

# APPENDIX F-1 SURFACE SEDIMENT CHARACTERISTICS

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**Table F-1. Surface sediment characteristics**

SAMPLE ID	REDOX POTENTIAL DEPTH (cm)	PENETRATION DEPTH (cm)	SEDIMENT CHARACTERISTICS
LDW-SS301-010	none visible	11.0	silt, wood debris, shell fragments, medium sand, gray, no odor
LDW-SS403-010	none visible	11.0	silt, wood debris, shell fragments, medium sand, gray, no odor
LDW-SS302-010	none visible	15.0	silt, wood debris, shell fragments, organic matter, drab olive and gray, slight hydrogen sulfide (H <sub>2</sub> S) odor
LDW-SS303-010	0-1	10.5	gravel, wood debris, shell fragments, fine sand, organic matter, gray and brown, no odor
LDW-SS304-010	0-1	11.0	gravel, silt, wood debris, shell fragments, medium and fine sand, organic matter, gray with brown surface layer, slight H <sub>2</sub> S odor
LDW-SS305-010	1	11.5	gravel, silt, shell fragments, medium and fine sand, organic matter, drab olive and gray with brown surface layer, slight petroleum odor
LDW-SS306-010	0-1	12.0	gravel, shell fragments, medium and fine sand, brown, no odor
LDW-SS307-010	1	11.0	gravel, silt, wood debris, shell fragments, medium and fine sand, organic matter, drab olive and gray with brown surface layer, slight petroleum odor
LDW-SS308-010	2	14.0	silt, wood debris, shell fragments, fine sand, organic matter, drab olive and gray with brown surface layer, no odor
LDW-SS309-010	2	13.5	silt, wood debris, fine sand, drab olive and gray, no odor
LDW-SS310-010	2	15.0	gravel, silt, wood debris, shell fragments, organic matter, gray with brown surface layer, no odor
LDW-SS311-010	0-1	11.0	silt, wood debris, shell fragments, fine sand, gray, strong H <sub>2</sub> S odor
LDW-SS312-010	1	11.0	silt, wood debris, fine sand, drab olive and gray with brown surface layer, no odor
LDW-SS313-010	none visible	10.0	silt, wood debris, fine sand, gray with brown surface layer, moderate H <sub>2</sub> S odor
LDW-SS314-010	none visible	10.0	silt, clay, fine sand, black and brown with brown surface layer, moderate H <sub>2</sub> S odor
LDW-SS315-010	1	12.0	gravel, silt, shell fragments, fine sand, gray with brown surface layer, no odor
LDW-SS316-010	1-2	13.0	silt, shell fragments, medium and fine sand, gray with brown surface layer, no odor
LDW-SS317-010	2	12.0	silt, wood debris, shell fragments, fine sand, gray with brown surface layer, no odor
LDW-SS318-010	1-2	12.0	gravel, silt, shell fragments, fine sand, organic matter, gray with brown surface layer, no odor
LDW-SS319-010	2	16.0	silt, medium sand, gray, no odor
LDW-SS320-010	2	16.0	silt, wood debris, shell fragments, medium sand, gray, no odor
LDW-SS321-010	1	11.0	gravel, silt, wood debris, shell fragments, medium sand, organic matter, gray with brown surface layer, no odor

SAMPLE ID	REDOX POTENTIAL DEPTH (cm)	PENETRATION DEPTH (cm)	SEDIMENT CHARACTERISTICS
LDW-SS322-010	1-2	14.0	silt, wood debris, shell fragments, medium sand, gray and brown, slight petroleum odor
LDW-SS323-010	1	13.0	gravel, shell fragments, organic matter, gray, no odor
LDW-SS324-010	1-2	11.0	gravel, silt, wood debris, shell fragments, medium sand, gray, no odor
LDW-SS325-010	0-1	13.0	gravel, silt, wood debris, shell fragments, medium and fine sand, gray, slight H <sub>2</sub> S odor
LDW-SS326-010	1	17.0	silt, wood debris, fine sand, brown, no odor
LDW-SS327-010	none visible	11.5	silt, wood debris, shell fragments, medium and fine sand, organic matter, gray and brown, no odor
LDW-SS328-010	0-1	13.5	silt, wood debris, shell fragments, fine sand, gray and black with brown surface layer, no odor
LDW-SS329-010	1	11.0	silt, shell fragments, medium and fine sand, gray and black, no odor
LDW-SS401-010	1	11.0	silt, shell fragments, medium and fine sand, gray and black, no odor
LDW-SS330-010	1	11.5	silt, clay, wood debris, shell fragments, gray and brown, no odor
LDW-SS331-010	none visible	14.5	silt, wood debris, fine sand, organic matter, gray and black with brown surface layer, moderate H <sub>2</sub> S odor
LDW-SS332-010	none visible	11.0	silt, wood debris, medium sand, gray and brown, no odor
LDW-SS333-010	0-1	14.0	silt, wood debris, medium sand, organic matter, gray with brown surface layer, no odor
LDW-SS334-010	0-1	10.5	shell fragments, coarse and medium sand, gray and brown with brown surface layer, no odor
LDW-SS335-010	1-2	17.0	silt, wood debris, fine sand, gray and brown, slight petroleum odor
LDW-SS336-010	0-1	12.5	silt, wood debris, shell fragments, fine sand, drab olive with brown surface layer, no odor
LDW-SS337-010	1-2	17.0	silt, fine sand, gray with brown surface layer, no odor
LDW-SS402-010	1-2	17.0	silt, fine sand, gray with brown surface layer, no odor
LDW-SS338-010	2	13.0	silt, wood debris, drab olive and gray, slight H <sub>2</sub> S odor
LDW-SS339-010	none visible	10.0	silt, clay, fine sand, gray and brown with brown surface layer, no odor
LDW-SS340-010	none visible	10.0	silt, wood debris, medium sand, brown with brown surface layer, no odor
LDW-SS341-010	0-1	10.0	gravel, silt, clay, medium and fine sand, black with brown surface layer, slight H <sub>2</sub> S odor
LDW-SS342-010	1-2	12.5	silt, medium sand, drab olive and brown, no odor
LDW-SS343-010	none visible	10.0	silt, medium sand, black and brown with brown surface layer, slight H <sub>2</sub> S odor
LDW-SS344-010	1	14.5	silt, medium sand, drab olive and brown, no odor

# APPENDIX F-2 SURFACE SEDIMENT COLLECTION FORMS

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# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.03.06 Station: LDW-SS301  
 Start/Stop time: 12:02 / 12:13 X: 47 34.154  
 Sampling Method: Van Veen Y: 122 20.957  
 Weather: overcast Sample ID: LDW-SS301-4010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>18</u>		Penetration depth (cm) <u>11</u>		Time: <u>12:05</u>	
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		worms,	
gravel		gray dark		slight		trace wood debris	
sand C M F		black		moderate		Comments: shell fragments,	
silt clay		brown		strong		Collected field duplicate	
organic matter		brown surface		overwhelming		LDW-SS403-010.	
				RPD - not vis.			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none			
gravel		gray		slight		Comments:	
sand C M F		black		moderate			
silt clay		brown		strong			
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none			
gravel		gray		slight		Comments:	
sand C M F		black		moderate			
silt clay		brown		strong			
organic matter		brown surface		overwhelming			

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.03.06 Station: LDW-55302  
 Start/Stop time: 12:16 / 12:22 X: 47 34.138  
 Sampling Method: Van Veen Y: 122 20.902  
 Weather: overcast Sample ID: LDW-55302-010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>28</u>		Penetration depth (cm) <u>15</u>		Time: <u>12:18</u>	
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:			
cobble	<u>drab olive</u>	none		<u>H<sub>2</sub>S</u>		<u>worms, wood debris (trace)</u>	
gravel	<u>gray dark</u>	<u>slight</u>		petroleum		Comments: <u>Shell fragments</u>	
sand C M F	black	moderate		other:			
<u>silt/clay</u>	brown	strong					
<u>organic matter</u>	brown surface	overwhelming				<u>RPD - not sig.</u>	
<u>Top layer</u>							
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none		<u>H<sub>2</sub>S</u>			
gravel	gray	slight		petroleum		Comments:	
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none		<u>H<sub>2</sub>S</u>			
gravel	gray	slight		petroleum		Comments:	
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS303 ~~98~~ 10-4-06  
 Start/Stop time: 12:35 / 13:15 X: 47 34. 160 not sampled  
 Sampling Method: Van Veen Y: 122 20. 787 78 not sampled  
 Weather: overcast Sample ID: LDW-SS303-010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>6</u>		Penetration depth (cm) _____		Time: <u>12:37</u>	
Acceptable sample (circle) yes <input checked="" type="radio"/> <u>washed out</u>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments:			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>2</u> Sample depth: <u>6'</u> Penetration depth (cm) _____ Time: <u>12:56</u>							
Acceptable sample (circle) yes <input checked="" type="radio"/> <u>washed out, rocks in grab</u>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments:			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>3</u> Sample depth: _____ Penetration depth (cm) _____ Time: <u>12:57</u>							
Acceptable sample (circle) yes <input checked="" type="radio"/> <u>empty grab</u>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments:			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/3/06 Station: LDW-55303 (cont.)  
 Start/Stop time: 12:35/13:15 X: \_\_\_\_\_  
 Sampling Method: Van Veen Y: \_\_\_\_\_  
 Weather: overcast Sample ID: LDW-55303-010 (cont.)  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>4</u> Sample depth (ft): <u>17'</u> Penetration depth (cm) _____ Time: <u>12:58</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rocks, mostly empty</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
			<u>47 34.161 N</u> <u>122 20.786 W</u>
Subsample #: <u>5</u> Sample depth: _____ Penetration depth (cm) _____ Time: <u>13:00</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Van Veen Did not deploy</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
			<u>4734.156 N</u> <u>122 20.784 W</u>
Subsample #: <u>6</u> Sample depth: <u>19'</u> Penetration depth (cm) _____ Time: <u>13:01</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>not enough sediment, sea star blocking closure of Van Veen.</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
			<u>Location: 47 34.159</u> <u>122 20 785</u>



**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS303 (cont.)  
 Start/Stop time: 12:35/13:15 X: did not sample  
 Sampling Method: Van Veen Y: did not sample  
 Weather: overcast Sample ID: LDW-SS303-010 (cont.)  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>7</u> Sample depth (ft): <u>37</u> Penetration depth (cm) _____ Time: <u>13:06</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Did not deploy</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>47 34-164 N</u> <u>122 20.7776 W</u>	
Subsample #: <u>8</u> Sample depth: <u>25'</u> Penetration depth (cm) _____ Time: <u>13:08</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>large rock blocking closure of Van Veen</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>47 34-165 N</u> <u>122 20.777 W</u>	
Subsample #: <u>9</u> Sample depth: _____ Penetration depth (cm) _____ Time: <u>13:10</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>Did not collect coordinates.</u> <u>47 34-976 (10-03-06)</u>	

Did not sample station today because we could not get a good grab due to rocky substrate at every location of attempted grab. Will consult with LDWG and EPA (Ecology/USACE) for guidance on how to proceed.

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS303  
 Start/Stop time: 11:53/12:00 X: 47 34.160  
 Sampling Method: Van Veen Y: 122 20.779  
 Weather: Clear and Sunny Sample ID: LDW-SS303-010  
 Crew: T. Do, J. Buening, E. Outfield.

Subsample #: <u>1</u>		Sample depth (ft): <u>23</u>		Penetration depth (cm) <u>10.5</u>		Time: <u>11:53</u>	
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:		Comments:	
cobble	drab olive	none		H <sub>2</sub> S		woody debris	
gravel	gray	slight		petroleum		Lots of shell frags.	
sand C M F	black	moderate		other:		Coordinates: 47 34.160	
silt clay	brown	strong		RPD - 0.5 cm		122 20.779	
organic matter	brown surface	overwhelming					
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:		Comments:	
cobble	drab olive	none		H <sub>2</sub> S			
gravel	gray	slight		petroleum			
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:		Comments:	
cobble	drab olive	none		H <sub>2</sub> S			
gravel	gray	slight		petroleum			
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

- This was the only acceptable grab for LDW-SS303. Although the sample was collected approx. 3' beyond the 10m deviation buffer from the target location, we accepted the sample with K. Godtfredsen's approval.

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS309 (2<sup>nd</sup> attempt)  
 Start/Stop time: 12:46 / 13:12 X: \_\_\_\_\_  
 Sampling Method: Van Veen Y: \_\_\_\_\_  
 Weather: clear & sunny Sample ID: LDW-SS309-010  
 Crew: T. De, J. Bucning, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): _____		Penetration depth (cm) _____		Time: <u>12:47</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rolled over</u>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments: <u>Did not get coordinates.</u>			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>2</u> Sample depth: _____ Penetration depth (cm) _____ Time: <u>12:49</u>							
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>No sediment in grab, only water.</u>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments: <u>Did not get coordinates</u>			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>3</u> Sample depth: _____ Penetration depth (cm) _____ Time: <u>12:50</u>							
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rolled over</u>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments: <u>47 34.161</u> <u>122 20.785</u>			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS309 (cont.)  
 Start/Stop time: 12:46/ X: \_\_\_\_\_  
 Sampling Method: Van Veen Y: \_\_\_\_\_  
 Weather: clear & sunny Sample ID: LDW-SS309-010 (cont.)  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>4</u> Sample depth (ft): _____ Penetration depth (cm) _____ Time: <u>12:53</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rolled over</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>Coordinates:</u> <u>47 34.161</u> <u>122 20.785</u>	
Subsample #: <u>5</u> Sample depth: <u>14'</u> Penetration depth (cm) _____ Time: <u>12:55</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rocks</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>coordinates:</u> <u>47 34.161</u> <u>122 20.786</u>	
Subsample #: <u>6</u> Sample depth: <u>14'</u> Penetration depth (cm) _____ Time: <u>12:57</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rolled over</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>coordinates:</u> <u>47 34.158</u> <u>122 20.784</u>	

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS303 (cont.)  
 Start/Stop time: \_\_\_\_\_ X: \_\_\_\_\_  
 Sampling Method: \_\_\_\_\_ Y: \_\_\_\_\_  
 Weather: \_\_\_\_\_ Sample ID: LDW-SS303-010 (cont.)  
 Crew: \_\_\_\_\_

Subsample #: <u>7</u> Sample depth (ft): _____ Penetration depth (cm) _____ Time: <u>12:59</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rolled over</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	Comments: Coordinates: 47 34.158 N 122 20.787 W
gravel	gray	slight	
sand C M F	black	moderate	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>8</u> Sample depth: <u>18'</u> Penetration depth (cm) _____ Time: <u>13:06</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rolled over</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	Comments: Coordinates: 47 34.154 N 122 20.788 W
gravel	gray	slight	
sand C M F	black	moderate	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>9</u> Sample depth: <u>19'</u> Penetration depth (cm) _____ Time: <u>13:07</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rolled over</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	Comments: Coordinates: 47 34.154 N 122 20.787 W
gravel	gray	slight	
sand C M F	black	moderate	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS303 (cont.)  
 Start/Stop time: 12:46/13:12 X: \_\_\_\_\_  
 Sampling Method: \_\_\_\_\_ Y: \_\_\_\_\_  
 Weather: \_\_\_\_\_ Sample ID: LDW-SS303-010  
 Crew: \_\_\_\_\_

Subsample #: <u>10</u>		Sample depth (ft): <u>22</u>		Penetration depth (cm) _____		Time: <u>13:09</u>	
Acceptable sample (circle) yes <input type="checkbox"/>		no <input checked="" type="checkbox"/>		<u>washed out.</u>			
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S				
gravel	gray	slight	petroleum	Comments:			
sand C M F	black	moderate	other:	<u>Coordinates of attempt:</u>			
silt clay	brown	strong		<u>47 34.153 N</u>			
organic matter	brown surface	overwhelming		<u>122 20.785 W</u>			
Subsample #: <u>11</u>		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) yes <input type="checkbox"/>		no <input type="checkbox"/>					
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S				
gravel	gray	slight	petroleum	Comments:			
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) yes <input type="checkbox"/>		no <input type="checkbox"/>					
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S				
gravel	gray	slight	petroleum	Comments:			
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS304 (cont.) (10-3-06)  
 Start/Stop time: 13:19 / 13:35 X: \_\_\_\_\_  
 Sampling Method: Van Veen Y: \_\_\_\_\_  
 Weather: overcast Sample ID: LDW-SS304-010 (cont.) (10-3-06)  
 Crew: T. Do, J. Buehler, J. Replinger

Subsample #: <u>1</u>		Sample depth (ft): _____		Penetration depth (cm) _____		Time: <u>13:21</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/>		<u>rocks, no sediment</u>					
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments: <u>Did not get coordinates - This was on location. <del>157 34 10-3-06</del></u>	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>2</u>		Sample depth: _____		Penetration depth (cm) _____		Time: <u>13:23</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/>		<u>did not deploy</u>					
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments: <u>47 34 .157</u> <u>122 20 .755</u>	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>3</u>		Sample depth: _____		Penetration depth (cm) _____		Time: <u>13:25</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/>		<u>rock blocking closure of Van Veen</u>					
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments: <u>47 34 .157</u> <u>122 20 .754</u>	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS304 (cont.)  
 Start/Stop time: 13:30 ~~13:35~~ <sup>go 10-03-06</sup> X: did not sample  
 Sampling Method: Van Veen 35 Y: did not sample  
 Weather: overcast Sample ID: LDW-SS304-010 (cont.)  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>4</u>		Sample depth (ft): _____		Penetration depth (cm) _____		Time: <u>13:27</u>	
Acceptable sample (circle) yes <input type="radio"/>		no <input checked="" type="radio"/>		<u>did not deploy</u>			
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments:  <u>47 34.157</u> <u>122 20.754</u>			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>5</u>		Sample depth: _____		Penetration depth (cm) _____		Time: <u>13:29</u>	
Acceptable sample (circle) yes <input type="radio"/>		no <input checked="" type="radio"/>		<u>only one rock in grab.</u>			
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments:  <u>47 34.156</u> <u>122 20.757</u>			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>6</u>		Sample depth: <u>18'</u>		Penetration depth (cm) _____		Time: <u>13:30</u>	
Acceptable sample (circle) yes <input type="radio"/>		no <input checked="" type="radio"/>		<u>Did not deploy, chain caught up</u>			
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments:  <u>47 34.161</u> <u>122 20.754</u>			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

- Did not sample because could not get a good grab.



**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS304 (cont)  
 Start/Stop time: 13:19 / 13:22 X: did not sample  
 Sampling Method: Van Veen 35 Y: did not sample  
 Weather: overcast Sample ID: LDW-SS304-010 (cont.)  
 Crew: T. Do, J. Bunning, S. Replinger

Subsample #: <u>7</u> Sample depth (ft): _____ Penetration depth (cm) _____ Time: <u>13:32</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	Comments:  <u>47 34.159</u> <u>122 20.758</u>
gravel	gray	slight petroleum	
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____			
Acceptable sample (circle) yes <input type="radio"/> no <input type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	Comments:
gravel	gray	slight petroleum	
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____			
Acceptable sample (circle) yes <input type="radio"/> no <input type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	Comments:
gravel	gray	slight petroleum	
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	

- Did not sample at this location because rocky substrate made it difficult to get a good, closed grab. Attempted grab 7 times. Will consult w/ LDWG, EPA/Ecology on how to proceed.

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS304  
 Start/Stop time: 13:14 / 13:28 X: did not sample during this attempt  
 Sampling Method: Van Veen Y: did not sample during this attempt  
 Weather: sunny + light breeze Sample ID: LDW-SS304-010  
 Crew: T. Do, J. Buening, E. Outfield.

Subsample #: <u>1</u> Sample depth (ft): _____ Penetration depth (cm) _____ Time: <u>13:14</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Large rock blocking closure of Van Veen</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>47 34.157</u> <u>122 20.753</u>	
Subsample #: <u>2</u> Sample depth: <u>17</u> Penetration depth (cm) _____ Time: _____	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Empty, rock blocking closure of Van Veen.</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>47 34.157</u> <u>122 20.754</u>	
Subsample #: <u>3</u> Sample depth: <u>20'</u> Penetration depth (cm) _____ Time: <u>13:19</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Rock blocking closure of grab.</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>47 34.158</u> <u>122 20.755</u>	

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS304 (cont.)  
 Start/Stop time: 13:14 / 13:28 X: sample not taken  
 Sampling Method: Van Veen Y: sample not taken  
 Weather: clear, sunny, light breeze Sample ID: LDW-SS304-010 (cont.)  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>4</u>		Sample depth (ft): <u>18'</u>		Penetration depth (cm) _____		Time: <u>13:21</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>large rock blocking grab.</u>							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments: Coordinates: 47 34. 157 122 20. 755	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>5</u> Sample depth: <u>21'</u> Penetration depth (cm) _____ Time: <u>13:25</u>							
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>small rock blocking grab.</u>							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments: Coordinates: 47 34. 152 122 20. 756	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>6</u> Sample depth: <u>16'</u> Penetration depth (cm) _____ Time: <u>13:27</u>							
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Rocks only in grab, no sediment.</u>							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments: Coordinates: 47 34. 159 122 20. 758	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

- Tried an additional 6 grabs. Rocks blocking closure of van Veen. No sediment in grabs. Did not sample; waiting for guidance from K. Godfredsen.

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS304 (3rd attempt)  
 Start/Stop time: 14:23 / 14:55 X: 47 34. 146  
 Sampling Method: Van Veen Y: 122 20. 762  
 Weather: Sunny, light breeze Sample ID: LDW-SS304-010 (3rd attempt)  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>1</u> Sample depth (ft): _____ Penetration depth (cm) _____ Time: <u>14:23</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Did not deploy.</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	Comments: <u>Did not get coordinates</u>
gravel	gray	slight	
sand C M F	black	moderate	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>2</u> Sample depth: <u>19'</u> Penetration depth (cm) _____ Time: <u>14:24</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>empty grab</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	Comments: <u>coordinates:</u> <u>47 34. 154</u> <u>122 20. 755</u>
gravel	gray	slight	
sand C M F	black	moderate	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>3</u> Sample depth: <u>20'</u> Penetration depth (cm) _____ Time: <u>14:27</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Rolled over</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	Comments: <u>coordinates:</u> <u>47 34. 153</u> <u>122 20. 754</u>
gravel	gray	slight	
sand C M F	black	moderate	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS304 (cont.)  
 Start/Stop time: 14:23 / X: \_\_\_\_\_  
 Sampling Method: Van Veen Y: \_\_\_\_\_  
 Weather: SUNNY, light breeze Sample ID: LDW-SS304-010 (cont.)  
 Crew: T. Do, J. Buching, E. Duffield

Subsample #: <u>4</u> Sample depth (ft): <u>18</u> Penetration depth (cm) _____ Time: <u>14:28</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rocks</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Comments: <u>Coord: 47 34.152</u> <u>122 20.754</u> <u>2</u>			
Subsample #: <u>5</u> Sample depth: <u>23'</u> Penetration depth (cm) _____ Time: <u>14:31</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rolled over</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Comments: <u>Coord: 47 34.153</u> <u>122 20.755</u>			
Subsample #: <u>6</u> Sample depth: <u>25'</u> Penetration depth (cm) _____ Time: <u>14:32</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rock blocking closure of van Veen.</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Comments: <u>Coord: 47 34.151</u> <u>122 20.757</u>			

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS304 (cont.)  
 Start/Stop time: 14:23 / X: \_\_\_\_\_  
 Sampling Method: Van Veen Y: \_\_\_\_\_  
 Weather: Sunny, light breeze Sample ID: LDW-SS304-010 (cont.)  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>7</u>		Sample depth (ft): <u>21'</u>		Penetration depth (cm) _____		Time: <u>14:34</u>	
Acceptable sample (circle) yes <input type="radio"/>		no <input checked="" type="radio"/>		<u>only rocks in grab.</u>			
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments: <u>coord:</u> <u>47 34.151</u> <u>122 20.753</u>			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>8</u>		Sample depth: <u>27'</u>		Penetration depth (cm) _____		Time: <u>14:36</u>	
Acceptable sample (circle) yes <input type="radio"/>		no <input checked="" type="radio"/>		<u>ROCKS</u>			
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments: <u>coord:</u> <u>47 34.150</u> <u>122 20.757</u>			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>9</u>		Sample depth: <u>28'</u>		Penetration depth (cm) _____		Time: <u>14:39</u>	
Acceptable sample (circle) yes <input type="radio"/>		no <input checked="" type="radio"/>		<u>Did not deploy</u>			
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments: <u>coord:</u> <u>47 34.150</u> <u>122 20.760</u>			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS304 (cont.)  
 Start/Stop time: 14:23 / 14:55 X: 47 34. 146  
 Sampling Method: Van Veen Y: 122 20. 762  
 Weather: Sunny, light breeze Sample ID: LDW-SS304-010 (cont.)  
 Crew: \_\_\_\_\_

Subsample #: <u>10</u> Sample depth (ft): <u>no reading</u> Penetration depth (cm) _____ Time: <u>14:41</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>on depth meter</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
			<u>4734.148</u> <u>122 20. 761</u>
Subsample #: <u>11</u> Sample depth: _____ Penetration depth (cm) _____ Time: <u>14:43</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>rocks</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
			<u>4734.148</u> <u>122 20. 755</u>
Subsample #: <u>12</u> Sample depth: <u>33'</u> Penetration depth (cm) <u>11</u> Time: <u>14:45</u>			
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
<u>gravel</u>	<u>gray-dark</u>	<u>slight</u>	petroleum
<u>sand C M F</u>	black	moderate	other:
<u>silt clay</u>	brown	strong	
<u>organic matter</u>	<u>brown surface</u>	overwhelming	
			<u>bull kelp,</u> <u>woody debris, worms</u> Comments: <u>shell frags.</u> <u>4734.146</u> <u>122 20. 762</u> <u>RPD - 0.5 cm</u>

- Grab #12 on this 3<sup>rd</sup> attempt at LDW-SS304 was the only acceptable grab. Though sampled location was approx. 75' from target sample location, <sup>(per A. Watkins.)</sup> it was N of the CSL hits to the S of target location for LDW-SS304 and was accepted based on guidance from K. Godtfredsen.

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS305  
 Start/Stop time: 13:37 / 13:48 X: 47 34.110  
 Sampling Method: Van Veen Y: 122 20.740  
 Weather: overcast Sample ID: LDW-SS305-010  
 Crew: T. Do, J. Bunnag, S. Replinger

Subsample #: <u>1</u> Sample depth (ft): _____ Penetration depth (cm) _____ Time: <u>13:39</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Did not deploy</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	Comments: <u>on station</u>
gravel	gray	slight	
sand C M F	black	moderate	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>2</u> Sample depth: <u>17'</u> Penetration depth (cm) _____ Time: <u>13:41</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Did not deploy</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	Comments: <u>47 34.110 } on station</u> <u>122 20.740 } station</u>
gravel	gray	slight	
sand C M F	black	moderate	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>3</u> Sample depth: <u>18'</u> Penetration depth (cm) <u>11.5</u> Time: <u>13:44</u>			
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no			
type:	color:	odor:	Biota in sample: <u>Worms</u>
cobble	<u>drab olive</u>	none	Comments: <u>On station</u> <u>Shell frags. 10-3-06</u> <u>sheer, rock fragments</u> <u>isolated pockets</u>
<u>gravel</u>	<u>gray - dark</u>	<u>slight</u>	
<u>sand C M F</u>	black	moderate	
<u>silt clay</u>	brown	strong	
<u>organic matter</u>	<u>brown surface</u>	overwhelming	
		<u>RPD ~ 1 cm</u>	



# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS306  
 Start/Stop time: 14:12 / 14:20 X: 47 34.028  
 Sampling Method: Van Veen Y: 122 21.017  
 Weather: overcast Sample ID: LDW-SS306-010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>5</u>		Penetration depth (cm) <u>12</u>		Time: <u>14:12</u>	
Acceptable sample (circle) <u>yes</u> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments: shell frags, brick frags, glass pieces - Took grain size triplicate sample and MS/MSD.	
organic matter		brown surface		overwhelming			
RPD - 0.5cm							
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) yes no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments:	
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) yes no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments:	
organic matter		brown surface		overwhelming			

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS307  
 Start/Stop time: 13:55 / 13:59 X: 47 34.051  
 Sampling Method: Van Veen Y: 122 20.758  
 Weather: overcast Sample ID: LDW-SS307-010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>1</u> Sample depth (ft): <u>35</u> Penetration depth (cm) _____ Time: <u>13:55</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>did not deploy</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
			47 34.051 N 122 20.758 W
Subsample #: <u>2</u> Sample depth: <u>35'</u> Penetration depth (cm) <u>11</u> Time: <u>13:56</u>			
Acceptable sample (circle) yes <input checked="" type="radio"/> no <input type="radio"/>			
type:	color:	odor:	Biota in sample: <u>worms, woody debris</u>
cobble	drab olive	<del>none</del> <u>DB 10-03-06</u>	H <sub>2</sub> S
<u>gravel</u>	<u>gray</u>	<u>slight</u>	<u>petroleum</u>
<u>sand C M F</u>	black	moderate	other:
<u>silt clay</u>	brown	strong	
<u>organic matter</u>	<u>brown surface</u> <u>slight</u>	overwhelming	
			47 34.051 N 122 20.758 W RPD-1cm
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____			
Acceptable sample (circle) yes <input type="radio"/> no <input type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
			Comments:

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/04 Station: LDW-SS308  
 Start/Stop time: 14:32 / 14:40 X: 47 33.935  
 Sampling Method: Van Veen Y: 122 20.897  
 Weather: overcast, slightly raining Sample ID: LDW-SS308-010  
 Crew: T. Do, J. Buehning, S. Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>50</u>		Penetration depth (cm) <u>14</u>		Time: <u>14:32</u>	
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample: <u>trace wood debris,</u>	
cobble		<u>drab olive</u>		<u>none</u>		<u>worms,</u>	
gravel		gray		slight		Comments:	
<u>sand C M F</u>		<u>black dark</u>		moderate		<u>shell frags, isolated</u>	
silt clay		brown		strong		<u>pockets of sheen.</u>	
<u>organic matter</u>		<u>brown surface</u>		overwhelming		<u>- Took rinsate blank samples.</u>	
<u>RPD ~ 2cm</u>							
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS309  
 Start/Stop time: 14:45 / 14:55 X: 47 33.899  
 Sampling Method: Van Veen Y: 122 20.886  
 Weather: overcast Sample ID: LDW-SS309-010  
 Crew: T. DO, J. Buening, S. Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>51</u>		Penetration depth (cm) <u>13.5</u>		Time: <u>14:46</u>	
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample: <u>worms, trace</u>	
cobble		<u>drab olive</u>		<u>none</u>		<u>Woody debris</u>	
gravel		<u>gray - dark</u>		slight		Comments:	
<u>sand C M F trace</u>		black		moderate		<u>RPD - 2cm</u>	
<u>silt clay</u>		brown		strong			
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments:	
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments:	
organic matter		brown surface		overwhelming			

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-55310  
 Start/Stop time: 14:57 / 15:05 X: 47 33.847  
 Sampling Method: Van Veen Y: 122 20.882  
 Weather: overcast Sample ID: LDW-55310-010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>51</u>		Penetration depth (cm) <u>15</u>		Time: <u>14:57</u>	
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample: <u>trace wood, plant debris, shrimp, worms</u>	
cobble		drab olive		none		H <sub>2</sub> S	
<input checked="" type="radio"/> gravel		<input checked="" type="radio"/> gray <u>dark</u>		slight		petroleum	
sand C M F		black		moderate		other:	
<input checked="" type="radio"/> silt clay		brown		strong		Comments: <u>shell fragments, isolated pockets of sheen</u>	
<input checked="" type="radio"/> organic matter		<input checked="" type="radio"/> brown surface		overwhelming			
<u>RPD- 2 cm</u>							
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments:	
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments:	
organic matter		brown surface		overwhelming			

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**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS311  
 Start/Stop time: 15:08 / 15:30 X: 47 33.655  
 Sampling Method: Van Veen Y: 122 20.994  
 Weather: overcast, raining Sample ID: LDW-SS311-010  
 Crew: T. Do, J. Buching, S. Replinger

Subsample #: <u>1</u> Sample depth (ft): <u>6</u> Penetration depth (cm) _____ Time: <u>15:09</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>washed out, debris (wood) blocking closure of grab.</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>on station</u>	
Subsample #: <u>2</u> Sample depth: <u>6'</u> Penetration depth (cm) _____ Time: <u>15:11</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Van Veen rolled over</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>on station</u>	
Subsample #: <u>3</u> Sample depth: <u>6'</u> Penetration depth (cm) _____ Time: <u>15:12</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>washed out</u>	
type:	color: odor: Biota in sample:
cobble	drab olive none H <sub>2</sub> S
gravel	gray slight petroleum
sand C M F	black moderate other:
silt clay	brown strong
organic matter	brown surface overwhelming
Comments: <u>on station</u>	

### SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: 898 LDW-SS 311 (cont.)  
 Start/Stop time: 15:08 / 15:30 X: 10-3-06 47 33.655  
 Sampling Method: Van Veen Y: 122 20.994  
 Weather: Cloudy & raining Sample ID: LDW-SS311-010 (cont.)  
 Crew: T. Do, J. Buening, S. Keplinger

Subsample #: 4 Sample depth (ft): \_\_\_\_\_ Penetration depth (cm) \_\_\_\_\_ Time: 15:15  
 Acceptable sample (circle) yes  no  washed out

type:	color:	odor:		Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S	Comments:  <u>47.33.658</u> <u>122 20.999 (grab 10-3-06)</u> <u>219B</u>
gravel	gray	slight	petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Subsample #: 5 Sample depth: 9.5 Penetration depth (cm) \_\_\_\_\_ Time: 15:17  
 Acceptable sample (circle) yes  no  large piece of woody debris blocking grab. washed out

type:	color:	odor:		Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S	Comments:  <u>47 33.655</u> <u>122 20.995 (grab 10-3-06)</u> <u>219B</u>
gravel	gray	slight	petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Subsample #: 6 Sample depth: \_\_\_\_\_ Penetration depth (cm) \_\_\_\_\_ Time: 15:22  
 Acceptable sample (circle) yes  no  washed out

type:	color:	odor:		Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S	Comments:  <u>47 33.656</u> <u>122 20 (grab 10-3-06)</u> <u>21.001</u> <u>91B</u>
gravel	gray	slight	petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

3 of 3

**SURFACE SEDIMENT COLLECTION FORM**

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS311  
 Start/Stop time: 15:08/15:30 X: 47 33.655  
 Sampling Method: Van Veen Y: 122 20.994  
 Weather: cloudy; rainy Sample ID: LDW-SS311-010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>7</u> Sample depth (ft): <u>7.5</u> Penetration depth (cm) <u>10.5</u> Time: <u>15:23</u>	
Acceptable sample (circle) <input checked="" type="radio"/> yes <input checked="" type="radio"/> no <u>lots of wood debris blocking closure of Van Veen</u>	
type:	color: <u>gray</u> <u>dark</u>
cobble	drab olive
gravel	gray
<u>sand C M F</u>	black
silt clay	brown
organic matter	brown surface
odor:	Biota in sample: <u>wood debris</u>
none	
slight	
moderate	
<u>strong</u>	
overwhelming	
H <sub>2</sub> S	Comments: <u>shell fragments</u>
petroleum	
other:	
<u>47 33.655</u> <u>122 20.994</u> <u>RPD - 0.5cm</u>	
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no	
type:	color:
cobble	drab olive
gravel	gray
sand C M F	black
silt clay	brown
organic matter	brown surface
odor:	Biota in sample:
none	
slight	
moderate	
strong	
overwhelming	
H <sub>2</sub> S	Comments:
petroleum	
other:	
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no	
type:	color:
cobble	drab olive
gravel	gray
sand C M F	black
silt clay	brown
organic matter	brown surface
odor:	Biota in sample:
none	
slight	
moderate	
strong	
overwhelming	
H <sub>2</sub> S	Comments:
petroleum	
other:	

Enough sediment in to keep sample.

- Sample location moved slightly to allow a good grab. Modification to location within 10 m from sample location in QAPP. Sample still located just s. of riprap as requested by K. Takasaki and A. Hiltner during site recon. to select location for SS-311.



### SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS312  
 Start/Stop time: 15:37 / 15:48 X: 47 33.608  
 Sampling Method: Van Veen Y: 122 20.993  
 Weather: cloudy and slight rain Sample ID: LDW-SS312-010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>1</u> Sample depth (ft): <u>6</u> Penetration depth (cm) <u>11.0</u> Time: <u>15:37</u>																									
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no																									
<table border="1"> <tr> <td>type:</td> <td>color:</td> <td>odor:</td> <td></td> </tr> <tr> <td>cobble</td> <td>drab olive</td> <td>none</td> <td>H<sub>2</sub>S</td> </tr> <tr> <td>gravel</td> <td>gray</td> <td>slight</td> <td>petroleum</td> </tr> <tr> <td>sand C M F</td> <td>black</td> <td>moderate</td> <td>other:</td> </tr> <tr> <td>silt clay</td> <td>brown</td> <td>strong</td> <td></td> </tr> <tr> <td>organic matter</td> <td>brown surface</td> <td>overwhelming</td> <td></td> </tr> </table>	type:	color:	odor:		cobble	drab olive	none	H <sub>2</sub> S	gravel	gray	slight	petroleum	sand C M F	black	moderate	other:	silt clay	brown	strong		organic matter	brown surface	overwhelming		Biota in sample: <u>filamentous algae, wood debris</u> Comments: <u>(* see below) - pockets of sheen</u> <u>47 33 608</u> <u>122 20 993</u> RPD ~ 1cm
type:	color:	odor:																							
cobble	drab olive	none	H <sub>2</sub> S																						
gravel	gray	slight	petroleum																						
sand C M F	black	moderate	other:																						
silt clay	brown	strong																							
organic matter	brown surface	overwhelming																							
Subsample #: _____ Sample depth: _____ Penetration depth (cm) <u>11.0</u> Time: _____																									
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no																									
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type:	color:	odor:																							
cobble	drab olive	none	H <sub>2</sub> S																						
gravel	gray	slight	petroleum																						
sand C M F	black	moderate	other:																						
silt clay	brown	strong																							
organic matter	brown surface	overwhelming																							
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____																									
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no																									
<table border="1"> <tr> <td>type:</td> <td>color:</td> <td>odor:</td> <td></td> </tr> <tr> <td>cobble</td> <td>drab olive</td> <td>none</td> <td>H<sub>2</sub>S</td> </tr> <tr> <td>gravel</td> <td>gray</td> <td>slight</td> <td>petroleum</td> </tr> <tr> <td>sand C M F</td> <td>black</td> <td>moderate</td> <td>other:</td> </tr> <tr> <td>silt clay</td> <td>brown</td> <td>strong</td> <td></td> </tr> <tr> <td>organic matter</td> <td>brown surface</td> <td>overwhelming</td> <td></td> </tr> </table>	type:	color:	odor:		cobble	drab olive	none	H <sub>2</sub> S	gravel	gray	slight	petroleum	sand C M F	black	moderate	other:	silt clay	brown	strong		organic matter	brown surface	overwhelming		Biota in sample: Comments:
type:	color:	odor:																							
cobble	drab olive	none	H <sub>2</sub> S																						
gravel	gray	slight	petroleum																						
sand C M F	black	moderate	other:																						
silt clay	brown	strong																							
organic matter	brown surface	overwhelming																							

\* Moved location of SS-312 to correspond to location hand-selected by K. Takasaki i. A. Hiltner during site recon. Used remnant of bnck structure on shore as land marker.

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS313  
 Start/Stop time: 15:49/13:55 X: not sampled  
 Sampling Method: Van Veen Y: not sampled  
 Weather: Cloudy, rainy Sample ID: LDW-SS313-010  
 Crew: cloudy, slight rain

Subsample #: 1 Sample depth (ft): 3 Penetration depth (cm) \_\_\_\_\_ Time: 15:49  
 Acceptable sample (circle) yes  no  not enough penetration

type:	color:	odor:		Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S	Comments:  <u>545 911</u>
gravel	gray	slight	petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Subsample #: 2 Sample depth: 3' Penetration depth (cm) \_\_\_\_\_ Time: 15:50  
 Acceptable sample (circle) yes  no  not enough penetration

type:	color:	odor:		Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S	Comments:  <u>47 33.546 122 20.912</u>
gravel	gray	slight	petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

Subsample #: 3 Sample depth: 3' Penetration depth (cm) \_\_\_\_\_ Time: 15:52  
 Acceptable sample (circle) yes  no  not enough penetration

type:	color:	odor:		Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S	Comments: <u>Did not sample today because too shallow; not getting a good grab. we will sample this location from land at low tide tomorrow.</u> <u>47 33.546</u> <u>122 20.908</u>
gravel	gray	slight	petroleum	
sand C M F	black	moderate	other:	
silt clay	brown	strong		
organic matter	brown surface	overwhelming		

→ Will sample by hand <sup>from land</sup> at later date (either 10/4/06 or 10/5/06).

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS313  
 Start/Stop time: 09:14 / 09:25 X: 47 33.545  
 Sampling Method: Hand collected w/ spoon Y: 122 20.911  
 Weather: partly cloudy Sample ID: LDW-SS313-010  
 Crew: T. Do, J. Burning, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): <u>8 above water level</u>		Penetration depth (cm) <u>10</u>		Time: <u>09:14</u>	
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample: <u>woody debris; plant material</u>			
cobble	drab olive	none		<u>H<sub>2</sub>S</u>			
gravel	<u>gray-dark</u>	slight		petroleum			
<u>sand C M F</u>	black	<u>moderate</u>		other:			
<u>silt clay</u>	brown	strong					
organic matter	<u>brown surface</u>	overwhelming		<u>RPD - not vis.</u>			
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none		<u>H<sub>2</sub>S</u>			
gravel	gray	slight		petroleum			
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none		<u>H<sub>2</sub>S</u>			
gravel	gray	slight		petroleum			
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none		<u>H<sub>2</sub>S</u>			
gravel	gray	slight		petroleum			
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

- LDW-SS313 and LDW-SS314 sampled at the same time when T. Do & E. Duffield went ashore on Kellogg Island to sample these locations.

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS314  
 Start/Stop time: 09:14 / 09:25 X: 47 33.517  
 Sampling Method: Hand collected w/spoon Y: 122 20.940  
 Weather: partly cloudy Sample ID: LDW-SS314-010  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): <u>4 above water level</u>		Penetration depth (cm) <u>10</u>		Time: <u>09:14</u>	
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample: <u>filamentous algae, lots of plant debris - roots</u>	
cobble		drab olive		none		<u>H<sub>2</sub>S</u>	
gravel		gray		slight		petroleum	
<u>sand C M F</u>		<u>black</u>		<u>moderate</u>		other:	
<u>silt clay</u>		<u>brown</u>		<u>strong</u>			
organic matter		brown surface		overwhelming			
Comments: <u>RPD - not seen</u>							
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			
Comments:							
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			
Comments:							

- LDW-SS313 and LDW-SS314 sampled at the same time when T. Do & E. Duffield went ashore on Kellogg Island to sample these locations.

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS315  
 Start/Stop time: 11:35 / 11:44 X: 47 33.484  
 Sampling Method: Van Veen Y: 122 20.667  
 Weather: clear & sunny Sample ID: LDW-SS315-010  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): <u>38</u>		Penetration depth (cm) <u>12</u>		Time: <u>11:35</u>	
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no							
type:	color:	odor:			Biota in sample: <u>WORMS</u>		
cobble	drab olive	<u>none</u>	H <sub>2</sub> S		Comments: <u>shell frags.</u>  <u>.484</u> <u>.667</u> <u>RPD - 1 cm</u>		
<u>gravel</u>	<u>gray</u>	slight	petroleum				
<u>sand C M F</u>	black	moderate	other:				
<u>silt clay</u>	brown	strong					
organic matter	<u>brown surface</u>	overwhelming					
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:	color:	odor:			Biota in sample:		
cobble	drab olive	none	H <sub>2</sub> S		Comments:		
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:	color:	odor:			Biota in sample:		
cobble	drab olive	none	H <sub>2</sub> S		Comments:		
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

- Called L. Marsh to check difference between sampled location & target station location. Sampled location approx. 20' from target. It is acceptable.

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS316-20  
 Start/Stop time: 11:24 / 11:31 X: 47 33.45 449  
 Sampling Method: Van Veen Y: 122 20.672  
 Weather: clear & sunny Sample ID: LDW-SS316-010  
 Crew: T. Do, J. Buching, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): <u>29</u> <sup>25'</sup>		Penetration depth (cm) _____		Time: <u>11:24</u>	
Acceptable sample (circle) yes <input type="radio"/>		no <input checked="" type="radio"/>		<u>Did not deploy</u>			
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S				
gravel	gray	slight	petroleum	Comments:			
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
<u>.449</u> <u>.672</u>							
Subsample #: <u>2</u>		Sample depth: <u>29</u> <sup>25'</sup>		Penetration depth (cm) <u>13</u>		Time: <u>11:25</u>	
Acceptable sample (circle) yes <input checked="" type="radio"/>		no <input type="radio"/>					
type:	color:	odor:		Biota in sample: <u>sea pen (2),</u>			
cobble	drab olive	none	H <sub>2</sub> S	<u>WIRMS</u>			
gravel	gray	slight	petroleum	Comments: <u>On station.</u>			
sand C M F	black	moderate	other:	<u>shell frags. Pockets of</u>			
silt clay	brown	strong		<u>sheen.</u>			
organic matter	brown surface	overwhelming		<u>RPD ~ 1.5cm</u>			
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) yes <input type="radio"/>		no <input type="radio"/>					
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S				
gravel	gray	slight	petroleum	Comments:			
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS317  
 Start/Stop time: 11:07 / 11:23 X: 47 33.458  
 Sampling Method: Van Veen Y: 122 20.628  
 Weather: clear & sunny Sample ID: LDW-SS317-010  
 Crew: T. Do, J. Buening, E. Outfield

Subsample #: <u>1</u> Sample depth (ft): _____ Penetration depth (cm) _____ Time: <u>11:07</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Did not deploy</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	Comments: <u>On station</u>
gravel	gray	slight	
sand C M F	black	moderate	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>2</u> Sample depth: _____ Penetration depth (cm) _____ Time: <u>11:11</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Large rock in van veen blocking closure</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	Comments: <u>453</u> <u>.658 (gs)</u> <u>.629</u> <u>10.4.00</u>
gravel	gray	slight	
sand C M F	black	moderate	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>3</u> Sample depth: <u>39</u> Penetration depth (cm) <u>12</u> Time: <u>11:14</u>			
Acceptable sample (circle) yes <input checked="" type="radio"/> no <input type="radio"/>			
type:	color:	odor:	Biota in sample: <u>wood debris,</u> <u>worms</u>
cobble	drab olive	<u>none</u>	Comments: <u>shell frags</u> <u>.458</u> <u>.628</u> <u>RPD-20m</u>
gravel	<u>gray</u>	slight	
<u>sand C M F</u>	black	moderate	
<u>silt clay</u>	brown	strong	
organic matter	<u>brown surface</u>	overwhelming	

chain hung up

453  
.658 (gs)  
.629  
10.4.00

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS318  
 Start/Stop time: 10:53 / 11:05 X: 47 33.419  
 Sampling Method: Van Veen Y: 122 20.631  
 Weather: Clear & Sunny Sample ID: LDW-SS318-010  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>1</u> Sample depth (ft): <u>37</u> Penetration depth (cm) <u>8</u> Time: <u>10:53</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>washed out</u>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
			.421 .629
Subsample #: <u>2</u> Sample depth: <u>39</u> Penetration depth (cm) <u>12</u> Time: <u>10:56</u>			
Acceptable sample (circle) yes <input checked="" type="radio"/> no <input type="radio"/>			
type:	color:	odor:	Biota in sample: <u>WORMS</u>
cobble	drab olive	<u>none</u>	H <sub>2</sub> S
<u>gravel - trace</u>	<u>gray</u>	slight	petroleum
<u>sand C M F</u>	black	moderate	other:
<u>silt clay</u>	brown	strong	
<u>organic matter</u>	<u>brown surface</u>	overwhelming	
			.419 .631 RPD ~ 1.5cm
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____			
Acceptable sample (circle) yes <input type="radio"/> no <input type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	



# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS319  
 Start/Stop time: 10:04 / 10:10 X: 47 33.402  
 Sampling Method: van Veen Y: 122 20.545  
 Weather: mostly clear, sunny Sample ID: LDW-SS319-010  
 Crew: T. Do, J. Buching, E. Duffield.

Subsample #: <u>1</u>		Sample depth (ft): <u>26</u>		Penetration depth (cm) <u>16</u>		Time: <u>10:05</u>	
Acceptable sample (circle) <u>yes</u> no							
type:		color:		odor:		Biota in sample: <u>worms,</u>	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		<u>gray</u>		<u>slight</u> <u>9b 10-4-06</u>		petroleum	
<u>sand C M F</u>		black		moderate		other: <u>9b 10-4-06</u>	
<u>silt clay</u>		brown		strong		Comments: <u>RPD ~ 2cm</u>	
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) yes no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) yes no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS320  
 Start/Stop time: 09:55 / 10:01 X: 47 33 . 394  
 Sampling Method: Van Veen Y: 122 20 . 509  
 Weather: mostly clear, sunny Sample ID: LDW-SS320-010  
 Crew: T. Do, J. Buening, E. Duffield.

Subsample #: <u>1</u> Sample depth (ft): <u>24</u> Penetration depth (cm) <u>16</u> Time: <u>09:55</u>																															
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no																															
<table border="1"> <tr> <td>type:</td> <td>color:</td> <td>odor:</td> <td>H<sub>2</sub>S</td> <td>Biota in sample: <u>WORMS</u></td> </tr> <tr> <td>cobble</td> <td>drab olive</td> <td><u>none</u></td> <td></td> <td><u>sm. amt wood debris/ plant mat.</u></td> </tr> <tr> <td>gravel</td> <td><u>gray</u></td> <td>slight</td> <td>petroleum</td> <td>Comments:</td> </tr> <tr> <td><u>sand C M F</u></td> <td>black</td> <td>moderate</td> <td>other:</td> <td><u>shell frags.</u></td> </tr> <tr> <td><u>silt clay</u></td> <td>brown</td> <td>strong</td> <td></td> <td><u>pockets of sheen</u></td> </tr> <tr> <td>organic matter</td> <td>brown surface</td> <td>overwhelming</td> <td></td> <td><u>RPD - 1cm</u></td> </tr> </table>	type:	color:	odor:	H <sub>2</sub> S	Biota in sample: <u>WORMS</u>	cobble	drab olive	<u>none</u>		<u>sm. amt wood debris/ plant mat.</u>	gravel	<u>gray</u>	slight	petroleum	Comments:	<u>sand C M F</u>	black	moderate	other:	<u>shell frags.</u>	<u>silt clay</u>	brown	strong		<u>pockets of sheen</u>	organic matter	brown surface	overwhelming		<u>RPD - 1cm</u>	
type:	color:	odor:	H <sub>2</sub> S	Biota in sample: <u>WORMS</u>																											
cobble	drab olive	<u>none</u>		<u>sm. amt wood debris/ plant mat.</u>																											
gravel	<u>gray</u>	slight	petroleum	Comments:																											
<u>sand C M F</u>	black	moderate	other:	<u>shell frags.</u>																											
<u>silt clay</u>	brown	strong		<u>pockets of sheen</u>																											
organic matter	brown surface	overwhelming		<u>RPD - 1cm</u>																											
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____																															
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no																															
<table border="1"> <tr> <td>type:</td> <td>color:</td> <td>odor:</td> <td>H<sub>2</sub>S</td> <td>Biota in sample:</td> </tr> <tr> <td>cobble</td> <td>drab olive</td> <td>none</td> <td></td> <td></td> </tr> <tr> <td>gravel</td> <td>gray</td> <td>slight</td> <td>petroleum</td> <td>Comments:</td> </tr> <tr> <td>sand C M F</td> <td>black</td> <td>moderate</td> <td>other:</td> <td></td> </tr> <tr> <td>silt clay</td> <td>brown</td> <td>strong</td> <td></td> <td></td> </tr> <tr> <td>organic matter</td> <td>brown surface</td> <td>overwhelming</td> <td></td> <td></td> </tr> </table>	type:	color:	odor:	H <sub>2</sub> S	Biota in sample:	cobble	drab olive	none			gravel	gray	slight	petroleum	Comments:	sand C M F	black	moderate	other:		silt clay	brown	strong			organic matter	brown surface	overwhelming			
type:	color:	odor:	H <sub>2</sub> S	Biota in sample:																											
cobble	drab olive	none																													
gravel	gray	slight	petroleum	Comments:																											
sand C M F	black	moderate	other:																												
silt clay	brown	strong																													
organic matter	brown surface	overwhelming																													
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____																															
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no																															
<table border="1"> <tr> <td>type:</td> <td>color:</td> <td>odor:</td> <td>H<sub>2</sub>S</td> <td>Biota in sample:</td> </tr> <tr> <td>cobble</td> <td>drab olive</td> <td>none</td> <td></td> <td></td> </tr> <tr> <td>gravel</td> <td>gray</td> <td>slight</td> <td>petroleum</td> <td>Comments:</td> </tr> <tr> <td>sand C M F</td> <td>black</td> <td>moderate</td> <td>other:</td> <td></td> </tr> <tr> <td>silt clay</td> <td>brown</td> <td>strong</td> <td></td> <td></td> </tr> <tr> <td>organic matter</td> <td>brown surface</td> <td>overwhelming</td> <td></td> <td></td> </tr> </table>	type:	color:	odor:	H <sub>2</sub> S	Biota in sample:	cobble	drab olive	none			gravel	gray	slight	petroleum	Comments:	sand C M F	black	moderate	other:		silt clay	brown	strong			organic matter	brown surface	overwhelming			
type:	color:	odor:	H <sub>2</sub> S	Biota in sample:																											
cobble	drab olive	none																													
gravel	gray	slight	petroleum	Comments:																											
sand C M F	black	moderate	other:																												
silt clay	brown	strong																													
organic matter	brown surface	overwhelming																													

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS321 <sup>go 10.4.06</sup>  
 Start/Stop time: 10:36 / 10:47 X: 47 33 340 .341  
 Sampling Method: Van Veen Y: 1220.572 .572  
 Weather: mostly clear, sunny Sample ID: LDW-SS321-010  
 Crew: T. Do, J. Ruehing, E. Duffield

Subsample #: <u>1</u> Sample depth (ft): <u>34</u> Penetration depth (cm) _____ Time: <u>10:36</u>		
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>Did not deploy</u> <sup>go 10.4.06</sup>		
type:	color: odor: Biota in sample: <u>wood debris</u>	
cobble	drab olive none H <sub>2</sub> S	
<u>gravel</u> <sup>go 10.4.06</sup>	gray slight petroleum	
sand C M F	black moderate other:	
silt clay	brown strong	Comments: <u>shell frags</u> <u>trace pockets</u> .340 .574
<u>organic matter</u>	<u>brown surface</u> overwhelming	
Subsample #: <u>2</u> Sample depth: <u>34</u> Penetration depth (cm) _____ Time: <u>10:38</u>		
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>washout</u>		
type:	color: odor: Biota in sample:	
cobble	drab olive none H <sub>2</sub> S	
gravel	gray slight petroleum	
sand C M F	black moderate other:	
silt clay	brown strong	Comments: .340 .574
organic matter	<u>brown surface</u> overwhelming	
Subsample #: <u>3</u> Sample depth: <u>34</u> Penetration depth (cm) <u>11</u> Time: <u>10:39</u>		
Acceptable sample (circle) yes <input checked="" type="radio"/> no <input type="radio"/>		
type:	color: odor: Biota in sample: <u>wood debris</u>	
cobble	drab olive <u>none</u> H <sub>2</sub> S	
<u>gravel</u>	<u>gray</u> slight petroleum	
<u>sand C M F</u>	black moderate other:	
silt clay	brown strong	Comments: <u>shell frags,</u> <u>trace pockets</u> <u>of sheen</u> .341 .572 <u>RPD ~ 1 cm</u>
<u>organic matter</u>	<u>brown surface</u> overwhelming	

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS322  
 Start/Stop time: 09:33 / 09:41 X: 47 33.306  
 Sampling Method: Van Veen Y: 122 20.596  
 Weather: partly cloudy Sample ID: LDW-SS322-010  
 Crew: T. Do, T. Buening, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): <u>29</u>		Penetration depth (cm) <u>14</u>		Time: <u>09:33</u>	
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample: <u>WORMS, woody debris</u>	
cobble	drab olive	none		petroleum		Comments: <u>Shell frags. pockets of sheen.</u>	
gravel	<u>gray</u>	<u>slight</u>		other:			
<u>sand C M F</u>	black	moderate					
<u>silt clay</u>	<u>brown</u> - also dark brown pockets	strong					
organic matter	brown surface	overwhelming				<u>RPD ~ 1.5cm</u>	
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments:	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments:	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS323  
 Start/Stop time: 09:43 / 09:55 X: 47 33.317  
 Sampling Method: Van Veen Y: 122 20.540  
 Weather: mostly clear, sunny Sample ID: LDW-SS323-010  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): <u>29</u>		Penetration depth (cm) <u>13</u>		Time: <u>09:43</u>	
Acceptable sample (circle) <u>yes</u> no							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample: <u>WORMS</u>	
<u>gravel</u>	<u>gray</u>	<u>none</u>		petroleum		Comments:	
sand C M F	black	slight		other:		<u>shell frags., paint chips</u>	
silt clay	brown	moderate					
<u>organic matter</u>	brown surface	strong					
		overwhelming				<u>RPD ~ 1 cm</u>	
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) yes no							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments:	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) yes no							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments:	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS324  
 Start/Stop time: 10:13/10:34 X: 47 33.282  
 Sampling Method: Van Veen Y: 122 20.551  
 Weather: mostly clear, sunny Sample ID: LDW-SS324-010  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): <u>34</u>		Penetration depth (cm) <u>10.5</u>		Time: <u>10:14</u>	
Acceptable sample (circle) yes <input type="checkbox"/> no <input checked="" type="checkbox"/> <u>Not enough penetration.</u>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none		H <sub>2</sub> S			
gravel <sup>98 10.4-06</sup>	gray	slight		petroleum			
<input checked="" type="checkbox"/> sand C M F	black	moderate		other:			
silt clay	brown	strong		<u>Shell frags. Silt</u> <sup>98 10.4-06</sup>			
organic matter	brown surface	overwhelming		.283			
				.550			
Subsample #: <u>2</u>		Sample depth: <u>34</u>		Penetration depth (cm) <u>6</u>		Time: <u>10:17</u>	
Acceptable sample (circle) yes <input type="checkbox"/> no <input checked="" type="checkbox"/> <u>Not enough penetration</u>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none		H <sub>2</sub> S			
gravel	gray	slight		petroleum			
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming		.282			
				.550			
Subsample #: <u>3</u>		Sample depth: <u>35</u>		Penetration depth (cm) <u>11</u>		Time: <u>10:22</u>	
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample: <u>leaf debris, wood debris,</u>			
cobble	drab olive	<input checked="" type="checkbox"/> none		H <sub>2</sub> S			
<input checked="" type="checkbox"/> gravel <sup>small</sup>	<input checked="" type="checkbox"/> gray <sup>dark</sup>	slight		petroleum			
<input checked="" type="checkbox"/> sand C M F	black	moderate		other:			
silt/clay	brown	strong		<u>Comments: shell frags.</u>			
organic matter	brown surface	overwhelming		<u>Silty surface layer</u>			
				.282			
				.551			
				<u>RPD ~ 1.5cm</u>			

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS325  
 Start/Stop time: 13:50 / 14:00 X: 47 33.079  
 Sampling Method: Van Veen Y: 122 20.383  
 Weather: Sunny, light breeze Sample ID: LDW-SS325-010  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): <u>20</u>		Penetration depth (cm): _____		Time: <u>13:50</u>	
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/> <u>washed out, lots of debris in grab.</u>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments: <u>on station.</u> <u>Rinsate blank taken.</u>			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>2</u> Sample depth: <u>19'</u> Penetration depth (cm) <u>13</u> Time: <u>13:52</u>							
Acceptable sample (circle) yes <input checked="" type="radio"/> no <input type="radio"/>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments: <u>wood debris,</u> <u>worms, snails</u> <u>glass, brick fragments,</u> <u>shell frags.,</u> <u>lots of glass, large pieces.</u> <u>RPD - 0.5cm</u> <u>.079</u> <u>.383</u>			
gravel	gray-dark	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) yes <input type="radio"/> no <input type="radio"/>							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S	Comments:			
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-SS326  
 Start/Stop time: 14:02 / 14:12 X: 47 33.036  
 Sampling Method: Van veen Y: 122 20.389  
 Weather: Sunny, light breeze Sample ID: LDW-SS326-010  
 Crew: T. Do, J. Buennig, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): <u>35</u>		Penetration depth (cm) <u>17</u>		Time: <u>14:02</u>	
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample: <u>worms, wood debris, plant debris</u>	
cobble	drab olive	<u>none</u>		petroleum		Comments: <u>1</u>  <u>47 33.036</u> <u>122 20.389</u>	
gravel	gray	slight		other:			
<u>sand C M F</u>	black	moderate					
<u>silt clay</u>	<u>brown</u>	strong					
organic matter	brown surface	overwhelming					
<u>RPD ~ 1cm</u>							
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	<u>none</u>		petroleum		Comments: _____	
gravel	gray	slight		other:			
<u>sand C M F</u>	black	moderate					
<u>silt clay</u>	<u>brown</u>	strong					
organic matter	brown surface	overwhelming					
<u>RPD ~ 1cm</u>							
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments: _____	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					



# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24 *TR*  
 Date: 10.02.06 Station: LDW-~~55335~~ ~~55336~~ 55327  
 Start/Stop time: 12:05/12:10 X: 47 32.788  
 Sampling Method: Van Veen Y: 122 20.156  
 Weather: overcast Sample ID: LDW-~~55335~~ 010  
 Crew: TR, K. Andrey, J. Buening 55327

Subsample #: <u>1</u>		Sample depth (ft): <u>26</u>		Penetration depth (cm) <u>5</u>		Time: <u>12:05</u>	
Acceptable sample (circle) yes <input type="checkbox"/> no <input checked="" type="checkbox"/>							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments:	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>2</u> Sample depth: <u>26</u> Penetration depth (cm) _____ Time: <u>12:10</u>							
Acceptable sample (circle) yes <input type="checkbox"/> no <input checked="" type="checkbox"/>							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments: <i>chain hung up</i>	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>3</u> Sample depth: <u>26</u> Penetration depth (cm) <u>25</u> Time: <u>12:14</u>							
Acceptable sample (circle) yes <input type="checkbox"/> no <input checked="" type="checkbox"/>							
type:	color:	odor:		H <sub>2</sub> S		Biota in sample:	
cobble	drab olive	none		petroleum		Comments: <i>switch to weighted van Veen</i>	
gravel	gray	slight		other:			
sand C M F	black	moderate					
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

*#1 of 2*

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.02.06 Station: LDW-55327  
 Start/Stop time: 12:05 / 12:35 X: 47. 32. 788  
 Sampling Method: van oer Y: 122 20. 156  
 Weather: pkly sunny Sample ID: LDW-55327-010  
 Crew: TDD, K Hawley, J Bulmering

Subsample #: <u>A</u> Sample depth (ft): <u>26</u> Penetration depth (cm) <u>11.5</u> Time: <u>1225</u>	
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no	
type:	color:
cobble	drab olive
gravel	<u>gray</u>
<u>trace</u> sand C M F	black
silt clay	<u>brown</u>
<u>organic matter</u>	brown surface
odor:	Biota in sample:
<u>none</u>	<u>wood debris, algae, shell frags.</u>
H <sub>2</sub> S	Comments:
petroleum	<u>brick fragments</u>
other:	<u>RPD <sup>TDD 10.2.06</sup> no stars not vis.</u>
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no	
type:	color:
cobble	drab olive
gravel	gray
sand C M F	black
silt clay	brown
organic matter	brown surface
odor:	Biota in sample:
none	
H <sub>2</sub> S	Comments:
petroleum	
other:	
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no	
type:	color:
cobble	drab olive
gravel	gray
sand C M F	black
silt clay	brown
organic matter	brown surface
odor:	Biota in sample:
none	
H <sub>2</sub> S	Comments:
petroleum	
other:	

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# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.02.06 Station: LDW-4328  
 Start/Stop time: 1330/1340 X: 47 32565  
 Sampling Method: Van Uem Y: 122 20.109  
 Weather: SUNNY Sample ID: LDW-4328-010  
 Crew: TDO, K. Hurley, J. Buehning

Subsample #: <u>1</u>		Sample depth (ft): <u>40</u>		Penetration depth (cm) <u>13.5</u>		Time: <u>1330</u>	
Acceptable sample (circle) <u>yes</u> no							
type:	color:	odor:		H <sub>2</sub> S	Biota in sample:		
cobble	drab olive	<u>none</u>			<u>shell frag. wood debris</u>		
gravel	<u>gray</u>	slight		petroleum	Comments: <u>clam</u>		
<u>sand C M F</u>	<u>black</u>	moderate		other:			
<u>silt clay</u>	brown	strong					
organic matter	<u>brown surface</u>	overwhelming			<u>RPD 0.5cm</u>		
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) yes no							
type:	color:	odor:		H <sub>2</sub> S	Biota in sample:		
cobble	drab olive	none					
gravel	gray	slight		petroleum	Comments:		
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) yes no							
type:	color:	odor:		H <sub>2</sub> S	Biota in sample:		
cobble	drab olive	none					
gravel	gray	slight		petroleum	Comments:		
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.02.06 Station: LDW-55329  
 Start/Stop time: 1355/14:10 X: 47 32.558  
 Sampling Method: Van Veen Y: 122 20.070  
 Weather: windy Sample ID: LDW-55329-010  
 Crew: TDD, K. Hardy, J. Breining.

Subsample #: <u>1</u>		Sample depth (ft): <u>35</u>		Penetration depth (cm) <u>0</u>		Time: <u>1357</u>	
Acceptable sample (circle) yes <input checked="" type="radio"/> no							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S				
gravel	gray	slight	petroleum	Comments:			
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>2</u> Sample depth: <u>35</u> Penetration depth (cm) <u>11</u> Time: <u>1406</u>							
Acceptable sample (circle) yes <input checked="" type="radio"/> no							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	<u>none</u>	H <sub>2</sub> S	<u>shell frag.</u>			
gravel	<u>gray</u>	slight	petroleum	Comments:			
<u>sand C M F</u>	<u>black</u>	moderate	other:	<u>duplicate</u>			
<u>silt clay</u>	brown	strong		<u>LDW-55401</u>			
organic matter	brown surface	overwhelming		<u>RPD ~1cm</u>			
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) yes <input type="radio"/> no							
type:	color:	odor:		Biota in sample:			
cobble	drab olive	none	H <sub>2</sub> S				
gravel	gray	slight	petroleum	Comments:			
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/02/06 Station: EDW-SS330  
 Start/Stop time: 11:00/11:00 X: 47 32.542  
 Sampling Method: Van Veen Y: 122 19.872  
 Weather: clear Sample ID: LDW-SS330-010  
 Crew: TDo, J. Buehling, K. Hurley

Subsample #: <u>1</u> Sample depth (ft): <u>23</u> Penetration depth (cm) <u>11.5</u> Time: <u>11:00</u>			
Acceptable sample (circle) <u>yes</u> no			
type:	color:	odor:	Biota in sample:
cobble	drab olive	<u>none</u> H <sub>2</sub> S	<u>clam shells</u>
gravel	<u>gray</u>	slight petroleum	Comments:
sand C M F	black	moderate other:	<u>coarse wood debris</u>
<u>silt clay nodules</u>	<u>brown</u>	strong	
organic matter	brown surface	overwhelming	<u>RPD 1cm</u>
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____			
Acceptable sample (circle) yes no			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	
gravel	gray	slight petroleum	Comments:
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____			
Acceptable sample (circle) yes no			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	
gravel	gray	slight petroleum	Comments:
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.2.06 Station: LDW-SS331  
 Start/Stop time: 1427/1445 X: 47 32.453  
 Sampling Method: Van Veen Y: 122 20.092  
 Weather: Sunny Sample ID: LDW-SS331-010  
 Crew: TDO K Hurley J Buehling

Subsample #: <u>1</u> Sample depth (ft): <u>9</u> Penetration depth (cm) <u>7</u> Time: <u>1428</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	Comments:
gravel	gray	slight petroleum	
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>2</u> Sample depth: <u>9</u> Penetration depth (cm) <u>14.5</u> Time: <u>1433</u>			
Acceptable sample (circle) yes <input checked="" type="radio"/> no <input type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	<u>no woody debris, algae</u>
gravel	<u>gray</u>	slight petroleum	Comments: <u>MS/MSD</u> <u>6cm size triplicate</u> <u>RPD = not vis.</u>
<u>sand C M F</u>	<u>black</u>	<u>moderate</u> other:	
<u>silt clay</u>	brown	strong	
<u>organic matter</u>	<u>brown surface</u>	overwhelming	
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____			
Acceptable sample (circle) yes <input type="radio"/> no <input type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	Comments:
gravel	gray	slight petroleum	
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10-02-06 Station: LDW-SS332  
 Start/Stop time: 1500/1520 X: 47 32.446 *see below*  
 Sampling Method: van veen Y: 122 20.083  
 Weather: sunny Sample ID: LDW-SS332-010  
 Crew: TDO K Hurlay J Buehling

Subsample #: <u>1</u> Sample depth (ft): <u>20.6</u> Penetration depth (cm) <u>0</u> Time: <u>1506</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	Comments: <i>large gravel and subangular rock</i>
gravel	gray	slight petroleum	
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>2</u> Sample depth: <u>20.6</u> Penetration depth (cm) <u>5</u> Time: <u>1509</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	Comments: <i>47 32.449 122 20.068 visual loc. based on recon w/ Lynn Takasaki</i>
gravel	gray	slight petroleum	
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: <u>3</u> Sample depth: <u>6</u> Penetration depth (cm) <u>11</u> Time: <u>1510</u>			
Acceptable sample (circle) yes <input checked="" type="radio"/> no <input type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	<u>none</u> H <sub>2</sub> S	<i>wood debris, filamentous algae &amp; roots</i>
gravel	<u>gray</u>	slight petroleum	Comments: <i>same coordinates as above</i>
<u>sand C M F</u>	<u>black</u>	moderate other:	
<u>silt clay</u>	<u>brown</u>	strong	
organic matter	brown surface	overwhelming <i>RPD notes</i>	

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.2.06 Station: LDW-SS333  
 Start/Stop time: 1558/1610 X: 47 32.21'  
 Sampling Method: Van Veen Y: 122 19.549  
 Weather: SUNNY Sample ID: LDW-SS333-010  
 Crew: TDO K Herley J Buning

Subsample #: <u>1</u>		Sample depth (ft): <u>17</u>		Penetration depth (cm) <u>14</u>		Time: <u>1600</u>	
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		<input checked="" type="checkbox"/> none		H <sub>2</sub> S	
gravel		<input checked="" type="checkbox"/> gray		slight		petroleum	
<input checked="" type="checkbox"/> sand C M F		black		moderate		other:	
<input checked="" type="checkbox"/> silt clay		brown		strong		Comments:  <u>RPD ~ 0.5cm</u>	
<input checked="" type="checkbox"/> organic matter		<input checked="" type="checkbox"/> brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments:	
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments:	
organic matter		brown surface		overwhelming			



# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.2.06 Station: LDW-55334  
 Start/Stop time: 1530/1535 X: ~~47~~ 32.109<sup>D</sup> 47.32.177  
 Sampling Method: Van Veen Y: ~~122~~ 12.519<sup>20</sup> 122.19.535  
 Weather: sunny Sample ID: LDW-55334-010  
 Crew: TDO, K. Hurley, J. Buehling 55334

Subsample #: <u>1</u> Sample depth (ft): <u><del>23</del> 48</u> Penetration depth (cm) <u>2</u> Time: <u>1535</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Comments:			
Subsample #: <u>2</u> Sample depth: <u>47</u> Penetration depth (cm) <u>7</u> Time: <u>1541</u>			
Acceptable sample (circle) yes <input type="radio"/> no <input checked="" type="radio"/>			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none	H <sub>2</sub> S
gravel	gray	slight	petroleum
sand C M F	black	moderate	other:
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Comments: <u>washed out</u>			
Subsample #: <u>3</u> Sample depth: <u>47</u> Penetration depth (cm) <u>10.5</u> Time: <u>1545</u>			
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no			
type:	color:	odor:	Biota in sample:
cobble	drab olive	<u>none</u>	H <sub>2</sub> S
gravel	<u>gray</u>	slight	petroleum
<u>sand C M F</u>	black	moderate	other:
silt clay	<u>brown</u>	strong	
organic matter	<u>brown surface</u>	overwhelming	
Comments: <u>shell frag.</u> <u>RPD 0.5um</u>			

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/04/06 Station: LDW-55335  
 Start/Stop time: 08:36 / 08:42 X: 47 32.084  
 Sampling Method: Van Veen Y: 122 19.497  
 Weather: partly cloudy Sample ID: LDW-55335-010  
 Crew: T. Do, J. Buening, E. Duffield

Subsample #: <u>1</u>		Sample depth (ft): <u>3</u>		Penetration depth (cm) <u>17</u>		Time: <u>08:36</u>	
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample: <u>woody debris</u>	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		<u>gray - dark</u>		<u>slight</u>		<u>petroleum</u>	
<u>sand C M F</u>		black		moderate		other:	
<u>silt clay</u>		<u>brown</u>		strong		<u>packets of sheen</u>  <u>RPD 1.5cm</u>	
organic matter		brown surface		overwhelming			
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10/03/06 Station: LDW-SS336  
 Start/Stop time: 10:48 / 10:58 X: 47 32.074  
 Sampling Method: Van Veen Y: 122 19.436  
 Weather: overcast Sample ID: LDW-SS336-010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>16</u>		Penetration depth (cm) _____		Time: <u>10:51</u>	
Acceptable sample (circle) yes <input checked="" type="radio"/> no <input type="radio"/> <u>WASHOUT</u>							
type:	color:	odor:				Biota in sample:	
cobble	drab olive	none		H <sub>2</sub> S		Comments:	
gravel	gray	slight		petroleum			
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: <u>2</u> Sample depth: <u>16'</u> Penetration depth (cm) <u>12.5</u> Time: <u>10:58</u>							
Acceptable sample (circle) yes <input checked="" type="radio"/> no <input type="radio"/>							
type:	color:	odor:				Biota in sample: <u>wood &amp; leaf debris, worm tubes</u>	
cobble	<u>drab olive</u>	<u>none</u>		H <sub>2</sub> S		Comments: <u>Shell fragments, isolated pockets of sheen, brick fragments</u>	
gravel	gray	slight		petroleum			
<u>sand C M F</u> <u>trace</u>	black	moderate		other:			
silt/clay	brown	strong					
organic matter	<u>brown surface</u>	overwhelming		<u>RPD ~ 0.5cm</u>			
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) yes <input type="radio"/> no <input type="radio"/>							
type:	color:	odor:				Biota in sample:	
cobble	drab olive	none		H <sub>2</sub> S		Comments:	
gravel	gray	slight		petroleum			
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.2.06 Station: LDW-SS337  
 Start/Stop time: 1625/1640 X: 47 31.539  
 Sampling Method: Van Veen Y: 122 18.555  
 Weather: overcast Sample ID: LDW-SS337-010  
 Crew: TTO, K Herley, J Buening

Subsample #: <u>1</u>		Sample depth (ft): <u>29</u>		Penetration depth (cm) <u>17</u>		Time: <u>1625</u>	
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		twigs, leafy debris	
gravel		gray		slight		Comments:	
sand C M F		black		moderate		Collected field duplicate	
silt clay		brown		strong		SS-402-010.	
organic matter		brown surface		overwhelming		RPD ~1.5cm	
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.03.06 Station: LDW-SS338  
 Start/Stop time: 10:21 / 10:25 X: 47 31.471  
 Sampling Method: Van Veen Y: 122 18.517  
 Weather: overcast Sample ID: LDW-SS338-010  
 Crew: T Do, J Buening, S Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>10</u>		Penetration depth (cm) <u>13</u>		Time: <u>10:22</u>	
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		trace woody debris	
gravel		gray		slight		H <sub>2</sub> S	
sand C M F		black		moderate		petroleum	
<input checked="" type="checkbox"/> silt clay		brown		strong		other:	
organic matter		brown surface		overwhelming		RFD - 2cm	
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong			
organic matter		brown surface		overwhelming			

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.03.06 Station: LDW-SS339  
 Start/Stop time: 10:00 / 10:00 X: 47 30.708  
 Sampling Method: ~~Van Veen~~ Hand collected w/ spoon Y: 122 18.078  
 Weather: overcast Sample ID: LDW-SS339-010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>1</u> Sample depth (ft): <u>3' above</u> Penetration depth (cm) <u>10</u> Time: <u>10:07</u>			
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <u>water level</u>			
type:	color:	odor:	Biota in sample: <u>filamentous algae</u>
cobble	drab olive	<u>none</u> H <sub>2</sub> S	Comments:  <u>RDD not sig.</u>
gravel	<u>gray</u>	slight petroleum	
<u>sand C M F</u>	black	moderate other:	
<u>silt clay</u>	<u>brown</u>	strong	
organic matter	<u>brown surface</u> <u>fine sand</u>	overwhelming	
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____			
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	Comments:
gravel	gray	slight petroleum	
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____			
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no			
type:	color:	odor:	Biota in sample:
cobble	drab olive	none H <sub>2</sub> S	Comments:
gravel	gray	slight petroleum	
sand C M F	black	moderate other:	
silt clay	brown	strong	
organic matter	brown surface	overwhelming	

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.03.06 Station: LDW-SS340  
 Start/Stop time: 10:04 / 10:11 X: 47 30.1665  
 Sampling Method: Hand collected w/ spoon Y: 122 18.109  
 Weather: overcast Sample ID: LDW-SS340-010  
 Crew: T. Do, J. Buening, S. Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>21' above</u>		Penetration depth (cm) <u>10</u>		Time: <u>10:09</u>	
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no		<u>&lt; 1' water level</u>					
type:	color:	odor:			Biota in sample: <u>trace wood debris, worms</u>		
cobble	drab olive	<u>none</u>	H <sub>2</sub> S		Comments: <u>brick frags -</u> <u>RPD not visible</u>		
gravel	gray	slight	petroleum				
<u>sand C M F</u>	black	moderate	other:				
<u>silt/clay w/ fine</u>	<u>brown</u>	strong					
organic matter	<u>brown surface</u>	overwhelming					
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:	color:	odor:			Biota in sample:		
cobble	drab olive	none	H <sub>2</sub> S		Comments:		
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no							
type:	color:	odor:			Biota in sample:		
cobble	drab olive	none	H <sub>2</sub> S		Comments:		
gravel	gray	slight	petroleum				
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.03.06 Station: LDW-55341  
 Start/Stop time: 09:41 / 09:48 X: 47 30.718  
 Sampling Method: ~~Van Veen~~ Hand collected w/spoon Y: 122 17.863  
 Weather: overcast Sample ID: LDW-55341-010  
 Crew: T. Do, J. Buening, S Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>2' above</u>		Penetration depth (cm) <u>10</u>		Time: <u>09:45</u>	
Acceptable sample (circle) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		<u>water level</u>					
type:	color:	odor:		Biota in sample:		Comments:	
cobble	drab olive	none		H <sub>2</sub> S		filamentous algae, trace plant debris, worm tubes	
<input checked="" type="checkbox"/> gravel	gray	<input checked="" type="checkbox"/> slight		petroleum			
<input checked="" type="checkbox"/> sand C M F	<input checked="" type="checkbox"/> black	moderate		other:		black silt in clusters throughout brown layer.	
<input checked="" type="checkbox"/> silt clay	brown	strong				Brick fragment. Trace gravel.	
organic matter	<input checked="" type="checkbox"/> brown surface (silt)	overwhelming		RPD ~0.5cm			
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:		Comments:	
cobble	drab olive	none		H <sub>2</sub> S			
gravel	gray	slight		petroleum			
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____		Sample depth: _____		Penetration depth (cm) _____		Time: _____	
Acceptable sample (circle) <input type="checkbox"/> yes <input type="checkbox"/> no							
type:	color:	odor:		Biota in sample:		Comments:	
cobble	drab olive	none		H <sub>2</sub> S			
gravel	gray	slight		petroleum			
sand C M F	black	moderate		other:			
silt clay	brown	strong					
organic matter	brown surface	overwhelming					



# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.03.06 Station: LDW-SS-342  
 Start/Stop time: 09:20/09:27 X: 47 30.712  
 Sampling Method: Van Veen Y: 122 17.869  
 Weather: overcast Sample ID: LDW-SS342-010  
 Crew: T. Do, J. Buening, S Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>9</u>		Penetration depth (cm) <u>12.5</u>		Time: <u>09:24</u>	
Acceptable sample (circle) <u>yes</u> no							
type:	color:	odor:			Biota in sample:		
cobble	<u>drab olive</u>	<u>none</u>	H <sub>2</sub> S		<u>none</u>		
gravel	gray	slight	petroleum		Comments:		
<u>sand C M F</u>	black	moderate	other:				
<u>silt clay</u>	<u>brown</u>	strong			<u>RTD 1.5cm</u>		
organic matter	brown surface	overwhelming					
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) yes no							
type:	color:	odor:			Biota in sample:		
cobble	drab olive	none	H <sub>2</sub> S				
gravel	gray	slight	petroleum		Comments:		
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____							
Acceptable sample (circle) yes no							
type:	color:	odor:			Biota in sample:		
cobble	drab olive	none	H <sub>2</sub> S				
gravel	gray	slight	petroleum		Comments:		
sand C M F	black	moderate	other:				
silt clay	brown	strong					
organic matter	brown surface	overwhelming					

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.03.06 Station: LDW-55343  
 Start/Stop time: 09:35 / 09:44 X: 47 30.714  
 Sampling Method: Hand collected w/spoon Y: 122 17.851  
 Weather: overcast Sample ID: LDW-55343-010  
 Crew: T. Do, J. Buening, S Replinger

Subsample #: <u>1</u> Sample depth (ft): <u>1' above</u> Penetration depth (cm) <u>10</u> Time: <u>09:35</u>																											
Acceptable sample (circle) <input checked="" type="radio"/> yes <input type="radio"/> no <u>water level</u>																											
<table border="1"> <tr> <td>type:</td> <td>color:</td> <td>odor:</td> <td>Biota in sample: <u>trace plant debris</u></td> </tr> <tr> <td>cobble</td> <td>drab olive</td> <td>none</td> <td rowspan="5">           Comments:   <u>RPD - not seen</u> </td> </tr> <tr> <td>gravel</td> <td>gray</td> <td><u>slight</u></td> </tr> <tr> <td><u>sand C M F</u></td> <td><u>black</u> <u>1-6cm</u></td> <td>moderate</td> </tr> <tr> <td><u>silt clay</u></td> <td><u>brown</u> <u>7-10cm</u></td> <td>strong</td> </tr> <tr> <td>organic matter</td> <td><u>brown surface</u> <u>1cm</u></td> <td>overwhelming</td> </tr> </table>	type:	color:	odor:	Biota in sample: <u>trace plant debris</u>	cobble	drab olive	none	Comments:  <u>RPD - not seen</u>	gravel	gray	<u>slight</u>	<u>sand C M F</u>	<u>black</u> <u>1-6cm</u>	moderate	<u>silt clay</u>	<u>brown</u> <u>7-10cm</u>	strong	organic matter	<u>brown surface</u> <u>1cm</u>	overwhelming	<table border="1"> <tr> <td>none</td> <td><u>H<sub>2</sub>S</u></td> </tr> <tr> <td>petroleum</td> <td></td> </tr> <tr> <td>other:</td> <td></td> </tr> </table>	none	<u>H<sub>2</sub>S</u>	petroleum		other:	
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<u>silt clay</u>	<u>brown</u> <u>7-10cm</u>	strong																									
organic matter	<u>brown surface</u> <u>1cm</u>	overwhelming																									
none	<u>H<sub>2</sub>S</u>																										
petroleum																											
other:																											
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____																											
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no																											
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sand C M F	black	moderate																									
silt clay	brown	strong																									
organic matter	brown surface	overwhelming																									
none	H <sub>2</sub> S																										
petroleum																											
other:																											
Subsample #: _____ Sample depth: _____ Penetration depth (cm) _____ Time: _____																											
Acceptable sample (circle) <input type="radio"/> yes <input type="radio"/> no																											
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organic matter	brown surface	overwhelming																									
none	H <sub>2</sub> S																										
petroleum																											
other:																											

# SURFACE SEDIMENT COLLECTION FORM

Project Name: LDW Round 3 Surface Sediment Sampling Project no. 04-08-06-24  
 Date: 10.03.06 Station: LDW-SS 344  
 Start/Stop time: 08:53 / 09:06 X: 47 30.700  
 Sampling Method: Van Veen Y: 122 17.842  
 Weather: overcast Sample ID: LDW-SS-344-610  
 Crew: TDO, J. Buening, S Replinger

Subsample #: <u>1</u>		Sample depth (ft): <u>3</u>		Penetration depth (cm) <u>14.5</u>		Time: <u>08:55</u>	
Acceptable sample (circle) <u>yes</u> no							
type:		color:		odor:		Biota in sample: <u>trace plant debris</u>	
cobble		<u>drab olive</u>		<u>none</u>		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
<u>sand C M F</u>		black		moderate		other:	
<u>silt clay</u>		<u>brown</u>		strong		Comments: <u>sheen, brick fragments</u> <u>- Rinsate blank taken at 08:00-</u>	
organic matter		brown surface		overwhelming			
<u>RPD 1 cm</u>							
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) yes no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments:	
organic matter		brown surface		overwhelming			
Subsample #:		Sample depth:		Penetration depth (cm)		Time:	
Acceptable sample (circle) yes no							
type:		color:		odor:		Biota in sample:	
cobble		drab olive		none		H <sub>2</sub> S	
gravel		gray		slight		petroleum	
sand C M F		black		moderate		other:	
silt clay		brown		strong		Comments:	
organic matter		brown surface		overwhelming			

# APPENDIX F-3 FIELD NOTES

---

J. Buening 9/18/06

08:01 Arrive @ Herring's House Park

Met up with K. Takasaki &

A. Hiltner. Began site recon

of sampling locations 311 & 312.

Low tide =  $+0.4$   $-0.30$   $-0.47$ , light showers

Proposed coordinates for station 311

by Kim & Allison located south of  
the rip rap at the shoreline

$47^{\circ} 33.657 N$   $122^{\circ} 21.001 W$

Proposed coordinates for station 312

by Kim & Allison

$47^{\circ} 33.607 N$   $122^{\circ} 21.004 W$

This location has anoxic <sup>the</sup> soil sediment  
conditions, black below surface &  
brown at surface, and wood material.

Photos taken

09:41 Arrive @ Viewpoint Park, underneath  
the 1st Ave Bridge

Recon area for outflow pipes &  
influence from 1st Ave bridge

9/18/06

A. Rodriguez

Proposed coordinates for locations

331 & 332 by Kim & Allison

$47^{\circ} 32.453 N$   $122^{\circ} 20.092 W$

Photos taken

This location near pipes located  
underneath bridge & has a silty  
sediment composition.

Approx. 20 ft NW of bridge support

Proposed 2nd location underneath

1st Ave Bridge, east of the 1st location  
12' west of bridge support.

$47^{\circ} 32.445 N$   $122^{\circ} 20.070 W$

10:40 Allison departs

10:53 Recon access to stations 328  
& 329 w/ Kim, proposed to  
collect the sample behind the  
concrete platform.

10:55 Completed site recon activities and  
returned to office.

9-18-06

JB

02 Oct 06

T.D.O

0800 Arrive at 1st Ave S. boat ramp  
Meet up w/ D. Mullins (Mullins Guide Service) and EPA oversight Emily Pitre (USACE) <sup>to</sup> crew: T.D.O., K. Hurley, and J. Buehling. Weather: clear 70's.

0905 Health and Safety briefing.

0950 Hal Hulen called. Said we could sample there this morning.

1100 Sample station LDW-~~SS330~~ SS330

1137 Sample attempt at LDW-SS-335, barge is in the way. Spoke with person on barge + will notify us when they move it. Go to station LDW-SS-336

1142 Arrive LDW-SS-336, barge is in the way of sample location.

12:05 Sample station LDW-SS327

12:35 Emil departs

12:45 Lunch break

13:30 Sample station LDW-SS328

13:55 Sample station LDW-SS329  
(Took field duplicate LDW-SS401 at this location)

02 Oct 06

T.D.O

1427 Sample station LDW-SS331  
(Took MS/MSD sample and grain size triplicate)

1500 Sample station LDW-SS332

1530 Sample station LDW-SS333 4 TO

1558 Sample station LDW-SS333

1625 Sample station LDW-SS337

(Took grain size triplicate, MS/MSD, and field dup LDW-SS402 here).

1647 Head back to 1st Ave. boat ramp.

1700 Arrive 1st Ave boat ramp.

1715 Offload samples and depart for AKI

1730 Drop off samples at AKI. Return to office.

1800 Arrive at office. End of field day.

~~T.D.O~~  
10.02.06

10.03.06

T. Do

- 07:30 Arrive at 1<sup>st</sup> Avenue boat launch. Meet up with Dave Mullins (Mullins Guide Service). Crew: T. Do, Suzanne Replinger, J. Buening. Weather: partly cloudy, mid-50s.
- 07:50 Briefed on Health and Safety.
- 08:00 Took rinsate samples for station LDW-SS344-RB.
- 08:00 Émile Pitre arrived and boarded.
- 08:30 Arrived at Norfolk station locations (SS-341 - SS-344). Set up davet.
- 08:53 Begin sampling SS344
- 09:20 Sample location SS342
- 09:34 Thai & Suzanne onshore at Norfolk to sample LDW-SS343.

10.03.06

J. Buening

- ~~09:41~~ <sup>10-03-06</sup> 09:41 Thai onshore to sample location SS341
- 09:50 Arrived at vicinity of LDW-SS339 & LDW-SS340. Sampling locations above water level. Thai & Suzanne onshore to attempt to sample these locations.
- 10:07 Sampled location LDW-SS339
- 10:09 Sampled location LDW-SS340
- 10:22 Sampled location LDW-SS338.
- 10:49 Began sampling at location LDW-SS336. Took 2 grabs, second grab acceptable.
- 11:25 Called Kathy Godtfredsen regarding access problems at LDW-SS335. The location is

10.03.06

J. Buening

behind a pier and access is blocked by a tug boat. The landowner (Hal Hurten) has been called with a request to have the tug moved.

11:58 Approached Harbor Island Marina, Sampling locations LDW-SS301, and LDW-SS302

12:05 Sampled location LDW-SS301. Collected field duplicate LDW-SS403.

12:18 Sampled location LDW-SS302.

12:58 Attempted grab for 2<sup>nd</sup> time at LDW-SS303. Rocks blocking closure of the Van Veen so moved sampling location closer to dock and away from riprap bank to attempt better grab. Third grab also empty.

New location.

47 34.161 N

122 20.786 W

10.03.06

J. Buening

13:10 Six unsuccessful tries at station location LDW-SS303. Drove boat around to other side of pier adjacent to sampling location.

13:15 Called Kathy G. to ask about how to proceed with sampling location LDW-SS303. After 9 attempts we are going to move on. A map showing attempt locations will be created and used to get consult on what to do with this sampling location.

13:35 After 7 attempts, abandoned station location LDW-SS304 because only rocks were coming up in grab. No sediment.

13:39 Began sampling at LDW-SS305.

13:56 Sampled location LDW-SS307.

14:12 Sampled location LDW-SS306.



10-03-06

J. Buening

14:27 Took rinsate blank samples for LOW-SS308.

14:32 Sampled location LOW-SS308.

14:45 Sampled location LOW-SS309.

14:57 Sampled location LOW-SS310

15:08 Began sampling at location LOW-SS311. Took 7 grabs, 7<sup>th</sup> attempt successful; sampled location at 15:23. Coordinates varied slightly from station location coordinates in QAPP but were within 10 m buffer.

15:37 Sampled location LOW-SS312. Sample location moved from coordinates given in QAPP to correspond to location hand-selected by K. Takasaki and A. Hiltner during site recon. Used brick structure on shore as land marker.

10-03-06

J. Buening

15:49 Attempted 3 grabs at location LOW-SS313. Were unsuccessful so plan to sample from shore tomorrow.

16:05 Head back to 1<sup>st</sup> Ave boat ramp  
16:20 Arrive at boat ramp. Off load samples.

16:40<sup>TD</sup> Head to AKI

16:55 Drop off samples at AKI; return to office. End of field day

~~TDD  
10-03-06~~

10.04.06

J. Buening

07:35 Arrived at 1st Ave boat launch and met up with Dave Mullins (Mullins Guide Service). Crew: T. Do, J. Buening, E. Duffield. Weather: partly cloudy, upper 50s.

07:45 Health and safety briefing.

07:55 Called Juan Garcia, supervisor at Hurlen Boyer to discuss access for sampling location LDW-SS335. Mr. Garcia said the tugboat blocking access will be moved shortly.

08:36 Sampled location LDW-SS335.

09:14 Thai Do & E. Duffield ashore at Kellogg Island to sample LDW-SS313 and LDW-SS314.

09:33 Sampled location LDW-SS322.

09:43 Sampled location LDW-SS323.

10.04.06

J. Buening

09:55 Sampled location LDW-SS320.

10:05 Sampled location LDW-SS319.

~~10:14~~ <sup>10:22</sup> ~~10:01.06~~ Sampled location LDW-SS324.

10:39 Sampled location LDW-SS321.

10:56 Sampled location LDW-SS318.

11:14 Sampled location LDW-SS317.

11:25 Sampled location LDW-SS316.

11:35 Sampled location LDW-SS315.

11:53 Sampled location LDW-SS303.

12:35 Spoke w/ L. Marsh to check <sup>LDW-SS303</sup> location.

12:46 Returned to location LDW-SS303

because grab taken was approx. 2' outside the 10 m buffer zone for acceptable grab.

13:13 Called L. Marsh to check

location sampled at LDW-SS315 to ensure it is within 10 m range.

10.04.06

J. Buening

13:30 After an additional 6 grab attempts at LDW-SS304, contacted K. Godfredsen for guidance. She will consult LOWES and call us back.

13:38 Rinstate blank for LDW-SS325 taken.

13:40 K. Godfredsen called to inform us station LDW-SS303 was acceptable. She said to try sampling at LDW-SS304 again moving SW of the target location until a good grab can be attained. She said we are not to sample at or near 10-4-06 beyond the CSL hits (past samples) to the SW of LDW-SS304.

14:18 Called A. Watkins for coordinates of CSL hits.

10.04.06

J. Buening

14:47 A. Watkins called to give location of CSL hits. They are:

lat. 47 34. 1356

long. 122 20. 758

15:13 A. Watkins called to confirm location sampled for LDW-SS304 was N of the CSL hits. We were approx. 75' from the target location for LDW-SS304, but were between outfall and CSL hits (approx. mid-way) so we accepted the sample.

15:25 Arrived 1<sup>st</sup> Ave boat launch & disembarked.

15:50 Filled out chain of custody forms.

16:20 Dropped samples off at ARI.

16:50 Returned to Windward office and unloaded van.

~~Jennifer Buening J. Buening 10/04/06~~



# APPENDIX F-4    PROTOCOL MODIFICATION FORMS

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**PROTOCOL MODIFICATION FORM**

Project Name and Number: LDW Round 3 Surface Sediment Sampling / 04-08-06-24

Material to be Sampled: Surface Sediment

Measurement Parameter: actual sampling location differs from target sampling location.

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

If an acceptable grab sample cannot be obtained in three attempts, the target sampling location will be moved as close as possible to the original location, but no further than 10 m away. If it is not possible to obtain a sample at this second location, EPA and Ecology will be consulted to discuss repositioning the station.

Reason for Change in Field Procedure or Analysis Variation:

Shifted sampling locations to match those selected by K. Takasaki (USACE) and A. Hiltner (EPA) during 9/18/06 site reconnaissance. (QAAPP Addendum, Windward 2006).

Variation from Field or Analytical Procedure: LDW-SS312 was shifted approximately 14 m (45.8 ft) from the target sampling location.

LDW-SS332 was shifted 19.66 m (64.5 ft) from the target sampling location.

Special Equipment, Materials or Personnel Required: n/a

Initiator's Name: [Signature] Date: 03 Oct 06  
Project Officer: [Signature] Date: 10/11/06  
QA Officer: [Signature] Date: 10.11.06

**PROTOCOL MODIFICATION FORM**

Project Name and Number: LDW Round 3 Surface Sediment Sampling / 04-08-06-24

Material to be Sampled: Surface Sediment

Measurement Parameter: actual sampling location differs from target sampling location.

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

If an acceptable grab sample cannot be obtained in three attempts, the target sampling location will be moved as close as possible to the original location, but no further than 10 m away. If it is not possible to obtain a sample at this second location, EPA and Ecology will be consulted to discuss

Reason for Change in Field Procedure or Analysis Variation:

Hit riprap in the Harbor Island Marina and could not obtain a successful sediment grab.

*repositioning the station.  
(GAPP Addendum, Windward 2006).*

Variation from Field or Analytical Procedure:

LDW-SS303: Station was shifted 10.42 m (34.2 ft) from target sampling location.

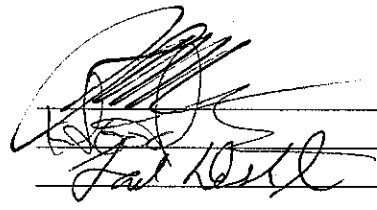
LDW-SS304: Station was shifted 22.89 m (75.1 ft) from target sampling location.

Special Equipment, Materials or Personnel Required: n/a

Initiator's Name:

Project Officer:

QA Officer:



Date: 04 Oct 06

Date: 10/11/06

Date: 10/11/06

**PROTOCOL MODIFICATION FORM**

Project Name and Number: LDW Round 3 Surface Sediment Sampling / 04-08-06-24

Material to be Sampled: Surface Sediment

Measurement Parameter: Penetration depth was less than 11cm

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

"The surface sediment samples will be collected using a double van Veen grab sampler as described in the following steps: a penetration depth of at least 11cm is achieved." (Original QAPP, Woodward 2005).

Reason for Change in Field Procedure or Analysis Variation:

Accepted two sediment samples that achieved a penetration depth of only 10.5cm because refusal was encountered due to hard substrate at sampling locations.

Variation from Field or Analytical Procedure:

Samples LDW-SS303 and LDW-SS334 were collected at penetration depths of 10.5cm.

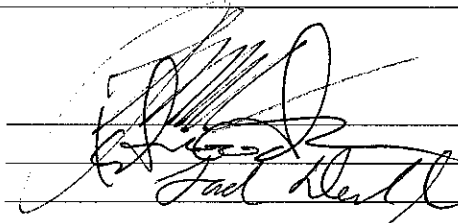
Special Equipment, Materials or Personnel Required:

n/a

Initiator's Name:

Project Officer:

QA Officer:



Date: 10/04/06

Date: 11.08.06

Date: 11.8.06