APPENDIX E: COLLECTION FORMS AND FIELD NOTES

Attachment E-1: Surface Sediment Characteristics

Table E-1. LDW surface sediment characteristics (based on field notes only)

SAMPLE ID	RPD (cm)	PENETRATION DEPTH (cm)	CHARACTERISTICS
LDW-SS1-010	nv	8	gray; medium sand with silt, organic matter, shell fragments and wood debris; no odor
LDW-SS4-010	2	13	gray with brown surface layer; fine sand with silt, organic matter and shell fragments; slight H_2S odor
LDW-SS5-010	nv	10	gray; coarse sand with gravel, organic matter, shell fragments and wood debris; no odor
LDW-SS10-010	2	17	gray with brown surface layer; silt with organic matter; no odor
LDW-SS12-010	2	12	black with brown surface layer; silt with fine sand and organic matter; no odor
LDW-SS13-010	1-2	14	gray with brown surface layer; silt with fine sand, gravel, cobble, shell fragments and organic matter; slight H_2S odor
LDW-SS14-010	nv	11	gray; coarse sand with gravel; no odor
LDW-SS15-010	1-2	16	gray with brown surface layer; fine sand with silt and organic matter; slight H_2S odor
LDW-SS17-010	2	16	gray with brown surface layer; medium and fine sand with silt, organic matter, shell fragments and wood debris; no odor
LDW-SS18-010	nc	na	brown; coarse, medium and fine sand with gravel; no odor
LDW-SS20-010	nc	na	black; silt and clay; slight unknown odor
LDW-SS22-010	1	11	gray with brown surface layer; fine sand with silt and organic matter; slight H_2S odor
LDW-SS23-010	1-2	12	gray; coarse sand with organic matter and shell fragments; no odor
LDW-SS26-010	4	16	gray with brown surface layer; silt with organic matter, shell fragments and wood debris; no odor
LDW-SS27-010	2	17	gray with brown surface layer; silt with organic matter, shell fragments and wood debris; slight H_2S odor
LDW-SS28-010	2	12	gray with brown surface layer; clay with medium sand and silt, organic matter, shell fragments and wood debris; no odor
LDW-SS31-010	1	12	gray with brown surface layer; fine sand with silt, organic matter and wood debris; slight H_2S and petroleum odor
LDW-SS32-010	1-2	13	gray with brown surface layer; coarse, medium and fine sand with silt, gravel and organic matter; slight H_2S odor
LDW-SS33-010	nv	11	brown/gray with brown surface layer; medium and fine sand with silt, organic matter, shell fragments and wood debris; no odor
LDW-SS36-010	1-2	10	gray with brown surface layer; medium and fine sand with silt, organic matter and wood debris; no odor
LDW-SS37-010	1-2	12	gray with brown surface layer; coarse sand with gravel and silt, organic matter, shell fragments and wood debris; no odor
LDW-SS38-010	4	17	gray with brown surface layer; fine sand with silt, organic matter, shell fragments and wood debris; no odor

Table E-1, cont.

SAMPLE ID	RPD (cm)	PENETRATION DEPTH (cm)	CHARACTERISTICS
LDW-SS40-010	3-4	11	gray with brown surface layer; fine sand with gravel and silt, organic matter and wood debris; no odor
LDW-SS42-010	1	14	gray with brown surface layer; medium and fine sand with gravel and silt; slight H_2S odor
LDW-SS43-010	1	12	gray with brown surface layer; medium and fine sand with gravel and silt, organic matter, shell fragments and wood debris; no odor
LDW-SS44-010	3	12	gray; fine sand with gravel and silt, organic matter and shell fragments; no odor
LDW-SS48-010	3	9	brown; coarse sand with gravel and silt, organic matter, shell fragments and wood debris; no odor
LDW-SS49-010	2	16	black with brown surface layer; silt with medium sand and gravel and organic matter; no odor
LDW-SS50-010	2	16	brown surface layer; silt with medium and fine sand and organic matter and wood debris; strong H_2S odor
LDW-SS51-010	2	17	gray with brown surface layer; silt with organic matter and wood debris; no odor
LDW-SS52-010	6	15	gray with brown surface layer; silt with fine sand, organic matter and wood debris; no odor
LDW-SS54-010	1	11	gray with brown surface layer; coarse and medium sand with silt, organic matter and shell fragments; moderate H_2S odor
LDW-SS55-010	<1	13	gray with brown surface layer; silt with gravel, coarse and medium sand, clay, organic matter and wood debris; moderate petroleum and slight H_2S odor
LDW-SS56-010	2-3	11	brown with brown surface layer; medium and fine sand with silt, organic matter, shell fragments and wood debris, no odor
LDW-SS57-010	1-2	18	gray with brown surface layer; medium and fine sand with silt, organic matter, shell fragments and wood debris, no odor
LDW-SS58-010	3	19	gray with brown surface layer; fine sand with silt, organic matter, shell fragments and wood debris, no odor
LDW-SS60-010	7	14	brown/gray; medium sand with organic matter, shell fragments and wood debris; slight H_2S odor
LDW-SS63-010	1	11	gray with brown surface layer; coarse, medium and fine sand and gravel; slight H_2S odor
LDW-SS64-010	1	9	drab olive with brown surface layer; silt with coarse sand and gravel, organic matter, shell fragments and wood debris; no odor
LDW-SS67-010	4	12	brown/drab olive with brown surface layer; coarse, medium and fine sand with silt and wood debris; no odor
LDW-SS70-010	3	14	gray with brown surface layer; silt with coarse, medium and fine sand, gravel, organic matter and wood debris; slight H_2S odor
LDW-SS72-010	1	15	gray with brown surface layer; fine sand with silt, organic matter, shell fragments and wood debris; slight petroleum odor
LDW-SS75-010	nv	15	drab olive; silt with coarse, medium and fine sand, gravel, organic matter and wood debris; no odor

Table E-1, cont.

SAMPLE ID	RPD (cm)	PENETRATION DEPTH (cm)	CHARACTERISTICS
LDW-SS76-010	1	14	gray with brown surface layer; silt with fine sand, organic matter and wood debris; slight H_2S odor
LDW-SS79-010	5	14	gray with brown surface layer; silt with fine and medium sand and gravel, no odor
LDW-SS83-010	1-2	19	drab olive with brown surface layer; silt with medium sand, organic matter and wood debris; slight H_2S odor
LDW-SS84-010	2	10	gray/black with brown surface layer; silt with coarse, and medium sand and gravel; moderate unknown odor
LDW-SS87-010	3	17	drab olive with brown surface layer; silt with medium and fine sand, organic matter and wood debris; no odor
LDW-SS88-010	nc	12	black with brown surface layer; silt with coarse, medium and fine sand, clay and wood debris; moderate petroleum odor
LDW-SS89-010	3	12	brown with brown surface layer; coarse, medium and fine sand with gravel, organic matter and wood debris; no odor
LDW-SS92-010	na	15	gray with brown surface layer; coarse and medium sand with silt; no odor
LDW-SS94-010	≤1	14	gray with brown surface layer; fine sand with gravel, silt and organic matter; slight H_2S odor
LDW-SS96-010	4	17	gray with brown surface layer; fine sand with silt, organic matter and wood debris; no H_2S odor
LDW-SS97-010	6	15	drab olive; silt with coarse, medium and fine sand and gravel, organic matter and wood debris; no odor
LDW-SS99-010	1	17	gray with brown surface layer; silt with medium sand, organic matter and wood debris; slight H_2S odor
LDW-SS101-010	nc	10	brown/gray; coarse sand with gravel and silt; no odor
LDW-SS102-010	4	11	brown surface layer; coarse and medium sand with silt, organic matter and wood debris; no odor
LDW-SS104-010	3	14	brown/gray with brown surface layer; medium and fine sand with silt, organic matter and wood debris; slight H_2S odor
LDW-SS109-010	3	17	gray/black with brown surface layer; silt with fine sand and gravel, organic matter and wood debris; moderate petroleum odor
LDW-SS110-010	3	14	gray/black; silt with medium and fine sand, organic matter, shell fragments and wood debris; moderate petroleum odor
LDW-SS111-010	1-2	12	gray with brown surface layer; silt with medium sand and gravel, organic matter, shell fragments and wood debris; slight petroleum odor
LDW-SS112-010	2	14	brown with brown surface layer; silt with medium sand and gravel, organic matter, shell fragments and wood debris; no odor
LDW-SS113b-010	1	17	gray with brown surface layer; silt with medium sand and gravel, organic matter and shell fragments; slight H_2S odor
LDW-SS114-010	6	13	gray with brown surface layer; silt with medium sand and gravel, organic matter and shell fragments; no odor
LDW-SS115-010	3	12	gray with brown surface layer; silt with coarse sand, gravel and cobble; no odor
LDW-SS116-010	2-3	10	drab olive with brown surface layer; silt with medium sand and gravel, organic matter, shell fragments and wood debris; no odor

Table E-1, cont.

SAMPLE ID	RPD (cm)	PENETRATION DEPTH (cm)	CHARACTERISTICS
LDW-SS117-010	4	12	drab olive with brown surface layer; silt with medium sand and gravel, organic mater and wood debris; no odor
LDW-SS118-010	2-3	16	gray with brown surface layer; silt with fine sand, organic matter and wood debris; slight H_2S odor
LDW-SS119-010	1-2	12	gray with brown surface layer; silt with fine sand and gravel, organic matter and shell fragments; slight petroleum odor
LDW-SS120-010	3	10	drab olive with brown surface layer; silt with fine sand, gravel, organic matter and wood debris; no odor
LDW-SS121-010	nc	11	brown; coarse and medium sand with silt, gravel and wood debris; no odor
LDW-SS123-010	3	14	gray with brown surface layer; coarse and medium sand with silt; no odor
LDW-SS125-010	1-2	13	gray with brown surface layer; silt with fine sand, organic matter and wood debris; slight H_2S odor
LDW-SS126-010	3	11	drab olive with brown surface layer; silt with medium and fine sand and wood debris; slight H_2S odor
LDW-SS127-010	2	17	gray with brown surface layer; silt with fine sand and wood debris; moderate H_2S odor
LDW-SS128-010	2	14	gray with brown surface layer; silt with fine sand, organic matter and wood debris; slight H_2S odor
LDW-SS129-010	3	17	gray with brown surface layer; silt with coarse and medium sand, organic matter and wood debris; slight H_2S odor
LDW-SS130-010	1	17	gray with brown surface layer; silt with fine sand, organic matter and wood debris; moderate H_2S odor
LDW-SS134-010	2	12	gray with brown surface layer; silt with medium and fine sand, clay and organic matter; no odor
LDW-SS142-010	4	15	gray with brown surface layer; silt with fine sand, organic matter and wood debris; slight H_2S odor
LDW-SS143-010	4	13	gray with brown surface layer; silt with medium sand and gravel and organic matter; no odor

RPD – redox potential depth

na – not available

nc – not collected; at locations SS88 and SS121 it was late in the day and too dark to distinguish the RPD; at location SS92 the RPD was inadvertently not reported; at locations SS18 and SS20 samples were collected by King County and RPD was not reported.

nv – not visible; no differentiable RPD was present

Table E-2. Upstream arsenic surface sediment characteristics

SAMPLE ID	RPD (cm)	CHARACTERISTICS
DR-SS1-010	na	gray with brown surface layer; silt with medium and fine sand and organic matter; no odor
DR-SS2-010	5	gray with brown surface layer; silt with medium and fine sand, organic matter and wood debris; slight H_2S odor
DR-SS3-010	3	brown/gray with brown surface layer; silt with medium and fine sand and organic matter; no odor
DR-SS4-010	nv	brown/gray with brown surface layer; silt with medium and fine sand and organic matter; no odor
DR-SS5-010	3	brown/gray with brown surface layer; silt with medium and fine sand and organic matter; no odor
DR-SS6-010	3	brown with brown surface layer; silt with medium and fine sand, organic matter and wood debris; no odor
DR-SS7-010	nv	brown; silt with medium and fine sand, organic matter and wood debris; no odor
DR-SS8-010	7	brown/gray with brown surface layer; silt with medium and fine sand and organic matter; no dor
DR-SS10-010	na	drab olive with brown surface layer; silt with medium and fine sand and organic matter; no odor
DR-SS11-010	na	drab olive with brown surface layer; silt with medium and fine sand, organic matter and wood debris; no odor
DR-SS12-010	na	gray with brown surface layer; silt with medium and fine sand, clay and organic matter; no odor
DR-SS13-010	5	gray with brown surface layer; silt with fine sand, organic matter and wood debris; no odor
DR-SS14-010	na	gray with brown surface layer; silt with medium and fine sand and organic matter; no odor
DR-SS15-010	na	brown; medium and fine sand with organic matter and wood debris; no odor
DR-SS16-010	na	brown; silt with medium and fine sand and organic matter; moderate unknown odor
DR-SS17-010	na	brown; silt with medium and fine sand and organic matter; moderate unknown odor

RPD – redox potential depth

na – not available

nv – not visible; no differentiable RPD was present

Attachment E-2: Surface Sediment Collection Forms

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.17.05 **Station:** LDW-SS 1

Start/Stop time: 07:30/0819 **Crew:** RAC, JMF, TDO, C. Eaton, T. Putnam

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0731	7.9	8.5	N	not enough recovery
0752	8.1	9	N	"
0802	8.0	8	Y	
0819	8.1	8	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 1 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C (M) F

Gravel Silt / Clay

(Organic matter) (Wood debris)

(Shell fragments) Other: worm tubes

Sediment color:

Brown surface (Gray)

Brown Black

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD @ not visible

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.17.05 **Station:** LDW-SS 4

Start/Stop time: 0844/0904 **Crew:** RAE, JMF, TDO, C. Eaton, T Putnam

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0844	12.5	13	Y	
0859	12.3	—	N	V. low recovery
0904	12.2	13	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 4 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C M (F)

Gravel — (Silt) Clay

(Organic matter) — Wood debris

(Shell fragments) — Other: worm tubes

Sediment color:

(Brown surface) (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

None — (H_2S)

(Slight) — Petroleum

Moderate — Other:

Strong

Comments: RPD @ 2cm

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SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.17.05 **Station:** LDW-SS 5

Start/Stop time: 0924/1025 **Crew:** RAC, JMF, TDO, C. Eaton, T. Putnam

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0924	14.8	2-3	N	
0941	14.9	5-6	N	
0948	14.3	10	Y	
1001	14.5	6 —	N	jaws held open by wood debris
1010	14.7	—	N	rocks held jaws open
1013	14.3	—	N	
1020	14.4	—	N	jaws held open by wood debris (2x4")
1025	14.8	9	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 5 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: (C) M F

(Gravel) Silt / Clay

(Organic matter) (Wood debris)

(Shell fragments) Other: glass, rocks

Sediment color:

Brown surface (Gray)

Brown Black

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD not visible

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.17.05 **Station:** LDW-SS 1D

Start/Stop time: 10:46/ **Crew:** RAE, JMF, TDo, C. Eaton, T. Putnam

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
10:46	12.5	—	N	over penetrated
10:56	12.3	17	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 1D-010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M F
Gravel Silt / Clay
Organic matter Wood debris
Shell fragments Other: roots, worm, tubes

Sediment color:

Brown surface Gray
Brown Black
Drab olive Other:

Sediment odor:

None H_2S
Slight Petroleum
Moderate Other:
Strong

Comments: RPD @ 2cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.17.05 **Station:** LDW-SS 12

Start/Stop time: 1118/1118 **Crew:** RAE, JME, TDO, C. Eaton, T. Putnam

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1118	7.0	12	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 12 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M (F)

Gravel (Silt) / Clay

(Organic matter) Wood debris

Shell fragments Other: worm tubes

Sediment color:

(Brown surface) Gray

Brown (Black)

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD @ 2cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.17.05 **Station:** LDW-SS 13

Start/Stop time: 1514 / 1514 **Crew:** JMF, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1514	8.5	14	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 13 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

(Cobble) (little) Sand: C M (F)

Gravel (little) (Silt) / Clay

(Organic matter) Wood debris

(Shell fragments) Other:

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

None (H_2S)

(Slight) Petroleum

Moderate Other:

Strong

Comments:

worms + tubes

RPD @ 1-2 cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.17.05 **Station:** LDW-SS 14

Start/Stop time: 11:46 / 1215 **Crew:** JMF, AAE, TDo, C Eaton, T Putnam

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1146	5.2	4	N	sand; v. low recovery
1151	4.5	—	N	rocks held jaw open
1155	4.0	7	N	moving off to 10m w/in target
1204	4.0	11	Y	
1215	4.1	11	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 14 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand (C) M F

(Gravel) Silt / Clay

Organic matter Wood debris

Shell fragments Other:

Sediment color:

Brown surface (Gray)

Brown Black

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD @ not visible

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.17.05 **Station:** LDW-SS 15

Start/Stop time: 12:30/1230 **Crew:** RAC, JMF, TDO, C. Eaton, T Putnam

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
12:30	15.2	16	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 15 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble (Sand) C M (F)

Gravel (Silt) / Clay

Organic matter Wood debris

Shell fragments (Other) ~~SOFT SEDIMENT~~

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

None (H_2S)

(Slight) Petroleum

Moderate Other:

Strong

Comments:

RPD @ 1-2 cm

Some worms + tubes

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.24.05 **Station:** LDW-SS 17

Start/Stop time: 0846/0857 **Crew:** ~~BC~~ AR RAC, SP, AR

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy, sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0846	10.8	6	N	Under penetration
0857	10.8	16	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 17 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C (M) (F)

Gravel (Silt) Clay

(Organic matter) (Wood debris)

(Shell fragments) Other:

Sediment color:

~~Brown surface~~ (Gray)

Brown Black

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: worms

RPD = 2 cm

Oily sheen on surface

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity Project no. 04-08-06-24

Date: 2/1/05 Station: LDW-SS-18-010 (King County DUD-11C)

Start/Stop time: 1249-1341 (sampling time = 1254) Crew: Sampled by KC field crew as DUD-11C split

Sampling Method: (Double 0.1-m² van Veen grab sampler)

(circle): Other: Weather:

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1249	10	8	Y	1 grab - ok
1255	10	8	Y	"
1259	10	8	Y	"
1306	10	8	Y	2 grabs - ok
1317	10	8	Y	"
1323	10	8	Y	1 grab - ok
1329	10	8	Y	"
1341	10	8	Y	"
10 grabs were sampled; 2" diameter core taken from each grab & homogenized for sample				
* Sediment collection form based on sampling notes recorded from King County Sampling				

SAMPLE INFORMATION

none.

Sample ID: LDW-SS-18-010 Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	(Sand: C M F)	Brown surface	Gray	(None)	H_2S
(Gravel)	Silt / Clay	(Brown)	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other:			Strong	

Comments: RPD @ _____cm

RPD not recorded

no debris

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity
Project no. 04-08-06-24
Date: 2/2/05 (ww split)
Station: LDW-SS-20-010 (King County DUD-9C)
Start/Stop time: 1/31/05 (actual 9C sampled)
Crew: sampled by KC field crew as DUD-9C split (2 days later)
Sampling Method: Double 0.1-m^2 van Veen grab sampler
(circle): Other:
Weather:

0910 am 2/2/05

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0910	11	8	Y	

* "split" samples for Windward chemistry were collected on 2/2/05; KC sample was collected on 1/31/05 for KC chemistry
** Sediment collection form based on sampling notes recorded from King County sampling.

SAMPLE INFORMATION

none.

Sample ID: LDW-SS-20-010
Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M F	Brown surface	Gray	None	H_2S
Gravel	(Silt) (Clay)	Brown	(Black)	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	(Other: natural, non-specific)
Shell fragments	Other:			Strong	

Comments: RPD @ _____cm
no debris
RPD not recorded

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.17.05 **Station:** LDW-SS 22

Start/Stop time: 1435 / 1440 **Crew:** JMF, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1435	7.2	Ø	N	pins not removed
1440	7.0	11	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 22 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble (Sand: C M (F)

Gravel (Silt / Clay)

(Organic matter) Wood debris

Shell fragments (Other:)

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

None (H_2S)

(Slight) Petroleum

Moderate Other:

Strong

Comments:

RPD @ 1cm

worms + tube

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 9.18.05 **Station:** LDW-SS 23

Start/Stop time: 0745/0844 **Crew:** RAE, SMP, TDO, C. Eaton, T. Richman

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0745	6.3	7	N	low recovery
0755	5.8	11	Y	Kept 1 side, other side got washed out
0805	6.0	8-9	N	by something that kept jaws open
0817	5.8	—	N	rock kept jaws open
0822	6.0	11	Y	Kept 1 side, other side w/low recov (rejected)
0834	6.6	—	N	chain came undone
0838	6.0	—	N	no recovery
0844	6.1	13	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 23 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: (C) M F	Brown surface	(Gray)	(None)	H_2S
Gravel	Silt / Clay	Brown	Black	Slight	Petroleum
(Organic matter)	Wood debris	Drab olive	Other:	Moderate	Other:
(Shell fragments)	Other: worms, tubes, clams			Strong	

Comments: RPD @ not visible on 0755 grab
RPD @ 1-2 cm on 0844 grab

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.18.05 **Station:** LDW-SS 26

Start/Stop time: 0906 / 0906 **Crew:** RAE, SMP, TDO, C. Eaton, T. Putnam

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0906	12.6	16	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 26 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M F

Gravel (Silt / Clay)

(Organic matter) (Wood debris)

(Shell fragments) (Other: worms)

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD @ 4cm

SURFACE SEDIMENT COLLECTION FORM

Wind/Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.18.05 **Station:** LDW-SS 27

Start/Stop time: 0930/0930 **Crew:** RAE, SUB, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0930	6.9	~~16~~ 17	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 27-010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M F

Gravel (Silt)/ Clay

(Organic matter) (Wood debris)

(Shell fragments) (Other: worms)

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

None (H_2S)

(Slight) Petroleum

Moderate Other:

Strong

Comments: RPD @ 2 cm

Field duplicate taken LDW-SS200-010

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-24-05 **Station:** LDW-SS 28

Start/Stop time: 1345/1425 **Crew:** JMF, TDO, LSM, D. Mullins

Sampling Method: 0.1-m^2 van Veen grab sampler **Weather:** partly cloudy, light breeze

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1345	1.5	8	N	low recovery
1350	1.5	6	N	low recovery
~~1355~~	~~1.5~~		~~N~~	delay
1400	1.5	8	N	low recovery. Moved offshore ~3m
1405	1.5		N	wood. low recovery
1408	1.5	~~6~~ 7	N	low recovery. Moved again
1412	2	0	N	empty
1415	2	12	Y	1st usable grab. *
1425	2	11	Y	2nd usable grab.

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 28 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	~~Sand:~~ C (M) F	(Brown surface)	(Gray)	(None)	H_2S
Gravel	(Silt / clay)	Brown	Black	Slight	Petroleum
(Organic matter)	(Wood debris)	Drab olive	Other:	Moderate	Other:
~~Shell fragments~~ clams	Other:			Strong	

Comments: RPD @ 2 cm

47° 33.478
122° 21.009
low penetration

2nd ~~navd~~ position: 47° 33.476
122° 20.997

3rd position 47° 33.474
122° 21.005

* 47° 33.478
pos: 122° 20.997

SURFACE SEDIMENT COLLECTION FORM

Wind/Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS 31

Start/Stop time: 1259/1315 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Sunshine, partly cloudy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1259	7.9	—	N	Chain lock
1303	8.0	11-12	Y	Low recovery on 1 side (8cm)
1315	8.1	13	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 31 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C M (F)

Gravel — (Silt)/ Clay

(Organic matter) — (Wood debris)

Shell fragments — Other:

Sediment color:

(Brown surface) (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

None — (H_2S)

(Slight) — (Petroleum)

Moderate — Other:

Strong

Comments: Worms

RPD = 1cm

Pockets of oily

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.18.05 **Station:** LDW-SS 32

Start/Stop time: 0951/0951 **Crew:** RAE, SMP, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0951	10.7	13	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 32 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:	Sediment color:	Sediment odor:
Cobble (Sand) C M F	(Brown surface) (Gray)	None (H_2S)
(Gravel) (Silt) Clay	Brown Black	(Slight) Petroleum
(Organic matter) Wood debris	Drab olive Other:	Moderate Other:
Shell fragments (Other) worms		Strong

Comments: RPD @ 1-2cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.26.05 **Station:** LDW-SS 33

Start/Stop time: **Crew:** RC, AR, MW

Sampling Method: ~~Double~~ Single 0.1-m^2 van Veen grab sampler **Weather:** fog

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M) FT	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0800	~~Ø~~ 6	9	N	Low Recovery 47 33 363
				122 20 914
0804	~~Ø~~ 6	10	N	" " Same coords
0808	~~Ø~~ 6.9		N	piece of wood stuck in jaws
0815	6.9	11	Y	~~Ø~~
0820	6.9		N	low recovery 47 33 630
				122 20. 914
0825	6.9	11	Y	↑ Same ↑
0828	6.9	11	Y	47 33.366
				122 20. 918
0834	6.9		N	chunk of wood Same coords
0836	6.9	12	Y	Same coords

SAMPLE INFORMATION

Sample ID: LDW-SS 33 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:			Sediment color:		Sediment odor:	
Cobble	Sand C M F		Brown surface	Gray	None	H_2S
Gravel	Silt Clay		Brown	Black	Slight	Petroleum
Organic matter	Wood debris		Drab olive	Other:	Moderate	Other:
Shell fragments	Other:				Strong	

Comments: RPD @ NONE cm (Not noticeable)

plant material, worms, clam shells

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-24-05 **Station:** LDW-SS 36

Start/Stop time: 1050/1120 **Crew:** JMF

Sampling Method: 0.1-m^2 van Veen grab sampler **Weather:** partly cloudy, calm

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1050	4	—	N	low recovery
1055	4	avg 10	Y	1st good grab!
1105	4	—	N	no recovery
1107	4	8	Y	2nd acceptable grab
1120	4	12	Y	3rd good grab

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 36 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M F	Brown surface	Gray	None	H_2S
Gravel	Silt/ Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other: worms, slight sheen			Strong	

Comments: RPD @ 1-2 cm

47 33.312
122 20.738

crab, released

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.18.05 **Station:** LDW-SS 37

Start/Stop time: 1033/1057 **Crew:** RAC, SMP, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain, wind

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1033	14.3	5	N	low recovery (coarse sand/gravel)
1042	14.1	12	Y	Keep 1 side, other side low recov (rejected)
1057	14.2	11	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 37 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble (Sand: C M F) (Gravel) (Silty) Clay

Organic matter (Wood debris) Shell fragments (Other: worms)

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD @ 1-2 cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.18.05 **Station:** LDW-SS 38

Start/Stop time: 1215/1250 **Crew:** RAC, SMP, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1215	12.6	17	Y	Kept 1 side; other side overpenetrated (rejected)
1230	12.3	—	N	Overpenetrated on both sides
1241	12.7	—	N	"
1250	12.2	17	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 38 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M (F)

Gravel (Silt) Clay

(Organic matter) (Wood debris)

(Shell fragments) Other: worm

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD @ 4cm.

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.18.05 **Station:** LDW-SS 4D

Start/Stop time: 1315 / 1315 **Crew:** RAE, SMP, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1315	13.5	11	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 4D -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	(Sand) C M (F)	(Brown surface)	(Gray)	(None)	H_2S
(Gravel)	(Silt) / Clay	Brown	Black	Slight	Petroleum
Organic matter	(Wood debris)	Drab olive	Other:	Moderate	Other:
Shell fragments	(Other: worm, mussel)			Strong	

Comments: RPD@ 3-4cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.24.05 **Station:** LDW-SS 42

Start/Stop time: 1307 **Crew:** RAC, SP, AR

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy, sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1307	7.8	14	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 42 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C (M) F

(Gravel) — (Silt)/ Clay

Organic matter — Wood debris

Shell fragments — Other:

Sediment color:

(Brown surface) — (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

None — (H_2S)

(Slight) — Petroleum

Moderate — Other:

Strong

Comments:

RPD = 1 cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS 43

Start/Stop time: 0743/0757 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Overcast, sun breaks

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0743	11.4	18	N	Over penetration
0750	11.2	9	Y N	
0757	11.3	11-12	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 43 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C (M) (F)
(Gravel) (Silt) Clay
(Organic matter) (Wood debris)
(Shell fragments) Other:

Sediment color:

(Brown surface) (Gray)
Brown Black
Drab olive Other:

Sediment odor:

(None) H_2S
Slight Petroleum
Moderate Other:
Strong

Comments: Surface oil sheen

RPD ≈ 1cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS 44

Start/Stop time: 0817 / 0837 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Overcast, fog

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0817	8.2	7	N	
0826	8.5	11 (1 side) / 10 (other side)	Y	Oily sheen overlying water,
0837	8.3	12 - 13	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 44 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M (F)
(Gravel) (Silt) / Clay
(Organic matter) Wood debris
(Shell fragments) Other:

Sediment color:

Brown surface (Gray)
Brown Black
Drab olive Other:

Sediment odor:

(None) H_2S
Slight Petroleum
Moderate Other:
Strong

Comments: Worms, sea stars
RPD = 3cm
Surface sheen; pockets of oily substance

SURFACE SEDIMENT COLLECTION FORM

Wind/Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.18.05 **Station:** LDW-SS 48

Start/Stop time: 1356/1414 **Crew:** RAC, SMP, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1356	4.2	9	Y	
1414	4.1	9	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS ~~48~~ 48-010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble (Sand) C M F

(Gravel) (Silt) Clay

(Organic matter) (Wood debris)

(Shell fragments) (Other: worms, mussels)

Sediment color:

Brown surface Gray

(Brown) Black

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD @ 3cm, sheen on surface

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.26.05 **Station:** LDW-SS 49

Start/Stop time: **Crew:** RC, MW, AR

Sampling Method: ~~Double~~ Single 0.1-m² van Veen grab sampler **Weather:** Fog

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0903	24		N - low recovery	47 33.033
				122 20. 46527
0907	24	16	Y	same coords
~~0915~~ 0918	24		N - chain link	" "
0924	24	16	Y stuck	" "

SAMPLE INFORMATION

Sample ID: LDW-SS 49 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble (Sand) C (M) F

(Gravel) (Silt) Clay

(Organic matter) Wood debris

Shell fragments Other:

Sediment color:

(Brown surface) Gray

Brown (Black)

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD @ 2 cm

Worms, plant material

Oily sheen on surface

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: ~~0925~~ 01.24.05 **Station:** LDW-SS 50

Start/Stop time: 0925 **Crew:** RAC, SP, AR

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** ~~Par~~tly cloudy, sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0925	6	16	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 50 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C (M) F

Gravel (Silt) / Clay

(Organic matter) (Wood debris)

Shell fragments Other:

Sediment color:

(Brown surface) Gray

Brown Black

Drab olive Other:

Sediment odor:

None (H_2S)

Slight Petroleum

Moderate Other:

(Strong)

Comments: Worms
RPD = 2 cm

Duplicate sample LDW-SS202

Pockets of oily sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.18.05 **Station:** LDW-SS S1

Start/Stop time: 1442/1452 **Crew:** RAC, SMP, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1442	11.8	—	N	overpenetrated
1452	11.4	17	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS S1 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M F

Gravel (Silt) Clay

(Organic matter) (Wood debris)

Shell fragments Other:

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD @ 2cm, pockets of surface sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.25.05 **Station:** LDW-SS S2

Start/Stop time: 1043 **Crew:** BC, AR, MW, CE, TP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** fog

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1043	11.6	15	~~N~~ Y	chain ~~took~~ map

SAMPLE INFORMATION

Sample ID: LDW-SS 52 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — (Sand) C (M) (F)

Gravel — (Silt) (Clay)

(Organic matter) — (Wood debris)

Shell fragments — Other:

Sediment color:

(Brown surface) (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

(None) — H_2S

Slight — Petroleum

Moderate — Other:

~~Strong~~ ↳ small amount of sheen

Comments:

RPD = 6cm

worms

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-24-05 **Station:** LDW-SS 54

Start/Stop time: 1134/1203 **Crew:** RAC, SP, AR

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1134	4	5	N	Under penetration
1141	4	9	N	Under penetration
1149	3.9	6	N	Under penetration
1158	5.0	8	N	Under penetration, ~3.8m from original site
1203	5.3	11	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 54 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: (C) M F

Gravel (Silt) Clay

(Organic matter) Wood debris

(Shell fragments) Other:

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

None (H_2S)

Slight Petroleum

(Moderate) Other:

Strong

Comments: Glass

RPD = 1cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.24.05 **Station:** LDW-SS 55

Start/Stop time: 1000 **Crew:** RAC, SP, AR

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy, sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1000	12.8	13	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 55 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: (C) (M) F

(Gravel) (Silt) (Clay)

(Organic matter) (Wood debris)

Shell fragments Other:

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

None H_2S

Slight (Petroleum)

(Moderate) Other:

Strong

Comments:

RPD < 1cm

Pockets of oily sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-24-05 **Station:** LDW-SS 56

Start/Stop time: 1300 / 1315 **Crew:** MF TDO, LSM, D. Mullins

Sampling Method: 0.1-m^2 van Veen grab sampler **Weather:** partly cloudy, calm light breeze

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1300	3	11	~~Y~~	1st good grab
1310	3	8-9	N	low recovery
1315	3	10	Y	good, not sufficient

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 56 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M F	Brown surface	Gray	None	H_2S
Gravel	Silt / Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments (clam shells)	Other: worms			Strong	

Comments: RPD @ 2-3 cm

47° 32.9645
122° 20.4800

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-24-05 **Station:** LDW-SS 57

Start/Stop time: 1235 / 1235 **Crew:** JMS, TDO, LSM, D. Mullins

Sampling Method: 0.1-m^2 van Veen grab sampler **Weather:** partly cloudy, calm

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1239	3.5	18	Y	good & sufficient

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 57-010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M F	Brown surface	Gray dk	None	H_2S
Gravel	Silt / Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other: worms			Strong	

Comments: RPD @ 1-2 cm

47° 32.936
122° 20.494

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-24-05 **Station:** LDW-SS 3658

Start/Stop time: 1150 / 1205 **Crew:** JMF, TDO, LSM, D. Mullins

Sampling Method: 0.1-m^2 van Veen grab sampler **Weather:** partly cloudy, cool.

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1150	2.5	—	N	wood in jaws
1155	2.5	>20	N	overfull
1200	2.5	>20	N	OP
1205	2.5	19	Y	1st good grab - sufficient

<5m

SAMPLE INFORMATION

Sample ID: LDW-SS 58-010 **Analyses needed before homogenization (circle):** (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M (F)	~~Brown~~ ~~surface~~	(Gray) dk	(None)	H_2S
Gravel	(Silt) / Clay	Brown	Black	Slight	Petroleum
~~Organic matter~~	(Wood debris)	Drab olive	Other:	Moderate	Other:
~~Shell fragments~~	Other:			Strong	

Comments: RPD @ 3 cm

47°32.919
okay 122°20.525

SURFACE SEDIMENT COLLECTION FORM

Wind/Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.19.05 **Station:** LDW-SS 60

Start/Stop time: 1221/1221 **Crew:** SMP, FMM, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** sun; clouds

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1221	4.1	12-15	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble | Sand: C (M) F

Gravel | Silt / Clay

(Organic matter) (Wood debris) (Shell fragments) (Other) plastic, crab

Sediment color:

Brown surface (Gray)

(Brown) Black

Drab olive Other:

Sediment odor:

None (H2S)

(Slight) Petroleum

Moderate Other:

Strong

Comments: RPD @ 7cm

(EPA split taken here)

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS 63

Start/Stop time: 1432/1455 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy, sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1432	3.1	—	N	Rock in jaws
1436	3.1	—	N	Sand, gravel, cobble? wash
1440	3.5	—	N	Rock in jaws
1444	4.8	—	N	Rock in jaws
1446	5.1	5	N	Low recovery
1452	5.2	6	N	Cobble, sand under penetration
1455	6.1	11	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 63 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: (C) (M) (F)	(Brown surface)	(Gray)	None	(H_2S)
(Gravel)	Silt / Clay	Brown	Black	(Slight)	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other:			Strong	

Comments: Worms, clams, leafy debris
Pockets of oily sheen
RPD = 1cm

WindWard environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-24-05 **Station:** LDW-SS 64

Start/Stop time: 0855/0915 **Crew:** JMF, TDO, LSM, D. Mullins

Sampling Method: 0.1-m^2 van Veen grab sampler **Weather:** partly cloudy, cool, calm

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0855	4	~	N	Big ~~[illegible]~~ pipe in jaws, seastar
0858	4	~	N	barnacles & blue mussels
0900	4	—	N	hit beam before bottom
0902	4	0	N	only water in sampler
0905	4	10	Y	1 good grab
0915	4	8	Y	2nd usable grab.

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 64 -010 — **Analyses needed before homogenization (circle):** (Sulfides) VOC AVS/SEM Other:

Sediment type: Cobble, Sand: (C) M F, (Gravel), (Silt / Clay), (Organic matter), (Wood debris), (Shell fragments) — worm, shell fragments, Other: oily sheen

Sediment color: ~~Brown surface~~, Gray, Brown, Black, (Drab olive), Other:

Sediment odor: (None), H_2S, Slight, Petroleum, Moderate, Other:, Strong

Comments: RPD @ 1 cm

47° 32.825
122° 20.247
not exactly on target; target is under pier.

W:\Projects\00-08-06_Duwamish_RI\Deliver\Surface sediment\Field\Surface Sediment Collection Form.doc

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS 67

Start/Stop time: 1408/1414 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy, sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1408	3.7	9-10	N	Low recovery
1414	3.5	11-12	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 67 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: (C) (M) (F)	(Brown surface)	Gray	(None)	H_2S
Gravel	(Silt) Clay	(Brown)	Black	Slight	Petroleum
Organic matter	(Wood debris)	(Drab olive)	Other:	Moderate	Other:
Shell fragments	Other:			Strong	

Comments:

RPD a band @ 4cm

SURFACE SEDIMENT COLLECTION FORM

Wind/Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS 70

Start/Stop time: 1516 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy, sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1516	5.9	13-14	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 70 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: (C) (M) (F)

(Gravel) Silt (Clay)

(Organic matter) (Wood debris)

Shell fragments Other:

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

None (H_2S)

(Slight) Petroleum

Moderate Other:

Strong

Comments: Worms
RPD = 3cm

Pocket of oily sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.24.05 **Station:** LDW-SS 72

Start/Stop time: 1042 **Crew:** RAC, AR, SP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1042	7.8	15	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 72 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M (F)

Gravel (Silt) Clay

(Organic matter) (Wood debris)

(Shell fragments) Other:

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

None (H_2S)

(Slight) (Petroleum)

Moderate Other:

Strong

Comments: Worms
Sea star
RPD ~ 1cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS 75

Start/Stop time: 1537 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1537	5.9	15	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 75-010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: (C) (M) (F)	Brown surface	Gray	(None)	H_2S
(Gravel)	(Silt) Clay	Brown	Black	Slight	Petroleum
(Organic matter)	(Wood debris)	(Drab olive)	Other:	Moderate	Other:
Shell fragments	Other:			Strong	

Comments: Worms

RPD > 10cm not observed in grab sample

Pocket of oily sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-20-05 **Station:** LDW-SS 76

Start/Stop time: 1553/1553 **Crew:**

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:**

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1553	7.0	14	Y	Keep both sides

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 76-010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M (F)	(Brown surface)	(Gray)	None	(H_2S)
Gravel	(Silt) Clay	Brown	Black	(Slight)	Petroleum
Organic matter	(Wood debris)	Drab olive	Other:	Moderate	Other:
Shell fragments	Other: (sheen)			Strong	

Comments:

RPD @ 1 cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.24.05 **Station:** LDW-SS 79

Start/Stop time: 1100/ **Crew:** RAC, SP, AR

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy, sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1100	10.0	14	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 79 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C (M) F

(Gravel) — (Silt) / Clay

Organic matter — Wood debris

Shell fragments — Other:

Sediment color:

(Brown surface) — (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

(None) — H_2S

Slight — Petroleum

Moderate — Other:

Strong

Comments: Brown surface ~5cm thick of fine sediments

RPD = 5cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-24-05 **Station:** LDW-SS 83

Start/Stop time: 0945/1000 **Crew:** JMF, TDO, LSM, D. Mullins

Sampling Method: 0.1-m² van Veen grab sampler **Weather:** partly cloudy, calm

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0945	4	20	Y	1st good grab
1000	4	18	Y	2nd good grab
		LSM		

SAMPLE INFORMATION

Sample ID: LDW-SS 83 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C (M) F	~~Brown surface~~	Gray	None	(H_2S)
Gravel	(Silt / Clay)	Brown	Black	(Slight)	Petroleum
Organic matter	(Wood debris)	(Drab olive)	Other:	Moderate	Other:
Shell fragments	Other:			Strong	

Comments: RPD @ 12 cm

47° 32. 367
122° 19. 6869

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.19.05 **Station:** LDW-SS 84

Start/Stop time: 1701 / 1720 **Crew:** B. COMPLITA, A. RODRIQUEZ, M. WELSCH K. Takagaki

Sampling Method: Stainless steel spoon/scoop **Weather:** Overcast

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS

SAMPLE INFORMATION

Sample ID: LDW-SS 84 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble (Sand: C M F) (Gravel) (Silt) Clay

Organic matter Wood debris

Shell fragments Other:

Sediment color:

(Brown surface) (Gray)

Brown (Black)

Drab olive Other:

Sediment odor:

None H_2S

Slight Petroleum

(Moderate) (Other: chemical odor)

Strong

Comments:

RPD = 2cm

Lat 47° 32.357

122° 19.985

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS 87

Start/Stop time: 0910 / 0919 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Overcast, foggy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0910	6.1	—	N	Metal debris caught in grab
0915	6.16	—	N	Jaws did not close
0915	6.0	—	N	Plastic debris caught in jaws
0919	6.2	17	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 87 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C (M) (F)

Gravel (Silt) Clay

(Organic matter) (Wood debris)

Shell fragments Other:

Sediment color:

(Brown surface) Gray

Brown Black

(Drab olive) Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD = 3cm

Pockets of oily sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.25.05 **Station:** LDW-SS 88

Start/Stop time: 1738/1821 **Crew:** BC, MW, AR

Sampling Method: 0.1-m^2 van Veen grab sampler **Weather:** p. cloudy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1738	3	—	N	UP nothing in it
1741	2.8	—	N	Undergen only couple cm
1746	3.1	—	N	Undergenetration
1755	3.5	13	Y	
1808	3.7	—	N	UP
1813	2.5	—	N	UP
1821	3.0	11	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS88 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: (C) (M) (F)

Gravel (Silt) (Clay)

Organic matter (Wood debris)

Shell fragments Other:

Sediment color:

(Brown surface) Gray

Brown (Black)

Drab olive Other:

Sediment odor:

None H_2S

Slight (Petroleum)

(Moderate) Other:

Strong

Comments: RPD @ _____cm did not get ... too dark

Form filled out by T.Do (01.26.05)
(See attached original)

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 06.19.05 **Station:** LDW-SS 89

Start/Stop time: 1441/1501 **Crew:** SMP, [redacted], T.D

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** sun, wind, cloud

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1441	5.1	12	Y	Kept 1 side; other side low rec.
1454	5.4	3	N	low recovery
1501	5.0	12	Y	Kept 1 side; other side low rec.

SAMPLE INFORMATION

Sample ID: LDW-SS 89 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:

Cobble, Sand, C, M, F, Gravel, Silt / Clay, Organic matter, Wood debris, Shell fragments, Other:

Sediment color:

Brown surface, Gray, Brown, Black, Drab olive, Other:

Sediment odor:

None, H_2S, Slight, Petroleum, Moderate, Other:, Strong

Comments: RPD @ 3cm

Field duplicate taken LDW-SS201-010

SURFACE SEDIMENT COLLECTION FORM

Windward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.25.05 **Station:** LDW-SS 92

Start/Stop time: 1110 / ~~1151~~ 1215 **Crew:** BC, AR, MW

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Fog

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1110	3.7		N	under penetration
~~[illegible]~~ 1119	3.9		N	UP
1121	3.9		N	UP (switched to Youngs grab)
1147	4.2		N	didn't close
1151	3.9	15	Y	
1208	3.7		N	Low recovery, hit old sample spot
1215	3.6	15	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 92 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	(Sand: C (M) F)	(Brown surface)	(Gray)	(None)	H_2S
Gravel	(Silt) / Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other:			Strong	

Comments: pockets of oily sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS ~~8994~~

Start/Stop time: 0955 / 1000 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Overcast, foggy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0955	5.1	18	N	Over penetration
1000	5.0	13-14	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS ~~8994~~ 010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C M (F)

(Gravel) — (Silt) / Clay

(Organic matter) — Wood debris

Shell fragments — Other:

Sediment color:

(Brown surface) (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

None — (H_2S)

(Slight) — Petroleum

Moderate — Other:

Strong

Comments:

RPD ≤ 1 cm

Pockets of oily sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS 96

Start/Stop time: 1025 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Overcast, foggy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1025	8.1	16-17	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 96 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M (F)
Gravel (Silt) / Clay
(Organic matter) (Wood debris)
Shell fragments Other:

Sediment color:

(Brown surface) ~~Gray~~
Brown Black
Drab olive Other:

Sediment odor:

(None) H_2S
Slight Petroleum
Moderate Other:
Strong

Comments: Worms
RPD = 4cm

Pockets of oily sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.21.05 **Station:** LDW-SS 97

Start/Stop time: 1045 / 1121 **Crew:** SP, AR, DP

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Partly cloudy, sun breaks,

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1045	2.3	—	N	Rock caught in grab
1050	2.9	—	N	Another rock caught in grab
1053	2.7	—	N	Misfire
1056	4.9	—	N	Low recovery
1102	6.0	—	N	Low recovery
1105	6.9	8-9	N	Low recovery
1121	4.5	15	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 97 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: (C) (M) (F)

(Gravel) — (Silt) / Clay

(Organic matter) — (Wood debris)

Shell fragments — Other:

Sediment color:

Brown surface — Gray

Brown — Black

(Drab olive) — Other:

Sediment odor:

(None) — H_2S

Slight — Petroleum

Moderate — Other:

Strong

Comments:

RPD = 6 cm

Pockets of oily substance

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.19.05 **Station:** LDW-SS 99

Start/Stop time: 1256/1346 **Crew:** SMP, FMM, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** sun; clouds

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1256	3.6	5-7	N	low recovery.
1305	3.2	<5	N	low recovery
1315	3.8	—	N	jaws did not deploy
1320	2.8	5	N	low recovery
1328	3.0	6	N	90m from target loc; rocks kept jaws open
1335	3.6	7	N	
1346	4.2	17	Y	
		—		

SAMPLE INFORMATION

Sample ID: LDW-SS 99 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C (M) F

Gravel — (Silt) Clay

(Organic matter) — (Wood debris)

Shell fragments — (Other: worms, tiles, asphalt)

Sediment color:

(Brown surface) (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

None — (H_2S)

(Slight) — Petroleum

Moderate — Other:

Strong

Comments: RPD@1 cm; oily sheen

(EPA split taken here)

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.20.05 **Station:** LDW-SS101

Start/Stop time: 1850/1950 **Crew:** A. Rodriguez, M. Welsch, S. Stillman

Sampling Method: Stainless steel spoon/scoop **Weather:** Partly cloudy, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS

SAMPLE INFORMATION

Sample ID: LDW-SS 101 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: (C) M F

(Gravel) — (Silt)/ Clay

Organic matter — Wood debris

Shell fragments — Other:

Sediment color:

Brown surface — (Gray)

(Brown) — Black

Drab olive — Other:

Sediment odor:

(None) — H_2S

Slight — Petroleum

Moderate — Other:

Strong

Comments: Homogenous sediment all thru top 10 cm; no RPD

Lat 47°31.895

Long 122° 19.173

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.24.05 **Station:** LDW-SS 102

Start/Stop time: 1405 **Crew:** RAC, SP, AR

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1405	2.9	11	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 102-010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M F	Brown surface	Gray	None	H_2S
Gravel	Silt / Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other:			Strong	

Comments:

RPD = 4 cm

Wind Ward environmental LLC SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.25.05 **Station:** LDW-SS 104

Start/Stop time: 1241 / 1321 **Crew:** BC, AR, MW

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** fog / SUN

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1241	2.9		N	over penetration - switched to van veen
1300	2.8		N	marginal recovery
1306	2.6	13	Y	1/2 good, wood stuck in other half - prevented full sample
1321	2.6	14	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 104 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble (Sand) C (M) (F)

Gravel (Silt) Clay

(Organic matter) (Wood debris)

Shell fragments Other:

Sediment color:

(Brown surface) (Gray)

(Brown) Black

Drab olive Other:

Sediment odor:

None (H_2S)

(Slight) Petroleum

Moderate Other:

Strong

Comments: RPD ~ 3cm
Worm tubes

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.25.05 **Station:** LDW-SS 109

Start/Stop time: 1528 / 1546 **Crew:** RAC, AR, MW

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** p. cloudy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1528	4.0	17	Y	Keep 1/2
1546	4.2		Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 109 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble, Sand: C M (F), (Gravel), Silt, Clay, (Organic matter), (Wood debris), Shell fragments, Other:

Sediment color:

(Brown surface), (Gray), Brown, (Black), Drab olive, Other:

Sediment odor:

None, H_2S, Slight, (Petroleum), (Moderate), Other:, Strong

Comments:

RPD = 3 cm
a lot of wood debris
pockets of oily sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.25.05 **Station:** LDW-SS 110

Start/Stop time: 1447 / 1512 **Crew:** RAC, AR, MW

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** partly cloudy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1447	3.0		N	did not close
1451	3.1		N	wash out
1456	3.0	13	Y	keep 1/2
1506	3.2		N	chain lock
1509	3.2		N	wash
1512	3.2	14	Y	good

SAMPLE INFORMATION

Sample ID: LDW-SS 110 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble (Sand: C (M) F)

Gravel (Silt) Clay

(Organic matter) (Wood debris)

(Shell fragments) Other:

Sediment color:

Brown surface (Gray)

Brown (Black)

Drab olive Other:

Sediment odor:

None H_2S

Slight (Petroleum)

(Moderate) Other:

Strong

Comments:

Pockets of oily sheen

RPD = 3cm

glass, gravel, worms

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.19.05 **Station:** LDW-SS 111

Start/Stop time: 0800 / 0817 **Crew:** SMP, FMM, T.DO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0800	3.0	—	N	did not close
0805	3.1	12	Y	Kept 1 side; other side empty (slope)
0817	3.2	12	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 111 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C (M) F

(Gravel) (Silt) Clay

(Organic matter) (Wood debris)

(Shell fragments) (Other): clams, worms

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

None H_2S

(Slight) — (Petroleum)

Moderate Other:

Strong

Comments: RPD @ 1-2cm ; sheen present

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity Project no. 04-08-06-24

Date: 01.19.05 Station: LDW-SS 112

Start/Stop time: 0843/0849 Crew: SMP, FMM, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler Weather: overcast

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0843	3.6	14	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 112 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C (M) F	(Brown surface)	~~Gray~~	(None)	H_2S
(Gravel)	(Silt) / Clay	(Brown)	Black	Slight	Petroleum
(Organic matter)	(Wood debris)	Drab olive	Other:	Moderate	Other:
(Shell fragments)	(Other) clams			Strong	

Comments: RPD @ 2cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-20-05 **Station:** LDW-SS 113B

Start/Stop time: 0916/0916 **Crew:** SMP, LSM, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0916	-5	16-17	Y	keep both sides

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 113B-010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C (M) F	Brown ~~surface~~	(Gray)	None	(S) (H_2S)
(Gravel)	(Silt / Clay)	Brown	Black	(Slight)	Petroleum
(Organic matter)	Wood debris	Drab olive	Other:	Moderate	Other:
(Shell fragments)	Other:			Strong	

Comments:

RPD @ 1 cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 1/20/05 **Station:** LDW-SS 114

Start/Stop time: 0803/0813 **Crew:** SMP, LSM, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0803	3.9	13	Y	Keep one side - other side poor recovery
0813	3.9	13	Y	Keep one side
		LSM		

SAMPLE INFORMATION

Sample ID: LDW-SS 114 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C (M) F	Brown surface	(Gray)	(None)	H_2S
(Gravel)	(Silt) Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
(Shell fragments)	Other:			Strong	

Comments:

RPD at 6cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.25.05 **Station:** LDW-SS 115

Start/Stop time: 1604 - 1640 **Crew:** RC, AR, MW

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** cloudy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
~~01.25.05~~				
1604	3.0		N	Switched to Youngs
1618	2.9		N	Rock in jaws
1622	3.2	11	Y	
1630	3.1	13	Y	
1640	3.2	12	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 115 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

(Cobble) (Sand) C M F

(Gravel) (Silt) Clay

Organic matter Wood debris

Shell fragments Other:

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments: RPD = 3cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-20-05 **Station:** LDW-SS 116

Start/Stop time: 1132/1214 **Crew:** SMP, RAC, LSM

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1132	2.5	—	N	didn't close
1135	2.3	~5 cm	N	low recovery
1141	2.2	0	N	chain caught between arms
1144	2.4	6-7	N	low recovery
1151	2.5	6	N	low recovery. move 5m into channel
1154	2.8	8	N	
1200	2.9	10	Y	try one more, keep this if not good
1214	2.8	9	N	too shallow

<5m

SAMPLE INFORMATION

Sample ID: LDW-SS 116 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M F

Gravel Silt / Clay

Organic matter Wood debris

Shell fragments Other:

Sediment color:

Brown surface Gray

Brown Black

Drab olive Other:

Sediment odor:

None H_2S

Slight Petroleum

Moderate Other:

Strong

Comments:

RPD 2-3 cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-20-05 **Station:** LDW-SS 117

Start/Stop time: 0829 / 0829 **Crew:** SMP, LSM, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Overcast

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0829	3.2	12	Y	Both sides good

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 117-010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C (M) F

(Gravel) (Silt / Clay)

(Organic matter) (Wood debris)

Shell fragments Other:

Sediment color:

(Brown surface) Gray

Brown Black

(Drab olive) Other:

Sediment odor:

(None) H_2S

Slight Petroleum

Moderate Other:

Strong

Comments:

RPD @ 4cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 8/20/05 **Station:** LDW-SS 118

Start/Stop time: 1528/1528 **Crew:** SMP, LSM, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1528	5.6	16	Y	keep both sides

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 118-010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C M (F)

Gravel — (Silt / Clay)

(Organic matter) — (Plant Wood debris)

Shell fragments — Other:

Sediment color:

(Brown surface) — (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

None — (H_2S)

(Slight) — Petroleum

Moderate — Other:

Strong

Comments:

RPD@23cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.19.05 **Station:** LDW-SS 119

Start/Stop time: 0936/0954 **Crew:** SMP, FMM, T.DO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** cloudy; sun

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
0936	2.8	—	N	chains hung up
0938	2.4	11	Y	
0954	2.7	12	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 119 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C M (F)

(Gravel) — (Silt) / Clay

(Organic matter) — Wood debris

(Shell fragments) — Other:

Sediment color:

(Brown surface) (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

None — H_2S

(Slight) — (Petroleum)

Moderate — Other:

Strong

Comments: RPD @ 1-2 cm; occassional sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.19.05 **Station:** LDW-SS 120

Start/Stop time: 1010/1039 **Crew:** SMP, FMM, TDO

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** sun, clouds

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1010	2.3	—	N	large stick stuck in jaws
1015	2.7	5-7	N	low recovery
1021	2.7	11.5	Y	Keep 1 side; other side low recov. (reject)
1033	2.6	6-7	N	low recovery
1039	2.6	10	Y	Keep 1 side; other side low recov. (reject) hitting gravel & debris.

SAMPLE INFORMATION

Sample ID: LDW-SS 120 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M (F)
(Gravel) (Silt) / Clay
~~Organic matter~~ ~~Wood debris~~ Shell fragments (Other)

Sediment color:

(Brown surface) Gray
(Brown) Black
(Drab olive) Other:
orange flecks

Sediment odor:

(None) H_2S
Slight Petroleum
Moderate Other:
Strong

Comments: RPD @ 3cm

Windward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.25.05 **Station:** LDW-SS 121

Start/Stop time: 1701/1710 **Crew:** BC, MW, AR

Sampling Method: 0.1-m² van Veen grab sampler **Weather:** p.cloudy

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1701	2.1	11	Y	
1706	2.1		N	Rock
1710	2.1	11	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 121 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type: Cobble; Sand: (C) (M) F; (Gravel); (Silt) Clay; Organic matter; (Wood debris); Shell fragments; Other: glass fragments

Sediment color: Brown surface; Gray; (Brown); Black; Drab olive; Other:

Sediment odor: (None); H_2S; Slight; Petroleum; Moderate; Other:; Strong

Comments: RPD @ ________ cm ~~too dark~~

Form filled out by T.Do (01.26.05) (see attached original)

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.24.05 **Station:** LDW-SS 123

Start/Stop time: 1635/1704 **Crew:** RAC, SP, AR

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Clear, sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1635	2.8	16	Y	
1649	2.5	—	N	over penetration
1655	2.4	13	Y	
1704	2.6	13	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 123 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: (C) (M) F	(Brown surface)	(Gray)	(None)	H_2S
Gravel	(Silt / Clay)	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other:			Strong	

Comments:

RPD = 3cm Duplicate sample LDW-SS-203-010

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-20-05 **Station:** LDW-SS 125

Start/Stop time: 1043 / 1043 **Crew:** SMP, LSM, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, light rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1043	2	13	Y	keep both sides

SAMPLE INFORMATION

Sample ID: LDW-SS 125 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C M (F)

Gravel — (Silt / Clay)

(Organic matter) — slight (Plant) wood debris

Shell fragments — Other:

Sediment color:

(Brown surface) — (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

(None) — (H_2S)

(Slight) — Petroleum

Moderate — Other:

Strong

Comments:

RPD @ 1-2 cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-20-05 **Station:** LDW-SS 126

Start/Stop time: 1106/1106 **Crew:** SMP, LSM, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, light rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1106	7.2	11	Y	good. Keep both sides

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 126 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C M F

Gravel — Silt / Clay

Organic matter — Slight Wood debris / Plant

Shell fragments — Other:

Sediment color:

Brown surface — Gray

Brown — Black

Drab olive — Other:

Sediment odor:

None — H_2S

Slight — Petroleum

Moderate — Other:

Strong

Comments: RPD@3

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-20-05 **Station:** LDW-SS 127

Start/Stop time: 1334/1334 **Crew:** SMP, LSM, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1334	5.2	17	Y	keep both sides

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 127-010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M F	Brown surface	~~Gray~~	None	~~H_2S~~
Gravel	Silt / Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other: garbage (plastic) whitish shells			Strong	

Comments:

RPD @ 2 cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.24.05 **Station:** LDW-SS 12B

Start/Stop time: 1435/1540 **Crew:** RAC, SP, AR

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1435	3.6	—	N	Chain hang
1439	4.0	—	N	Rocks
1443	5.1	—	N	Chain lock
1446	6.0	18	N	Over penetration
1454	5.5	—	N	Only 1 side released
1456	5.2	20	N	Over penetration
1523	5.5	20	N	Over penetration
1537	5.2	—	N	Rocks
1540	5.4	14	Y	~5.4m from original site

SAMPLE INFORMATION

Sample ID: LDW-SS 12B -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble — Sand: C M (F)

Gravel — (Silt) / Clay

(Organic matter) — (Wood debris)

Shell fragments — Other:

Sediment color:

(Brown surface) — (Gray)

Brown — Black

Drab olive — Other:

Sediment odor:

None — (H_2S)

(Slight) — Petroleum

Moderate — Other:

Strong

Comments:

RPD = 2cm

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-20-05 **Station:** LDW-SS 129

Start/Stop time: 1434 / 1447 **Crew:** SMP, LSM, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1434	3.0	—	N	empty, didn't trip
1438	3.0	—	N	didn't trip moved out 1.6m.
1442	3.2	—	N	didn't trip, chains hung up.
~~1447~~	2.4	17	Y	
1444	3.6	—	N	chain hung up
1447	4.0	17	Y	Keep both sides

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 129 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M F

Gravel Silt Clay

Organic matter Peat Wood debris

Shell fragments Other:

Sediment color:

Brown surface Gray

Brown Black

Drab olive Other:

Sediment odor:

None H_2S

Slight Petroleum

Moderate Other:

Strong

Comments:

RPD@3

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-20-05 **Station:** LDW-SS 130

Start/Stop time: 1403 **Crew:** SMP, LSM, RAC

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** overcast, rain

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1403	5.1	—	N	chain hung up
1406	5.3	17	Y	Keep both sides

LSM

SAMPLE INFORMATION

Sample ID: LDW-SS 130 -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M (F)	(Brown) surface	(Gray)	None	(H_2S)
Gravel	(Silt / Clay)	Brown	Black	Slight	Petroleum
(Organic matter)	(Wood debris) plant material	Drab olive	Other:	(Moderate)	Other:
Shell fragments	(Other:) surface sheen worms			Strong	

Comments:

RPD @ 1

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01-24-05 **Station:** LDW-SS 134

Start/Stop time: 1550/1608 **Crew:** JMF, TDO, LSM, D. Mullins

Sampling Method: 0.1-m² van Veen grab sampler **Weather:** partly cloudy, calm

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1550	2.5	—	N	debris in jaws
1555	2.5	—	N	low recovery
1557	2.5	5 cm	N	low recovery. Moved 2m S
1559	2.5	11	Y	1st good grab.
1608	2.5	12-13	Y	2nd & final good grab
			LSM	

SAMPLE INFORMATION

Sample ID: LDW-SS 134-010 **Analyses needed before homogenization (circle):** (Sulfides) VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C (M) F	Brown surface	(Gray)	(None)	H_2S
Gravel	(Silt / Clay)	Brown	Black	Slight	Petroleum
(Organic matter)	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other: Plant debris			Strong	

Comments: RPD @ 2 cm

(47° 31.037
122° 18.421)

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.24.05 **Station:** LDW-SS 142

Start/Stop time: 1601 **Crew:** RAC, SP, AR

Sampling Method: Double 0.1-m^2 van Veen grab sampler **Weather:** Clear, sunshine

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1601	4.1	15	Y	

SAMPLE INFORMATION

Sample ID: LDW-SS 142-010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type:

Cobble Sand: C M (F)

Gravel (Silt) Clay

(Organic matter) (Wood debris)

Shell fragments Other:

Sediment color:

(Brown surface) (Gray)

Brown Black

Drab olive Other:

Sediment odor:

None (H_2S)

(Slight) Petroleum

Moderate Other:

Strong

Comments: Leafy debris

RPD = 4cm

Wind Ward environmental LLC

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 01.26.05 **Station:** LDW-SS 143

Start/Stop time: **Crew:** BC, AR, MW

Sampling Method: ~~Double~~ SINGLE 0.1-m^2 van Veen grab sampler **Weather:** Clouds

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (~~M~~ FT)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1139	4.5	4cm	N - low recov	coords: 47 30.749[illegible]90
				122 20 17.[illegible]93050
1144	"	14	Y	same coords
1154	"	12	Y	"

SAMPLE INFORMATION

Sample ID: LDW-SS 143 -010

Analyses needed before homogenization (circle): (Sulfides) VOC AVS/SEM Other:

Sediment type: ~~(Cobble)~~ (Gravel) (Organic matter) Shell fragments (Sand: C (M) F) (Silt) Clay Wood debris Other:

Sediment color: ~~Brown surface~~ (Gray) Brown Black Drab olive Other:

Sediment odor: (None) Slight Moderate Strong H$_2$S Petroleum Other:

Comments: RPD @ 4 cm

pockets of oily sheen

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 02.01.05 **Station:** ~~LDW-SS~~ DR-SSS-010

Start/Stop time: 1513 - 1525 **Crew:** AR, MW, SP

Sampling Method: Stainless steel spoon/scoop **Weather:** sunny, calm

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1513	—	10	Y	

SAMPLE INFORMATION

Sample ID: ~~LDW-SS~~ ~~-010~~ **Analyses needed before homogenization (circle):** Sulfides VOC AVS/SEM Other:

Sediment type: DR-SSS-010

Sediment color:

Sediment odor:

Cobble	Sand: C (M) F	(Brown surface)	Gray	(None)	H_2S
Gravel	(Silt)/ Clay	(Brown - Gray)	Black	Slight	Petroleum
(Organic matter)	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	(Other: plant/fine organic matter)			Strong	

Comments:

RDM RPD ~ black layer approx 3 cm depth

Wind Ward environmental LLC SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 02.01.05 **Station:** ~~LDW-SS-~~ DR-SS6-010

Start/Stop time: 1528 - 1545 **Crew:** AR, MW, SP

Sampling Method: Stainless steel spoon/scoop **Weather:** sunny, calm

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1528	-	10	Y	

SAMPLE INFORMATION

Sample ID: ~~LDW-SS-~~ -010

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type: DR-SS6-010

Cobble	Sand: C M F	Brown surface	Gray	None	H_2S
Gravel	Silt / Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other: roots			Strong	

Comments:

RPD - black layer ~3cm

dup - DR-SS9-010

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity **Project no.** 04-08-06-24

Date: 02.01.05 **Station:** ~~LDW-SS~~ DR-SS7-010

Start/Stop time: 1551 - 1401 **Crew:** AR, MW, SP

Sampling Method: ~~0.1 m² van Veen grab sampler~~ Stainless steel spoon **Weather:** Sunny, calm

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1551	—	10	Y	

SAMPLE INFORMATION

Sample ID: ~~LDW-SS-010~~

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type: DR-SS7-010

Cobble	Sand (C M F)	Brown surface	Gray	None	H_2S
Gravel	Silt/ Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris - bits	Drab olive	Other:	Moderate	Other:
Shell fragments	Other:			Strong	

Sediment color: **Sediment odor:**

Comments: RPD @ _____cm

brick debris

No distinct RPD

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity
Project no. 04-08-06-24
Date: 02.09.05
Station: DR-SS10-010
Start/Stop time: 1034 - 1050
Crew: DG, RAC, SS, SP
Sampling Method (circle): ~~Single 0.1-m² van Veen grab sampler~~ ~~0.02-m² Ekman grab sampler~~ stainless steel spoon
Weather: sunny, clear, calm

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1034	—	10	Y	

SAMPLE INFORMATION

Sample ID: DR-SS10-010
Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C (M) (F)	(Brown surface)	Gray	(None)	H_2S
Gravel	(Silt) Clay	Brown	Black	Slight	Petroleum
(Organic matter)	Wood debris	(Drab olive)	Other:	Moderate	Other:
Shell fragments	(Other: plant/root)			Strong	

Comments: RPD @ _____cm

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity
Project no. 04-08-06-24
Date: 02.09.05
Station: DR-SS11-01D
Start/Stop time: 1045 - 1050
Crew: RAC, SS, SP
Sampling Method (circle): ~~Single 0.1-m² van Veen grab sampler~~ / ~~0.02 m² Ekman grab sampler~~
Weather: Sunny, clear, cool
stainless ~~steel~~ steel spoon

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1045	-	10	Y	

SAMPLE INFORMATION

Sample ID: DR-SS11

Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M F	Brown surface	Gray	None	H_2S
Gravel	Silt / Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other: plant/root			Strong	

Comments: RPD @ _____cm
50% fines

SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity
Project no. 04-08-06-24
Date: 02.09.05
Station: DR-SS13-010
Start/Stop time: 1057 - 1110
Crew: RAC, SS, SP
Sampling Method (circle): ~~Single 0.1-m² van Veen grab sampler~~ ~~0.02-m² Ekman grab sampler~~ stainless steel spoon
Weather: sunny, clear, cool

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1057	—	10	Y	

SAMPLE INFORMATION

Sample ID: DR-SS13-010
Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:
Cobble, Gravel, (Organic matter), Shell fragments, (Sand) C M (F), (Silt) Clay, (Wood debris), (Other) plant/roots

Sediment color:
(Brown surface), (Gray), Brown, Black, Drab olive, Other:

Sediment odor:
(None), Slight, Moderate, Strong, H_2S, Petroleum, Other:

Comments: RPD @ ~5 cm
55-60% fines
brown pockets
black pockets

Wind Ward environmental LLC SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity
Project no. 04-08-06-24
Date: 02.09.05
Station: 8152 DR-SS14-010
Start/Stop time: 1114 - 1125
Crew: RAC, SS, SP
Sampling Method (circle): ~~Single 0.1-m² van Veen grab sampler~~ ~~0.02-m² Ekman grab sampler~~ stainless steel spoon
Weather: Sunny, clear, cool

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
11:14	–	10	Y	

SAMPLE INFORMATION

Sample ID: DR-SS14-010
Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type:		Sediment color:		Sediment odor:	
Cobble	Sand: C M F	Brown surface	Gray	None	H_2S
Gravel	Silt/ Clay	Brown	Black	Slight	Petroleum
Organic matter	Wood debris	Drab olive	Other:	Moderate	Other:
Shell fragments	Other plant/root			Strong	

Comments: RPD @ _____cm

55% fines

SURFACE SEDIMENT COLLECTION FORM

Wind Ward environmental LLC

Project Name: LDW RI-Surface Sediment Chemistry/Toxicity
Project no. 04-08-06-24
Date: 02.09.05
Station: DR-SS15-010
Start/Stop time: 1124 - 1140
Crew: RAC, SS, SP
Sampling Method (circle): ~~Single 0.1-m² van Veen grab sampler~~ ~~0.02-m² Ekman~~ grab sampler stainless steel spoon
Weather: Sunny, cool, clear

GRAB INFORMATION

GRAB TIME	BOTTOM DEPTH (M)	PENETRATION DEPTH (CM)	ACCEPTABLE GRAB? (Y/N)	COMMENTS
1124	-	10	Y	

SAMPLE INFORMATION

Sample ID:
Analyses needed before homogenization (circle): Sulfides VOC AVS/SEM Other:

Sediment type: DR-SS15-010

		Sediment color:		Sediment odor:	
Cobble	Sand: C (M) (F)	Brown surface	Gray	(None)	H_2S
Gravel	Silt / Clay	(Brown)	Black	Slight	Petroleum
(Organic matter)	(Wood debris)	Drab olive	Other:	Moderate	Other:
Shell fragments	(Other: plant/root)			Strong	

Comments: RPD @ _____cm

60% fines

worm in sample

Attachment E-3: Field Notes

01/10/05 LDW RI Surface Sediment Collection (Recon

Crew Bob Complitn, Shannon Pierce } windward

Weather Sunny, clear, 0-5 mph wind

Purpose: Field recon of potential problematic sites.

Station	Time	Comments
LDW6 13	1130	Storm drain not visible
LDW6 14	1132	Sample on foot @ Low tide
LDW6 23	1150	Depth = 6.7'. Should use a boat @ high tide
~~LDW6 26~~	~~1206~~	~~Sample w/ boat~~ Small foot @ low tide
LDW6 27	1200	Depth = 3.0' Should use a boat @ high tide
LDW6 26	1206	Access w/ small boat @ low tide + Sample on foot.
LDW6 34	1209	Sample w/ boat @ High tide
LDW6 36	1210	Barge on Station
LDW6 45	1217	8.5' depth - Sample w/ Small boat @ high tide
LDW6 44	1218	12.7' " "
LDW6 43	1224	Station under pier. access by Small boat + Sample on foot @ low tide
LDW6 47	1225	Sample by boat @ high tide
LDW6 49	1230	22.5' deep. Station under Pier Structure. Access by boat @ High tide or move station.

Station	Time	Comments
LDW6 51	1232	Sample w/ boat @ High tide.
LDW6 64	1240	10.5' deep Sample w/ boat @ High tide
LDW6 69	1243	Boat @ High tide sample
LDW6 72	1245	" " " "
LDW6 74	1246	Boat @ High tide Fishing net restricts access to Sample location.
LDW6 76	1250	12.2' deep. Sample using boat at High tide. No barge present as indicated on table
LDW6 78	1252	Sample w/ boat @ high tide
LDW6 80	1255	Sample w/ boat @ high tide 6' water depth. Possible to Sample by foot. easy access from Shore
LDW6 81	1256	Sample by boat @ high tide
LDW6 82	1257	" " " " "
LDW6 87	1304	Wood piles visible. not metal piles as indicated in table
LDW6 88	1305	Sample by boat @ high tide
LDW6 89	1306	" " " " "
LDW6 90	1307	" " " " "
LDW6 91	1310	Sample by boat @ high tide Difficult to Sample due to rip-rap
LDW6 92	1311	Sample by boat @ high tide

4 01/10/05

Station	Time	Comments
LDWG 95	1312	Sample by boat @ high tide
LDWG 96	1312	"
LDWG 97	1313	"
LDWG 98	1315	Sample by boat @ high tide
LDWG 99	1316	" " "
LDWG 101	1317	" " "
LDWG 102	"	" " "
LDWG 104	1320	" " "
LDWG 105	"	" " "
~~LDWG 106~~		Station plots on land needs to be moved off shore 20'
LDWG 106	1321	Barges on Station no access
LDWG 114	1327	Sample w/ boat @ high tide
E17	1325	Photo 70+71 Logs (floating) Limit access to Station. Possibly move it.
LDWG 87	1338	Photo 72

End of Recon

1415 return to boat house

RAC

~~10/04~~ 01/10/05

LDW RI Dioxin Background Sampling 01/31/05 5

Crew: Bob Complita, Berit Bergquist, Maryam Walsh } Windward
Dave Mullins

Weather: Patchy clouds, Sun, wind 25 mph.

835 - Station 1a/b. This station is located @ Divers Institute of Technology. Divers present until 1500, so moving on to 9a/b.

908 - Arrive 9a/b
outfall Photo 105

9:23 1st grab Photo 108 - lots of decaying plant material on surface of grab; not retained; 1A

9:40 2nd grab @ ~ 10 ft out from 1st grab; contained woody material; not retained

9:58 3rd grab photos 109, 110 organic sediment; ~~very~~ not retained 4A

10:05 photo 111; sandy sediment 2A; retained

10:25 3A; >50% gravel; not retained 2½ ft.

11:09 5A photo 112; sandy, <10% gravel, retained

11:16 6A photo 113; fine sand/some organics retained <10% gravel

01-17-05

Crew: Bob Compliten, Joann Florer, Thai Do (Windward)
Charlie Eaton, Tom Putnam (Bio Marine)

Weather: overcast, rain, wind 5-15 mph

0630 Arrive Harbor Is. Marina to load gear onto R/V Kittiwake
0715 Depart Harbor Is. Marina. Heading to station LDWG-1
0731 Began grabs @ LDW-SS1 @ (re-occupy site)
0819 Completed grabs @ LDW-SS1, headed to LDW-SS4
0844 Began grabs @ LDW-SS4 (re-occupy site)
0904 Completed grabs @ LDW-SS4, headed to LDW-SS5
0924 Began grabs @ LDW-SS5 (reoccupy site)
1025 Completed grabs @ LDW-SS5, headed to LDW-SS10
1046 Began grabs @ LDW-SS10 (reoccupy site)
1056 Completed grabs @ LDW-SS10, headed to LDW-SS12
1118 Began grabs @ LDW-SS12 (reoccupy site)
1119 Completed grabs @ LDW-SS12, headed to LDW-SS14
1146 Began grabs @ LDW-SS14. Could not get on exact location (under dock).

01.17.05

3 failed attempts. Relocated to w/in 10m. of target.
1215 Completed grabs @ LDW-SS14, headed to LDW-SS15
1230 Began grabs @ LDW-SS15 (reoccupy sit)
1230 Completed grabs @ LDW-SS16. Head to marina for break. Drop off Thai.
1335 Finished lunch. Left H.I. Marina to station LDWG-17
1351 Began grabs @ LDW-SS17 (re-occupy site) 6am, failed 3 attempts. Re-located offshore 22m from target 1.4m toward channel.
1416 Completed grabs @ LDW-SS17
1435 Began grabs @ LDW-SS22
1440 Completed grabs @ LDW-SS22
1514 Began grabs @ LDW-SS13
finish grabs @ LDW-SS13
1530 Finished sampling for the day back to Harbor Is. Marina

end of day
JMT

01.18.05

Crew: Bob Complita, Shannon Pierce, Thai Do (Windward); Charlie Eaton, Tom Putnam (Bio Marine)

Weather: overcast, rain, wind 5-20mph

0700 Arrive at Harbor Island Marina. Load gear on R/V Kittiwake

0730 Headed to LDW-SS23

0745 Began grabs @ LDW-SS23 (reoccupy site)

0844 Completed grabs @ LDW-SS23

0906 Began grabs @ LDW-SS26

0906 Ended grabs @ LDW-SS26

0930 Began grabs @ LDW-SS27 (reoccupy site). Field dup. LDW-SS200 taken

0930 Completed grabs @ LDW-SS27

0951 Began grabs @ LDW-SS32 (reoccupy site)

0951 Completed grabs @ LDW-SS32

1033 Began grabs @ LDW-SS37 (reoccupy site)

1057 Completed grabs @ LDW-SS37. Head to Harbor Island Marina to pick up more 16oz sample jars and to take lunch break.

1205 Took rinsate blank sample - LDW-SS38-RB

01.18.05

1215 Began grabs @ LDW-SS38

1250 Completed grabs @ LDW-SS38

1315 Began grabs @ LDW-SS40 (reoccupy site)

1315 Completed grabs @ LDW-SS40

1356 Began grabs @ LDW-SS48 (reoccupy site)

1414 2 grabs taken w/ 9 cm recovery (each). Hit railroad ties/rails in both attempts. Could not get any deeper. Kept both grabs to be combined and homogenized and submitted for analyses.

1442 Began grabs @ LDW-SS51 (reoccupy site)

1452 Completed grabs @ LDW-SS51

1518 Began grabs @ LDW-SS52 (reoccupy site)

Completed grabs @ LDW-SS52 — ND!

1543 Grab attempts overpenetrated. Will come back to this station at a later date.

1550 End of sampling day. Return to Harbor Island Marina to take samples to ARI.

T. Do 01.18.05

01.19.05

Crew: Shannon Pierce, Fiona McNair } Windward
Thai Do
Charlie Eaton } Bio Marine
Tom Putnam

Weather: fog, Overcast ~~Wind 15-25 kts~~

0700 Arrived at Harbor Island Marina. Load gear on R/V Kittiwake. Health and Safety meeting w/ Fiona.
0730 Headed to LDW-SS111
0800 Began grabs @ LDW-SS111 (reoccupy site)
0817 Completed grabs @ LDW-SS111
0843 Began grabs @ LDW-SS112
0843 Completed grabs @ LDW-SS112
0909 Began grabs @ LDW-SS113 (reoccupy site) Downed tree (from storm event) on exact location, had to make slight adjustment. Moved off ~2m from target. 4 unsuccessful attempts. Called Benit for advise. Waiting for call back. Moving on to LDW-SS119; may return later
0934 Benit called back w/ alternate locations for LDW-SS113

Alt. A	Alt. B
x 1275730	x 1275772
y 194977	y 194955

01.19.05

0936 Began grabs @ LDW-SS119 (reoccupy site)
0954 Completed grabs @ LDW-SS119
1010 Began grabs @ LDW-SS120
1039 Completed grabs @ LDW-SS120. Head back to Harbor Island Marina to pick up Kym Takasaki. (ALOE)
1200 Kym Takasaki arrives. Headed to
1221 LDW-SS560. Began grabs @ LDW-SS560 (Agency split)
1221 Completed grabs @ LDW-SS60
1256 Began grabs @ LDW-SS99 (reoccupy site) 3 failed attempts. Moved ~0m downstream
1346 Completed grabs @ LDW-SS99 (Agency split)
1419 Began grabs @ LDW-SS92 (reoccupy site)
1419 Completed grabs @ LDW-SS92
1441 Began grabs @ LDW-SS89
1501 Completed grabs @ LDW-SS89. Field duplicate taken: LDW-SS201-010
1507 Head back to Harbor Island Marina to drop off Kym Takasaki. ~~End of sampling day. # Fish samples to date.~~
1550 Began grabs @ LDW-SS36. Unable to get on location (barge). Go back to marina, End of sampling day.

T.DD 01.19.05

114, 117, 113B, 125, 120, 116, 127, 130, 129, 118, 76

01-20-05

Crew: Bob Complitn, Shannon Pierce, Linda Marsh (Windward); Charlie Eaton, Tom Putnam (Biomarine)

Weather: overcast

0700 Arrive Harbor Is. Marina. Load gear on R/V Kittiwake

0730 Arrive station 36 to take new Possible sampling coordinates due to barge/ship being on targeted location. Moved W of 36.
New coordinates = 47° 33.3136 N
122° 20.7676 W
headed to LDW-SS114
New coordinates = X 1266889.8
Y 206201.5

0803 began grabs at LDW-SS114

0813 completed grabs at LDW-SS114, headed to SS-117

0829 began grabs at LDW-SS117 (reoccupy)

0850 completed grabs at LDW-SS117, headed to SS113A

0859 began grabs at LDW-SS113A (reoccupy)

0908 completed 3rd grab at LDW-SS113A, no success, headed to LDW-SS113B

01-20-05

0916 began grabs at LDW-SS113B

0930 completed grabs at LDW-SS113B, headed for LDW-SS123

0942 began grabs at SS123

0953 3rd grab failed, moving slightly

1005 1st grab at new coordinates.

1018 3rd grab attempt failed. Rebar in grabber.

1029 Final try, 5 meters out into channel, after calling Kathy at Windward for OK.

1043 First grab at SS125. completed grabs.

1100 moving to LDW-SS126

1106 began grabs at SS126

1106 completed grabs at LDW-SS126, move to 116

1132 began grabs at LDW SS116. moved off station.

1214 completed grabs. Moved to dock for lunch.

1321 began grabs at LDW SS121. Failed, rock, abort, moved to LDW-SS127
Took rinsate at 121, decided not to submit.

1334 began grabs at LDW-SS127.

1334 completed grabs at LDW-SS127. moved to 130

1403 began grabs at SS127.

1406 completed grabs at LDW-SS127.

1434 began grabs at LDW-SS129

1447 completed grabs at LDW-SS129. To 128 touched ~~grounded~~ at 128, backed out. To 118.

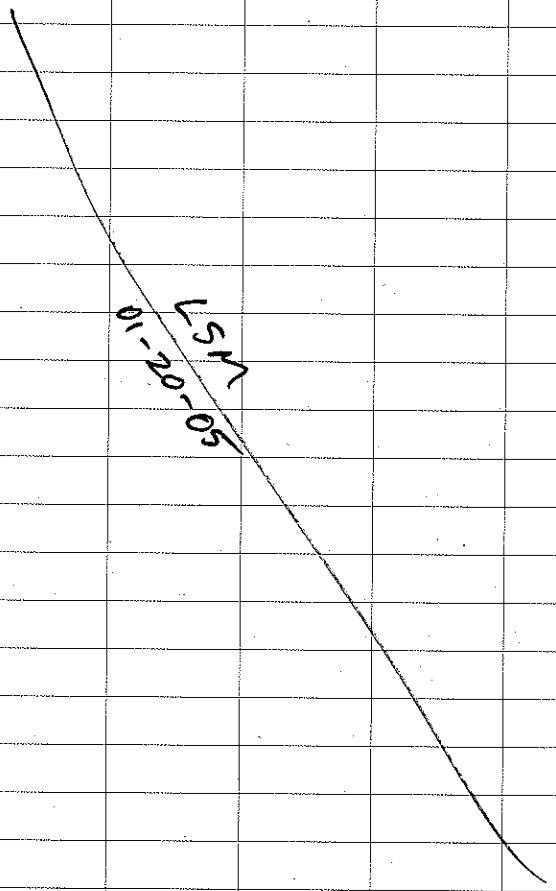
01-20-05

1528 began grabs at LDW-SS118

1528 completed grabs at LDW-SS118. Moved to 76

1553 began grab at LDW-SS76.

1553 completed grab at LDW-SS76. Back to Marina, end of days sampling.



01.21.05

Crew: Derek Pellieter - WW
Shannon Pierce - WW
Angie Rodriquez - WW
Charlie Eaton - Bio Marine
Tom Putnam - Bio Marine

Weather: Overcast, sun breaks

0700 Arrive at Harbor Island, unload field supplies onto R/V Kittiwake

0730 Motor to LDW-5543 & LDW-5544

0739 Rinsate

0743 LDW-5543 collected but not acceptable over penetration

0757 LDW-5543 collected

0817 LDW-5544 (reoccupy) began grabs

0826 Half of the grab is acceptable, LDW-5544 collected

0837 LDW-5544 grab complete

0850 LDW-5550 is behind a barge
LDW-5549 needs to be hit at flood tide, too shallow for Charlie's boat

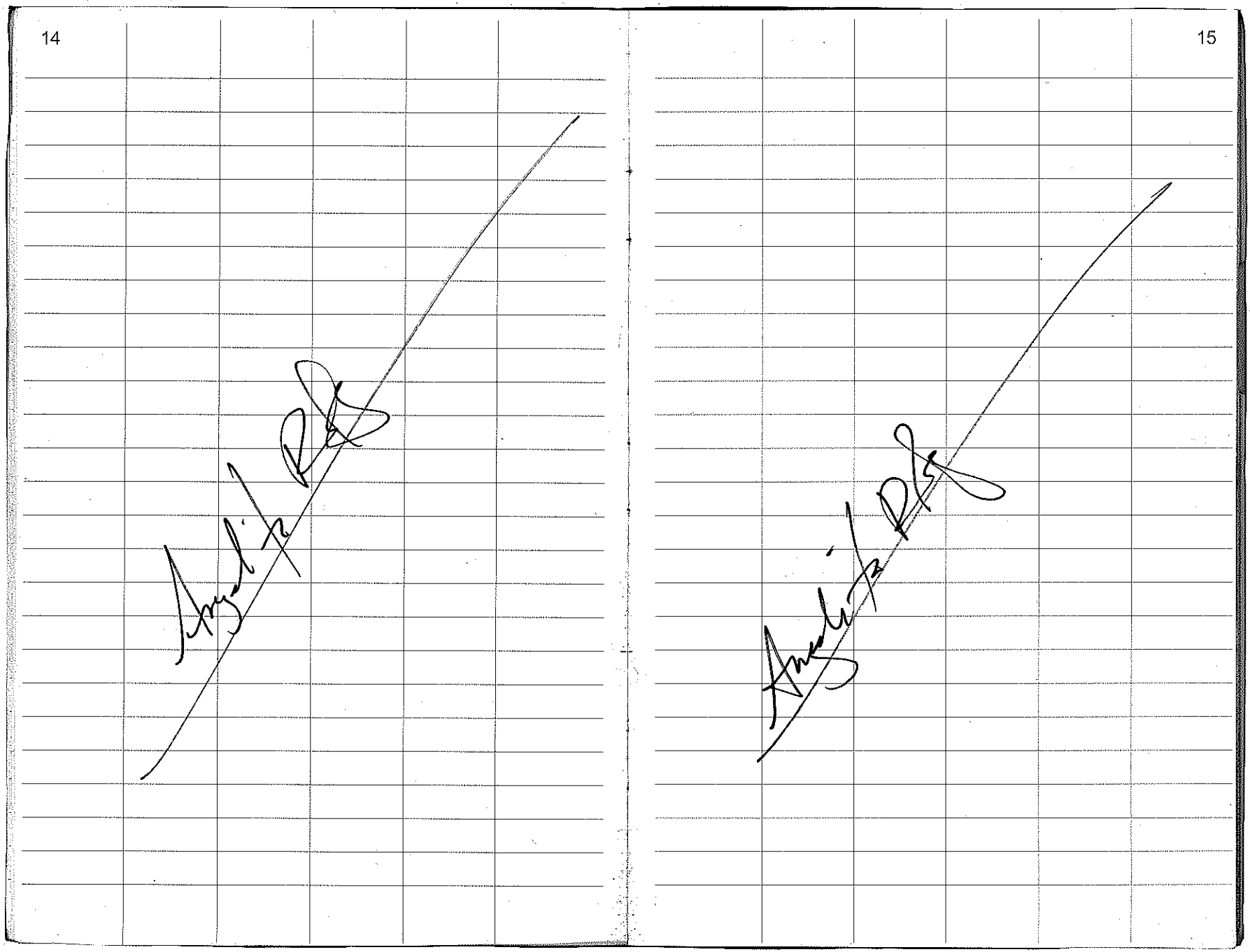
0855 Motor to LDW-5587

0910 LDW-SS87 Began grabs
0919 Completed grabs at LDW-SS87
0930 Motor to LDW-SS8~~7~~94 (reoccupy)
0955 LDW-SS94 began grabs
1000 Completed grabs at LDW-SS94
1015 Motor to LDW-SS96
1025 LDW-SS96 began grabs & collected sample
1040 Motor to LWD-SS97
1045 LDW-SS97 began grabs; attempted six grabs and did not successfully recovery the required volume of sediment. Moved sampling location ~9.5m

1055 Bob called with new coordinates for sampling locations: 17, 31, 92, 143 & 115
Stations to redo with correct coordinates
17 X: 1266880 Y: 209785
31 X: 1268450 Y: 206549
92 X: 1272935 Y: 198751

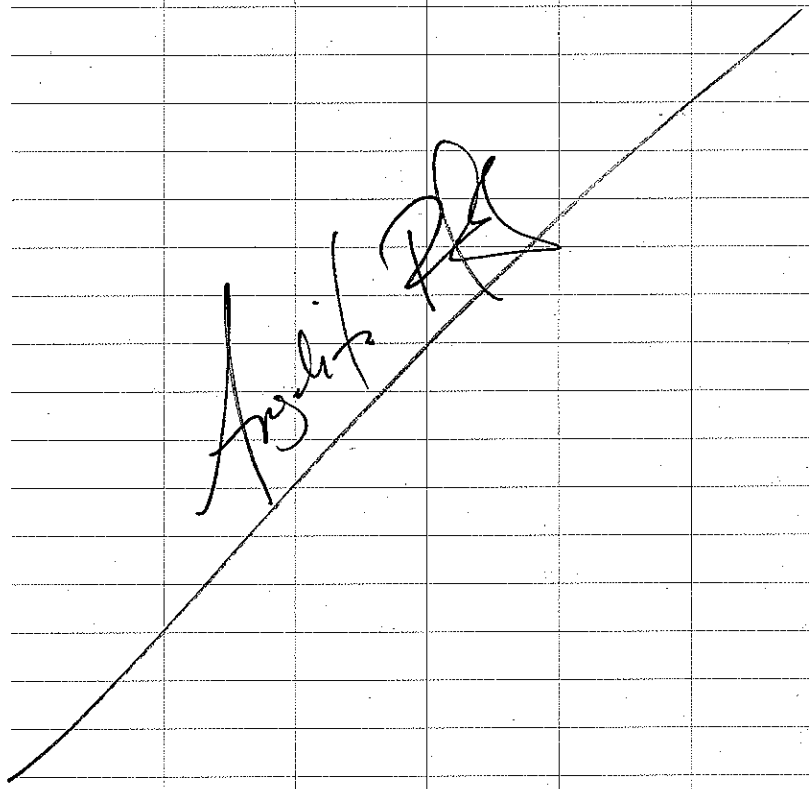
Stations not sampled yet
143 X: 1278260 Y: 190396
115 X: 1276134 Y: 194730

1121 Complete grabs at LDW-SS97
1130 Motor to LDW-SS88 (reoccupy)
1143 LDW-SS88 began grabs, 6 failed grab attempts Charlie suggets using the Young grab on Monday to collect this sample on Mon (1/24/05)
1204 Called Berit to inform that we did not collect sample location LDW-SS88 & She agreed to revisiting this site on Mon (1/24/05)
1211 Motor to LDW-SS31
1259 LDW-SS31 with correct coordinates began grabs
1315 Completed grabs at LDW-SS31
1319 Bob called and received an update on the # of sites & the sample locations done by the boat crew; also gave Bob a review of problem sites to be done on Mon (1/24/05
1330 Motor to LDW-SS42
1343 LDW-SS42 began grabs
1355 Completed grabs at LDW-SS42, 3 failed grab attempts at ~9.2m in the channel Continued to hit rocky riprap slope need alternative coordinates


14
15

1359 Called Berit about re-locating LDW-SS42; she will discuss with Kathy and get back to us
1403 Motor to LDW-SS67
1408 LDW-SS67 began grabs
1414 LDW-SS67 completed grabs
1432 LDW-SS63 began grabs
1st grab .1m from original site
2nd grab .7m " "
3rd grab 2.6m " "
4th grab 9.5m. " "
Will continue to move within area to receive required volume of sediment
5th grab 14.1m from original site
1455 6th grab 27.6m SW from original site
1501 Motor to LDW-SS70
1455 LDWSS63 completed grabs
1516 LDW-SS70 completed grabs
1520 Motor to LDW-SS75
1537 LDW-SS~~67~~75 began & completed grab
1550 Motor back to Harbor Island marina
11 = Total of sample locations collected
1600 Called Bob gave him total sites collected & coordinated field logistics for Mon 1/24/05

AR
1605 Arrive at Harbor Island Marina to unload samples



1.24.05

Crew: BOB COMPLITA - WW
SHANNON PIERCE - WW
ANGELITA RODRIQUEZ - WW
CHARLIE EATON - BIOMARINE
TOM PUTNAM - BIOMARINE

Weather: Partly cloudy, sunshine

0740 Arrive at Harbor Island Marina & unload equipment & supplies

0820 Motor to LDW-SS17; redo station
0840 Kym Takasaki called to discuss EPA split sample stations: 28, 58, 134, 143 & 115 She will coordinate with Thai or Joanna to meet them in field & to participate in the sediment sampling for the above ~~sta~~ stations; She also confirmed we DO NOT have to re-sample LDW-SS31 because since the site was moved EPA DOES NOT need an agency split sample

0846 LDW-SS17 began grabs
0857 LDW-SS17 completed grabs

0905 Motor to LDW-SS36 & tug is still in the way can only get within 20m of site; Mullin's boat did NOT get sample due to cables & rocks in grab
Spoke to Kathy about stations 110, 115, 36 & 102
0925 LDW-SS50, reoccupy & duplicate sample collected
0939 Spoke to someone about moving the tug, CALEB at LDW-SS36 & tug will be moved at 1400 on 01.25.05
0945 Kathy gave us new coordinates for Stations:
LDW-SS110 X: 1275948 Y: 195355
LDW-SS92 X: 1272435 Y: 198751

LDW-SS102 is a reoccupy station @ -2ft MLLW We DO NOT have to sample by foot & it will be sampled by the ~~Explorer LDW~~ Charlie boat crew. AR

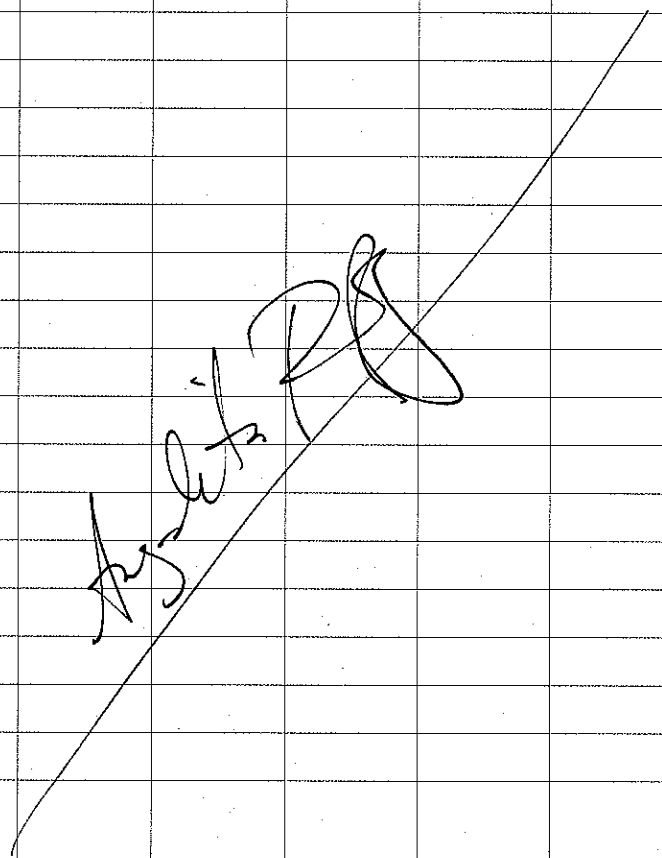
1000 LDW-SS55 began grabs & completed grab
1015 Talked to Joanna & coordinated to take Kym Takasaki with our crew (Charlie's boat) to do LDW-SS115, an EPA split sample.

1039 Motor to LDW-SS72
1042 LDW-SS72 began & completed grab
1057 Motor to LDW-SS79 (reoccupy)
1100 LDW-SS79 began & completed grab
LDW-SS81 station 9m under the barge
1134 LDW-SS54 began grabs
1149 LDW-SS54 three failed grab attempts moved ~3.8m off original site
1203 LDW-SS54 completed grabs & moved off 7.4m from original station
1230 Phoned Mullin's crew to get update of completed stations: 36, 58, 64, 83
Called Berit & forwarded the info from both Dave's & Charlie's boat
1245 LDW-SS49 ~8m under a tug that will be moved at 900 on 1/26/05; will revisit with Dave's boat
1307 LDW-SS42 began & completed grab moved off ~11.9m
1315 Kym called to discuss doing LDW-SS115 & LDW-SS109 tomorrow 1/25/05 which both need a high tide to sample with Charlie's boat

1331 Motor to LDW-SS83
1337 Phoned ARI to coordinate sample drop-off this evening after business hours
ARI general #206.695.6200
ARI after 6 PM #206.695.6243
1336 LDW-SS83 began & completed grab*
1357 Motor to LDW-SS102
1405 LDW-SS102 began & completed grab
1425 Motor to LDW-SS128
1500 LDW-SS128 six failed grab attempts & haved moved ~4.4m off original site; decide to take weights off the double Van Veen grab because it is over penetrating the sample location
1540 LDW-SS128 completed grabs & moved off original site ~5.4m
1550 Motor to LDW-SS142
1601 LDW-SS142 began & completed grab
1622 Motor to LDW-SS123 (reoccupy) & duplicate Switch unweighted double Van Veen to the Young's single grab
1635 LDW-SS123 began grabs
Joanna drops off samples for sampling

* Sample was thrown out - Dave Mullin's boat collected this sample (LDW-SS83) on 1/24

locations: 28, 36, 56, 57, 58, 64, 134
LDW-SS134 is EPA split sample that we will hold on ice until tomorrow 1/25/05 when Kym will pick-up
1704 LDW-SS123 grabs completed
1719 Motor back to Harbor Island Marina



1.25.05

Crew: Bob Complita (WW)
Angelita Rodriquez (WW)
Maryann Welsch (WW)
Charlie Eaton (Biomarine)
Tom Putnam (Biomarine)

Weather: Morning fog - dense

1000	Arrive @ Harbor Is. Marina & unload equipment & supplies
1025	Motor to 52 - reoccupy
1043	LDW-SS52 began + completed grab
1054	Motor to 92 - reoccupy
1110	LDW-SS92 - began (1st grab was under penetration
1119	2nd try still under penetration
1121	3rd try
1127	Switch to Young grab (putting weights on double van veen)
1143	Bert called Station 81 → Charlie can get 9m N of original site waiting for Bert to call back w/ decision.

1.25.05 cont'd

1147 4th try → didn't close
1151 5th try → penetration 15 cm = success
1208 6th grab → for 2nd total volume needed
↳ low recovery, tossed
1215 7th grab → penetration 15 cm
sufficient volume of sediment
1230 motored to LOW-SS104 (missed call from WW)
1240 began sampling
1st try → over penetration
decided to switch to van veen
1300 2nd try w/ van veen
marginal recovery - will redo
1306 call from Shannon - will call back
1315 call from Berit
Barge @ 81 will be there until next week.
LOW still deciding whether to sample 9m away. Will keep us posted but don't sample 81 today, postpone til tomorrow.
1306 3rd try = successful but only 1/2 good
1/2 half = wood stuck in grab
1321 4th try = success
sufficient volume

1400 lunch
* ~~Cat~~ Kym (EPA) called
She will be not ~~to~~ joining us today.
WW will collect ~~EPA~~ splits for stations 109 & 115.
Do not need to collect for ~~&~~ 110.
an EPA split

EPA split volumes: 1 16 oz glass
1 8 oz glass

make separate COC form for EPA

1425 Berit called ~~to~~ to talk to Bob about station 99
1430 began motoring to LOW-SS110
1447 1st grab ~~on~~ @ SS110
did not close
1451 2nd grab @ SS110
wash out → hit wood
1456 3rd grab - kept 1/2
1506 4th grab → chain lock
1509 5th grab → wash
1512 6th grab → kept

01.25.05

1525 Motor to LDW-SS109 (~~EPA split~~)
1528 began sampling → kept 1st grab only ½
1546 kept 2nd grab

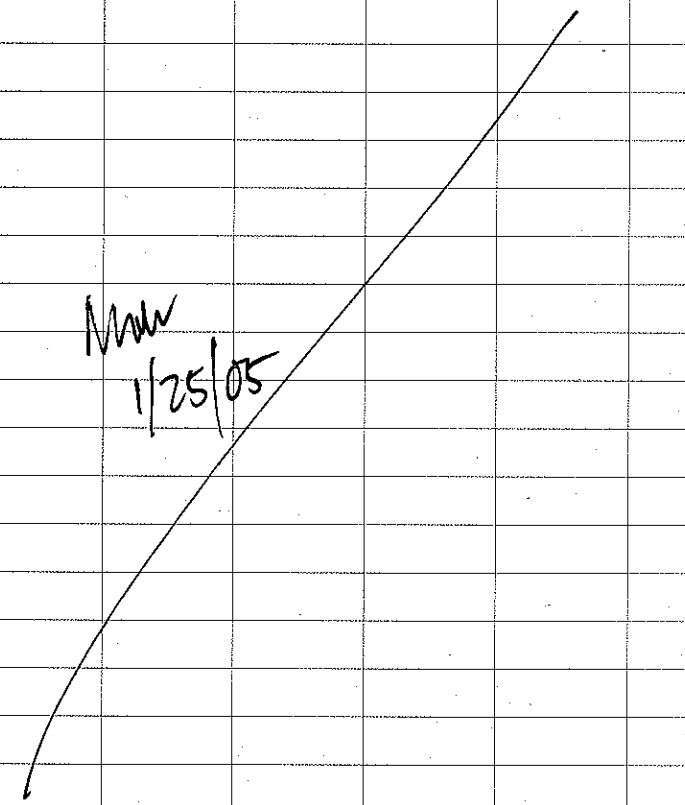
1550 motored to LDW-SS115 (reoccupy EPA split)
1608 began sampling
1st grab didn't work - switched to Youngs
1618 2nd grab - Rock in jaws
1622 3rd grab → 11cm penetration = success
1630 4th grab → 13cm
1640 5th grab → 12cm

1645 started motoring to LDW-SS121 (reoccupy)
1701 1st try → 11cm penetration
1706 2nd try → Rock
1710 3rd try → 11cm = Sufficient volume

1720 Motor to LDW-SS88 (reoccupy)
1738 1st try : U.P.
1741 2nd try : U.P.
1755 3rd try : 13cm penetration
1808 4th try : U.P.
1813 5th try : U.P.

01.25.05
(LDW-SS88 cont'd)
1821 7th try : 11cm penetration
Sufficient volume

1835 Motor back to HI Marina



01.26.05

Crew: Bob Complita
Angie Rodriguez
Maryann Wolsch
Dave Mullins
} WW

Arrived
0700 ~~left~~ ~~for~~ H.I.
~~Met~~ D. Mullins
Mobilized gear → from Charlie's boat
0740 Motored to LDW-SS33

0755 Shannon called - we do not need to sample SS99

0750 began sampling SS33

0800 1st grab → 9cm penetration = ~~HF~~ Low recovery
~~may keep it if this~~

0804 2nd grab → 10 cm - too low recovery
0808 3rd grab → piece of wood
0815 4th grab → 11 cm = good
0820 5th grab → low recovery
0825 6th grab → 11 cm = good
0828 7th grab → 11cm+ = good
0834 8th grab → wood

01.26.05

0836 9th grab → 12 cm = good
Sufficient volume
sampling complete
Coords for SS33 = on sed. coll. form
0850 Motor to LDW-SS49

0859 began sampling SS49
0903 1st try → low recovery
0907 16 cm recovery = good
0918 chain link stuck in jaws
0929 16 cm recovery = good
Sufficient volume
coords for SS49: 47 33.033
122 20.46527

0933 Motor to LDW-SS81

Bristol Bay Trader barge is on station.
Can't get on station

0945 Motor to LDW-SS143

Had to lower davit to fit under the bridge.

01.26.05 cont'd

SS143 cont'd

1139 began sampling SS143 (recoccopy EPA split)
coords: 4738.741990
122 17.93050
recovery #2 4cm = too low

1144 2nd try: 14cm penetration = good

1154 3rd try: 12 cm penetration = good
sufficient volume

1155 Kym called → will call her back to coordinate her picking EPA split for SS143

1240 Head back to FI Island

MW 1/26/05

1/31/05 - Dioxin Sampling - Background
Foot sampling at Springbrook Creek (SB-SS6-010)
Crew: Angie Rodriguez, Thai Do, Shannon Pierce

Individual locations

#1 - 47° 28.513 olive/brown surface
122° 14.455 drab olive, wood/
1415 plant debris
RPD = not visible silt, mostly fine sand

#2 - 47° 28.539 brown surface
122° 14.457 gray, wood/
1419 plant debris
RPD = 1-2cm silt, mostly sand

can see retaining wall / dam to N/NW

#3 47° 28.537 gray, wood/
122° 14.429 plant debris
1425 silt, mostly sand
RPD = 1-2cm

01.31.05 cont

		brown surface
#4	47° 28.529	gray, wood
	122° 14.426	debris
	1428	silt, mostly sand
	RPD = <1 cm	gravel ~8 cm
facing dirt path along stream		
		gray
#5	47° 28.533	brown surface
	122° 14.395	wood/debris
	14:31	sand, silt
	RPD = 1-2 cm	at deepen depth
		brownish-
#6	47° 28.542	gray
	122° 14.382	sand (med coarse),
	14:35	worm, wood/
	RPD = 2-3 cm	plant debris

location description:
70 ft x 200 ft (approximate) sampled on sandbar accessible by foot fm. dirt path off of bike trail To N/NW dam or retaining wall

looks like near where stream runs into pond (at mouth)
rushes on sandbar + cattail
Pond area surrounded by alder, salmonberry, himalayan blackberry
blue heron, Canada geese

Weather - slightly cloudy, no ppt, light wind

did photo documentation of the site. end sampling 1500

SWP 1/31/05

02.01.05

Background Arsenic Sampling
Crew: Angie Rodriquez
Maryann Welsch
Shannon Pierce
NW Cell 3539346
Weather: sunny, some clouds

~~Began sampling~~
1100 – leave T-91
arrive at target sampling location RM 6.1 – 6.6

12^{30} ~~Station 1~~ S. (or W) bank of River
<60% fines @ 1st site (48%)

1245 <60% fines @ 2nd site (~50%)

1303 3rd site (N or E) bank of
<60% fines (48%)

1315 4th site – N/E bank
<60% fines (54%)

1340 – Called Kathy to tell her we aren't getting >60% fines she'll call back

1345 – Kathy and Tad decided we should sample at the river bend (just up from RM 6.6) and then just spread our sampling locations along 6.1 to 6.6 regardless of % fines are <60%.

~~1351~~

1353 – 5th site (at river bend just up from RM 6.1)
47° 29.995
122° 16.893
40% fines } DR-SS1-010

1411 – 6th site – S/W side at RM 6.6
47° 30.000
122° 16.913
42% fines } DR-SS2-010

1435 – 7th site N/E side ~RM 6.5 (possibly)
47° 30.039
122° 17.084
42 % fines
DR-553-010

1457 – 8th site S/W side moving down-under bridge ~½ halfway b/w 6.1-6.6
47° 30.023
122° 17.325
40 % fines
DR-554-010

1513 – 9th site N/E side downstream fm bridge
47° 30.~~053~~ 059
122° 17.332
84 % fines
DR-555-010

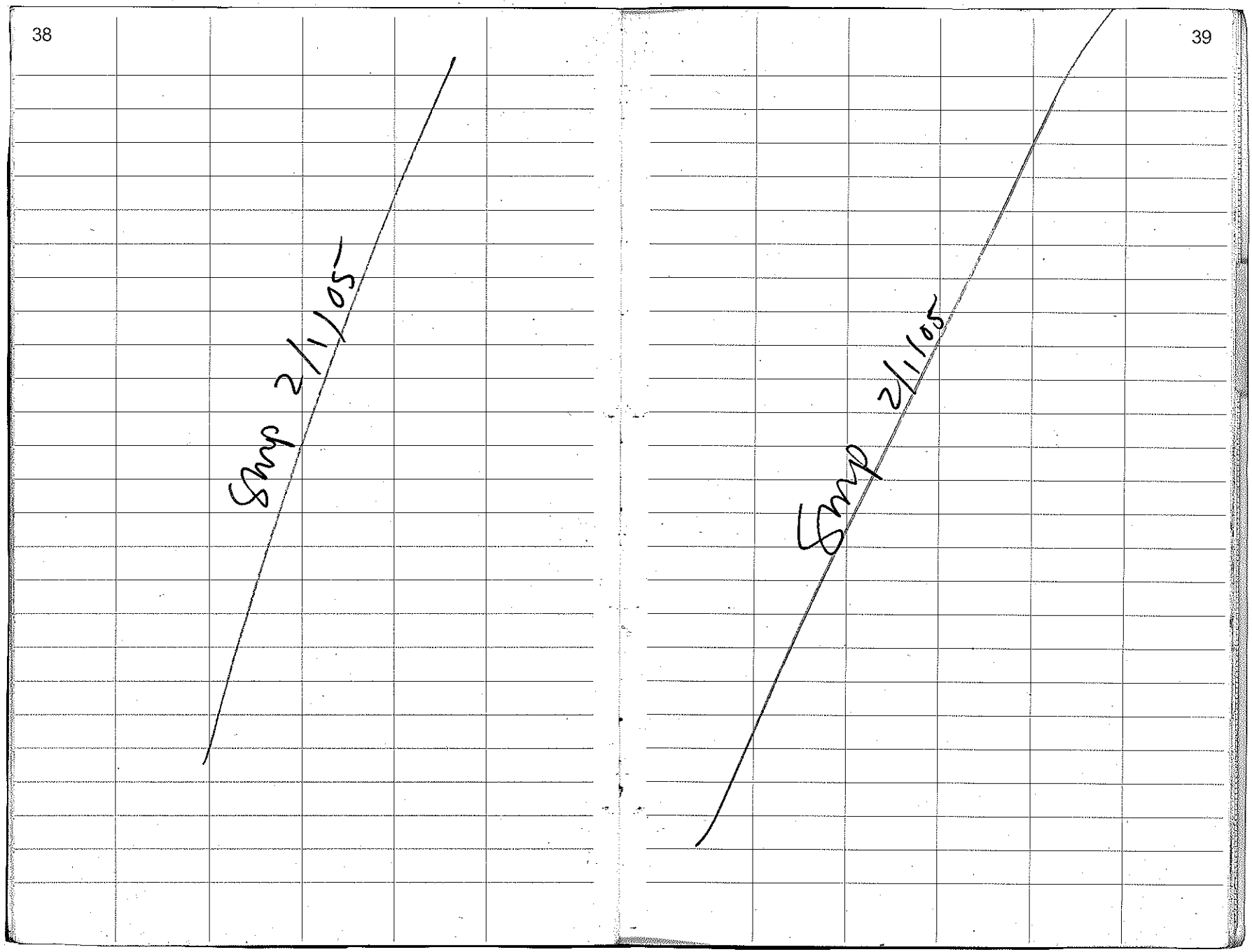
1528 – 10th site S/W side
47° 30.~~051~~ 016
122° 17.385
48 % fines
DR-556-010
dup – DR-559-010

1551 – 11th site N/E side near RM 6.1
47° 30.048
122° 17.476
56 % fines
DR-557-010

1605 – 12th site S/W side at RM 6.1
47° 30.005
122° 17.539
40 % fines
DR-558-010

1620 Finish sampling – back to T-91

SMP 2/1/05


38
Smp 2/1/05
39
Smp 2/1/05

02.09.05

Background Arsenic Sampling

Crew: Bob Complita
Shannon Pierce
Sara Stillman
Dave Mullins

Weather: Sunny, clear, no wind

09:00 leave 1st Ave S. Bridge.
arrive at RM 6.1-6.6

0937 - 1st station - upstream fm bridge ~ RM 6.4
47°30.034
122°17.194
Ekman grab - rocks, no grab

0938 - 2nd station
47 30.026
122° 17.164
Ekman grab
sand - coarse - med
~7 ft depth
further upstream fm bridge
- no good
<40% fines (eyeball)

0940 - 3rd station
47° 30.020
122°17.152
Ekman grab
coarse sand / med sand
upstream fm bridge
~8 ft closer to shore
<40% fines (eyeball)

0942 4th station
47°30.014
122°17.084
Ekman grab
washout - will attempt again
upstream fm bridge
~5 ft ~10 ft fm shoreline

0944 5th station
47°30.014
122°17.078
Ekman grab
no penetration ~ looks like fines but unable to get a good grab
~6 ft depth
similar location to 4th station

Ekman sampler not successful - no penetration; will attempt to use the Van Veen in the middle of the channel. Called Kathy to see if using Van Veen for fs sampling is ok - 1095 - she said ok.

0956 – Dave + Bob setting up the Van Veen

1011 – 6th station – Van Veen sampler
approx. same location as 4th + 5th station
47° 30.017 8 ft depth
122° 17.116
photo #2,3 – grab w/ coarse + medium sands
<40% fines; not acceptable

1014 – 7th station – Van Veen sampler
moving further upstream + closer to S/W shore
47° 30.014
122° 17.084
steep slope – unable to close grab jaws

1016 – 8th station – Van Veen sampler
47° 30.039 ~9 ft depth
122° 17.082 opposite 7th station on N/E shore
jaws hit something – water only

1020 – 9th station – Van Veen sampler
47° 30.011 5 ft depth
122° 17.043
over on ~~E~~/ S/W shore

1024 – 10th station – pulled up to shore
47° 30.012 sampled w/ stainless steel
122° 17.044 spoon on beach
on S/W shore
20-25% fines –
med + ~~fine~~ coarse sand

1034 – 11th station – pulled up to shore
47° 30.005 Sampled w/ stainless
122° 16.949 steel spoon on beach
on S/W shore ~RM 6.5
55 ~~MUD~~ % fines – DR-SS10-010 acceptable sample

1040 – 12th station pulled up to shore
47° 30.023 on N/E side –
122° 16.904 rocky –
unable to
scoop sample w/
stainless steel
spoon

 02.09.05 (con't)

1045 – 13th station – sampled w/ stainless
47°30.021 steel spoon on
122°16.858 beach on outside
~ 50% fines bend of river
DR-SS11-010 – acceptable sample

1051 14th station – sampled w/ stainless
47°29.946 steel spoon on beach
122°16.848 upstream fm bend
45-50% fines on E side
DR-SS12-010 – acceptable sample

1057 – 15th station – sampled w/ stainless
47°29.851 steel spoon on beach
122°16.891 upstream fm bend on W side
DR-SS13-010 – acceptable grab
55-60% fines

1114 – 16th station – sampled w/ stainless
47°29.655 steel spoon on beach
122°16.870 upstream fm bend
55% fines on W side
DR-SS14-010 – acceptable sample

1124 – 17th station – sampled w/ stainless
47°29.639 steel spoon on beach
122°16.833 upstream fm bridge
60% fines on E side
DR-SS15-010

see pg 3 Book 3 1-13

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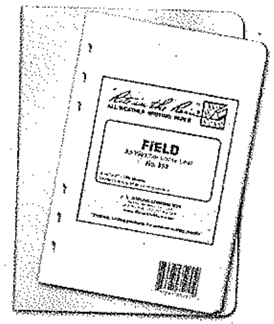
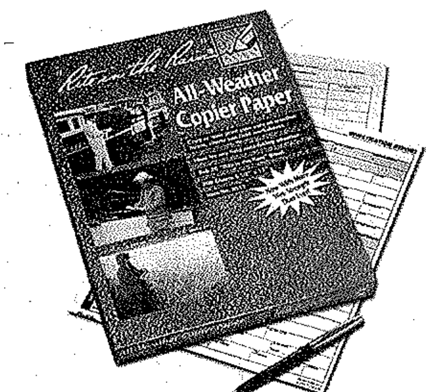
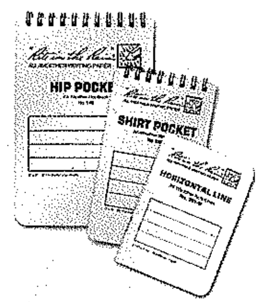

Loose Leaf / Binders


Copier Paper / All-Weather Pens


Memo Books

www.RiteintheRain.com

01.19.05

Arrive at Alki Boat ramp 3:50PM

Crew: B. COMPLITA
A. RODRIGUEZ
M. WELSCH

Boat Driver: Dave MULLINS

Load gear & supplies on boat

Arrive at Harbor Island Marina 4:29PM

1650 Kym (COE) EPA oversight joins us

Proposed sampling locations:
84
58
31

1701 Arrive at Station 84

1718 Kym observes no signs of NAPL

1720 Sample location 84 collected
LAT 47° 32.357
LONG 122° 19.985
RPD 2cm
Photos taken #84-87

1745 Arrive at sampling location 58
Approximately 1 ft of water on top of site; will revisit @ low tide @1715

1755 Motor to sampling location 31 in Slip1

1808 Call Kathy about reoccupying coordinates for sample location 31

1832 Dave gets us on site for location 31
Original location covered with riprap, debris

1844 Sample Location 31 collected
Lat 47° 33 ~~35368~~ ~~35368~~ AR 352
Long 122° 20.36
RPD = 5cm
Photos taken #88-97

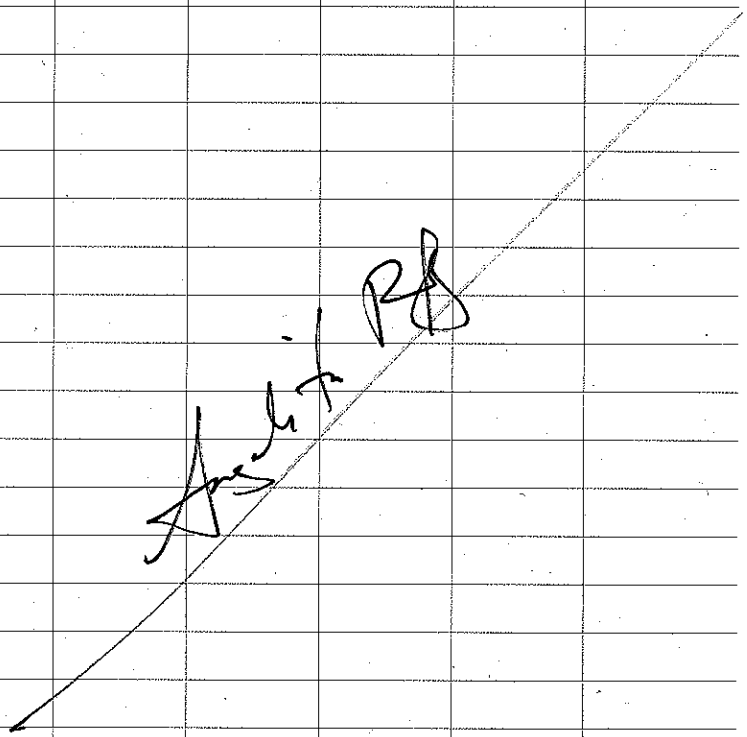
1857 Motor back to station ~~31~~ AR 58

1914 On station ~~58~~ location Submerged no sample

1924 Collected; motor back to Harbor Island Marina
Kym & Bob suggest revisiting Station 58 with Dave's boat & sample from boat with Van Veen grab

1939 Kym is dropped off

2002 Returned to Alki boat ramp
Unload boat
End of sampling



1.20.05
1800 Arrive at Alki boat ramp
& load up the field supplies
Crew: Sara Stillman
Angelita Rodriguez
Mary Ann Welsch
Dave Mullins, Boat driver

Proposed sampling locations:
101
58
57
56

1845 Arrive at location 101, Duwamish Waterway Park human health site

1850 Rinsate LDW-SS101-RB
PCB's, SVOCs, Metals

1915 Collect sample location 101
Lat 47°31.895
Long 122° 19.173
Homogenous all thru top 10cm, no RPD
Approx. elevation from site to water level ~ 1 ft

1950 Motor to sampling locations 56, 57 & 58

2008 Arrive at sampling locations 58, 57, 56

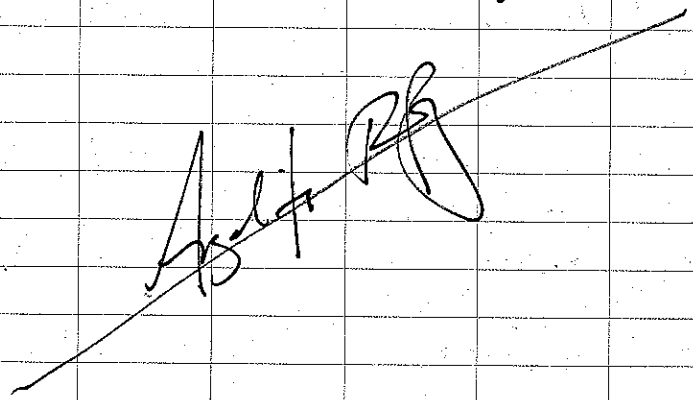
2015 All stations are submerged at -0.1ft low tide

2025 Called Kathy and decide to re-visit these sites with Dave's boat & the Van Veen grab because sites are 20'-40ft from original location; no night sampling for 12/1/05 as the tide will not be low enough

2045 End sampling and motor back to Aliki boat ramp

2127 Unload boat and head back to office

2200 Unload all samples & gear at office



01-24-05

0700 arrive at Harbor Island, load gear. crew: Joanna Florer, Thai DO, Linda Marsh, Dave Mullins (boat).

0750 started up river. Looked at 3b site; overhead cables make high tide access impossible.

0820 first grab at LDW-55-33

0835 fourth grab at 55-33. All rejected, cobble bottom, low recovery. Decided to come back on lower Tide and collect by hand.

0855 first grab attempt at LDW-5564

0915 finished grabs at 55-64.

0945 First grab at LDW-5583

1000 finished grabs at 5583

1025 picked up Kim Takohashi saki at Harbor Is.

1035 Tried to access 5536 again. achieved station

1050 First grab at LDW-5536.

1120 finished grabs at 55 36. Moved to 56-58

1130 20 min. after 7.5 low tide, concrete dock does not allow access from North. Found narrow pt wt liftable rope to south.

1150 began grabs at 58

1205 completed grabs at LDW5558. Moved to 57

1235 began grab at 5557

1235 completed grab at 55 57. Moved to 56

M24-05

1300 began grabs at 56.

1315 completed grabs at LDW-5556. Headed for 28

1345 began grabs at 5528

1425 completed grabs at LDW-5528, returned to Harbor Is. to drop off Kim & eat lunch.

1550 began grabs at LDW-55134.

1608 completed grabs at 55134, moved to 55143. Tide doesn't allow access under bridge

1625 end sampling, return to Harbor Is.

1630 Transferred samples & stock of clean bottles to crew of Kittiwake.

1655 Return to Dock.

1720 Return to Ofc, load for tomorrow.

CSM 01-24-05

02.09.05

(continued fm Book 2 pp. 44-48)

1135 - 18th station - sampled w/ Van Veen
47 29.566 on E side
122 16.824
* middle of channel too sandy - moved towards shore to get sample
too sandy: - <40% fines; unacceptable grab
picture #5

1212 - 19th station - pulled up to shore -
47°29.~~[illegible]~~441 too sandy -
122°16.816 med/coarse sand
picture #~~[illegible]~~ #6,7 <40% fines
no sample taken

1217 - 20th station - stainless steel
47°29.411 spoon scoop fm beach
122°16.787
picture # 8 DR-5516-010
~40% fines acceptable grab
* seems a bit upland for river influence of sampling

02.09.05 (cont)

1221 – 21st station - stainless steel spoon scoop fm beach
47°29.401
122°16.694
<40% fines
sandy

1238 – 22nd station - stainless steel spoon fm beach
47°29.525
122°16.826
40% fines
DR-SS17-010 acceptable grab

1235 – called Kathy + Tad about sampling done for the day – OK to call a day – have exhausted sampling area and targeted % fines (>40%)

1255 – finish sampling – back to 1st Ave S. launch

Swap

2-10-05 Stn 1b Dioxin Sampling sunny clear, no wind.

Crew: Angelita Rodriguez
Sara Stillman
Shannon Pierce
Dave Mullens

~~1430~~ SP ~~1330~~ Arrive 14th Ave S boatramp (Ballard) learn + test winch grabs

~~1450~~ SP ~~1450~~ 1435 Stn 1b1 – 100 ft - Radius stations
47° 39.556
122 22.266

~~1530~~ SP ~~1530~~ 1440 Possible overpenetration - REDo
Stn 1b1
47 39.557
122 22.267
Overpenetration - remove weights on Van Veen grab.

1449 SP ~~1519~~ Stn 1b1 pic #1
23' 47° 39.557
122° 22.267

~~1456~~ SP ~~1556~~ Stn 1b2 pic #2
19' 47° 39.552
122° 22.260

~~15:01~~ SP ~~16:01~~ Stn 1b3 pic #3
18' 47° 39.552
122° 22.248

Attachment E-4: Protocol Modification Forms

04-08-06-24
R&I

PROTOCOL MODIFICATION FORM

Project Name and Number: LOW RI - Surface sediment chemistry / toxicity
Material to be Sampled: sediment (grab)
Measurement Parameter:

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):
Sediment grab sampling using a 0.1-m² van Veen (Windward QAPP, 2005)

Reason for Change in Field Procedure or Analysis Variation: van Veen jaws would not fully close where bottom surface was sloped and/or a rocky substrate was encountered.

Variation from Field or Analytical Procedure: switch to a Young grab sampler at LOW-SS92 and LOW-SS123

Special Equipment, Materials or Personnel Required: Young grab

Initiator's Name:	Shannon Pierce	Date:	1/24/05
Project Officer:	[signature]	Date:	1/24/05
QA Officer:	[signature]	Date:	1.24.05

Rd 1
04-08-06-24

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Surface sediment chemistry / toxicity
Material to be Sampled: sediment (grab)
Measurement Parameter:

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):
Actual Sampling locations will not be sampled greater than 10 m from target sampling locations (Windward QAPP, 2005)
Reason for Change in Field Procedure or Analysis Variation: unable to obtain a successful grab sample at target (or w/in 10 m) because of access issues, debris or rocks in water preventing van Veen jaws to close or unacceptable sediment recovery
Variation from Field or Analytical Procedure: The following stations were sampled 10 m or greater from target due to sampling difficulty: LDW-SS28, LDW-SS33, LDW-SS42, LDW-SS63, LDW-SS64, LDW-SS99
Special Equipment, Materials or Personnel Required: 0.1-m2 van Veen

Initiator's Name: Shannon Pierce Date: 1/19/05
Project Officer: Date: 1/19/05
QA Officer: Date: 1.19.05

RJ1
04-08-06-24

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Surface sediment chemistry / toxicity
Material to be Sampled: sediment (grab)
Measurement Parameter:

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

collect grab sample for LDW-SS113 at historical reoccupy station 776 (1275822, 194662) (Windward QAPP, 2005)

Reason for Change in Field Procedure or Analysis Variation: unable to access target reoccupy location due to debris in water

Variation from Field or Analytical Procedure: given alternate coordinates to reoccupy historical stations 897 and 898; sample was collected ~17m from historical reoccupy station 898 (1275772, 194955) and called LDW-SS113B.

Special Equipment, Materials or Personnel Required:

0.1 m² van Veen

Initiator's Name:	Shannon Pierce	Date:	1/20/05
Project Officer:		Date:	1/20/05
QA Officer:		Date:	1.20.05

Rd 1
04-08-06-24

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - Surface sediment chemistry / toxicity
Material to be Sampled: sediment (grab)
Measurement Parameter:

Standard Procedure for Field Collection & Laboratory Analysis (cite reference): Collect grab sample fm LDW-SS110 at historical reoccupy station 505 (Windward QAPP, 2005) (1275877, 195533)

Reason for Change in Field Procedure or Analysis Variation: LDW and EPA agreed to move target location to reoccupy USACE 323 (1275948, 195355) based on ~~chemistry~~ data results at USACE location

Variation from Field or Analytical Procedure: sampled LDW-SS110 < 1 m fm USACE 323 target location

Special Equipment, Materials or Personnel Required: 0.1-m² double van Veen

Initiator's Name:	Shannon Pierce	Date:	1/25/05
Project Officer:	[illegible]	Date:	1/25/05
QA Officer:	[illegible]	Date:	1.25.05

Rd1
04-08-06-24

PROTOCOL MODIFICATION FORM

Project Name and Number: LDWRI - Surface sediment chemistry / toxicity
Material to be Sampled: sediment (grab)
Measurement Parameter:

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):
A penetration depth of at least 11 cm is achieved in ~~the~~ grab samples (Windward QAPP, 2005)

Reason for Change in Field Procedure or Analysis Variation: low recovery was encountered due to hard native packed sediment (e.g. sand) or other obstructions (e.g. rocks, wood debris)

Variation from Field or Analytical Procedure: an average penetration depth of 8-10 cm was used for ~~sediment~~ sediment samples collected at LDW-551, LDW-5548, LDW-5564, LDW-55116, LDW-55120, LDW-55 36, and.

Special Equipment, Materials or Personnel Required: LDW-555 0.1 m² Van Veen

Initiator's Name: Shannon Pierce Date: 1/17/05
Project Officer: [signature] Date: 1/17/05
QA Officer: [signature] Date: 1.17.05

Rd 1
04-08-06-24

PROTOCOL MODIFICATION FORM

Project Name and Number: LDWRI - surface sediment chemistry/toxicity
Material to be Sampled: sediment (grab)
Measurement Parameter:

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):
Surface sediment samples designated in QAPP (Windward 2005) will be sampled as part of Rd 1

Reason for Change in Field Procedure or Analysis Variation: LDW-SS01 was inaccessible during Rd 1 sampling due to a barge obstruction and King County sampled at LDW-SS18 and LDW-SS20 concurrent with Rd 1.

Variation from Field or Analytical Procedure: LDW-SS01 wasn't collected as part of Rd 1 (will be collected in Rd 2); LDW-SS18 and LDW-SS20 were collected as split samples during Rd 1 by King County (instead of Rd 2).

Special Equipment, Materials or Personnel Required:

Initiator's Name: Shannon Pierce Date: 1/26/05
Project Officer: Date: 1/26/05
QA Officer: Date: 1.26.05

04-08-06-24
BG-arsenic

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI-Surface sediment chemistry/toxicity

Material to be Sampled: sediment (grab)

Measurement Parameter:

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

Background arsenic sediment samples with greater than 60% fines will be collected (App. D, Windward QAPP, 2005)

Reason for Change in Field Procedure or Analysis Variation: Field crew was unable to find sampling locations w/ >60% fines at the targetted sampling area (RM 6.1-6.6) or upstream of the targeted area

Variation from Field or Analytical Procedure: sediment was collected fm locations where apparent percent fines was ≥40%; samples submitted for analysis had near equal to or greater than 50% apparent fines.

Special Equipment, Materials or Personnel Required:

Initiator's Name:	Shannon Pierce	Date:	2/1/05
Project Officer:		Date:	2/1/05
QA Officer:		Date:	2.1.05

04-08-06-24
BG - arsenic

PROTOCOL MODIFICATION FORM

Project Name and Number: LDW RI - surface sediment chemistry / toxicity
Material to be Sampled: sediment (grab)
Measurement Parameter:

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):
Background arsenic sampling will begin on January 31, 2005 (App. O, Windward QAPP 2005)

Reason for Change in Field Procedure or Analysis Variation: Due to inclement weather, sampling was delayed for the safety of the field crew.

Variation from Field or Analytical Procedure: Background arsenic sampling began on February 1, 2005

Special Equipment, Materials or Personnel Required:

Initiator's Name:	Shannon Pierce	Date:	2/1/05
Project Officer:		Date:	2/1/05
QA Officer:		Date:	2.1.05