer depth = 26 cm
Photos taken (2)

EW-RM-34
1052 Attempt depth core 1, good
Water depth = 19.2m
Initial depth = 69'
Final depth = 74'
Penetration = 5'
Recovery = 60"
Depositional layer depth = 2-4cm
Cap layer depth = 25cm
Photos taken (2)

1100 Re-shape the core plug and head to Zone 3

2/7/07 A. Rodriguez

1132 Arrive at EW-RM-35
1136 Attempt depth core 1, good
Water depth = 14.1m
Initial depth = 53.5'
Final depth = 58.5'
Penetration = 5'
Recovery = 55"
Depositional layer depth = 3cm
Cap layer depth = 17cm
Photos taken (3)

1203 Arrive at EW-RM-15
1206 Attempt depth core 1, good
Water depth = 15.8m
Initial depth = 58'
Final depth = 63'
Penetration = 5'
Recovery = 32"
Depositional layer depth = 3cm
Cap layer depth = 17cm
Photos taken (3)
1220 Lunch break

1245 Change core tube

2/7/07 A. Rodriguez

1255 Head to EW-RM-46

1302 Attempt depth core 1, rejected
Water depth = 18.2m
Initial depth = 65'
Final depth = 69'
Penetration = 4'
Recovery = 16"
Depositional layer depth = NR
Cap layer depth = NR
Photos taken none
Core rejected b/c of insufficient recovery.

1319 Attempt depth core 2, good
Water depth = 18m
Initial depth = 64'
Final depth = 70.5'
Penetration = 6.5'
Recovery = 51"
Depositional layer depth = 2-5 cm
Cap layer depth = 85 cm
Photos taken None
Adjust Vibracore to 40 Hz

2/7/07 A. Rodriguez

1335 Arrive at EW-RM-36

1339 Attempt depth core 1, rejected
Water depth = 18.1m
Initial depth = ~~64~~ 65'
Final depth = 71'
Penetration = 6'
Recovery = 23", insufficient
Depositional layer depth = NR; very coarse gravel/sand abundant
Cap layer depth = NR
Photos taken none

1401 Replace shackle on left side of Vibracore

1411 Attempt depth core 2, rejected
Water depth = 18.1m
Initial depth = 65'
Final depth = 72'
Penetration = 7'
Recovery = ~12"
Depositional layer depth = NR
Cap layer depth = NR
Photos taken (2)
Water drained out of core plug & washed out core sample and resulted insufficient recovery

2/7/07 A. Rodriguez

EW-RM-36 Cont'd

1436 Attempt depth core 3, good
Water depth=
Initial depth= 65'
Final depth= 72'
Penetration= 7', Vibracore 45-50 Hz
Recovery = 54"
Depositional layer depth=3-5cm
Cap layer depth= 30cm
Photos taken (2)

1500 Core head of plug needs to adjusted
& adjust Vibracore to 50 Hz

1510 Head to EW-RM-3B

1517 Attempt depth core 1, good
Water depth= 15m
Initial depth=54'
Final depth= 60'
Penetration=6'
Recovery=57"
Depositional layer depth=1.8-2cm
Cap layer depth= 15cm
Photos taken (2)

2/7/07 A. Rodriguez

1530 Head to EW-RM-27

1537 Attempt depth core 1
Water depth= 17.3m
Initial depth=63'
Final depth= 69'
Penetration=6'
Recovery=54"
Depositional layer depth= 4cm
Cap layer depth= 35cm
Photos taken (2)

1545 Contact Shawn Hinz to coordinate pick up of the Vibracore equipment & supplies
In addition, contact Susie to give a summary of the field activities.

1615 Arrive at Harbor Island Marina

1630 Left Harbor Island Marina

1640 Arrive at office

2/7/07

2/8/07 A. Rodriguez

0805 Arrive at Harbor Island Marina
0815 Unload Vibracore equipment & set up Van Veen Grab station
Weather: Partly cloudy, light precip 48°C
Field crew: A. Rodriguez (WW)
K. Hurley (WW)
T. Do (WW)
C. Eaton (Bio-Marine)
T. Putnam (Bio-Marine)
Vessel: Kittiwake

Objective: To collect grab samples at 22 sampling locations

0830 Contact US Coast Guard traffic control

0833 Head to East Waterway sampling area

0905 Arrive at ~~EW-RM-~~ EW-RM-45 (AR) & collect grab, duplicate ~~EW~~ EW-RM07-101 & rinsate blanks

0925 EW-RM-29 collect grab sample

2/8/07 A. Rodriguez

0939 EW-RM-30 collect grab sample

EW-RM-4
0952 First grab attempt got hung up & came up empty. Redo
0955 Collect grab sample

1008 EW-RM-32 collect grab sample

1026 EW-RM-10 collect grab sample

1039 EW-RM-33 collect grab sample

EW-RM-46
1050 First grab attempt washed out, reject
1054 Collect grab sample

1109 EW-RM-36 collect grab sample

1119 EW-RM-34 collect grab sample

EW-RM-15
1131 First grab attempt caught a rock in jaws low recovery; reject

2/8/07 A. Rodriguez

EW-RM-15 cont'd

1135 2nd grab attempt had very coarse rocks caught in jaws, very low recovery reject

1139 3rd grab attempt also had very coarse rocks caught in jaws, very low recovery reject

1141 Move 2m SW from location b/c maybe on the slope & need to move off for a better location & less coarse material

1143 4th grab had low recovery, reject

1146 5th grab had low recovery, reject

1150 6th grab had low recovery, reject

1155 Contact Susie McGroddy about the low recovery & unsuccessful grab attempts at EW-RM-15 due to the slope & coarse sub angular gravel.

Move 2m South of EW-RM-15

1158 7th grab empty, reject

Will wait to hear from Susie regarding ~~EW~~ (AR) how to proceed with this location.

2/8/07 A. Rodriguez

1205 EW-RM-37 grab collected & field duplicate EW-RM07-102 MS/MSD and grain size triplicate

EW-RM-38

1217 1st grab attempt unsuccessful; low recovery & rejected; will return to station

1250 Susie McGroddy calls to direct field crew to take as many grabs as necessary to obtain the req'd sed amount for lab analysis. Therefore, the field crew will composit the grab samples

1255 EW-RM-39 collect grab sample

EW-RM-40

1303 1st grab low recovery, reject

1307 Collect grab sample

1318 EW-RM-47 collect grab sample

1328 EW-RM-41 collect grab sample

2/8/07 A. Rodriquez

1330 EW-RM-42 collect grab sample

1346 EW-RM-43 collect grab sample

1355 EW-RM-27 collect grab sample

1405 EW-RM-44 collect grab sample

1415 Return to Zone 3 to complete EW-RM-15, EW-RM-35, EW-RM-38

1416 EW-RM-15 collect grab sample 1 w/6cm of penetration depth

1422 EW-RM-15 Collect grab sample 2 w/5cm of penetration depth

1426 EW-RM-15 collect grab sample 3 w/5cm of penetration depth

Grab 1 47°34.7401 122° 20.6233
Grab 2 47°34.7400 122° 20.6236
Grab 3 47°34.7404 122° 20.6234

Composited all 3 grab samples to meet the req'd sed amount for chemical analysis.

2/8/07 A. Rodriquez

1439 EW-RM-35 collect grab sample 1 w/6 cm of penetration depth

1446 EW-RM-35 collect grab sample 2 w/4 cm of penetration depth

1452 EW-RM-35 collect grab sample 3 w/5cm of penetration depth

Composit all 3 grab samples to meet the req'd sed amount for Chemical analysis.

Grab 1 47°34.7512 122°20.6165
Grab 2 47°34.7506 122°20.6170
Grab 3 47°34.7507 122°20.6167

1500 EW-RM-38 collect grab sample 1 w/6 cm of penetration depth

EW-RM-38 collect grab sample 2 w/8 cm of penetration depth

EW-RM-38 Composited 2 grab samples to meet the req'd sed amt for chemical analysis

Grab 1 47°34.7921 122°20.6097
Grab 2 47°34.7917 122°20.6092

1516 Head back to Harbor Island Marina

1520 Called Susie to give her update of efforts.

2/8/07 A. Rodriguez

1539 Arrive at Harbor Island Marina

1615 ~~Arrive~~ (AR) Head to office from Harbor Island Marina

1630 Arrive at office

Angel Rodriguez
2/8/07

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly Cloudy
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

DL = Depositional layer depth

GRAB DATA	Location ID: EW-RM-45			
Latitude: 47 34.62N		Longitude: 122 20.7170		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
0905	20.2	13.5	Y	

SAMPLE DATA	Sample ID: EW-RM07-45		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL = 4 cm
gravel	drab olive	slight / petroleum	
sand: C M F	brown	moderate / other:	Worms, clam shell
silt	gray	strong	Field duplicate EW-RM07-101
clay	black		Rinsate blanks, MS/MSD, GS Trip

GRAB DATA	Location ID: EW-RM-29			
Latitude: 47 34.6333		Longitude: 122 20.6457		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
0925	19.8	~~19.8~~ 16	Y	

SAMPLE DATA	Sample ID: EW-RM07-29		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL = 2 cm
gravel	drab olive	slight / petroleum	
sand: C M F	brown	moderate / other:	Organic matter, worms
silt	gray	strong	
clay	black		

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, sunshine, cool
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

GRAB DATA	Location ID: EW-RM-30			
Latitude: 47° 34.6541		Longitude: 122°20.6088		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
0939	19.6	12	Y	

SAMPLE DATA	Sample ID: EW-RM07-30		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL = 3cm
gravel	drab olive	slight / petroleum	
sand: C M F	brown	moderate / other:	Isolated pockets of sheen, organic debris, wood debris, worms
silt trace	gray	strong	
clay	black		

GRAB DATA	Location ID: EW-RM-4			
Latitude: 47° 34.6685		Longitude: 122° 20.7182		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
0952	19.6	NA	N	Grab got hung up came up empty.
0955	19.7	11	Y	

SAMPLE DATA	Sample ID: EW-RM07-4		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL = 1.5 - 2cm
gravel	drab olive	slight / petroleum	
sand: C M F	brown	moderate / other:	Organic material on top Isolated pockets of sheen Worms
silt	gray	strong	
clay	black		

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, cool
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

GRAB DATA	Location ID: EW-RM-32			
Latitude: 47° 34.7124		Longitude: 122° 20.6091		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1008	19.4	16	Y	

SAMPLE DATA	Sample ID: EW-RM07-32			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	DL = 5 cm
gravel	drab olive	slight	petroleum	Worms & organic debris
sand: C M F	brown	moderate	other:	Isolated pockets of sheen
silt	gray	strong		
clay	black			

GRAB DATA	Location ID: EW-RM-10			
Latitude: 47° 34.7138		Longitude: 122° 20.6540		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1026	19.3	15	Y	

SAMPLE DATA	Sample ID: EW-RM07-10			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	DL = 2 cm
gravel	drab olive	slight	petroleum	Isolated pockets of sheen
sand: C M F	brown	moderate	other:	worms
silt trace	gray	strong		
clay	black			

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, cool, light wind
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

GRAB DATA	Location ID: EW-RM-33			
Latitude: 47° 34.7265		Longitude: 122° 20.7055		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1039	19.5	13	Y	

SAMPLE DATA	Sample ID: EW-RM07-33		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL= 3cm
gravel	drab olive	slight / petroleum	isolated pockets of sheen
sand: C M F	brown	moderate / other:	wood debris, plant debris
silt	gray	strong	and bits of trash; worms
clay	black		

GRAB DATA	Location ID: EW-RM-46			
Latitude: 47° 34.7542		Longitude: 122° 20.6878		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1050	19.3	NA	N	Washed out
1054	19.2	13.5	Y	

SAMPLE DATA	Sample ID: EW-RM07-46		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	AR
gravel	drab olive	slight / petroleum	DL= ~~none~~, trace amount
sand: C M F	brown	moderate / other:	Worms & trace organic material.
silt trace	gray	strong	
clay	black		

Windward environmental LLC SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, cool, light wind
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

GRAB DATA	Location ID: EW-RM-36			
Latitude: 47° 34.7708		Longitude: 122° 20.6844		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1109	19.4	12	Y	

SAMPLE DATA	Sample ID: EW-RM07-36		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL = trace amount
gravel	drab olive	slight / petroleum	Isolated pockets of sheen
sand: C M F	brown	moderate / other:	Worms & trace organic material.
silt trace	gray	strong	
clay	black		

GRAB DATA	Location ID: EW-RM-34			
Latitude: 47° 34.7367		Longitude: 122° 20.3636		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1119	19.0	12	Y	

SAMPLE DATA	Sample ID: EW-RM07-34		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL = 3cm
gravel	drab olive	slight / petroleum	Worms, organic debris
sand: C M F	brown	moderate / other:	
silt	gray dark	strong	
clay	black		

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name:	EW Recontamination Monitoring	Project no.:	05-08-09-29
Date:	2.8.07	Weather:	Partly cloudy, sunbreaks, cool
Sampling Method:	0.1 m^2 van Veen grab	Crew:	AR, KH, TD

GRAB DATA	Location ID: EW-RM-15			
Latitude: 47° 34		Longitude: 122° 20.		Coord. not collected for rejects
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1131	16.9	NA	N	Rock in jaws
1135	17	NA	N	Very coarse rock caught in jaws
1139	16.1	NA	N	" "

SAMPLE DATA	Sample ID: EW-RM07-15			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	DL=
gravel	drab olive	slight	petroleum	
sand: C M F	brown	moderate	other:	
silt	gray	strong		
clay	black			

GRAB DATA	Location ID: EW-RM-15			
Latitude: 47°34.		Longitude: 122° 20.		coord. not collected for rejects
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1143	16.9	6	N	Low recovery
1146	16.8	6	N	Low recovery
1150	16.4	3	N	Low recovery

SAMPLE DATA	Sample ID:			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	
gravel	drab olive	slight	petroleum	
sand: C M F	brown	moderate	other:	
silt	gray	strong		
clay	black			

SURFACE SEDIMENT COLLECTION FORM

Windward environmental LLC

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, sunbreaks, light wind
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

GRAB DATA	Location ID: EW-RM-15			
Latitude:		Longitude:		coord. not collected for rejects
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1158	16	NA	N	Empty

SAMPLE DATA	Sample ID: EW-RM07-15			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	
gravel	drab olive	slight	petroleum	Will return to station
sand: C M F	brown	moderate	other:	
silt	gray	strong		
clay	black			

GRAB DATA	Location ID: EW-RM-37			
Latitude: 47° 34.7768		Longitude: 122° 20. 6362		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1205	18.9	15	Y	

SAMPLE DATA	Sample ID: EW-RM07-37			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.) MS/MSD, grain size triplicate
cobble	brown surface	none	H_2S	~~DL~~ DL=3cm
gravel	drab olive	slight	petroleum	
sand: C M F	brown	moderate	other:	Worms, trace wood and plant debris; isolated pockets of sheen.
silt some	gray	strong		Field duplicate EW-RM07-102
clay	black			

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, sunshine, cool
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

GRAB DATA	Location ID: EW-RM-38			
Latitude:		Longitude:		Coord. not collected for rejects
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1217	16	4	N	Low recovery

SAMPLE DATA	Sample ID: EW-RM07-38			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	
gravel	drab olive	slight	petroleum	Will return to station.
sand: C M F	brown	moderate	other:	
silt	gray	strong		
clay	black			

GRAB DATA	Location ID: EW-RM-39			
Latitude: 47° 34.~~7542~~ 8058		Longitude: 122°20.6648		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1255	18.3	15	Y	

SAMPLE DATA	Sample ID: EW-RM07-39			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	DL=4cm
gravel	drab olive	slight	petroleum	Organic debris, wood debris
sand: C M F	brown	moderate	other:	Rinsate blank
silt	gray	strong		
clay	black			

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, sunbreaks, light wind
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, TD, KH

GRAB DATA	Location ID: EW-RM-40			
Latitude: 47°34.8277		Longitude: 122° 20.7147		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1303	18.5	5	N	Low recovery
1307	18.3	13	Y	

SAMPLE DATA	Sample ID: EW-RM07-40			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	DL = none observed
gravel	drab olive	slight	petroleum	Isolated pockets of sheen
sand: C M F	brown	moderate	other:	
silt	gray	strong		
clay	black			

GRAB DATA	Location ID: EW-RM-47			
Latitude: 47°34.8315		Longitude: 122°20.6060		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1318	17.8	13	Y	

SAMPLE DATA	Sample ID: EW-RM07-47			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	Worms and organic material.
gravel	drab olive	slight	petroleum	No cap material (e.g. coarse sand)
sand: C M F	brown	moderate	other:	observed; DL not observed.
silt	gray	strong		
clay	black			

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, sunbreaks, light wind
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

GRAB DATA	Location ID: EW-RM-41			
Latitude: 47° 34.8489		Longitude: 122° 20.6573		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1328	18	15	Y	

SAMPLE DATA	Sample ID: EW-RM07-41		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL=not observed b/c no cap material.
gravel	drab olive	slight / petroleum	Worms and trace organic debris.
sand: C M F	brown	moderate / other:	
silt	gray	strong	
clay	black		

GRAB DATA	Location ID: EW-RM-42			
Latitude: 47° 34.8710		Longitude: 122° 20.6685		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1338	17.4	15	Y	

SAMPLE DATA	Sample ID: EW-RM07-42		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL=1.5 cm
gravel	drab olive	slight / petroleum	Worm, trace organic debris.
sand: C M F	~~brown~~	moderate / other:	
silt trace	gray	strong	
clay	black		

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, sunshine
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

GRAB DATA	Location ID: EW-RM-43			
Latitude: 47° 34.8824		Longitude: 122° 20.6470		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1346	17.5	15	Y	

SAMPLE DATA	Sample ID: EW-RM07-43			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	DL=3cm
gravel	drab olive	slight	petroleum	
sand: C M F	brown	moderate	other:	Abundant worms & organic debris.
silt	gray	strong		
clay	black			

GRAB DATA	Location ID: EW-RM-27			
Latitude: 47° 34.8853		Longitude: 122° 20.6264		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1355	17.1	15	Y	

SAMPLE DATA	Sample ID: EW-RM07-27			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	DL=3cm
gravel	drab olive	slight	petroleum	
sand: C M F	brown	moderate	other:	Organic material, abundant worms, clams.
silt	gray	strong		Isolated pockets of sheen.
clay	black			

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, sunshine, cool
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

GRAB DATA	Location ID: EW-RM-44			
Latitude: 47° 34.9264		Longitude: 122° 20.6257		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1405	17.6	16	Y	

SAMPLE DATA	Sample ID: EW-RM07-44		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL = 4cm
gravel	drab olive	slight / petroleum	Organic material, shell fragments.
sand: C M F	brown	moderate / other:	Abundant worms & couple of clams.
silt	gray	strong	
clay	black		

GRAB DATA	Location ID: EW-RM-15			
Latitude: 47° 34.7401		Longitude: 122° 20.6233		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1416	15	6	Y	Composite the 3 grab samples
1422	15	5	Y	for chemical analysis.
1426	14.8	5	Y	

SAMPLE DATA	Sample ID: EW-RM07-15		
Sediment type:	Sediment color:	Sediment odor:	Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none / H_2S	DL = 3cm avg. of all 3 grabs
gravel	drab olive	slight / petroleum	Organic material
sand: C M F	brown	moderate / other:	Isolated pockets of sheen.
silt	gray	strong	Shell fragments
clay	black		

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: EW Recontamination Monitoring
Project no.: 05-08-09-29
Date: 2.8.07
Weather: Partly cloudy, cool
Sampling Method: 0.1 m^2 van Veen grab
Crew: AR, KH, TD

GRAB DATA	Location ID: EW-RM-35			
Latitude: 47° 34.7612		Longitude: 122° 20.6165		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1439	12.8	6	Y	Composite 3 grab samples
1446	12.8	4	Y	for chemical analysis.
1452	12.8	5	Y	

SAMPLE DATA	Sample ID: EW-RM07-35			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	DL= 2cm avg. of all 3 grabs
gravel	drab olive	slight	petroleum	Worms
sand: C M F	brown	moderate	other:	Isolated pockets of sheen.
silt	gray	strong		
clay	black			

GRAB DATA	Location ID: EW-RM-38			
Latitude: 47° 34.7921		Longitude: 122° 20.6097		
Grab time	Bottom depth (m)	Penetration depth (cm)	Acceptable grab (Y/N)	Comments:
1500	14.9	6	Y	Composite 2 grab samples
1508	14.7	8	Y	for chemical analysis.

SAMPLE DATA	Sample ID: EW-RM07-38			
Sediment type:	Sediment color:	Sediment odor:		Comments: (i.e. organic matter, wood debris, shell fragments, field duplicate, rinsate blank, etc.)
cobble	brown surface	none	H_2S	DL= 2 cm avg. of 2 grabs
gravel lots	drab olive	slight	petroleum	Shell fragments, worms
sand: C M F	brown	moderate	other:	
silt	gray	strong		
clay	black			

PROTOCOL MODIFICATION FORM

Project Name and Number: East Waterway Recontamination Monitoring (05-08-09-29)

Material to be Sampled: Sediment

Measurement Parameter: Penetration depth should be at least 10 cm has been achieved.

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

Collect upper 10 cm from the sampler (Windward 2005).

Reason for Change in Field Procedure or Analysis Variation: Insufficient penetration depth and low recovery at the sampling locations in Zone 3 after multiple attempts.

Variation from Field or Analytical Procedure: Composited multiple grab samples from same sampling location to obtain the required volume of sediment (36 oz) for chemical analysis.

Special Equipment, Materials or Personnel Required:

Initiator's Name: [signature] Date: 2.8.07

Project Officer: [signature] Date: 2.8.07

QA Officer: [signature] Date: 2.8.07