CONTENTS

PAGE	REFERENCE	DATE

Eagle Harbor 2017

Rite in the Rain
ALL-WEATHER WRITING PAPER

ALL-WEATHER
JOURNAL
FIELD BOOK

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Project 2017 EHOU Monitoring

Rite in the Rain — A patented, environmentally responsible, all-weather writing paper that sheds water and enables you to write anywhere, in any weather. Using a pencil or all-weather pen, *Rite in the Rain* ensures that your notes survive the rigors of the field, regardless of the conditions.

Specifications for this book:

Page Pattern		Cover Options	
Left Page	Right Page	Polydura Cover	Fabrikoid Cover
Lined	Lined	Item No. 390	Item No. 390F

RiteintheRain.com

Made in the USA
US Pat No. 6,863,940

1/13/2017

1954 Onsite

Tim Thompson (SEE)
David Browning (BES)
Kim Hawkins (HDR)
Hailey Filterer (HDR)
Helen Bottacher (EPA
Susanna Edwards (Ecology)
Ellen Brown (USACE) scribe

H+S Meeting See Forms
09:11pm 1st Station D12-d1
0.9 ft. to cobble
after hammering 1 ft. penetration
0.95 ft. sediment in tube
when core removed; verified cobble
at base

09:25pm 2nd station D11-e5
2 ft. not to refusal
1.9 ft. sediment in tube

9:42pm D11 c5
2 ft penetration
1.9 ft in tube
smelled creosote; saw sheen in
water in hole.
free product

SS EH D12 001 13012017
5:60

Blind ID # 0113 17 001
sample
10:49 sampled
found 10:31pm F12 d1
47 36 58.75 122 30 25.6
1.5 stake penetration
1 ft. core penetration

~~11:02~~
found 10:34pm F11 c5
1.5 ft. refusal core
2 f. stake

11:02
found 10:36pm F11 E5
1.5 ft. to refusal (core penetration)
2 ft. stake
1.5 ft. ~~core penetration~~ sediment in tube
sand/gravel locked up in core tube

SS EH F12 0001

~~0113~~ 1301 2017.47

BLIND ID 011317002

Began sampling 11:38 pm

found 11:25 pm H12 A2
2 ft. ~~rod~~ stake penetration - all sand, no refusal
1.65 ft. core penetration
1.65 ft. sediment in tube
found clams 1 ft. down
11:45 pm

found 11:28 pm H12 A1
2.2 ft. ~~rod~~ stake penetration - all sand no refusal
1.5 core
1.5 sed. in tube
1 ft. down found many (16) clams - varnish?

found 11:31 pm H12 B2
2.05 ft. ~~rod~~ stake penetration - all sand
11:55 pm 1.5 core
1.5 sed.

SS EH H12 1301 2017.60
Field Replicate 011317003

SS EH I-12 001 13012017.60
Field ID 011317004

I12 c3 12:06 am
2.35 ft. stake
1.6 ft core 12:16 am
1.6 ft sed.

I12 b2 12:09 am
2 ft stake penetration
1.5 core refusal 12:24 am
1.45 sed.
clams

I12 e2 12:12 am
0.95 refusal stake
hitting gravel, also 12:35 AM
a piece of wood + cobble
1.0 feet core refusal
Clam found

possible discrete station near outfall
0.35 feet
0.40 feet
0.80 feet
0.85 feet
0.85 feet
probing with rod
No odor.
at least 1 foot of cobble in this area

Discrete Station East
in area of exposed cobble
0117 (1:17 AM)
No lat / long - see
way point on GPS

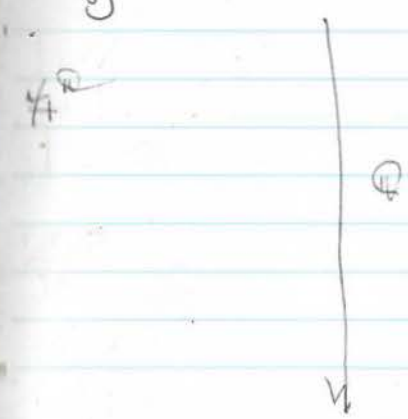
Discrete West A - off the
EBS.
ROD - 1.9 feet
inside tube 1.2 ft
outside tube 1.3 ft
hammered more
1.4 outside
1.3 inside tube
sample collected 1:55 AM
intertidal west 7 fix 1, fix 2
way points in GPS

Discrete West B
outside tube 1.05
inside tube 1.1
rebar 1.9
location - way point intertidal
West 2 - WP # 11
2:05 AM

Discrete West C
ROD 2.1 feet in ground
outside tube ~~1.3 ft~~ 1.7 ft
inside 1.6 ft
piece of brick next to core tube
through the EBS into native
EBS 5-6" thick
sample 2:15 AM
Very close to old pilings

01131 7006 w/ MS/MSD
01131 7007 Field Replicate

Offsite 03:05 Hrs.



1/14/2017

Rinsate done at ARI
- Cleaned bowl, spoons and 4" sample pipe w/ Alconox
- Rinsed w/ deionized water
- Poured 2 L Reagent grade water through tube into bowl w/ spoons. Poured into glass (Pyrex) container and into bottles

Sample ID 011417001 W
Time 10:59
2 Liters, 2 bottles

1/20/2017

0700 Bainbridge Island mooring
Jim Thomas
Nate [illegible]
Bill Jawarski

0800
Kim Hawkins
Hailey Fitterer
David Browing

0815 Ellen Brown

The FSP was not completly clear on the locations (coordinates) for the cores.
- We will collect those at the "C-5" location as shown on Figure FSP-5 + Table 1

0850 Away
0900 Navigation Check
47 37 19.16100 N
122 29 50.71566 W

J8-C5 Starting Core (1)

1/20/17
Time: 0914
Depth 25.8' Nominal
Penetration 4.65'
Aquisition 2'
Lat ~~47 37 06.94~~ Lon: 0758 W
47 37 06.94464 122 30 12.0758 W

6" Free fall. 1.5 penetration easy
Slow hard drive. On scope die to
~3.5' and refusal

<50% recovery.
Surge + resample
Photo of on-deck material taken
Cobble, sand and rock
Rejected

J8-C5 Core 2

Date 1/20/2017
Time 09:40
Lat 40 47 37 06.91686 N
Lon 122 30 12.08778 W
Penetration 5.0'
Aquisition 1.7'
% Recovery 84%
Depth 26.5 Nominal

1' free fall. Slow penetration - high resistance. Estimated drive rate at 2"/minute. Estimated 4.5-5' penetration.

Catcher had pack
Sand, gravel w/ clay
Poorly sorted clay sandy gravel

Same type of material as before. Had pack.

Elected to accept core - not much opportunity to collect better material

K8-CS Core 1

Date 1/20/17
Time 10:17
Lat 47 37 07.00104
Lon 122 30 08.50542
Penetration 7'
Aquisition 4.7'
% Recovery 67%
Depth (nominal) 16.8'

0.5' free fall. Moderate p to 4
hard 4-5, moderate 5-7. Estimate
full penetration on transducer
Core catcher empty
Slightly sandy clayey silt at top 5432
Accepted Core

Ellen Brown offsite 10:34

L8-CS Core 1
Date 10:52
Time 1/20/17
Lat 47 37 06.98394 N
Lon 122 30 04.91208 W
Penetration 7
Aquisition 4.5
% Recovery 64.2%

Depth 15.1

Bottom Gravel. Lost core catcher in pull
Top Slightly sandy clayey silt
0.25" free fall. Appears full penetration

K7-CS core 1

Date 1/20/17
Time 11:10
Lat 47 37 09.42948
Lon 122 30 08.54700W
Penetration 7'
Aquisition 4.6'
% Recovery
Depth 22.8'
Top clayey sand in top
0.5' free fall. Fast to 5.5'. Full pen to
7.0'

J7-c5 core 1

Date 4/20/17
Time 11:37
Depth 16.3 (nominal)
Lat 47 35 09.34146
Lon 122 30 12.03900
Pen 6.7
Aquisition 3.6'
% Recovery 56%

Slope on site. Rig falling over on slope. Moved ~ 15 ft inshore to get off slope.

Had push to 5.5 – 6.0'

Given good recovery at all but J8-C5 ~~Moved~~ elected to take another core, but at J8-c3. Approximately 100ft. North.

Post process note. Depth at J7-c5 likely inaccurate. Based on 2011 bathymetry location should be ≈ -20 ft MLLW. Converted tidal depth from this measure -3.8' MLLW. TL 4/26/17

J8-C3 Attempt 1

Date 4/20/2017
Time 12:14
Depth 17.1
Lat 45 37 07.95175
Lon 122 30 11.62851
Pen 4.7'
Aq 2.2'
% Recovery 46.8 %

Slight slope here. Adjusted frame for slope. 1' slope on frame

Had drive on slope to 5'.
No free fall.

Glacial till in shoe
Similar recovery as J8-C5.
Called it after this collection

Offsite 12:58

1/23/2017

0800 On Board.

Don Brenner
Tim Thompson
Dale Dickinson
Haily Fitterer
Kim Hawkins
Helen Bottcher

Health + Safety Meeting

Slip-trip-fall
Chapped skin on water
Railings (no stern or bow)
- let someone know if you are off back
Man overboard
PFD for Helen
Fire on board
Overhead hazards
Pinch Points
HNO_3 + Isopropyl

Aug 0905

Navigation check J7-a2
0915
47 37 19.168226 N
122 29 50.73196 W

Will begin w/ J7, the K7, J8 + K8
If possible will get L8

J7-a2 grab 1
Time 09:37
Lat 47 37 10.83888 N
Lon 122 30 13.55562
Recovery 18 cm
Observations Slightly silty fine sand
Depth 14.6

Slightly silty gravelly fine sand
Some eelgrass & Gracilaria on surface
Shell debris. Small shrimp observed
w/ hydrocarbon odor. 2-3mm shell blebs.
Archive sample and took ~
10x10x10 cm aliquot for
composite

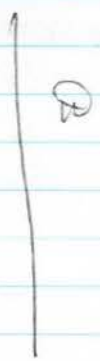
J7-e2

Time 0955
LAT 47 37 10.84950
LON 122 30 10.97622
Depth 14.9'
Recovery 18cm

Gracilaria, crangon shrimp, polychaete tube worms, shell hash on surface.

5mm diameter PAH "blob" oily
Slightly silty medium to coarse sand, gravelly.

Archive sample collected, along w/ composite 9 aliquot.



J7-c5

Time 1019
LAT 47 37 09.38076 N
LON 122 30 12.23628 W
Depth 14.1
Recovery 19cm

Gravelly medium-to-coarse sand
Shell frag.

Gracilaria, Nephtid.
No sheen
Archive collected
Subsample collected.

Composite slightly silty medium-coarse sand
some slight sheen observed.
J7 composite = 012317001
TS + TOC 4 oz
Mercury 4 oz
Grain Size 16 oz
PAH + PCP 16 oz
Archive 16 oz
Back to pier to composite 10:30

K7-a4
Date 1/23/2017
Time 1104
Depth 15.8
Lat 47 37 09.89862
LON 122 30 10.06986 W
Recovery 16 cm

Archive collected.
Leave settler sed on top ~1cm
3-4 mm sheen blebs. H_2S odor.

Silty (slightly) medium gravelly sand.

Snails, nephtys, barnacle shells.

K7-c5
Date 1/23/2017
Time 12:37
Depth 20.2
LAT 47 37 09.41490
LON 122 30 08.588972
Recovery

Rejected

1120 Leak in hydraulic lines.
Spill contained w/ pads. But
recovery to go back to dock to
effect repairs.

Fixed hydraulic line.

Used absorbent mats to
sop up + clean the equipment. Most of
the oil caught, absorbed, and properly
disposed of.
1220
Back Underway

1237 @ K7-c5
Blew hydraulic line again.

Rejected sample + back to dock

Repair #2 attempted
1340 Away.

K7-c5 grab 3
Date 1/23/17
Time @~~20~~. 1355
Depth 20.0
Lat 47 37 09.45225
LON 122 30 08.58942W
Recovery 19cm

Archive sample K7-c5 collected

Ulva, Spiochaetopterus,
Silty fine sand; slightly gravelly

K7-e2
Date 1/23/17
Depth 41.2
Time 1413
Lat 47 37 10.90464N
Lon 122 30 07.34678W
Recovery 20 cm

K7-e2 Archive collected
Very silty fine sand. Soft, wet,
Finer than all stations thus far

Tubes, coral.

K7 composite = 012317002
Grain Size 16 oz
PCP PAH "
Archive "
TOC-TS 4 oz.
Mercury " "

J8

J8-a2
Date 1/23/17
Time 14:41
Depth 29.2
LAt 47 37 08.40876
Lon 122 30 13.47624W
Recovery 18cm

Silty fine sand w/ trace cobble
Barnacle shells, Spiochaetopterus

Slight small 3mm diameter sheen

Archive sample & composite collected

J8-C5
Date 1/23/17
Time 15:01
Depth 24.1
Lat 47 37 06.91800N
Lon 122 30 12.17022W
Recovery - <6cm

Grab Rejected. Too little retained

J8-C5 Grab 2
Date 1/23/17
Time 15:08
Depth 24.1
Lat 47 37 06.96426N
Lon 122 30 12.1776W
Recovery 22 cm

Very silty fine sand. Organic odor
1 ~3mm diameter sheen tubes
Dense little seaweed fraction
Bleb of sheen Cancer productus
Archive Collected.

J8-e2
Date 1/23/17
Time 15:26
Depth 12.1
Lat 47 37 08.38704N
Lon 122 30 10.92174W
Recovery 18cm

Zostera marina on surface. Rooted plants. Slightly silty fine sand. Mine shell debris. Intact Zostera turions. Gracilaria. Gammarids Gastropods on eelgrass.

J8 Composite 012317003

Grain Size 16 oz
PAH/PCB "
Archive "
TOC/TS 4 oz
Mercury "

K8

K8-a4
Date 1/23/17
Time 15:48
Depth 12.9
LAT 47 37 07.42830N
LON 122 30 09.94200
Recovery 17cm

Trace silty fine-to-medium sand
Trace cobble

Small single 3mm diameter bleb.
No oil/PAH smell.

K8-a5
Date 1/23/2017
Time 16:05
Depth 11.9
LAT 47 37 06.98316
LON 122 30 08.53080W
Recovery ~~20~~cm 16

Slightly silty fine sand
Shell fragments, algae, polychaete
3 2-3 mm fluorets seen.

K8-e2
Date 1/23/17
Time 16:25
Depth 13.8 ft.
Lat 47 35 08.43960N
Lon 122 30 07.28058W
Recovery ~~13.8~~ 17cm

K8 Composite 012317004

Grain Size 16oz
PCB/PAH ↓
Archive ↓
TS/TOC 4 oz.
Mercury ↓

K8-e2 Archive sample collected.

Nav. Check 16:31
47 37 19.16682N
122 25 50.74464W

Back on shore 16:45
Offsite 17:20

1/24/17

0700 Onsite
Dickinson
Thompson

Set up boat

0815 Onboard
Haily Fitterer
Kim Hawkins
Dave Browning
Susanna Edwards (Ecology)

0820 H&S Meeting
- Sampling Plan
- J9 + J10 potential Alts
- Decon fluid safety
Slip-trip-fall
Overhead hazards
Pinch points
Man Overboard

0845 Underway
0857 Nav Check
47 37 19.16052N
122 29 50.72922W

L8
012417001 Sample ID

L8-e2
Date 1/24/17
Time 0909
Depth 20.2
Lat 47 37 08.52318N
Lon 122 30 03.61074W
Recovery 25

Note: Inadvertently listed sample date for some samples as "2016". Will need to make note to lab on that

Soft brown organic

Slightly fine sandy clayey silt
Moderate to strong H_2S
Polychaetes
Ulva, Gracilaria, Gigantine + Lea
Several 1-2mm fluorets shown. At sed/water interface + subsurface

L8-a4
Date 1/24/17
Time 0922
Depth 13.7 ft.
Lat 47 37 07.49928
Lon 122 30 06.34032
Recovery 17 cm

Slightly silty fine sand
trace scattered gravel (erratic)

Gracilaria, barnacles,
Spiroschaetopterus medium
12cm down wet ~~fine~~ sandy / fine
gravel w/ trace silt
No sheen or blebs observed
basal gravels subrounded

Archive + composite samples
collected.

L8-C5
Date 1/24/17
Time 0948
Depth 11.1 ft.
Lat 47 37 07.02036
Lon 122 30 04.86978
Recovery 19 cm

Silty fine sand

Eelgrass — live w/ turions present.
Gracilaria
Nereid worms, gammarid amphipods
Spiroschaetopterus.
Est. 20-30 turions / 0.5 m²
Capitellid (?)
No sheen or blebs observed.

Sheens appearing on surface of
composite sample. 3-5mm diameter

L8-C5 Archive 16 oz
012417001 Composite
Grain Size, PAH-PCP, Archive } 16 oz.
Mercury, TS-TOC } 4 oz.

J9

J9-b3
Date 1/24/17
Time 10:15
Depth 28.2
Lat 47 37 05.65398 N
Lon 122 30 12.89028 W
Recovery 25 cm

H_2S smell.

Wet, slightly brown

6-7 cm recent deposition of slightly fine sandy silty clay. Over shell hash mixed slightly sandy silty clay (30-40% shell)

Barnacle & mussel shells, Glycimeris, Macoma Nacoma,

No odor or sheens (PAHs)

J9 Sample ID 012417002

J9 Field Replicate ID 012417003
For the field replicate assigned a "blind" collected time of 1330 hrs.

J9-b4
Date 1/24/17
Time 10:35
Depth 30.4 ft
Lat 47 37 04.94305 N
Lon 122 30 12.75554 W
Recovery 25 cm

J9-b4 Archive collected 16 oz. jar
H_2S smell — strong

Cougar shrimp.

Wet, soft, slightly fine sand clayey silt
Dark sand at surface
Lacks shell layers of
Disarticulated horse clam shells

No sheens or oil present.
Nail present.

J9-C3
Date 01/24/2017
Time 11:00
Depth 17.4' (LL)
Lat 47°37' 05.28366'N
Lon 122° 30' 11.80866'W
Recovery 22 cm

Fine gravel <2cm on sediment surface. Some shell hash.
Silt on surface to 3 mm
Medium-to-coarse sand w/ trace silt.
Keresid worms

Strong H_2S
Possible Phase III cap material?
Rounded sub-gravel Photo taken

J9 composite 012417002
Grain Size, PAH/PCPs, Archive } 16 oz. Mercury, TS/TOC } 4 oz

J9 Field Dup 012417003
Grain Size, PAH/PCPs, Archive } 16 oz Hg, TS/TOC } 4 oz.

Lunch break on shore.

11:45 Back on site
J-10
012417004
J10-b2
Date 1/24/17
Time 11:50
Depth 33.4 ft
Lat 47 37 03.32400
Lon 122 30 12.80430
Recovery 21 cm

Fine black sand on surface. In a thin veneer of fine oxic silt.

Material below trace sand silty wet clay to ~4-5 cm. From >5 cm rounded coarse sand, fine gravel. Similar to Phase III cap material

J10-b2 archive collected

J10-b4
Date 1/24/17
Time 12:06
Depth 32.4
Lat 47 37 02.66596
Lon 122 30 12.50148
Recovery 18CM

Phase III rounded fine gravel mixed with fine sand and some silt

Almost exclusively Phase III material to the bottom of the grab. Toward the bottom very clean gravel (no silt)

One solitary peanut worm present.

J10-b4 Archive (16 oz) collected

~1L composite sample collected.

J10-c2
Date 1/24/17
Time 12:22
Depth 30.3
Lat 47 37 03.37188
Lon 122 30 11.84604
Recovery 22CM

J10-c2 archive sample collected
wood in sample.
Top veneer of loose, wet silt ~ 4-5mm
Over wet, soft, trace fine sand clay silt.
to ~12cm. Phase III cap material from
12-18cm (bottom of grab).
Slight sheen in composite

J10 = 0124170004

Grain Size, PAH/PCP, Archive, MS/MSD } 16oz.
Hg, TOC/TS } 4oz.

12:32 NAV Check
47 37 19.14828 N
122 29 50.69886 W

1/25/2017 Core Processing

Onsite 0815 (HDR)
Tim Thompson (HDR)
David Browning (HDR)
Hailey Fitteret (HDR)
Kim Hawkins (HDR)
Susannah Edwards (Ecolog)

- All grab samples trasported to and checked in at ARI. See signed COC

Health & Safety Meeting
Working with power saw
- Appropriate PPE including
  - Level D (modified)
  - Hearing Protection
  - Eye Protection
  - Heavy gloves

Discussed when using power saw to score pipes must have eye protection + face shield and Ear Protection

Buddy system mandatory

Lift, slip-trip-fall.

Processed all cores from 1/24

Logged
Measured
Photographed.

See Log Sheets

No hydrocarbon visible in any core
Residual sediments discarded to dumpster (in bags → Subtitle D) at ARI

Offsite 12:15