

APPENDIX J
DREDGING AND RESIDUAL STANDARDS
IN SHORELINE AREAS

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In consideration of slope stability issues, where the depth of contamination (DoC) surface was greater than 2 feet at the intersection with the shoreline, the dredge prism set the maximum dredge-cut at the shoreline at two feet and the slope of the cut line away from shore did not exceed that deemed to be stable (3 horizontal to 1 vertical or the pre-dredge slope if greater than 3:1). If this resulted in design dredging cut lines that were shallower than the estimated depth to clean sediment, a “shoreline (or nearshore) area” was defined. The shoreline area extended from the shoreline to the point where the stable slope intersected the DoC surface. This triangular wedge produced from the stable slope to the DoC surface was sampled separately, and total polychlorinated biphenyl (PCB) concentrations were evaluated against a different action level than the rest of the Certification Unit (CU). Specifically, if the Total PCB concentration of a shoreline location was greater than 50 mg/kg, the area around the sampling location was to be re-dredged. Shoreline areas with Total PCB concentrations less than or equal to 50 mg/kg, the shoreline could be capped if the criteria for backfill was not met.

Shoreline areas (also referred to as shoreline polygons) were identified in CU01, CU02, CU03, CU04, CU07 and CU08. Out of the 48 acres dredged during Phase 1, shoreline areas comprised 0.289 acres (0.6%). CU03 had 0.121 acres of the shoreline areas; all other CUs had less than 0.1 acres each. The width of the shoreline areas (measured perpendicular to the shoreline) ranged from 1.5 to 29 feet. The width of the shoreline area sometimes led to difficulties in siting cores in such narrow areas.

In many shoreline areas, re-dredging was impractical. The minimum width and area that could be dredged was the width and area of the dredge bucket. The dimensions of the dredge buckets used in Phase 1 were about 9 feet by 4 feet (for the 1 cy bucket), 11 feet by 5 feet (for the 2 cy bucket) and 15 feet by 7 feet (for the 5 cy bucket). However, many of the shoreline areas had smaller dimensions than the dredge bucket; 12 of the 29 shoreline cores were located in areas with dimensions less than the minimum bucket width. It was impossible to dredge these shoreline areas without going beyond the limits of dredging. For

example, the final re-dredge pass in CU07 required dredging 3 feet outside the CU boundary to achieve the required depth of cut in the shoreline area in the southeast corner of the CU and required the cuts to be stair-stepped back beyond the CU limits to maintain bank stability.

Re-dredging in shoreline areas was inefficient. Very little PCB mass was removed during re-dredging passes and the shoreline areas were covered with cap and/or backfill to the pre-dredge elevation then bank stabilization materials were added. The final results of residual coring in shoreline areas are summarized in Table J-1. There were a total of 29 shoreline nodes: 12 were capped and 17 were backfilled.

TABLES

**Table J-1
Shoreline Cores**

CU	Total Area (acre)	Total Shoreline Area (acre)	Shoreline Core ID	Individual Shoreline Polygon Areas* (sft)	Individual Shoreline Polygon Widths** (ft)	sTPCB concentration *** (ppm)					Final Action
						Design Cut	1st Re-dredge Pass	2nd Re-dredge Pass	3rd Re-dredge Pass	4th Re-dredge Pass	
1	3.39	0.022	SLC-01	386	10.5	11	5	NA	13	NA	CAP
			SLC-02	386	2.8	NA	11	NA	0.1	NA	CAP
			SLC-03	174	8.5	2	0.02	NA	0.2	NA	CAP
2	5.06	0.05	SLC-04	67	3.1	NA	2	NA	NA	NA	BACKFILL
			SLC-05	1281	29.0	28	11	11	NA	NA	CAP
3	4.87	0.121	SLC-01	640	7.5	0.02	NA	NA	NA	NA	BACKFILL
			SLC-02	179	15.3	2	NA	NA	NA	NA	BACKFILL
			SLC-03	640	7.5	3	NA	NA	NA	NA	BACKFILL
			SLC-04	179	7.7	0.4	NA	NA	NA	NA	BACKFILL
			SLC-05	640	7.8	365	10	NA	NA	NA	CAP
			SLC-06	640	6.7	0.05	NA	NA	NA	NA	BACKFILL
			SLC-07	640	7.0	53	3	NA	NA	NA	BACKFILL
			SLC-09	800	15.5	0.3	NA	NA	NA	NA	BACKFILL
			4	4.51	0.001	SLC-01	24	3.7	9	4	NA
SLC-02	14	1.6				0.3	0.003	NA	NA	NA	BACKFILL
7	4.71	0.006	SLC-01	32	3.2	4	2	NA	NA	NA	BACKFILL
			SLC-02	52	1.8	85	356	2640	55	NA	CAP
			SLC-03	141	3.1	7	NA	NA	NA	NA	BACKFILL
8	4.91	0.089	SLC-03	539	10.9	NA	NA	55	3	NA	BACKFILL
			SLC-07	539	1.5	28	NA	NA	NA	NA	CAP
			SLC-08	81	5.0	20	NA	NA	NA	NA	CAP
			SLC-09	146	1.8	16	NA	NA	NA	NA	CAP
			SLC-11	146	4.0	17	NA	NA	NA	NA	CAP
			SLC-12	539	7.1	9	NA	NA	NA	NA	CAP
			SLC-13	103	2.4	68	150	135	114	NA	CAP
			SLC-15	539	5.2	15	15	NA	NA	NA	BACKFILL
			SLC-16	124	13.1	0.1	NA	NA	NA	NA	BACKFILL
			SLC-17	539	5.4	2	NA	NA	NA	NA	BACKFILL
SLC-18	539	4.3	7	NA	NA	NA	NA	BACKFILL			

Notes:

* Shoreline polygons without cores located within them have been excluded. Areas of shoreline polygons with multiple cores have been divided equally between cores.

** Widths measured across residual core locations, perpendicular to the shore. If node was sampled over multiple passes the average width at the core locations is reported.

*** NA indicates that the core was not re-dredged in the corresponding pass.