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## A-1. All Analytes–Round 2

**Table A-1-1. Concentrations of all analytes in Round 2 LDW surface sediment samples: Samples SS2-010 through SS24-010**

ANALYTE	UNIT	LDW-SS2-010	LDW-SS3-010	LDW-SS6-010	LDW-SS7-010	LDW-SS8-010	LDW-SS9-010	LDW-SS11-010	LDW-SS16-010	LDW-SS19-010	LDW-SS205-010 (field duplicate)	LDW-SS21-010	LDW-SS24-010
<b>Metals and trace elements</b>													
Antimony	mg/kg dw	0.3 UJ	0.7 J	3.6 J	0.4 UJ	0.4 UJ	0.3 U	0.3 UJ	0.4 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.5
Arsenic	mg/kg dw	11.6	10.8	82.9	16.7	12.0	14.9	9.2	15.2	14.3	17.7	13.2	20.7
Cadmium	mg/kg dw	0.5	0.2 U	3.8	0.9	0.8	0.3 U	0.3	0.7	0.7	0.7	0.6	1.0
Chromium	mg/kg dw	30.1	16.8	38	43	41	20.8	18.4	43	41.2	39.9	33.1	48
Cobalt	mg/kg dw	8.0	5.8	7	11.6	10.8	5.9	6.2	11.0	11.2	11.6	8.5	8
Copper	mg/kg dw	68.8 J	40.4	103	123	116	46.7 J	40.2	124	127	134	86.7	172 J
Lead	mg/kg dw	44	37	573	94	79	71	33	81	80	72	59	400
Mercury	mg/kg dw	0.16 J	0.08	0.25	0.34	0.4	0.17	0.10	0.4	0.40	0.3	0.21	0.63
Molybdenum	mg/kg dw	1.6	1.5	6	3	2	1.8	1.2	3	2.7	2.4	1.9	3
Nickel	mg/kg dw	22	12	15	28	26	16	14	27	29	29	21	21
Selenium	mg/kg dw	8 U	6 U	20 UJ	10 U	10 U	7 U	7 U	10 U	9 U	9 U	8 U	20 U
Silver	mg/kg dw	0.5 U	0.4 U	3	0.7	0.7	0.4 U	0.4 U	0.7	0.5 U	0.6 U	0.5	1 U
Thallium	mg/kg dw	0.3 U	0.2 U	0.6	0.4 U	0.4 U	0.3 U	0.3 U	0.4 U	0.4 U	0.4 U	0.3 U	0.4 U
Vanadium	mg/kg dw	61.5	39.4	37	80.2	81.7	46.2	48.1	77.6	74.2	74.8	60.6	46
Zinc	mg/kg dw	119	119	553	197	178	142 J	146	181	191	210	132	435 J
<b>Organometals</b>													
Monobutyltin as ion	µg/kg dw	R	R	4.0 UJ	R	R	na	na	R	na	na	na	na
Dibutyltin as ion	µg/kg dw	5.5 U	3.6 J	5.7 U	5.7 U	5.4 J	na	na	5.7 U	na	na	na	na
Tributyltin as ion	µg/kg dw	10	9.4	20	7.5	20	na	na	5.5	na	na	na	na
<b>PAHs</b>													
2-Chloronaphthalene	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
2-Methylnaphthalene	µg/kg dw	60 U	20 U	20 U	59 U	98 U	25	19 U	59 U	20 U	59 U	59 U	52
Acenaphthene	µg/kg dw	95	16 J	20 U	59 U	98 U	140	19 U	54 J	36	36 J	59 U	60
Acenaphthylene	µg/kg dw	68	15 J	20 U	37 J	98 U	140	19 U	36 J	20 U	41 J	59 U	240

**Table A-1-1. Samples SS2-010 through SS24-010, cont.**

ANALYTE	UNIT	LDW-SS2-010	LDW-SS3-010	LDW-SS6-010	LDW-SS7-010	LDW-SS8-010	LDW-SS9-010	LDW-SS11-010	LDW-SS16-010	LDW-SS19-010	LDW-SS205-010 (field duplicate)	LDW-SS21-010	LDW-SS24-010
Anthracene	µg/kg dw	190	48	29	110	190	420	25	130	77	190	77	730
Benzo(a)anthracene	µg/kg dw	540	100	71	310	330	850	60	310	180	350	190	2,600
Benzo(a)pyrene	µg/kg dw	450	170	96	380	380	850	84	330	160	390	260	2,100
Benzo(b)fluoranthene	µg/kg dw	1,300	190	120	380	700	900	160	540	270	640	380	2,100
Benzo(g,h,i)perylene	µg/kg dw	110	57	59 U	200	98	510	27	100	46	110	88	1,100
Benzo(k)fluoranthene	µg/kg dw	760	160	89	520	380	670	72	430	140	530	330	1,700
Total benzofluoranthenes (calc'd)	µg/kg dw	2,100	350	210	900	1,080	1,570	230	970	410	1,170	710	3,800
Chrysene	µg/kg dw	1,600	160	90	550	620	950	100	520	280	590	310	3,600
Dibenzo(a,h)anthracene	µg/kg dw	45 J	20	59 U	73	98 U	130	19 U	59 U	20 U	59 U	59 U	350
Dibenzofuran	µg/kg dw	60 U	18 J	24	59 U	98 U	44	19 U	37 J	20 U	29 J	59 U	64
Fluoranthene	µg/kg dw	4,500	260	130	600	620	1,700	120	860	460	910	410	5,200
Fluorene	µg/kg dw	140	22	27	30 J	98 U	180	19 U	48 J	44	64	59 U	170
Indeno(1,2,3-cd)pyrene	µg/kg dw	220	96	59	220	120	530	50	130	78	140	100	1,200
Naphthalene	µg/kg dw	60 U	13 J	37	59 U	98 U	38	19 U	59 U	20 U	59 U	59 U	110
Phenanthrene	µg/kg dw	1,800	180	87	250	250	1,400	61	320	250	450	160	1,900
Pyrene	µg/kg dw	2,800	290	560	530	520	1,600	130	680	350	960	440	4,400
Total HPAH (calc'd)	µg/kg dw	12,300 J	1,500	1,220	3,760	3,770	8,700	800	3,900	1,960	4,620	2,510	24,400
Total LPAH (calc'd)	µg/kg dw	2,300	290 J	180	430 J	440	2,300	86	590 J	410	780 J	240	3,200
Total PAH (calc'd)	µg/kg dw	14,600 J	1,800 J	1,400	4,190 J	4,210	11,000	890	4,490 J	2,370	5,400 J	2,750	27,600
<b>Phthalates</b>													
Bis(2-ethylhexyl)phthalate	µg/kg dw	300	37 U	850	840 U	590	130	130 U	360	180 U	470	400	120
Butyl benzyl phthalate	µg/kg dw	6.6 U	13 U	20 U	60	6.5 U	6.5 U	14	18	9.9	32	34	26 U
Diethyl phthalate	µg/kg dw	6.6 U	13 U	20 U	6.5 U	6.5 U	6.5 U	6.5	6.6 U	6.6 U	6.6 U	8.6	26 U
Dimethyl phthalate	µg/kg dw	6.6 U	13 U	20 U	6.5 U	6.5 U	6.5 U	6.5 U	7.2	6.6 U	6.6 U	6.6 U	26 U
Di-n-butyl phthalate	µg/kg dw	60 U	20 U	21	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
Di-n-octyl phthalate	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	53
<b>Other SVOCs</b>													
1,2,4-Trichlorobenzene	µg/kg dw	6.6 U	13 U	20 U	6.5 U	6.5 U	6.5 U	6.5 U	6.6 U	6.6 U	6.6 U	6.6 U	26 U
1,2-Dichlorobenzene	µg/kg dw	6.6 U	13 U	20 U	6.5 U	6.5 U	6.5 U	6.5 U	6.6 U	7.3	6.6 U	6.6 U	26 U
1,3-Dichlorobenzene	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U

**Table A-1-1. Samples SS2-010 through SS24-010, cont.**

ANALYTE	UNIT	LDW-SS2-010	LDW-SS3-010	LDW-SS6-010	LDW-SS7-010	LDW-SS8-010	LDW-SS9-010	LDW-SS11-010	LDW-SS16-010	LDW-SS19-010	LDW-SS205-010 (field duplicate)	LDW-SS21-010	LDW-SS24-010
1,4-Dichlorobenzene	µg/kg dw	6.6 U	13 U	20 U	6.5 U	6.5 U	6.5 U	6.5 U	6.6 U	6.6 U	6.6 U	6.6 U	26 U
2,4,5-Trichlorophenol	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
2,4,6-Trichlorophenol	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
2,4-Dichlorophenol	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
2,4-Dimethylphenol	µg/kg dw	6.6 U	13 U	20 U	6.5 U	6.5 U	6.5 U	6.5 U	6.6 U	6.6 U	6.6 U	6.6 U	26 U
2,4-Dinitrophenol	µg/kg dw	600 U	200 U	200 UJ	590 U	980 U	200 U	190 U	590 U	200 U	590 U	590 U	270 U
2,4-Dinitrotoluene	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
2,6-Dinitrotoluene	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
2-Chlorophenol	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
2-Methylphenol	µg/kg dw	6.6 U	13 U	20 U	6.5 U	6.5 U	6.5 U	6.5 U	6.6 U	6.6 U	6.6 U	6.6 U	32
2-Nitroaniline	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
2-Nitrophenol	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
3,3'-Dichlorobenzidine	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
3-Nitroaniline	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
4,6-Dinitro-o-cresol	µg/kg dw	600 U	200 U	200 UJ	590 U	980 U	200 U	190 U	590 U	200 U	590 U	590 U	270 U
4-Bromophenyl phenyl ether	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
4-Chloro-3-methylphenol	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
4-Chloroaniline	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
4-Chlorophenyl phenyl ether	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
4-Methylphenol	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	54
4-Nitroaniline	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
4-Nitrophenol	µg/kg dw	300 U	98 U	98 U	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
Aniline	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
Benzoic acid	µg/kg dw	66 U	130 U	200 UJ	65 U	65 U	65 U	65 U	66 U	66 U	66 U	66 U	260 U
Benzyl alcohol	µg/kg dw	33 U	20 U	20 U	33 U	32 U	20 U	19 U	33 U	20 U	33 U	33 U	670
Bis(2-chloroethoxy)methane	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
Bis(2-chloroethyl)ether	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
Bis(2-chloroisopropyl)ether	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
Carbazole	µg/kg dw	140	23	20 U	51 J	98 U	45	19 U	59 U	22	68	59 U	200
Hexachlorobenzene	µg/kg dw	0.98 U	0.98 U	20 U	6.5 U	6.5 U	0.98 U	6.5 U	6.6 U	6.6 U	6.6 U	3.3 UJ	13 UJ

**Table A-1-1. Samples SS2-010 through SS24-010, cont.**

ANALYTE	UNIT	LDW-SS2-010	LDW-SS3-010	LDW-SS6-010	LDW-SS7-010	LDW-SS8-010	LDW-SS9-010	LDW-SS11-010	LDW-SS16-010	LDW-SS19-010	LDW-SS205-010 (field duplicate)	LDW-SS21-010	LDW-SS24-010
Hexachlorobutadiene	µg/kg dw	0.98 U	0.98 U	20 U	6.5 U	6.5 U	0.98 U	6.5 U	6.6 U	6.6 U	6.6 U	6.6 U	26 U
Hexachlorocyclopentadiene	µg/kg dw	300 U	98 U	98 UJ	300 U	490 U	99 U	96 U	290 U	98 U	290 U	290 U	130 U
Hexachloroethane	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
Isophorone	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
Nitrobenzene	µg/kg dw	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	59 U	27 U
N-Nitrosodimethylamine	µg/kg dw	33 U	64 U	98 UJ	33 U	32 U	32 U	33 U	33 U	33 U	33 U	33 U	130 U
N-Nitroso-di-n-propylamine	µg/kg dw	33 U	64 U	98 U	33 U	32 U	32 U	33 U	33 U	33 U	33 U	33 U	130 U
N-Nitrosodiphenylamine	µg/kg dw	6.6 U	13 U	24	6.5 U	6.5 U	6.5 U	6.5 U	6.6 U	6.6 U	6.6 U	6.6 U	26 U
Pentachlorophenol	µg/kg dw	33 U	64 U	98 U	33 U	32 U	32 U	33 U	33 U	33 U	33 U	33 U	130 U
Phenol	µg/kg dw	60 U	21	20 U	59 U	98 U	20 U	19 U	240	20 U	180	59 U	38 U
<b>Polychlorinated biphenyls</b>													
Aroclor-1016	µg/kg dw	20 U	20 U	20 U	19 U	20 U	19 U	19 U	20 U	35 U	20 U	32 U	19 U
Aroclor-1221	µg/kg dw	20 U	20 U	20 U	19 U	20 U	19 U	19 U	20 U	35 U	20 U	32 U	19 U
Aroclor-1232	µg/kg dw	20 U	20 U	20 U	19 U	20 U	19 U	19 U	20 U	35 U	20 U	32 U	19 U
Aroclor-1242	µg/kg dw	34	20 U	20 U	19 U	20 U	19 U	19 U	58	52	34	98	19 U
Aroclor-1248	µg/kg dw	20 U	23	740	62	61	19 U	39 U	20 U	35 U	20 U	32 U	61 U
Aroclor-1254	µg/kg dw	84	30	910	92	100	57	36	150	110	86	190	190
Aroclor-1260	µg/kg dw	120	23	270	86	89	62	37 J	110	95	63	130	100
Total PCBs (calc'd)	µg/kg dw	240	76	1,920	240	250	119	73 J	320	260	183	420	290
<b>Pesticides</b>													
2,4'-DDD	µg/kg dw	2.0 U	na	na	na	na	2.0 U	na	na	na	na	na	na
2,4'-DDE	µg/kg dw	2.0 U	na	na	na	na	2.0 U	na	na	na	na	na	na
2,4'-DDT	µg/kg dw	2.0 U	na	na	na	na	2.0 U	na	na	na	na	na	na
4,4'-DDD	µg/kg dw	2.0 U	na	na	na	na	2.0 U	na	na	na	na	na	na
4,4'-DDE	µg/kg dw	6.9 U	na	na	na	na	2.0 U	na	na	na	na	na	na
4,4'-DDT	µg/kg dw	4.2 U	na	na	na	na	7.4 U	na	na	na	na	na	na
Total DDTs (calc'd)	µg/kg dw	6.9 U	na	na	na	na	7.4 U	na	na	na	na	na	na
Aldrin	µg/kg dw	1.5 U	na	na	na	na	0.98 U	na	na	na	na	na	na
Dieldrin	µg/kg dw	2.0 U	na	na	na	na	2.5 U	na	na	na	na	na	na
Total aldrin/dieldrin (calc'd)	µg/kg dw	2.0 U	na	na	na	na	2.5 U	na	na	na	na	na	na

**Table A-1-1. Samples SS2-010 through SS24-010, cont.**

ANALYTE	UNIT	LDW-SS2-010	LDW-SS3-010	LDW-SS6-010	LDW-SS7-010	LDW-SS8-010	LDW-SS9-010	LDW-SS11-010	LDW-SS16-010	LDW-SS19-010	LDW-SS205-010 (field duplicate)	LDW-SS21-010	LDW-SS24-010
alpha-BHC	µg/kg dw	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	na
beta-BHC	µg/kg dw	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	na
delta-BHC	µg/kg dw	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	na
gamma-BHC	µg/kg dw	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	na
alpha-Chlordane	µg/kg dw	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	na
gamma-Chlordane	µg/kg dw	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	na
Total chlordane (calc'd)	µg/kg dw	2.0 U	na	na	na	na	3.4 U	na	na	na	na	na	na
alpha-Endosulfan	µg/kg dw	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	na
beta-Endosulfan	µg/kg dw	2.0 U	na	na	na	na	2.0 U	na	na	na	na	na	na
Endosulfan sulfate	µg/kg dw	2.0 U	na	na	na	na	2.0 U	na	na	na	na	na	na
Endrin	µg/kg dw	2.0 U	na	na	na	na	2.0 U	na	na	na	na	na	na
Endrin aldehyde	µg/kg dw	2.0 UJ	na	na	na	na	2.0 U	na	na	na	na	na	na
Endrin ketone	µg/kg dw	2.0 U	na	na	na	na	2.0 U	na	na	na	na	na	na
Heptachlor	µg/kg dw	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	na
Heptachlor epoxide	µg/kg dw	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	na
Methoxychlor	µg/kg dw	9.8 U	na	na	na	na	9.8 U	na	na	na	na	na	na
Mirex	µg/kg dw	8.1 U	na	na	na	na	2.0 U	na	na	na	na	na	na
Cis-nonachlor	µg/kg dw	2.0 U	na	na	na	na	3.4 U	na	na	na	na	na	na
Oxychlordane	µg/kg dw	2.0 U	na	na	na	na	2.0 U	na	na	na	na	na	na
Toxaphene	µg/kg dw	98 U	na	na	na	na	98 U	na	na	na	na	na	na
Trans-Nonachlor	µg/kg dw	2.0 U	na	na	na	na	2.0 U	na	na	na	na	na	na
<b>Sediment grain size</b>													
Fractional % phi >-1 (>2,000 µm)	% dw	4.7	11.2	3.2	0.2	0.1 U	2.2	0.3	0.9	21.6	1.8	1.5	6.8
Fractional % phi -1-0 (1,000-2,000 µm)	% dw	3.4	6.3	2.5	1.0	0.2	4.9	0.8	0.6	1.5	2.6	1.1	3.8
Fractional % phi 0-1 (500-1,000 µm)	% dw	5.0	24.4	5.4	1.8	3.8	19.1	8.3	3.1	3.0	4.9	6.1	9.9
Fractional % phi 1-2 (250-500 µm)	% dw	21.3	37.1	11.6	2.2	6.4	36.6	30.2	6.7	8.5	8.9	15.6	20.3
Fractional % phi 2-3 (125-250 µm)	% dw	18.4	11.7	8.1	3.7	6.9	16.4	25.0	5.5	6.6	7.8	15.0	17.0
Fractional % phi 3-4 (62.5-125 µm)	% dw	4.9	2.0	8.3	5.8	10.0	4.4	4.4	8.1	7.1	9.3	15.2	17.4
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	2.8	1.3	16.5	8.4	12.4	3.8	3.1	10.5	4.3	7.6	8.4	5.2
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	6.2	1.4	12.1	16.0	14.1	3.1	5.5	17.0	11.7	13.3	9.0	5.4

**Table A-1-1. Samples SS2-010 through SS24-010, cont.**

ANALYTE	UNIT	LDW-SS2-010	LDW-SS3-010	LDW-SS6-010	LDW-SS7-010	LDW-SS8-010	LDW-SS9-010	LDW-SS11-010	LDW-SS16-010	LDW-SS19-010	LDW-SS205-010 (field duplicate)	LDW-SS21-010	LDW-SS24-010
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	9.2	0.7	14.3	19.2	14.7	2.4	7.0	16.2	11.7	13.9	8.4	3.7
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	7.1	1.0	5.9	13.2	10.5	2.4	5.2	10.5	8.2	9.7	6.3	2.6
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	5.2	0.8	4.2	8.5	6.2	1.7	3.4	6.1	5.2	7.3	4.5	1.4
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	3.9	0.8	3.3	6.8	2.8	1.2	2.3	4.7	3.6	4.0	2.9	1.6
Fractional % phi 10+ (<0.98 µm)	% dw	7.8	1.3	4.5	13.6	12.1	1.8	4.7	9.9	7.0	8.9	5.9	4.9
Rocks (total calc'd)	% dw	4.7	11.2	3.2	0.2	0.1 U	2.2	0.3	0.9	21.6	1.8	1.5	6.8
Sand (total calc'd)	% dw	53.0	81.5	35.9	14.5	27.3	81.4	68.7	24.0	26.7	33.5	53.0	68.4
Silt (total calc'd)	% dw	25.3	4.4	48.8	56.8	51.7	11.7	20.8	54.2	35.9	44.5	32.1	16.9
Clay (total calc'd)	% dw	16.9	2.9	12.0	28.9	21.1	4.7	10.4	20.7	15.8	20.2	13.3	7.9
Fines (percent silt+clay)	% dw	42.2	7.3	60.8	85.7	72.8	16.4	31.2	74.9	51.7	64.7	45.4	24.8
<b>Conventional parameters</b>													
Total organic carbon (TOC)	% dw	1.98	0.723	1.05	2.72	2.25	1.79	1.75	2.11	1.96	2.33	1.47	5.99
Total solids	% ww	62.80	77.80	61.60	46.85	49.10	71.80	67.00	43.90	51.70	51.70	60.30	50.30
Total solids (preserved)	% ww	60.30	77.50	66.40	43.90	46.60	53.60	72.90	40.50	46.85	45.20	51.90	49.40
Sulfides (total)	mg/kg dw	13 J	2.4 UJ	550 J	220 J	300	110	4.3 UJ	6.6 UJ	6.6 UJ	64 J	3.9 UJ	9.8 U
Ammonia (total as nitrogen)	mg-N/kg	10.1	2.82	5.12	19.4	6.00	1.12	3.78	13.2	5.71	4.34	4.06	3.37

dw – dry weight

ww – wet weight

na – not analyzed

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Totals were calculated for each sediment grain size category using the following grain size ranges: rock – all fractions >2,000 µm; sand – all fractions between 63 and 2,000 µm; silt – all fractions between 3.9 and 63 µm; and clay – all fractions <3.9 µm.

Data qualifiers: U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown  
 R – result was rejected



**Table A-1-2. Concentrations of all analytes in Round 2 LDW surface sediment samples: Samples SS25-010 through SS59R2-010**

ANALYTE	UNIT	LDW-SS25-010	LDW-SS29-010	LDW-SS30-010	LDW-SS34-010	LDW-SS35-010	LDW-SS39-010	LDW-SS41-010	LDW-SS45-010	LDW-SS46-010	LDW-SS47-010	LDW-SS53-010	LDW-SS59R2-010
<b>Metals and trace elements</b>													
Antimony	mg/kg dw	0.3 UJ	0.4 U	0.5 UJ	0.3 U	0.3 UJ	0.3 UJ	0.4 UJ	0.4 UJ	0.7 J	1.8 J	0.4 U	0.4 U
Arsenic	mg/kg dw	2.7	20.2	31.8	3.1	12.6	30.5	45.0	26.2	71.1	161	39.7	20.7
Cadmium	mg/kg dw	0.2 U	0.5	1.1	0.2 U	1.0	1.1	0.5	1.0	0.8	1 U	0.7	0.5
Chromium	mg/kg dw	11.1	36	44	9.9	35.1	40.4	30.5	41	56	53	42	43.5
Cobalt	mg/kg dw	3.5	8.7	11.4	4.6	8.3	6.0	9.3	11.2	28	30	12.0	11.0
Copper	mg/kg dw	11.5	80.8 J	136	16.0 J	180 J	55.2	103	155	1,230	1,340	163 J	102 J
Lead	mg/kg dw	9	131	90	7	55	79	62	98	125	130	74	60
Mercury	mg/kg dw	0.06 U	0.2	0.4	0.06 U	0.46 J	1.09	0.18	0.4	0.33	0.09	0.31	0.19
Molybdenum	mg/kg dw	0.6 U	2	3	0.6 U	2.2	9.1	3.4	3	11	20	3	3.1
Nickel	mg/kg dw	6	25	29	8	22	16	19	25	27	30	26	33
Selenium	mg/kg dw	6 U	10 U	10 U	6 U	8 U	9 U	8 U	10 U	20 U	30 U	10 U	9 U
Silver	mg/kg dw	0.4 U	0.6 U	0.9	0.4 U	0.8	0.6	0.5 U	0.7 U	1 U	2 U	0.7 U	0.6 U
Thallium	mg/kg dw	0.3 U	0.4 U	0.5 U	0.3 U	0.3 U	0.3 U	0.4 U	0.5	0.3 U	0.2 U	0.4 U	0.4 U
Vanadium	mg/kg dw	36.3	66.7	87.0	38.0	58.4	58.7	62.0	76.9	86	77	81.1	67.4
Zinc	mg/kg dw	32.5	276 J	248	32.6 J	159	117	175	217	794	878	247 J	219 J
<b>Organometals</b>													
Monobutyltin as ion	µg/kg dw	na	na	na	R	na	na	R	3.9 UJ	15	16 J	R	na
Dibutyltin as ion	µg/kg dw	na	na	na	5.5 U	na	na	3.6 J	31	560	150 J	5.6 U	na
Tributyltin as ion	µg/kg dw	na	na	na	5.4	na	na	18 J	260	3,000	230 J	6.3	na
<b>PAHs</b>													
2-Chloronaphthalene	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
2-Methylnaphthalene	µg/kg dw	19 U	20 U	20 U	20 U	3,300	91	19 U	59 U	58 U	33	20 U	20 U
Acenaphthene	µg/kg dw	19 U	20 U	20	20 U	5,200	260	19 U	59 U	110	120	20 U	20 U
Acenaphthylene	µg/kg dw	19 U	20 U	64	20 U	130	80 U	19 U	59 U	58 U	28	20 U	20 U
Anthracene	µg/kg dw	19 U	32	310	20	3,500	250	49	88	310	200	91	75
Benzo(a)anthracene	µg/kg dw	6.5 U	99	550	59	3,200	390	310	230	920	490	1,100	200
Benzo(a)pyrene	µg/kg dw	6.5 U	120	440	46	2,000	470	390	240	1,100	480	410	290

**Table A-1-2. Samples SS25-010 through SS59R2-010, cont.**

ANALYTE	UNIT	LDW-SS25-010	LDW-SS29-010	LDW-SS30-010	LDW-SS34-010	LDW-SS35-010	LDW-SS39-010	LDW-SS41-010	LDW-SS45-010	LDW-SS46-010	LDW-SS47-010	LDW-SS53-010	LDW-SS59R2-010
Benzo(b)fluoranthene	µg/kg dw	6.5 U	140	790	59	2,700	450	280	320	1,800	460	780	420
Benzo(g,h,i)perylene	µg/kg dw	19 U	39	100	20 U	470	160	51	100	320	230	59	110
Benzo(k)fluoranthene	µg/kg dw	19 U	200	370	76	2,400	620	120	270	1,200	460	320	450
Total benzofluoranthenes (calc'd)	µg/kg dw	19 U	340	1,160	135	5,100	1,070	400	590	3,000	920	1,100	870
Chrysene	µg/kg dw	19 U	200	990	96	3,700	520	220	390	1,400	590	460	400
Dibenzo(a,h)anthracene	µg/kg dw	19 U	20 U	56	20 U	300 U	80 U	19 U	59 U	58 J	58 U	34	45
Dibenzofuran	µg/kg dw	19 U	20 U	20 U	20 U	3,500	80 U	19 U	59 U	71	78	20 U	20 U
Fluoranthene	µg/kg dw	19 U	240	940	180	17,000	1,200	330	500	1,900	1,200	750	520
Fluorene	µg/kg dw	19 U	20 U	46	20 U	4,900	120	19 U	59 U	120	140	29	20 U
Indeno(1,2,3-cd)pyrene	µg/kg dw	6.5 U	49	150	14	660	260	220	120	680	300	200	310
Naphthalene	µg/kg dw	19 U	20 U	20 U	20 U	5,300	100	19 U	59 U	90	71	20 U	20 U
Phenanthrene	µg/kg dw	19 U	86	250	34	15,000	930	130	180	910	1,000	180	170
Pyrene	µg/kg dw	19 U	170	490	110	10,000	1,200	300	440	2,400	980	420	360
Total HPAH (calc'd)	µg/kg dw	19 U	1,260	4,880	640	42,000	5,300	2,220	2,610	11,800 J	5,200	4,500	3,110
Total LPAH (calc'd)	µg/kg dw	19 U	118	690	54	34,000	1,660	180	270	1,540	1,600	300	250
Total PAH (calc'd)	µg/kg dw	19 U	1,380	5,570	690	76,000	6,900	2,400	2,880	13,300 J	6,700	4,800	3,350
<b>Phthalates</b>													
Bis(2-ethylhexyl)phthalate	µg/kg dw	19 U	110	170 U	34	370	110 U	140 U	300	1,600	200	200	530
Butyl benzyl phthalate	µg/kg dw	6.5 U	6.6 U	16	6.5 U	6.6 U	54 U	14	6.6 U	14 U	22	25	80
Diethyl phthalate	µg/kg dw	9.8	7.3	12	6.5 U	6.6 U	120	7.3	6.6 U	16	12	20 U	20 U
Dimethyl phthalate	µg/kg dw	6.5 U	6.6 U	6.6 J	6.5 U	6.6 U	54 U	8.0	6.6 U	14 U	12	20 U	20 U
Di-n-butyl phthalate	µg/kg dw	19 U	20 U	20 U	20 U	59 U	120 U	19 U	59 U	58 U	43	20 U	20 U
Di-n-octyl phthalate	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
<b>Other SVOCs</b>													
1,2,4-Trichlorobenzene	µg/kg dw	3.3 UJ	6.6 U	6.6 U	6.5 U	6.6 U	27 UJ	6.6 U	6.6 U	14 U	11 U	20 U	9.8 UJ
1,2-Dichlorobenzene	µg/kg dw	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	54 U	6.6 U	6.6 U	14 U	11 U	20 U	20 U
1,3-Dichlorobenzene	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
1,4-Dichlorobenzene	µg/kg dw	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	54 U	6.6 U	6.6 U	14 U	11 U	20 U	20 U
2,4,5-Trichlorophenol	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
2,4,6-Trichlorophenol	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U

**Table A-1-2. Samples SS25-010 through SS59R2-010, cont.**

ANALYTE	UNIT	LDW-SS25-010	LDW-SS29-010	LDW-SS30-010	LDW-SS34-010	LDW-SS35-010	LDW-SS39-010	LDW-SS41-010	LDW-SS45-010	LDW-SS46-010	LDW-SS47-010	LDW-SS53-010	LDW-SS59R2-010
2,4-Dichlorophenol	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
2,4-Dimethylphenol	µg/kg dw	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	31 UJ	6.6 U	6.6 U	14 U	11 U	20 U	20 U
2,4-Dinitrophenol	µg/kg dw	190 UJ	200 U	200 U	200 U	590 U	800 U	190 U	590 UJ	580 UJ	190 UJ	200 U	200 U
2,4-Dinitrotoluene	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
2,6-Dinitrotoluene	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
2-Chlorophenol	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
2-Methylphenol	µg/kg dw	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	54 U	6.6 U	6.6 U	14 U	11 U	20 U	20 U
2-Nitroaniline	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
2-Nitrophenol	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
3,3'-Dichlorobenzidine	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
3-Nitroaniline	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
4,6-Dinitro-o-cresol	µg/kg dw	190 UJ	200 U	200 U	200 U	590 U	800 U	190 U	590 UJ	580 UJ	190 UJ	200 U	200 U
4-Bromophenyl phenyl ether	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
4-Chloro-3-methylphenol	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
4-Chloroaniline	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
4-Chlorophenyl phenyl ether	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
4-Methylphenol	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	21	20 U	20 U
4-Nitroaniline	µg/kg dw	96 U	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
4-Nitrophenol	µg/kg dw	96 UJ	98 U	98 U	98 U	300 U	400 U	97 U	300 U	290 U	96 U	99 U	99 U
Aniline	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
Benzoic acid	µg/kg dw	65 UJ	66 U	64 J	65 U	82	540 U	66 U	66 UJ	220 J	220 J	200 U	200 U
Benzyl alcohol	µg/kg dw	19 U	20 U	20 U	20 U	33 U	80 U	19 U	33 U	34 UJ	54 U	20 U	20 U
Bis(2-chloroethoxy)methane	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
Bis(2-chloroethyl)ether	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
Bis(2-chloroisopropyl)ether	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
Carbazole	µg/kg dw	19 U	20 U	61	20 U	1,300	88	19 U	59 U	180	92	26	40
Hexachlorobenzene	µg/kg dw	0.96 U	3.3 UJ	6.6 U	3.3 UJ	6.6 U	54 U	1.7 U	6.6 U	6.8 UJ	5.4 UJ	0.99 U	0.98 U
Hexachlorobutadiene	µg/kg dw	0.96 U	6.6 U	6.6 U	6.5 U	6.6 U	54 U	1.7 U	6.6 U	14 U	11 U	0.99 U	0.98 U
Hexachlorocyclopentadiene	µg/kg dw	96 UJ	98 U	98 U	98 U	300 U	400 U	97 U	300 UJ	290 UJ	96 UJ	99 U	99 U
Hexachloroethane	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U

**Table A-1-2. Samples SS25-010 through SS59R2-010, cont.**

ANALYTE	UNIT	LDW-SS25-010	LDW-SS29-010	LDW-SS30-010	LDW-SS34-010	LDW-SS35-010	LDW-SS39-010	LDW-SS41-010	LDW-SS45-010	LDW-SS46-010	LDW-SS47-010	LDW-SS53-010	LDW-SS59R2-010
Isophorone	µg/kg dw	19 U	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
Nitrobenzene	µg/kg dw	19 UJ	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U
N-Nitrosodimethylamine	µg/kg dw	33 U	33 U	33 U	32 U	33 U	270 U	33 U	33 U	67 U	54 U	99 U	98 U
N-Nitroso-di-n-propylamine	µg/kg dw	33 U	33 U	33 U	32 U	33 U	270 U	33 U	33 U	67 U	54 U	99 U	98 U
N-Nitrosodiphenylamine	µg/kg dw	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	54 U	6.6 U	6.6 U	14 U	15	20 U	20 U
Pentachlorophenol	µg/kg dw	33 U	33 U	33 U	32 U	33 U	270 U	33 U	33 U	76	54 U	99 U	98 U
Phenol	µg/kg dw	19 U	46 U	64	20 U	59 U	80 U	19 U	59 U	62	220	59 U	49 U
<b>Polychlorinated biphenyls</b>													
Aroclor-1016	µg/kg dw	19 U	20 U	20 U	19 U	20 U	110 U	20 U	20 U	20 U	20 U	20 U	20 U
Aroclor-1221	µg/kg dw	19 U	20 U	20 U	19 U	20 U	110 U	20 U	20 U	20 U	20 U	20 U	20 U
Aroclor-1232	µg/kg dw	19 U	20 U	20 U	19 U	20 U	110 U	20 U	20 U	20 U	20 U	20 U	20 U
Aroclor-1242	µg/kg dw	19 U	20 U	49	19 U	140	110 U	39	20 U	20 U	20 U	60 U	20 U
Aroclor-1248	µg/kg dw	19 U	20 U	20 U	19 U	20 U	110 U	20 U	89	91 U	20 U	70 U	20 U
Aroclor-1254	µg/kg dw	19 U	58	120	19 U	340	230	99	110	170	45	120	27
Aroclor-1260	µg/kg dw	19 U	65	68	19 U	170	110 U	60	94	68	25	95	26
Total PCBs (calc'd)	µg/kg dw	19 U	123	240	19 U	650	230	198	290	240	70	220	53
<b>Pesticides</b>													
2,4'-DDD	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
2,4'-DDE	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
2,4'-DDT	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
4,4'-DDD	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
4,4'-DDE	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	4.1 U
4,4'-DDT	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	8.9 U
Total DDTs (calc'd)	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	8.9 U
Aldrin	µg/kg dw	0.96 U	na	na	na	na	na	1.7 U	na	na	na	na	0.98 U
Dieldrin	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
Total aldrin/dieldrin (calc'd)	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
alpha-BHC	µg/kg dw	0.96 U	na	na	na	na	na	1.7 U	na	na	na	na	0.98 U
beta-BHC	µg/kg dw	0.96 U	na	na	na	na	na	1.7 U	na	na	na	na	0.98 U
delta-BHC	µg/kg dw	0.96 U	na	na	na	na	na	1.7 U	na	na	na	na	0.98 U

**Table A-1-2. Samples SS25-010 through SS59R2-010, cont.**

ANALYTE	UNIT	LDW-SS25-010	LDW-SS29-010	LDW-SS30-010	LDW-SS34-010	LDW-SS35-010	LDW-SS39-010	LDW-SS41-010	LDW-SS45-010	LDW-SS46-010	LDW-SS47-010	LDW-SS53-010	LDW-SS59R2-010
gamma-BHC	µg/kg dw	0.96 U	na	na	na	na	na	1.7 U	na	na	na	na	0.98 U
alpha-Chlordane	µg/kg dw	0.96 U	na	na	na	na	na	1.7 U	na	na	na	na	0.98 U
gamma-Chlordane	µg/kg dw	0.96 U	na	na	na	na	na	1.7 U	na	na	na	na	3.9 U
Total chlordane (calc'd)	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	3.9 U
alpha-Endosulfan	µg/kg dw	0.96 U	na	na	na	na	na	1.7 U	na	na	na	na	0.98 U
beta-Endosulfan	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
Endosulfan sulfate	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
Endrin	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
Endrin aldehyde	µg/kg dw	1.9 UJ	na	na	na	na	na	3.4 UJ	na	na	na	na	2.0 U
Endrin ketone	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
Heptachlor	µg/kg dw	0.96 U	na	na	na	na	na	1.7 U	na	na	na	na	1.9 U
Heptachlor epoxide	µg/kg dw	0.96 U	na	na	na	na	na	1.7 U	na	na	na	na	0.98 U
Methoxychlor	µg/kg dw	9.6 U	na	na	na	na	na	17 U	na	na	na	na	9.8 U
Mirex	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
Cis-nonachlor	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
Oxychlordane	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
Toxaphene	µg/kg dw	96 U	na	na	na	na	na	170 U	na	na	na	na	98 U
Trans-Nonachlor	µg/kg dw	1.9 U	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U
<b>Sediment grain size</b>													
Fractional % phi >-1 (>2,000 µm)	% dw	0.7	0.1 U	2.1	1.3	6.3	17.0	14.2	0.1 U	1.5	7.7	0.1 U	39.6
Fractional % phi -1-0 (1,000-2,000 µm)	% dw	1.5	0.4	0.8	3.8	3.1	5.7	2.8	0.3	6.3	15.2	0.4	1.7
Fractional % phi 0-1 (500-1,000 µm)	% dw	14.3	1.3	3.4	39.8	6.5	14.0	4.3	1.5	18.8	37.7	1.8	1.9
Fractional % phi 1-2 (250-500 µm)	% dw	45.1	5.2	4.2	42.6	26.9	25.7	11.5	12.5	20.2	24.2	2.2	5.6
Fractional % phi 2-3 (125-250 µm)	% dw	26.1	3.8	3.3	5.5	17.2	11.5	9.4	5.3	13.0	5.4	1.8	9.2
Fractional % phi 3-4 (62.5-125 µm)	% dw	6.3	6.3	3.4	0.9	7.9	4.3	7.6	6.4	6.2	2.3	5.1	10.0
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	1.7	18.5	9.2	0.7	4.1	2.3	5.5	8.9	3.3	1.4	11.4	5.7
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	1.5	19.2	19.1	1.2	6.8	5.2	12.3	18.8	6.7	1.4	20.9	7.0
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	1.0	15.9	19.4	1.3	9.6	4.9	11.0	16.1	6.9	1.3	20.5	6.4
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	0.5	10.7	11.1	0.9	3.5	3.5	7.4	10.8	5.2	1.0	11.9	4.7
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	0.4	5.5	7.9	0.6	1.9	2.0	4.8	7.0	4.1	0.8	7.5	2.6

**Table A-1-2. Samples SS25-010 through SS59R2-010, cont.**

ANALYTE	UNIT	LDW-SS25-010	LDW-SS29-010	LDW-SS30-010	LDW-SS34-010	LDW-SS35-010	LDW-SS39-010	LDW-SS41-010	LDW-SS45-010	LDW-SS46-010	LDW-SS47-010	LDW-SS53-010	LDW-SS59R2-010
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	0.2	3.4	5.4	0.4	1.2	1.0	3.0	3.8	2.5	0.4	5.0	2.0
Fractional % phi 10+ (<0.98 µm)	% dw	0.8	9.9	10.7	1.1	5.0	2.8	6.3	8.6	5.1	1.1	11.5	3.7
Rocks (total calc'd)	% dw	0.7	0.1 U	2.1	1.3	6.3	17.0	14.2	0.1 U	1.5	7.7	0.1 U	39.6
Sand (total calc'd)	% dw	93.3	17.0	15.1	92.6	61.6	61.2	35.6	26.0	64.5	84.8	11.3	28.4
Silt (total calc'd)	% dw	4.7	64.3	58.8	4.1	24.0	15.9	36.2	54.6	22.1	5.1	64.7	23.8
Clay (total calc'd)	% dw	1.4	18.8	24.0	2.1	8.1	5.8	14.1	19.4	11.7	2.3	24.0	8.3
Fines (percent silt+clay)	% dw	6.1	83.1	82.8	6.2	32.1	21.7	50.3	74.0	33.8	7.4	88.7	32.1
<b>Conventional parameters</b>													
Total organic carbon (TOC)	% dw	0.507	1.68	3.50	1.52	2.01	3.93	2.35	2.81	2.07	1.45	2.64	2.07
Total solids	% ww	75.10	45.40	38.30	74.00	68.10 J	57.90	54.70	45.45	63.30	75.80	44.70	52.50
Total solids (preserved)	% ww	74.20	40.90	32.50	74.70	58.40	61.00	44.60	43.30	69.50	71.70	42.80	49.00
Sulfides (total)	mg/kg dw	5.5 UJ	380	270 J	2.5 U	510 J	490 J	110 J	11 UJ	170 J	5.2 UJ	28	570
Ammonia (total as nitrogen)	mg-N/kg	1.73	5.08	16.1	8.13	7.60	5.20	5.65	13.1	4.77	2.20	5.99	8.53

dw – dry weight

ww – wet weight

na – not analyzed

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Totals were calculated for each sediment grain size category using the following grain size ranges: rock – all fractions >2,000 µm; sand – all fractions between 63 and 2,000 µm; silt – all fractions between 3.9 and 63 µm; and clay – all fractions <3.9 µm.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown  
 R – result was rejected

**Table A-1-3. Concentrations of all analytes in Round 2 LDW surface sediment samples: Samples SS61-010 through SS78-010**

ANALYTE	UNIT	LDW-SS61-010	LDW-SS62-010	LDW-SS207-010 (field duplicate)	LDW-SS65-010	LDW-SS66-010	LDW-SS68-010	LDW-SS69b-010	LDW-SS71-010	LDW-SS73-010	LDW-SS74-010	LDW-SS77-010	LDW-SS78-010
<b>Metals and trace elements</b>													
Antimony	mg/kg dw	0.3 UJ	0.5 UJ	0.4 UJ	0.3 UJ	0.5 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.4 UJ	0.6 J	3.0	0.4 UJ
Arsenic	mg/kg dw	6.1	16.8	16.5	11.3	15.7	12.1	16.9	9.5	17.5	47.3	80.9	14.0
Cadmium	mg/kg dw	0.3 U	0.8	0.8	0.4	1 U	0.6	0.7	0.6	0.4	0.5	0.4	0.7
Chromium	mg/kg dw	20.9	38	39	25.2	85	36	36	27.7	28.6	36.5	28.7	36
Cobalt	mg/kg dw	6.6	10.9	10.9	7.8	12	10.3	9.6	6.1	8.6	7.0	8.4	10.8
Copper	mg/kg dw	38.4	109	107	58.9	171	87.4	94.0 J	57.9 J	70.1	132	98.4 J	82.8
Lead	mg/kg dw	19	58	58	34	50	47	55	46	48	75	81	41
Mercury	mg/kg dw	0.08	0.5	0.28	0.12	0.40	0.2	0.34 J	0.29 J	0.13	0.11	0.08	0.3
Molybdenum	mg/kg dw	1.1	2	2	1.4	6	2	2	2.4	1.8	2.3	7.7	2
Nickel	mg/kg dw	15	24	24	17	44	24	25	15	21	21	22	24
Selenium	mg/kg dw	7 U	10 U	10 U	8 U	30 U	10 U	10 U	7 U	9 U	7 U	7 U	10 U
Silver	mg/kg dw	0.4 U	0.7 U	0.7 U	0.5 U	2 U	0.6 U	0.6 U	1	0.6 U	0.4 U	0.4 U	0.7 U
Thallium	mg/kg dw	0.3 U	0.5 U	0.4 U	0.3 U	0.5 U	0.4 U	0.4 U	0.3 U	0.4 U	0.3 U	0.3 U	0.4 U
Vanadium	mg/kg dw	48.2	77.4	77.2	57.0	78	75.4	73.2	46.5	65.3	52.3	44.3	78.0
Zinc	mg/kg dw	70.4	159	160	101	154	152	163	110	133	401	259 J	142
<b>Organometals</b>													
Monobutyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	3.0 J	na	R
Dibutyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	49 J	na	3.8 J
Tributyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	110	na	19
<b>PAHs</b>													
2-Chloronaphthalene	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
2-Methylnaphthalene	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
Acenaphthene	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	33	99 U
Acenaphthylene	µg/kg dw	19 U	60 U	34 J	20 U	59 U	98 U	39 J	30 J	98 U	96 U	45	99 U
Anthracene	µg/kg dw	19 U	120	140	45	91	72 J	220	94	120	96 U	210	59 J
Benzo(a)anthracene	µg/kg dw	40	270	320	120	300	210	350	480	390	77 J	630	210
Benzo(a)pyrene	µg/kg dw	60	290	330	110	210	210	390	460	520	100	640	260

**Table A-1-3. Samples SS61-010 through SS78-010, cont.**

ANALYTE	UNIT	LDW-SS61-010	LDW-SS62-010	LDW-SS207-010 (field duplicate)	LDW-SS65-010	LDW-SS66-010	LDW-SS68-010	LDW-SS69b-010	LDW-SS71-010	LDW-SS73-010	LDW-SS74-010	LDW-SS77-010	LDW-SS78-010
Benzo(b)fluoranthene	µg/kg dw	74	390	390	160	450	380	700	730	880	130	1,100	380
Benzo(g,h,i)perylene	µg/kg dw	37	82	97	50	65	54 J	94	130	170	96 U	160	94 J
Benzo(k)fluoranthene	µg/kg dw	66	380	500	110	220	240	590	640	410	120	570	240
Total benzofluoranthenes (calc'd)	µg/kg dw	140	770	890	270	670	620	1,290	1,370	1,290	250	1,700	620
Chrysene	µg/kg dw	71	440	530	180	330	340	580	600	710	120	820	340
Dibenzo(a,h)anthracene	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	54 J	98 U	96 U	84	99 U
Dibenzofuran	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	21	99 U
Fluoranthene	µg/kg dw	68	700	730	280	520	470	980	1,200	560	160	1,200	390
Fluorene	µg/kg dw	19 U	38 J	36 J	20 U	29 J	98 U	63	58 U	98 U	96 U	44	99 U
Indeno(1,2,3-cd)pyrene	µg/kg dw	37	110	120	63	120	14	130	150	220	100	260	120
Naphthalene	µg/kg dw	19 U	60 U	120	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
Phenanthrene	µg/kg dw	28	210	240	73	160	140	290	190	220	71 J	390	120
Pyrene	µg/kg dw	130	450	490	180	360	360	790	910	540	130	1,000	420
Total HPAH (calc'd)	µg/kg dw	580	3,110	3,510	1,250	2,580	2,280 J	4,600	5,400 J	4,400	940 J	6,500	2,450 J
Total LPAH (calc'd)	µg/kg dw	28	370 J	570 J	118	280 J	210 J	610 J	310 J	340	71 J	720	180 J
Total PAH (calc'd)	µg/kg dw	610	3,480 J	4,080 J	1,370	2,860 J	2,490 J	5,220 J	5,700 J	4,740	1,010 J	7,200	2,630 J
<b>Phthalates</b>													
Bis(2-ethylhexyl)phthalate	µg/kg dw	74	470 U	550 U	180 U	360 U	310	440	310	370	120	200	260
Butyl benzyl phthalate	µg/kg dw	6.5 U	46 J	9.8	6.6 U	12	12	6.5 U	36	6.5 U	6.4 U	24	6.6 U
Diethyl phthalate	µg/kg dw	7.2 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.4 U	15 U	14
Dimethyl phthalate	µg/kg dw	6.5 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.5 U	7.2	6.5 U	83	15 U	6.6 U
Di-n-butyl phthalate	µg/kg dw	19 U	60 U	59 U	21 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
Di-n-octyl phthalate	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
<b>Other SVOCs</b>													
1,2,4-Trichlorobenzene	µg/kg dw	6.5 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.4 U	15 U	6.6 U
1,2-Dichlorobenzene	µg/kg dw	6.5 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.4 U	15 U	6.6 U
1,3-Dichlorobenzene	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
1,4-Dichlorobenzene	µg/kg dw	6.5 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.5 U	9.1	6.5 U	6.4 U	15 U	6.6 U
2,4,5-Trichlorophenol	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
2,4,6-Trichlorophenol	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U



**Table A-1-3. Samples SS61-010 through SS78-010, cont.**

ANALYTE	UNIT	LDW-SS61-010	LDW-SS62-010	LDW-SS207-010 (field duplicate)	LDW-SS65-010	LDW-SS66-010	LDW-SS68-010	LDW-SS69b-010	LDW-SS71-010	LDW-SS73-010	LDW-SS74-010	LDW-SS77-010	LDW-SS78-010
2,4-Dichlorophenol	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
2,4-Dimethylphenol	µg/kg dw	6.5 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.4 U	15 U	6.6 U
2,4-Dinitrophenol	µg/kg dw	190 UJ	600 U	590 U	200 U	590 U	980 U	590 U	580 U	980 U	960 U	200 U	990 U
2,4-Dinitrotoluene	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
2,6-Dinitrotoluene	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
2-Chlorophenol	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
2-Methylphenol	µg/kg dw	6.5 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.4 U	15 U	6.6 U
2-Nitroaniline	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
2-Nitrophenol	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
3,3'-Dichlorobenzidine	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
3-Nitroaniline	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
4,6-Dinitro-o-cresol	µg/kg dw	190 UJ	600 U	590 U	200 U	590 U	980 U	590 U	580 U	980 U	960 U	200 U	990 U
4-Bromophenyl phenyl ether	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
4-Chloro-3-methylphenol	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
4-Chloroaniline	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
4-Chlorophenyl phenyl ether	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
4-Methylphenol	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
4-Nitroaniline	µg/kg dw	97 U	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
4-Nitrophenol	µg/kg dw	97 UJ	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
Aniline	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
Benzoic acid	µg/kg dw	65 UJ	65 U	66 U	66 U	71	65 U	65 U	120	65 U	64 U	150 U	66 U
Benzyl alcohol	µg/kg dw	19 U	32 U	33 U	20 U	33 U	33 U	33 U	32 U	150	32 U	20 U	33 U
Bis(2-chloroethoxy)methane	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
Bis(2-chloroethyl)ether	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
Bis(2-chloroisopropyl)ether	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
Carbazole	µg/kg dw	19 U	39 J	45 J	20 U	36 J	98 U	80	39 J	98 U	96 U	73	99 U
Hexachlorobenzene	µg/kg dw	3.3 UJ	6.5 U	6.6 U	6.6 U	6.5 U	95 J	0.99 U	6.5 U	0.97 U	0.97 U	7.7 UJ	6.6 U
Hexachlorobutadiene	µg/kg dw	6.5 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	0.99 U	6.5 U	0.97 U	0.97 U	15 U	6.6 U
Hexachlorocyclopentadiene	µg/kg dw	97 UJ	300 U	300 U	97 U	290 U	490 U	290 U	290 U	490 U	480 U	99 U	500 U
Hexachloroethane	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U

**Table A-1-3. Samples SS61-010 through SS78-010, cont.**

ANALYTE	UNIT	LDW-SS61-010	LDW-SS62-010	LDW-SS207-010 (field duplicate)	LDW-SS65-010	LDW-SS66-010	LDW-SS68-010	LDW-SS69b-010	LDW-SS71-010	LDW-SS73-010	LDW-SS74-010	LDW-SS77-010	LDW-SS78-010
Isophorone	µg/kg dw	19 U	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
Nitrobenzene	µg/kg dw	19 UJ	60 U	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U
N-Nitrosodimethylamine	µg/kg dw	33 UJ	32 U	33 U	33 U	33 U	33 U	33 U	32 U	33 U	32 U	77 U	33 U
N-Nitroso-di-n-propylamine	µg/kg dw	33 U	32 U	33 U	33 U	33 U	33 U	33 U	32 U	33 U	32 U	77 U	33 U
N-Nitrosodiphenylamine	µg/kg dw	6.5 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	7.2	7.2	6.5 U	6.4 U	15 U	6.6 U
Pentachlorophenol	µg/kg dw	33 U	32 U	33 U	33 U	33 U	33 U	33 U	32 U	33 U	32 U	77 U	33 U
Phenol	µg/kg dw	19 U	60 U	59 U	280	59 U	98 U	59 U	58 U	98 U	280 J	20 U	99 U
<b>Polychlorinated biphenyls</b>													
Aroclor-1016	µg/kg dw	19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U	19 U	20 U
Aroclor-1221	µg/kg dw	19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U	19 U	20 U
Aroclor-1232	µg/kg dw	19 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	58 U	19 U	19 U	20 U
Aroclor-1242	µg/kg dw	19 U	20 U	20 U	20 J	20 U	20 U	82	200	39 U	19 U	19 U	20 U
Aroclor-1248	µg/kg dw	19 U	82	76	20 U	64	52	20 U	20 U	78 U	34	19 U	35
Aroclor-1254	µg/kg dw	30	140	130	69	110	82	130	150	170	66	32	43
Aroclor-1260	µg/kg dw	32	120	110	52	94	59	130	110	64	66	38	32
Total PCBs (calc'd)	µg/kg dw	62	340	320	141 J	270	193	340	460	230	166	70	110
<b>Pesticides</b>													
2,4'-DDD	µg/kg dw	na	na	na	na	na	na	2.0 U	na	2.0 U	1.9 U	na	na
2,4'-DDE	µg/kg dw	na	na	na	na	na	na	2.0 U	na	2.0 U	1.9 U	na	na
2,4'-DDT	µg/kg dw	na	na	na	na	na	na	2.0 U	na	2.0 U	1.9 U	na	na
4,4'-DDD	µg/kg dw	na	na	na	na	na	na	2.0 U	na	2.0 U	1.9 U	na	na
4,4'-DDE	µg/kg dw	na	na	na	na	na	na	6.7 U	na	2.0 U	1.9 U	na	na
4,4'-DDT	µg/kg dw	na	na	na	na	na	na	12 U	na	12 U	8.5 U	na	na
Total DDTs (calc'd)	µg/kg dw	na	na	na	na	na	na	12 U	na	12 U	8.5 U	na	na
Aldrin	µg/kg dw	na	na	na	na	na	na	0.99 U	na	0.97 U	0.97 U	na	na
Dieldrin	µg/kg dw	na	na	na	na	na	na	5.5 U	na	4.5 U	1.9 U	na	na
Total aldrin/dieldrin (calc'd)	µg/kg dw	na	na	na	na	na	na	5.5 U	na	4.5 U	1.9 U	na	na
alpha-BHC	µg/kg dw	na	na	na	na	na	na	0.99 U	na	0.97 U	0.97 U	na	na
beta-BHC	µg/kg dw	na	na	na	na	na	na	1.7 U	na	0.97 U	0.97 U	na	na
delta-BHC	µg/kg dw	na	na	na	na	na	na	0.99 U	na	0.97 U	0.97 U	na	na

**Table A-1-3. Samples SS61-010 through SS78-010, cont.**

ANALYTE	UNIT	LDW-SS61-010	LDW-SS62-010	LDW-SS207-010 (field duplicate)	LDW-SS65-010	LDW-SS66-010	LDW-SS68-010	LDW-SS69b-010	LDW-SS71-010	LDW-SS73-010	LDW-SS74-010	LDW-SS77-010	LDW-SS78-010
gamma-BHC	µg/kg dw	na	na	na	na	na	na	0.99 U	na	0.97 U	0.97 U	na	na
alpha-Chlordane	µg/kg dw	na	na	na	na	na	na	0.99 U	na	0.97 U	0.97 U	na	na
gamma-Chlordane	µg/kg dw	na	na	na	na	na	na	11 U	na	0.97 U	0.97 U	na	na
Total chlordane (calc'd)	µg/kg dw	na	na	na	na	na	na	11 U	na	6.4 U	4.2 U	na	na
alpha-Endosulfan	µg/kg dw	na	na	na	na	na	na	1.5 U	na	0.97 U	0.97 U	na	na
beta-Endosulfan	µg/kg dw	na	na	na	na	na	na	2.0 U	na	2.0 U	1.9 U	na	na
Endosulfan sulfate	µg/kg dw	na	na	na	na	na	na	2.0 U	na	2.0 U	1.9 U	na	na
Endrin	µg/kg dw	na	na	na	na	na	na	2.0 U	na	2.0 U	1.9 U	na	na
Endrin aldehyde	µg/kg dw	na	na	na	na	na	na	2.0 UJ	na	2.0 UJ	1.9 UJ	na	na
Endrin ketone	µg/kg dw	na	na	na	na	na	na	2.0 U	na	2.0 U	1.9 U	na	na
Heptachlor	µg/kg dw	na	na	na	na	na	na	3.1 U	na	3.7 U	0.97 U	na	na
Heptachlor epoxide	µg/kg dw	na	na	na	na	na	na	0.99 U	na	0.97 U	0.97 U	na	na
Methoxychlor	µg/kg dw	na	na	na	na	na	na	9.9 U	na	9.7 U	9.7 U	na	na
Mirex	µg/kg dw	na	na	na	na	na	na	2.0 U	na	7.5 U	1.9 U	na	na
Cis-nonachlor	µg/kg dw	na	na	na	na	na	na	7.7 U	na	6.4 U	4.2 U	na	na
Oxychlordane	µg/kg dw	na	na	na	na	na	na	2.0 U	na	2.0 U	1.9 U	na	na
Toxaphene	µg/kg dw	na	na	na	na	na	na	99 U	na	97 U	97 U	na	na
Trans-Nonachlor	µg/kg dw	na	na	na	na	na	na	2.0 U	na	2.0 U	1.9 U	na	na
<b>Sediment grain size</b>													
Fractional % phi >-1 (>2,000 µm)	% dw	52.6	0.1 U	0.1 U	3.2	0.1	0.1	5.1	0.4	3.3	7.8	1.8	0.2
Fractional % phi -1-0 (1,000-2,000 µm)	% dw	3.8	0.3	0.2	1.4	0.3	0.4	2.8	0.8	1.5	3.9	2.2	0.3
Fractional % phi 0-1 (500-1,000 µm)	% dw	5.1	0.9	2.9	5.0	3.1	2.6	3.3	5.5	7.6	10.7	11.8	1.4
Fractional % phi 1-2 (250-500 µm)	% dw	12.4	4.0	3.9	27.6	5.2	5.0	7.3	28.2	17.5	29.8	46.5	2.3
Fractional % phi 2-3 (125-250 µm)	% dw	7.5	2.0	2.2	17.7	2.7	4.0	6.5	22.3	6.5	17.8	17.2	2.4
Fractional % phi 3-4 (62.5-125 µm)	% dw	2.3	6.3	6.0	5.8	7.6	10.4	9.9	17.9	4.3	9.4	3.0	6.9
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	0.1 U	13.3	12.9	5.1	12.6	13.1	10.3	8.3	7.5	5.6	1.5	12.0
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	3.7	19.9	20.9	8.1	20.4	19.4	12.8	4.5	14.6	4.1	3.2	20.3
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	4.1	18.0	18.0	8.6	18.5	15.0	12.7	3.7	14.7	3.4	4.9	20.8
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	2.9	12.0	11.4	5.8	10.3	10.2	9.4	2.5	9.0	2.7	3.3	13.0
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	2.0	6.2	5.5	3.6	5.4	5.5	6.0	1.8	4.2	1.7	1.6	6.2

**Table A-1-3. Samples SS61-010 through SS78-010, cont.**

ANALYTE	UNIT	LDW-SS61-010	LDW-SS62-010	LDW-SS207-010 (field duplicate)	LDW-SS65-010	LDW-SS66-010	LDW-SS68-010	LDW-SS69b-010	LDW-SS71-010	LDW-SS73-010	LDW-SS74-010	LDW-SS77-010	LDW-SS78-010
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	1.0	5.4	4.9	2.6	4.6	3.7	3.8	1.3	2.9	1.1	0.7	4.6
Fractional % phi 10+ (<0.98 µm)	% dw	2.6	11.6	11.2	5.4	9.1	10.6	10.0	3.0	6.4	2.0	2.4	9.6
Rocks (total calc'd)	% dw	52.6	0.1 U	0.1 U	3.2	0.1	0.1	5.1	0.4	3.3	7.8	1.8	0.2
Sand (total calc'd)	% dw	31.1	13.5	15.2	57.5	18.9	22.4	29.8	74.7	37.4	71.6	80.7	13.3
Silt (total calc'd)	% dw	10.7	63.2	63.2	27.6	61.8	57.7	45.2	19.0	45.8	15.8	12.9	66.1
Clay (total calc'd)	% dw	5.6	23.2	21.6	11.6	19.1	19.8	19.8	6.1	13.5	4.8	4.7	20.4
Fines (percent silt+clay)	% dw	16.3	86.4	84.8	39.2	80.9	77.5	65.0	25.1	59.3	20.6	17.6	86.5
<b>Conventional parameters</b>													
Total organic carbon (TOC)	% dw	1.68	2.92	2.84	2.44	2.63	2.58	2.61	2.02	2.43	1.46	2.08	2.55
Total solids	% ww	69.70	42.40	42.70	57.70	44.90	47.10	48.43	55.43	51.00	68.00	64.50	44.30
Total solids (preserved)	% ww	57.90	39.90	39.40	65.60	39.40	42.90	45.75	72.80	42.00	68.40	52.30	41.00
Sulfides (total)	mg/kg dw	220 J	35 J	48 J	10 J	51 J	80	290 J	46 U	180	4.1 U	2,500	7,700
Ammonia (total as nitrogen)	mg-N/kg	3.48	22.1	21.8	8.38	26.0	9.78	16.0	6.35	6.64	5.12	11.9	20.3

dw – dry weight

ww – wet weight

na – not analyzed

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Totals were calculated for each sediment grain size category using the following grain size ranges: rock – all fractions >2,000 µm; sand – all fractions between 63 and 2,000 µm; silt – all fractions between 3.9 and 63 µm; and clay – all fractions <3.9 µm.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown  
 R – result was rejected

**Table A-1-4. Concentrations of all analytes in Round 2 LDW surface sediment samples: Samples SS81-010 through SS103-010**

ANALYTE	UNIT	LDW-SS81-010	LDW-SS82-010	LDW-SS204-010 (field duplicate)	LDW-SS85-010	LDW-SS86-010	LDW-SS90-010	LDW-SS91-010	LDW-SS93-010	LDW-SS95-010	LDW-SS98-010	LDW-SS100-010	LDW-SS103-010
<b>Metals and trace elements</b>													
Antimony	mg/kg dw	0.4 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.2 UJ	0.3 UJ	0.3 UJ	0.4 UJ	0.3 UJ	0.4 UJ	0.3 UJ	0.3 UJ
Arsenic	mg/kg dw	18.1	9.4	8.6	6.3	2.7	11.8	6.9	9.1	16.5	9.0	7.5	7.1
Cadmium	mg/kg dw	0.7	0.4 U	0.4	0.3 U	0.2 U	0.7 U	0.3	0.4	0.4	0.4 U	0.3 U	0.3 U
Chromium	mg/kg dw	35	27	27.7	17.3	13.9	61 J	27.6	33	30.3	19.2	13.5	22.5
Cobalt	mg/kg dw	10.7	8.4	8.7	5.2	4.6	9	6.7	8.7	7.7	6.2	5.0	7.3
Copper	mg/kg dw	89.4	51.7	59.6	38.1	13.3	71.8	180	61.7	65.4	34.4	17.1	35.6
Lead	mg/kg dw	52	32	328	37	9	70 J	38	42	38	17	61	22
Mercury	mg/kg dw	0.2	0.15	0.11	0.07 U	0.05 U	0.07 U	0.07	0.17	0.26	0.08	0.06 U	0.11
Molybdenum	mg/kg dw	2	1	1.6	1.3	0.7	4	1.4	3	1.9	1.2	1.0	1.6
Nickel	mg/kg dw	23	19	20	13	8	24	22	22	18	13	10	16
Selenium	mg/kg dw	10 U	10 U	9 U	7 U	6 U	20 U	7 U	10 U	8 U	9 U	7 U	8 U
Silver	mg/kg dw	0.6 U	0.6 U	0.6 U	0.4 U	0.4 U	1 U	0.4 U	0.6 U	0.5 U	0.6 U	0.4 U	0.5 U
Thallium	mg/kg dw	0.4 U	0.4 U	0.4 U	0.3 U	0.2 U	0.3 U	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U	0.3 U
Vanadium	mg/kg dw	76.5	60.3	63.9	48.6	47.0	56	53.0	68.7	54.2	53.1	42.6	61.2
Zinc	mg/kg dw	159	106	150	79.2	35.3	246 J	225	122	183	65	52.1	76
<b>Organometals</b>													
Monobutyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	na	na	na
Dibutyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	na	na	na
Tributyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	na	na	na
<b>PAHs</b>													
2-Chloronaphthalene	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
2-Methylnaphthalene	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	34 J	770	58 U	20 U	19 U
Acenaphthene	µg/kg dw	19 U	50 J	20 U	98 U	19 U	20 U	99 U	110	4,600	58 U	20 U	19 U
Acenaphthylene	µg/kg dw	19 U	98 U	22	98 U	19 U	20 U	99 U	80	200	58 U	20 U	19 U
Anthracene	µg/kg dw	43	180	82	98 U	19 U	67	240	280	10,000	58 U	20 U	19 U
Benzo(a)anthracene	µg/kg dw	160	570	220	110	6.6 U	120	620	910	4,000	73	22	48
Benzo(a)pyrene	µg/kg dw	180	470	190	13	6.6 U	140	600	670	2,000	72	20	48

**Table A-1-4. Samples SS81-010 through SS103-010, cont.**

ANALYTE	UNIT	LDW-SS81-010	LDW-SS82-010	LDW-SS204-010 (field duplicate)	LDW-SS85-010	LDW-SS86-010	LDW-SS90-010	LDW-SS91-010	LDW-SS93-010	LDW-SS95-010	LDW-SS98-010	LDW-SS100-010	LDW-SS103-010
Benzo(b)fluoranthene	µg/kg dw	270	650	360	150	6.6 U	160	840	1,200	2,500	110	26	93
Benzo(g,h,i)perylene	µg/kg dw	95	120	49	98 U	19 U	49	160	160	790	32 J	20 U	19 U
Benzo(k)fluoranthene	µg/kg dw	170	460	180	94 J	19 U	170	610	900	2,700	95	20 U	49
Total benzofluoranthenes (calc'd)	µg/kg dw	440	1,110	540	240 J	19 U	330	1,450	2,100	5,200	210	26	142
Chrysene	µg/kg dw	260	800	410	200	19 U	220	880	1,200	5,700	120	25	87
Dibenzo(a,h)anthracene	µg/kg dw	42	98 U	20 U	98 U	19 U	20 U	99 U	34 J	100 J	58 U	20 U	19 U
Dibenzofuran	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	56 J	4,000	58 U	20 U	19 U
Fluoranthene	µg/kg dw	300	1,000	630	290	19 U	300	1,700	2,700	17,000	190	36	160
Fluorene	µg/kg dw	19 U	98 U	24	98 U	19 U	20 U	72 J	100	6,800	58 U	20 U	19 U
Indeno(1,2,3-cd)pyrene	µg/kg dw	110	170	72	9.6	6.6 U	66	240	200	970	23	18	21
Naphthalene	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	41 J	440	58 U	20 U	19 U
Phenanthrene	µg/kg dw	90	420	190	91 J	19 U	120	700	650	22,000	64	20 U	39
Pyrene	µg/kg dw	220	790	440	200	19 U	200	1,100	2,500	12,000	150	26	110
Total HPAH (calc'd)	µg/kg dw	1,810	5,000	2,550	1,070 J	19 U	1,430	6,800	10,500 J	48,000 J	870 J	173	620
Total LPAH (calc'd)	µg/kg dw	133	650 J	320	91 J	19 U	190	1,010 J	1,260 J	44,000	64	20 U	39
Total PAH (calc'd)	µg/kg dw	1,940	5,700 J	2,870	1,160 J	19 U	1,610	7,800 J	11,700 J	92,000 J	930 J	173	660
<b>Phthalates</b>													
Bis(2-ethylhexyl)phthalate	µg/kg dw	190 U	220	150	150	19 U	46	510	530	430	110	24 U	91
Butyl benzyl phthalate	µg/kg dw	42	6.6 U	6.4 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	19 UJ	6.5 U	6.3 U	6.4 U
Diethyl phthalate	µg/kg dw	6.5 U	6.6 U	6.4 U	6.4 U	7.2	6.4 U	6.6 U	7.9	22 U	14 U	5.7 J	6.4 U
Dimethyl phthalate	µg/kg dw	7.1	6.6 U	6.4 U	6.4 U	6.6 U	36	6.6 U	6.6 U	19 UJ	6.5 U	6.3 U	6.4 U
Di-n-butyl phthalate	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	29
Di-n-octyl phthalate	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
<b>Other SVOCs</b>													
1,2,4-Trichlorobenzene	µg/kg dw	6.5 U	6.6 U	6.4 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	19 UJ	6.5 U	6.3 U	6.4 U
1,2-Dichlorobenzene	µg/kg dw	6.5 U	6.6 U	6.4 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	19 UJ	6.5 U	6.3 U	6.4 U
1,3-Dichlorobenzene	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
1,4-Dichlorobenzene	µg/kg dw	6.5 U	6.6 U	6.4 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	19 UJ	6.5 U	6.3 U	6.4 U
2,4,5-Trichlorophenol	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
2,4,6-Trichlorophenol	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U

**Table A-1-4. Samples SS81-010 through SS103-010, cont.**

ANALYTE	UNIT	LDW-SS81-010	LDW-SS82-010	LDW-SS204-010 (field duplicate)	LDW-SS85-010	LDW-SS86-010	LDW-SS90-010	LDW-SS91-010	LDW-SS93-010	LDW-SS95-010	LDW-SS98-010	LDW-SS100-010	LDW-SS103-010
2,4-Dichlorophenol	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
2,4-Dimethylphenol	µg/kg dw	6.5 U	6.6 U	6.4 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	19 UJ	6.5 U	6.3 U	6.4 U
2,4-Dinitrophenol	µg/kg dw	190 U	980 U	200 U	980 U	190 UJ	200 U	990 U	600 U	190 UJ	580 UJ	200 U	190 U
2,4-Dinitrotoluene	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
2,6-Dinitrotoluene	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
2-Chlorophenol	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
2-Methylphenol	µg/kg dw	6.5 U	6.6 U	6.4 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	19 UJ	6.5 U	6.3 U	6.4 U
2-Nitroaniline	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
2-Nitrophenol	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
3,3'-Dichlorobenzidine	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
3-Nitroaniline	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
4,6-Dinitro-o-cresol	µg/kg dw	190 U	980 U	200 U	980 U	190 UJ	200 U	990 U	600 U	190 UJ	580 UJ	200 U	190 U
4-Bromophenyl phenyl ether	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
4-Chloro-3-methylphenol	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
4-Chloroaniline	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
4-Chlorophenyl phenyl ether	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
4-Methylphenol	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
4-Nitroaniline	µg/kg dw	97 U	490 U	98 U	490 U	96 U	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
4-Nitrophenol	µg/kg dw	97 U	490 U	98 U	490 U	96 UJ	99 U	500 U	300 U	97 UJ	290 U	97 U	97 U
Aniline	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
Benzoic acid	µg/kg dw	65 U	66 U	64 U	64 U	66 UJ	65	66 U	66 U	270	65 UJ	63 U	64 U
Benzyl alcohol	µg/kg dw	19 U	33 U	20 U	32 U	19 U	20 U	33 U	33 U	19 UJ	32 U	20 U	19 U
Bis(2-chloroethoxy)methane	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
Bis(2-chloroethyl)ether	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
Bis(2-chloroisopropyl)ether	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
Carbazole	µg/kg dw	19 U	79 J	32	98 U	19 U	28	150	100	4,200	58 U	20 U	19 U
Hexachlorobenzene	µg/kg dw	0.97 U	0.98 U	0.97 U	6.4 U	6.6 U	3.2 UJ	6.6 U	0.99 U	11 UJ	3.2 UJ	0.97 U	6.4 U
Hexachlorobutadiene	µg/kg dw	0.97 U	0.98 U	0.97 U	6.4 U	6.6 U	6.4 U	6.6 U	0.99 U	19 UJ	6.5 U	0.97 U	6.4 U
Hexachlorocyclopentadiene	µg/kg dw	97 U	490 U	98 U	490 U	96 UJ	99 U	500 U	300 U	97 UJ	290 UJ	97 U	97 U
Hexachloroethane	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U

**Table A-1-4. Samples SS81-010 through SS103-010, cont.**

ANALYTE	UNIT	LDW-SS81-010	LDW-SS82-010	LDW-SS204-010 (field duplicate)	LDW-SS85-010	LDW-SS86-010	LDW-SS90-010	LDW-SS91-010	LDW-SS93-010	LDW-SS95-010	LDW-SS98-010	LDW-SS100-010	LDW-SS103-010
Isophorone	µg/kg dw	19 U	98 U	20 U	98 U	19 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
Nitrobenzene	µg/kg dw	19 U	98 U	20 U	98 U	19 UJ	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U
N-Nitrosodimethylamine	µg/kg dw	32 U	33 U	32 U	32 U	33 U	32 U	33 U	33 U	97 UJ	32 U	32 U	32 U
N-Nitroso-di-n-propylamine	µg/kg dw	32 U	33 U	32 U	32 U	33 UJ	32 U	33 U	33 U	97 UJ	32 U	32 U	32 U
N-Nitrosodiphenylamine	µg/kg dw	6.5 U	6.6 U	6.4 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6	19 UJ	6.5 U	6.3 U	6.4 U
Pentachlorophenol	µg/kg dw	32 U	33 U	32 U	32 U	33 U	32 U	33 U	33 U	97 UJ	32 U	32 U	32 U
Phenol	µg/kg dw	90	98 U	20 U	98 U	19 U	84 U	99 U	60 U	19 UJ	58 U	20 U	19 U
<b>Polychlorinated biphenyls</b>													
Aroclor-1016	µg/kg dw	20 U	20 U	19 U	19 U	19 U	20 U	20 U	20 U	19 U	110 U	19 U	20 U
Aroclor-1221	µg/kg dw	20 U	20 U	19 U	19 U	19 U	20 U	20 U	20 U	19 U	110 U	19 U	20 U
Aroclor-1232	µg/kg dw	20 U	20 U	19 U	78 U	19 U	20 U	20 U	20 U	19 U	110 U	19 U	20 U
Aroclor-1242	µg/kg dw	38	20 U	19 U	19 U	19 U	20 U	20 U	20 U	88	110 U	19 U	20 U
Aroclor-1248	µg/kg dw	20 U	62	60	78 U	19 U	20 U	20 U	40 U	19 U	110 U	19 U	20 U
Aroclor-1254	µg/kg dw	100	72	84	500	24	54 U	50	72	65	72 J	43	38
Aroclor-1260	µg/kg dw	75	59	62	130	19 U	54	120	58	45	110 U	29	42
Total PCBs (calc'd)	µg/kg dw	210	193	206	630	24	54	170	130	198	72 J	72	80
<b>Pesticides</b>													
2,4'-DDD	µg/kg dw	2.0 U	2.0 U	2.0 U	20 U	na	na	na	2.0 U	na	na	na	na
2,4'-DDE	µg/kg dw	2.0 U	2.0 U	8.6 U	20 U	na	na	na	2.0 U	na	na	na	na
2,4'-DDT	µg/kg dw	2.0 U	2.0 U	2.0 U	20 U	na	na	na	2.0 U	na	na	na	na
4,4'-DDD	µg/kg dw	2.0 U	5.2 U	3.1 U	20 U	na	na	na	2.0 U	na	na	na	na
4,4'-DDE	µg/kg dw	2.0 U	6.0 U	7.2 U	20 U	na	na	na	2.0 U	na	na	na	na
4,4'-DDT	µg/kg dw	9.2 U	11 U	2.0 U	20 U	na	na	na	13 U	na	na	na	na
Total DDTs (calc'd)	µg/kg dw	9.2 U	11 U	8.6 U	20 U	na	na	na	13 U	na	na	na	na
Aldrin	µg/kg dw	0.97 U	0.98 U	0.97 U	9.8 U	na	na	na	4.3 U	na	na	na	na
Dieldrin	µg/kg dw	4.7 U	2.0 U	4.6 U	20 U	na	na	na	5.2 U	na	na	na	na
Total aldrin/dieldrin (calc'd)	µg/kg dw	4.7 U	2.0 U	4.6 U	20 U	na	na	na	5.2 U	na	na	na	na
alpha-BHC	µg/kg dw	0.97 U	0.98 U	0.97 U	9.8 U	na	na	na	0.99 U	na	na	na	na
beta-BHC	µg/kg dw	0.97 U	0.98 U	0.97 U	9.8 U	na	na	na	0.99 U	na	na	na	na
delta-BHC	µg/kg dw	0.97 U	0.98 U	0.97 U	9.8 U	na	na	na	0.99 U	na	na	na	na



**Table A-1-4. Samples SS81-010 through SS103-010, cont.**

ANALYTE	UNIT	LDW-SS81-010	LDW-SS82-010	LDW-SS204-010 (field duplicate)	LDW-SS85-010	LDW-SS86-010	LDW-SS90-010	LDW-SS91-010	LDW-SS93-010	LDW-SS95-010	LDW-SS98-010	LDW-SS100-010	LDW-SS103-010
gamma-BHC	µg/kg dw	0.97 U	0.98 U	0.97 U	9.8 U	na	na	na	0.99 U	na	na	na	na
alpha-Chlordane	µg/kg dw	0.97 U	0.98 U	0.97 U	36	na	na	na	1.7 U	na	na	na	na
gamma-Chlordane	µg/kg dw	3.6 U	0.98 U	0.97 U	59	na	na	na	0.99 U	na	na	na	na
Total chlordane (calc'd)	µg/kg dw	4.7 U	5.2 U	6.2 U	95	na	na	na	8.8 U	na	na	na	na
alpha-Endosulfan	µg/kg dw	0.97 U	0.98 U	0.97 U	9.8 U	na	na	na	2.8 U	na	na	na	na
beta-Endosulfan	µg/kg dw	2.0 U	2.0 U	2.0 U	20 U	na	na	na	2.0 U	na	na	na	na
Endosulfan sulfate	µg/kg dw	2.0 U	2.0 U	2.0 U	20 U	na	na	na	2.0 U	na	na	na	na
Endrin	µg/kg dw	2.0 U	2.0 U	2.0 U	20 U	na	na	na	2.0 U	na	na	na	na
Endrin aldehyde	µg/kg dw	2.0 UJ	2.0 UJ	2.0 UJ	20 UJ	na	na	na	2.0 UJ	na	na	na	na
Endrin ketone	µg/kg dw	2.0 U	2.0 U	2.0 U	20 U	na	na	na	2.0 U	na	na	na	na
Heptachlor	µg/kg dw	0.97 U	0.98 U	0.97 U	9.8 U	na	na	na	2.5 U	na	na	na	na
Heptachlor epoxide	µg/kg dw	0.97 U	0.98 U	0.97 U	9.8 U	na	na	na	0.99 U	na	na	na	na
Methoxychlor	µg/kg dw	9.7 U	9.8 U	9.7 U	98 U	na	na	na	9.9 U	na	na	na	na
Mirex	µg/kg dw	2.0 U	2.0 U	2.0 U	20 U	na	na	na	11 U	na	na	na	na
Cis-nonachlor	µg/kg dw	4.7 U	5.2 U	6.2 U	20 U	na	na	na	8.8 U	na	na	na	na
Oxychlordane	µg/kg dw	2.0 U	2.0 U	2.0 U	20 U	na	na	na	2.0 U	na	na	na	na
Toxaphene	µg/kg dw	97 U	98 U	97 U	980 U	na	na	na	99 U	na	na	na	na
Trans-Nonachlor	µg/kg dw	2.0 U	2.0 U	2.0 U	20 U	na	na	na	2.0 U	na	na	na	na
<b>Sediment grain size</b>													
Fractional % phi >-1 (>2,000 µm)	% dw	1.6	2.6	1.5	2.6	0.1 U	25.6	8.2	0.3	8.3	0.1	9.5	0.8
Fractional % phi -1-0 (1,000-2,000 µm)	% dw	0.9	0.8	0.8	3.2	1.5	5.1	6.1	0.5	3.6	0.2	3.9	0.2
Fractional % phi 0-1 (500-1,000 µm)	% dw	1.5	2.8	3.1	21.7	28.7	14.8	18.5	1	6.0	0.4	12.2	3.0
Fractional % phi 1-2 (250-500 µm)	% dw	2.5	6.5	6.5	42.5	58.1	27.9	26.4	2.8	11.9	1.9	47.8	14.7
Fractional % phi 2-3 (125-250 µm)	% dw	3.8	9.7	10.0	12.3	8.7	11.9	11.8	6.8	11.6	12.8	19.2	14.3
Fractional % phi 3-4 (62.5-125 µm)	% dw	9.7	23.4	24.1	5.0	0.8	4.7	7.1	15.4	12.9	24.2	2.6	21.6
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	12.1	13.9	14.6	3.8	0.8	2.4	4.8	14.9	10.6	21.5	0.3	14.2
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	16.7	13.3	12.7	2.6	0.2	1.6	4.9	19.0	10.3	13.6	1.9	11.0
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	16.7	9.6	9.2	1.9	0.3	1.6	4.3	15.1	8.5	9.2	0.6	7.6
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	11.7	6.3	6.4	1.4	0.3	1.5	2.9	9.4	5.3	4.8	0.2	4.9
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	7.5	3.2	3.4	0.8	0.1	1.1	1.8	3.0	3.3	3.2	0.7	2.8

**Table A-1-4. Samples SS81-010 through SS103-010, cont.**

ANALYTE	UNIT	LDW-SS81-010	LDW-SS82-010	LDW-SS204-010 (field duplicate)	LDW-SS85-010	LDW-SS86-010	LDW-SS90-010	LDW-SS91-010	LDW-SS93-010	LDW-SS95-010	LDW-SS98-010	LDW-SS100-010	LDW-SS103-010
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	4.4	2.2	2.6	0.4	0.1	0.6	1.0	2.8	2.5	2.0	0.4	2.0
Fractional % phi 10+ (<0.98 µm)	% dw	10.8	5.7	5.1	1.8	0.5	1.2	2.2	8.9	5.2	6.1	0.6	2.9
Rocks (total calc'd)	% dw	1.6	2.6	1.5	2.6	0.1 U	25.6	8.2	0.3	8.3	0.1	9.5	0.8
Sand (total calc'd)	% dw	18.4	43.2	44.5	84.7	97.8	64.4	69.9	27	46.0	39.5	85.7	53.8
Silt (total calc'd)	% dw	57.2	43.1	42.9	9.7	1.6	7.1	16.9	58.4	34.7	49.1	3.0	37.7
Clay (total calc'd)	% dw	22.7	11.1	11.1	3.0	0.7	2.9	5.0	14.7	11.0	11.3	1.7	7.7
Fines (percent silt+clay)	% dw	79.9	54.2	54.0	12.7	2.3	10.0	21.9	73.1	45.7	60.4	4.7	45.4
<b>Conventional parameters</b>													
Total organic carbon (TOC)	% dw	2.47	2.09	1.84	1.90	0.192	1.59	1.92	2.23	2.65	1.36	0.790	2.52
Total solids	% ww	50.10	51.40	51.60	65.40	79.00	67.50	63.20	47.00	57.40	53.63	72.30	56.20
Total solids (preserved)	% ww	48.70	40.60	41.10	46.13	77.60	57.10	57.90	41.18	49.70	49.00	72.80	48.20
Sulfides (total)	mg/kg dw	40 J	8.1 U	11	5.6 U	10	8.4 U	4.9 U	1,300	63 J	60	6.7 J	5.2 U
Ammonia (total as nitrogen)	mg-N/kg	14.3	9.44	9.27	6.27	0.12 U	7.12	3.76	11.2	14.8	7.26	3.35	5.04

dw – dry weight

ww – wet weight

na – not analyzed

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Totals were calculated for each sediment grain size category using the following grain size ranges: rock – all fractions >2,000 µm; sand – all fractions between 63 and 2,000 µm; silt – all fractions between 3.9 and 63 µm; and clay – all fractions <3.9 µm.

Data qualifiers: U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-1-5. Concentrations of all analytes in Round 2 LDW surface sediment samples: Samples SS105-010 through SS136-010**

ANALYTE	UNIT	LDW-SS105-010	LDW-SS106-010	LDW-SS107-010	LDW-SS108-010	LDW-SS122-010	LDW-SS124-010	LDW-SS131-010	LDW-SS206-010 (field duplicate)	LDW-SS132-010	LDW-SS133-010	LDW-SS135-010	LDW-SS136-010
<b>Metals and trace elements</b>													
Antimony	mg/kg dw	0.3 UJ	0.3 UJ	0.4 U	0.5 UJ	0.3 UJ	0.3 UJ	0.4 UJ	0.4 UJ	0.5 UJ	0.5 UJ	0.3 UJ	0.3 UJ
Arsenic	mg/kg dw	8.8	5.0	8.7	11.4	7.5	4.8	10.4	9.6	15.8	10.0	9.8	5.6
Cadmium	mg/kg dw	0.3 U	0.3 U	0.3 U	0.5 U	0.4	0.3 U	0.4 U	0.4 U	0.5 U	0.5 U	0.8	0.3 U
Chromium	mg/kg dw	21.2	15.3	52.3	29	25.8	21.3	31	30	29	27	26.3	21.1
Cobalt	mg/kg dw	7.2	4.8	9.5	9.5	7.7	7.1	9.9	9.9	9.7	9.6	8.8	8.0
Copper	mg/kg dw	35.3	25.8	40.5 J	61.4	29.5	23.1	46.9	46.4	55.0	49.4	38.8	26.3
Lead	mg/kg dw	30	25	33	26	20	11	19	22	24	19	18	11
Mercury	mg/kg dw	0.08 U	0.06 U	0.09 U	0.2	0.08	0.06 U	0.1 U	0.1	0.1 U	0.1	0.16	0.07
Molybdenum	mg/kg dw	1.4	1.3	1.4	2	1.3	0.9	2	2	1	1	1.4	1.2
Nickel	mg/kg dw	15	9	31	21	18	18	23	22	21	20	19	18
Selenium	mg/kg dw	8 U	7 U	9 U	10 U	7 U	6 U	10 U	10 U	10 U	10 U	8 U	7 U
Silver	mg/kg dw	0.5 U	0.4 U	0.5 U	0.7 U	0.4 U	0.4 U	0.6 U	0.6 U	0.7 U	0.7 U	0.5 U	0.4 U
Thallium	mg/kg dw	0.3 U	0.3 U	0.4 U	0.5 U	0.3 U	0.3 U	0.4 U	0.4 U	0.5 U	0.5 U	0.3 U	0.3 U
Vanadium	mg/kg dw	57.5	50.2	60.4	73.5	53.5	47.1	68.2	68.5	72.6	68.4	65.9	56.1
Zinc	mg/kg dw	86.8	66.1	84 J	109	83.0	50.7	113	112	104	99	80.1	65.9
<b>Organometals</b>													
Monobutyltin as ion	µg/kg dw	na	na	R	4.0 UJ	na	3.8 UJ	R	R	na	R	na	na
Dibutyltin as ion	µg/kg dw	na	na	5.7 U	5.7 U	na	5.4 U	5.6 U	4.8 J	na	5.6 U	na	na
Tributyltin as ion	µg/kg dw	na	na	3.8 U	8.7	na	9.8	3.8 U	53	na	3.7 U	na	na
<b>PAHs</b>													
2-Chloronaphthalene	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
2-Methylnaphthalene	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Acenaphthene	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Acenaphthylene	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Anthracene	µg/kg dw	24	20 U	20	35 J	20 U	28	20 U	36	39	61	20 U	19 U
Benzo(a)anthracene	µg/kg dw	120	7.3 J	66	160	6.6 U	49	79	170	120	110	6.6 U	12
Benzo(a)pyrene	µg/kg dw	110	7.3	79	150	6.6 U	45	70	120	130	100	6.6 U	23

**Table A-1-5. Samples SS105-010 through SS136-010, cont.**

ANALYTE	UNIT	LDW-SS105-010	LDW-SS106-010	LDW-SS107-010	LDW-SS108-010	LDW-SS122-010	LDW-SS124-010	LDW-SS131-010	LDW-SS206-010 (field duplicate)	LDW-SS132-010	LDW-SS133-010	LDW-SS135-010	LDW-SS136-010
Benzo(b)fluoranthene	µg/kg dw	260	8.0 J	100	200	6.6 J	55	120	240	190	120	6.6 U	29
Benzo(g,h,i)perylene	µg/kg dw	38	20 U	24	73	20 U	20 U	20 U	34	49	37	20 U	19 U
Benzo(k)fluoranthene	µg/kg dw	140	20 U	120	190	20 U	50	65	170	210	170	20 U	31
Total benzofluoranthenes (calc'd)	µg/kg dw	400	8.0 J	220	390	6.6 J	105	190	410	400	290	20 U	60
Chrysene	µg/kg dw	260	20 U	120	240	20 U	66	100	270	200	150	20 U	27
Dibenzo(a,h)anthracene	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Dibenzofuran	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Fluoranthene	µg/kg dw	360	20	300	360	28	160	210	690	360	400	21	48
Fluorene	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Indeno(1,2,3-cd)pyrene	µg/kg dw	48	6.6 J	32	100	6.6 U	6.4 U	47	45	58	46	6.6 U	12
Naphthalene	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Phenanthrene	µg/kg dw	74	20 U	110	100	20 U	120	49	130	120	91	20 U	20
Pyrene	µg/kg dw	210	20 U	160	310	21	120	130	400	250	220	25	43
Total HPAH (calc'd)	µg/kg dw	1,550	49 J	1,000	1,780	56 J	550	820	2,140	1,570	1,350	46	225
Total LPAH (calc'd)	µg/kg dw	98	20 U	130	140 J	20 U	150	49	170	160	152	20 U	20
Total PAH (calc'd)	µg/kg dw	1,640	49 J	1,130	1,920 J	56 J	690	870	2,310	1,730	1,510	46	245
<b>Phthalates</b>													
Bis(2-ethylhexyl)phthalate	µg/kg dw	100 U	20 U	130	160	50 U	27	130 U	270	320 U	250 U	34	25
Butyl benzyl phthalate	µg/kg dw	6.5 U	6.6 UJ	6.7 U	6.5 U	10	6.4 U	23	46	35	27	6.6 U	6.5 U
Diethyl phthalate	µg/kg dw	6.5 U	6.6 UJ	20 U	9.8	6.6 U	6.4 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.5 U
Dimethyl phthalate	µg/kg dw	6.5 U	6.6 UJ	6.7 U	6.5 U	6.6 U	6.4 U	34	66	7.9	33	6.6 U	6.5 U
Di-n-butyl phthalate	µg/kg dw	20 U	20 U	25	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Di-n-octyl phthalate	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
<b>Other SVOCs</b>													
1,2,4-Trichlorobenzene	µg/kg dw	6.5 U	6.6 UJ	6.7 U	6.5 U	6.6 U	6.4 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.5 U
1,2-Dichlorobenzene	µg/kg dw	6.5 U	6.6 UJ	6.7 U	6.5 U	6.6 U	6.4 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.5 U
1,3-Dichlorobenzene	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
1,4-Dichlorobenzene	µg/kg dw	6.5 U	6.6 UJ	6.7 U	6.5 U	6.6 U	6.4 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.5 U
2,4,5-Trichlorophenol	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
2,4,6-Trichlorophenol	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U

**Table A-1-5. Samples SS105-010 through SS136-010, cont.**

ANALYTE	UNIT	LDW-SS105-010	LDW-SS106-010	LDW-SS107-010	LDW-SS108-010	LDW-SS122-010	LDW-SS124-010	LDW-SS131-010	LDW-SS206-010 (field duplicate)	LDW-SS132-010	LDW-SS133-010	LDW-SS135-010	LDW-SS136-010
2,4-Dichlorophenol	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
2,4-Dimethylphenol	µg/kg dw	6.5 U	6.6 U	6.7 U	6.5 U	6.6 U	6.4 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.5 U
2,4-Dinitrophenol	µg/kg dw	200 U	200 U	200 U	590 UJ	200 U	200 U	200 U	200 U	200 U	200 U	200 U	190 U
2,4-Dinitrotoluene	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
2,6-Dinitrotoluene	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
2-Chlorophenol	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
2-Methylphenol	µg/kg dw	6.5 U	6.6 U	6.7 U	6.5 U	6.6 U	6.4 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.5 U
2-Nitroaniline	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
2-Nitrophenol	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
3,3'-Dichlorobenzidine	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
3-Nitroaniline	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
4,6-Dinitro-o-cresol	µg/kg dw	200 U	200 U	200 U	590 UJ	200 U	200 U	200 U	200 U	200 U	200 U	200 U	190 U
4-Bromophenyl phenyl ether	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
4-Chloro-3-methylphenol	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
4-Chloroaniline	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
4-Chlorophenyl phenyl ether	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
4-Methylphenol	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
4-Nitroaniline	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
4-Nitrophenol	µg/kg dw	98 U	99 U	99 U	290 U	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
Aniline	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Benzoic acid	µg/kg dw	270	66 U	67 U	65 UJ	66 U	64 U	90	130	100	65 U	66 U	65 U
Benzyl alcohol	µg/kg dw	20 U	20 U	20 U	33 U	20 U	20 U	20 U	20 U	20	20	20 U	19 U
Bis(2-chloroethoxy)methane	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Bis(2-chloroethyl)ether	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Bis(2-chloroisopropyl)ether	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Carbazole	µg/kg dw	23	20 U	20 U	59 U	20 U	20 U	20 U	24	24	29	20 U	19 U
Hexachlorobenzene	µg/kg dw	3.2 UJ	3.3 UJ	3.3 UJ	0.98 U	3.3 UJ	3.2 UJ	0.98 U	1.6	6.6 U	0.98 U	6.6 U	3.3 UJ
Hexachlorobutadiene	µg/kg dw	6.5 U	6.6 UJ	6.7 U	0.98 U	6.6 U	6.4 U	0.98 U	0.98 U	6.6 U	0.98 U	6.6 U	6.5 U
Hexachlorocyclopentadiene	µg/kg dw	98 U	99 U	99 U	290 UJ	97 U	97 U	98 U	99 U	98 U	99 U	98 U	96 U
Hexachloroethane	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U

**Table A-1-5. Samples SS105-010 through SS136-010, cont.**

ANALYTE	UNIT	LDW-SS105-010	LDW-SS106-010	LDW-SS107-010	LDW-SS108-010	LDW-SS122-010	LDW-SS124-010	LDW-SS131-010	LDW-SS206-010 (field duplicate)	LDW-SS132-010	LDW-SS133-010	LDW-SS135-010	LDW-SS136-010
Isophorone	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
Nitrobenzene	µg/kg dw	20 U	20 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U
N-Nitrosodimethylamine	µg/kg dw	32 U	33 UJ	33 U	33 U	33 U	32 U	32 U	33 U	33 U	32 U	33 U	33 U
N-Nitroso-di-n-propylamine	µg/kg dw	32 U	33 UJ	33 U	33 U	33 U	32 U	32 U	33 U	33 U	32 U	33 U	33 U
N-Nitrosodiphenylamine	µg/kg dw	6.5 U	6.6 UJ	7.3	6.5 U	6.6 U	6.4 U	6.5 U	6.6 U	6.6 U	6.5 U	8.0	6.5 U
Pentachlorophenol	µg/kg dw	32 U	33 U	33 U	33 U	33 U	32 U	32 U	33 U	33 U	32 U	33 U	33 U
Phenol	µg/kg dw	21	20 U	34 U	59 U	34	20 U	20 U	20 U	20 U	20 U	20 U	19 U
<b>Polychlorinated biphenyls</b>													
Aroclor-1016	µg/kg dw	31 U	20 U	20 U	20 U	64 U	19 U	20 U	20 U	20 U	20 U	20 U	19 U
Aroclor-1221	µg/kg dw	31 U	20 U	20 U	20 U	64 U	19 U	20 U	20 U	20 U	20 U	20 U	19 U
Aroclor-1232	µg/kg dw	31 U	20 U	20 U	20 U	64 U	19 U	20 U	20 U	20 U	20 U	20 U	19 U
Aroclor-1242	µg/kg dw	31 U	20 U	20 U	20 U	64 U	19 U	20 U	20 U	20 U	20 U	20 U	19 U
Aroclor-1248	µg/kg dw	31 U	20 U	20 U	20 U	130 U	19 U	20 U	20 U	31	20 U	87 U	19 U
Aroclor-1254	µg/kg dw	61 U	170	32	46	290	19 U	21 J	23	52	17 J	170	19 U
Aroclor-1260	µg/kg dw	46	38	89	82	81	19 U	20 U	20 U	44	19 J	70	19 U
Total PCBs (calc'd)	µg/kg dw	46	210	121	128	370	19 U	21 J	23	127	36 J	240	19 U
<b>Pesticides</b>													
2,4'-DDD	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
2,4'-DDE	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
2,4'-DDT	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
4,4'-DDD	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
4,4'-DDE	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
4,4'-DDT	µg/kg dw	na	na	na	14 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
Total DDTs (calc'd)	µg/kg dw	na	na	na	14 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
Aldrin	µg/kg dw	na	na	na	0.98 U	na	na	0.98 U	0.98 U	na	0.98 U	na	na
Dieldrin	µg/kg dw	na	na	na	5.4 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
Total aldrin/dieldrin (calc'd)	µg/kg dw	na	na	na	5.4 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
alpha-BHC	µg/kg dw	na	na	na	0.98 U	na	na	0.98 U	0.98 U	na	0.98 U	na	na
beta-BHC	µg/kg dw	na	na	na	0.98 U	na	na	0.98 U	0.98 U	na	0.98 U	na	na
delta-BHC	µg/kg dw	na	na	na	0.98 U	na	na	0.98 U	0.98 U	na	0.98 U	na	na

**Table A-1-5. Samples SS105-010 through SS136-010, cont.**

ANALYTE	UNIT	LDW-SS105-010	LDW-SS106-010	LDW-SS107-010	LDW-SS108-010	LDW-SS122-010	LDW-SS124-010	LDW-SS131-010	LDW-SS206-010 (field duplicate)	LDW-SS132-010	LDW-SS133-010	LDW-SS135-010	LDW-SS136-010
gamma-BHC	µg/kg dw	na	na	na	0.98 U	na	na	0.98 U	0.98 U	na	0.98 U	na	na
alpha-Chlordane	µg/kg dw	na	na	na	0.98 U	na	na	0.98 U	0.98 U	na	0.98 U	na	na
gamma-Chlordane	µg/kg dw	na	na	na	0.98 U	na	na	0.98 U	0.98 U	na	0.98 U	na	na
Total chlordane (calc'd)	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
alpha-Endosulfan	µg/kg dw	na	na	na	0.98 U	na	na	0.98 U	0.98 U	na	0.98 U	na	na
beta-Endosulfan	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
Endosulfan sulfate	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
Endrin	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
Endrin aldehyde	µg/kg dw	na	na	na	2.0 UJ	na	na	2.0 UJ	2.0 UJ	na	2.0 UJ	na	na
Endrin ketone	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
Heptachlor	µg/kg dw	na	na	na	0.98 U	na	na	0.98 U	0.98 U	na	1.1 U	na	na
Heptachlor epoxide	µg/kg dw	na	na	na	0.98 U	na	na	0.98 U	0.98 U	na	0.98 U	na	na
Methoxychlor	µg/kg dw	na	na	na	9.8 U	na	na	9.8 U	9.8 U	na	9.8 U	na	na
Mirex	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
Cis-nonachlor	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
Oxychlordane	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
Toxaphene	µg/kg dw	na	na	na	98 U	na	na	98 U	98 U	na	98 U	na	na
Trans-Nonachlor	µg/kg dw	na	na	na	2.0 U	na	na	2.0 U	2.0 U	na	2.0 U	na	na
<b>Sediment grain size</b>													
Fractional % phi >-1 (>2,000 µm)	% dw	6.3	5.8	0.6	0.1	12.3	15.3	0.1 U	0.1 U	0.2	0.1 U	1.5	0.4
Fractional % phi -1-0 (1,000-2,000 µm)	% dw	2.1	1.3	0.7	0.1	3.1	6.3	0.3	0.1	0.1	0.3	1.9	0.6
Fractional % phi 0-1 (500-1,000 µm)	% dw	4.5	1.4	2.7	0.5	4.6	9.7	1.7	1.7	0.3	1.5	13.0	5.3
Fractional % phi 1-2 (250-500 µm)	% dw	16.6	13.9	6.6	2.3	9.5	24.2	3.4	3.1	1.5	2.3	15.4	13.1
Fractional % phi 2-3 (125-250 µm)	% dw	19.4	32.5	13.0	5.1	11.8	22.4	14.5	14.1	4.0	7.5	4.6	9.4
Fractional % phi 3-4 (62.5-125 µm)	% dw	21.4	25.5	29.9	10.1	13.1	11.0	20.0	20.1	11.1	13.4	8.1	16.4
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	9.5	8.2	12.6	18.4	10.9	3.3	13.1	15.8	19.6	12.3	10.5	15.3
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	5.9	3.0	9.9	23.7	12.5	1.8	16.4	15.6	24.1	22.7	12.4	14.5
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	4.3	2.1	7.9	17.3	7.0	1.4	11.8	11.5	16.8	17.4	10.7	9.1
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	3.0	1.8	5.6	8.7	4.7	1.2	6.9	6.3	8.0	9.0	7.5	6.4
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	2.0	1.3	3.2	5.1	2.9	0.5	3.0	2.9	4.2	3.5	3.7	2.0

**Table A-1-5. Samples SS105-010 through SS136-010, cont.**

ANALYTE	UNIT	LDW-SS105-010	LDW-SS106-010	LDW-SS107-010	LDW-SS108-010	LDW-SS122-010	LDW-SS124-010	LDW-SS131-010	LDW-SS206-010 (field duplicate)	LDW-SS132-010	LDW-SS133-010	LDW-SS135-010	LDW-SS136-010
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	1.4	0.9	1.9	2.3	1.8	0.7	2.0	1.9	3.1	3.6	2.6	2.2
Fractional % phi 10+ (<0.98 µm)	% dw	3.4	2.3	5.2	6.3	5.6	2.4	6.9	6.8	7.3	6.5	8.1	5.3
Rocks (total calc'd)	% dw	6.3	5.8	0.6	0.1	12.3	15.3	0.1 U	0.1 U	0.2	0.1 U	1.5	0.4
Sand (total calc'd)	% dw	64.0	74.6	52.9	18.1	42.1	73.6	39.9	39.1	17.0	25.0	43.0	44.8
Silt (total calc'd)	% dw	22.7	15.1	36.0	68.1	35.1	7.7	48.2	49.2	68.5	61.4	41.1	45.3
Clay (total calc'd)	% dw	6.8	4.5	10.3	13.7	10.3	3.6	11.9	11.6	14.6	13.6	14.4	9.5
Fines (percent silt+clay)	% dw	29.5	19.6	46.3	81.8	45.4	11.3	60.1	60.8	83.1	75.0	55.5	54.8
<b>Conventional parameters</b>													
Total organic carbon (TOC)	% dw	1.26	0.945	1.70	2.76	1.35	0.964	3.18	2.78	3.05	2.59	2.28	1.56
Total solids	% ww	64.50	68.00	53.10	40.30	63.70	70.40	45.80	45.60	38.30	42.40	59.30	69.70
Total solids (preserved)	% ww	59.50	67.30	48.10	34.80	62.30	48.10	41.50	43.00	34.60	36.10	56.60	55.00
Sulfides (total)	mg/kg dw	3.8 UJ	5.3 J	12	54 J	5.9 U	9.4 U	100 J	28 J	320 J	12 J	12	8.1 U
Ammonia (total as nitrogen)	mg-N/kg	5.20	2.05	8.08	8.88	5.30	2.69	12.3	11.8	21.0	28.7	4.43	10.5

dw – dry weight

ww – wet weight

na – not analyzed

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Totals were calculated for each sediment grain size category using the following grain size ranges: rock – all fractions >2,000 µm; sand – all fractions between 63 and 2,000 µm; silt – all fractions between 3.9 and 63 µm; and clay – all fractions <3.9 µm.

Data qualifiers: U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown  
 R – result was rejected



**Table A-1-6. Concentrations of all analytes in Round 2 LDW surface sediment samples: Samples SS137-010 through SS150-010**

ANALYTE	UNIT	LDW-SS137-010	LDW-SS138-010	LDW-SS139-010	LDW-SS140-010	LDW-SS141-010	LDW-SS144-010	LDW-SS145-010	LDW-SS146-010	LDW-SS147-010	LDW-SS148-010	LDW-SS149-010	LDW-SS150-010
<b>Metals and trace elements</b>													
Antimony	mg/kg dw	0.5 UJ	0.4 UJ	0.3 UJ	0.3 UJ	0.4 UJ	0.3 UJ	0.2 U	0.4 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.3 UJ
Arsenic	mg/kg dw	13.2	7.5	6.8	5.0	6.7	3.4	4.5	7.1	8.7	15.6	6.4	5.8
Cadmium	mg/kg dw	0.5 U	0.4 U	0.3 U	0.3 U	0.4 U	0.3 U	0.2 U	0.4 U	0.4 U	0.4 U	0.3 U	0.3 U
Chromium	mg/kg dw	28	24.6	24.4	16.1	23	13.1	14.5	23	24	26	23.4	25.0
Cobalt	mg/kg dw	9.7	9.3	8.2	6.6	8.3	4.8	7.3	9.0	9.3	6.6	7.0	6.4
Copper	mg/kg dw	48.8	33.9	29.7	17.4	30.9	15.4	13.7 J	34.9	35.8	36.0	28.2	24.9
Lead	mg/kg dw	21	14	13	7	13	14	5	14	28	95	20	28
Mercury	mg/kg dw	0.1 U	0.10	0.08 U	0.06 U	0.1 U	0.07 U	0.06 U	0.1 U	0.13	0.1 U	0.07 U	0.11
Molybdenum	mg/kg dw	2	1.4	1.2	1.0	1	1.0	0.8	2	2	2	1.0	0.9
Nickel	mg/kg dw	20	19	18	14	18	9	14	18	19	15	23	16
Selenium	mg/kg dw	10 U	9 U	9 U	7 U	10 U	7 U	6 U	10 U	10 U	10 U	8 U	7 U
Silver	mg/kg dw	0.7 U	0.6 U	0.5 U	0.4 U	0.6 U	0.4 U	0.3 U	0.6 U	0.6 U	0.6 U	0.5 U	0.4 U
Thallium	mg/kg dw	0.5 U	0.4 U	0.3 U	0.3 U	0.4 U	0.3 U	0.2 U	0.4 U	0.4 U	0.4 U	0.3 U	0.3 U
Vanadium	mg/kg dw	72.8	64.1	60.8	49.1	60.1	43.8	47.2	65.4	61.0	56.0	49.4	46.6
Zinc	mg/kg dw	96	77	71	51.9	71	42.6	47.4 J	80	86	97	65	59.7
<b>Organometals</b>													
Monobutyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	na	na	na
Dibutyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	na	na	na
Tributyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	na	na	na
<b>PAHs</b>													
2-Chloronaphthalene	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
2-Methylnaphthalene	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
Acenaphthene	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	81	20 U
Acenaphthylene	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	23	20 U	59 U	20 U
Anthracene	µg/kg dw	45	20 U	19 U	20 U	59 U	18 J	20 U	27	49	22	120	20 U
Benzo(a)anthracene	µg/kg dw	180	50	72	9.2	35 J	100	6.6 U	130	160	110	360	28
Benzo(a)pyrene	µg/kg dw	200	60	83	10	7.1	120	6.6 U	150	150	160	260	33

**Table A-1-6. Samples SS137-010 through SS150-010, cont.**

ANALYTE	UNIT	LDW-SS137-010	LDW-SS138-010	LDW-SS139-010	LDW-SS140-010	LDW-SS141-010	LDW-SS144-010	LDW-SS145-010	LDW-SS146-010	LDW-SS147-010	LDW-SS148-010	LDW-SS149-010	LDW-SS150-010
Benzo(b)fluoranthene	µg/kg dw	290	71	120	29	7.1	160	6.6 U	180	180	210	250	36
Benzo(g,h,i)perylene	µg/kg dw	72	21	33	20 U	59 U	46	20 UJ	57	52	59	48 J	20 U
Benzo(k)fluoranthene	µg/kg dw	380	86	130	16 J	62	140	20 U	280	210	230	320	41
Total benzofluoranthenes (calc'd)	µg/kg dw	670	157	250	45 J	69	300	20 U	460	390	440	570	77
Chrysene	µg/kg dw	360	79	130	21	54 J	150	20 U	210	240	160	430	41
Dibenzo(a,h)anthracene	µg/kg dw	27	20 U	19 U	20 U	59 U	12 J	20 U	20 U	20 U	20 U	59 U	20 U
Dibenzofuran	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	10 J	20 U	20 U	43 J	20 U
Fluoranthene	µg/kg dw	830	190	260	42	110	270	20 U	480	470	330	1,600	83
Fluorene	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	58 J	20 U
Indeno(1,2,3-cd)pyrene	µg/kg dw	95	27	39	9.9	6.5	71	6.6 U	67	65	67	140	12
Naphthalene	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
Phenanthrene	µg/kg dw	230	60	94	20 U	40 J	130	20 U	150	190	90	190	68
Pyrene	µg/kg dw	570	110	160	31	87	240	20 U	320	360	230	760	64
Total HPAH (calc'd)	µg/kg dw	3,000	690	1,030	168 J	370 J	1,310 J	20 UJ	1,870	1,890	1,560	4,200 J	338
Total LPAH (calc'd)	µg/kg dw	280	60	94	20 U	40 J	150 J	20 U	180	260	112	450 J	68
Total PAH (calc'd)	µg/kg dw	3,280	750	1,120	168 J	410 J	1,460 J	20 U	2,050	2,150	1,670	4,600 J	406
<b>Phthalates</b>													
Bis(2-ethylhexyl)phthalate	µg/kg dw	320 U	120 U	170 U	57 U	100	28	20 U	130 U	82 U	160 U	59 U	28 U
Butyl benzyl phthalate	µg/kg dw	44	6.5 U	20	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	24	6.5 U	6.6 U
Diethyl phthalate	µg/kg dw	6.6 U	6.5 U	6.6 U	6.6 U	9.7 U	7.3 U	6.6 U	6.5 U	6.5 U	6.4 U	6.5 U	6.6 U
Dimethyl phthalate	µg/kg dw	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.4 U	6.5 U	6.6 U
Di-n-butyl phthalate	µg/kg dw	24	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
Di-n-octyl phthalate	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
<b>Other SVOCs</b>													
1,2,4-Trichlorobenzene	µg/kg dw	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.4 U	6.5 U	6.6 U
1,2-Dichlorobenzene	µg/kg dw	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.4 U	6.5 U	6.6 U
1,3-Dichlorobenzene	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
1,4-Dichlorobenzene	µg/kg dw	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.4 U	6.5 U	6.6 U
2,4,5-Trichlorophenol	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
2,4,6-Trichlorophenol	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U

**Table A-1-6. Samples SS137-010 through SS150-010, cont.**

ANALYTE	UNIT	LDW-SS137-010	LDW-SS138-010	LDW-SS139-010	LDW-SS140-010	LDW-SS141-010	LDW-SS144-010	LDW-SS145-010	LDW-SS146-010	LDW-SS147-010	LDW-SS148-010	LDW-SS149-010	LDW-SS150-010
2,4-Dichlorophenol	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
2,4-Dimethylphenol	µg/kg dw	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.4 U	6.5 U	6.6 U
2,4-Dinitrophenol	µg/kg dw	200 U	200 U	190 U	200 U	590 UJ	200 UJ	200 U	200 U	200 U	200 U	590 U	200 U
2,4-Dinitrotoluene	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
2,6-Dinitrotoluene	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
2-Chlorophenol	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
2-Methylphenol	µg/kg dw	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.5 U	6.4 U	6.5 U	6.6 U
2-Nitroaniline	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
2-Nitrophenol	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
3,3'-Dichlorobenzidine	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
3-Nitroaniline	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
4,6-Dinitro-o-cresol	µg/kg dw	200 U	200 U	190 U	200 U	590 UJ	200 UJ	200 U	200 U	200 U	200 U	590 U	200 U
4-Bromophenyl phenyl ether	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
4-Chloro-3-methylphenol	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
4-Chloroaniline	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
4-Chlorophenyl phenyl ether	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
4-Methylphenol	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20	59 U	20 U
4-Nitroaniline	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
4-Nitrophenol	µg/kg dw	98 U	99 U	97 U	98 U	300 U	98 U	99 U	99 U	99 U	98 U	300 U	98 U
Aniline	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
Benzoic acid	µg/kg dw	99	65 U	71	66 U	65 UJ	66 UJ	66 U	210	65 U	64 U	65 U	66 U
Benzyl alcohol	µg/kg dw	23	20 U	19 U	20 U	32 U	20 U	20 U	20 U	20 U	20 U	32 U	20 U
Bis(2-chloroethoxy)methane	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
Bis(2-chloroethyl)ether	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
Bis(2-chloroisopropyl)ether	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
Carbazole	µg/kg dw	53	20 U	20	20 U	59 U	28	20 U	30	20	20 U	59 U	20 U
Hexachlorobenzene	µg/kg dw	6.6 U	6.5 U	3.3 UJ	0.98 U	6.5 U	0.98 U	6.6 U	6.5 U	6.5 U	6.4 U	6.5 U	0.97 U
Hexachlorobutadiene	µg/kg dw	6.6 U	6.5 U	6.6 U	0.98 U	6.5 U	0.98 U	6.6 U	6.5 U	6.5 U	6.4 U	6.5 U	0.97 U
Hexachlorocyclopentadiene	µg/kg dw	98 U	99 U	97 U	98 U	300 UJ	98 UJ	99 U	99 U	99 U	98 U	300 U	98 U
Hexachloroethane	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U

**Table A-1-6. Samples SS137-010 through SS150-010, cont.**

ANALYTE	UNIT	LDW-SS137-010	LDW-SS138-010	LDW-SS139-010	LDW-SS140-010	LDW-SS141-010	LDW-SS144-010	LDW-SS145-010	LDW-SS146-010	LDW-SS147-010	LDW-SS148-010	LDW-SS149-010	LDW-SS150-010
Isophorone	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
Nitrobenzene	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
N-Nitrosodimethylamine	µg/kg dw	33 U	33 U	33 U	33 U	32 U	33 UJ	33 U	32 U	32 U	32 U	32 U	33 U
N-Nitroso-di-n-propylamine	µg/kg dw	33 U	33 U	33 U	33 U	32 U	33 U	33 U	32 U	32 U	32 U	32 U	33 U
N-Nitrosodiphenylamine	µg/kg dw	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6	6.6 U	6.5 U	6.5 U	6.4 U	6.5 U	6.6 U
Pentachlorophenol	µg/kg dw	33 U	33 U	33 U	33 U	32 U	33 U	33 UJ	32 U	32 U	32 U	32 U	33 U
Phenol	µg/kg dw	20 U	20 U	19 U	20 U	59 U	20 U	20 U	20 U	20 U	20 U	59 U	20 U
<b>Polychlorinated biphenyls</b>													
Aroclor-1016	µg/kg dw	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Aroclor-1221	µg/kg dw	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Aroclor-1232	µg/kg dw	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Aroclor-1242	µg/kg dw	20 U	20 U	20 U	20 U	20 U	190	20 U	20 U	20 U	20 U	20 U	20 U
Aroclor-1248	µg/kg dw	23 J	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	54	20 U
Aroclor-1254	µg/kg dw	30	20 U	20 U	20 U	20 U	190	20 U	20 U	20 U	520	44	24
Aroclor-1260	µg/kg dw	25	17 J	20 U	20 U	20 U	100	20 U	20 U	20 U	20 U	20 U	30
Total PCBs (calc'd)	µg/kg dw	78 J	17 J	20 U	20 U	20 U	480	20 U	20 U	20 U	520	98	54
<b>Pesticides</b>													
2,4'-DDD	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
2,4'-DDE	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
2,4'-DDT	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
4,4'-DDD	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
4,4'-DDE	µg/kg dw	na	na	na	2.0 U	na	9.4 U	na	na	na	na	na	2.0 U
4,4'-DDT	µg/kg dw	na	na	na	2.0 U	na	18 U	na	na	na	na	na	2.0 U
Total DDTs (calc'd)	µg/kg dw	na	na	na	2.0 U	na	18 U	na	na	na	na	na	2.0 U
Aldrin	µg/kg dw	na	na	na	0.98 U	na	0.98 U	na	na	na	na	na	0.97 U
Dieldrin	µg/kg dw	na	na	na	2.0 U	na	7.6 U	na	na	na	na	na	2.0 U
Total aldrin/dieldrin (calc'd)	µg/kg dw	na	na	na	2.0 U	na	7.6 U	na	na	na	na	na	2.0 U
alpha-BHC	µg/kg dw	na	na	na	0.98 U	na	0.98 U	na	na	na	na	na	0.97 U
beta-BHC	µg/kg dw	na	na	na	0.98 U	na	3.0 U	na	na	na	na	na	0.97 U
delta-BHC	µg/kg dw	na	na	na	0.98 U	na	0.98 U	na	na	na	na	na	0.97 U

**Table A-1-6. Samples SS137-010 through SS150-010, cont.**

ANALYTE	UNIT	LDW-SS137-010	LDW-SS138-010	LDW-SS139-010	LDW-SS140-010	LDW-SS141-010	LDW-SS144-010	LDW-SS145-010	LDW-SS146-010	LDW-SS147-010	LDW-SS148-010	LDW-SS149-010	LDW-SS150-010
gamma-BHC	µg/kg dw	na	na	na	0.98 U	na	0.98 U	na	na	na	na	na	0.97 U
alpha-Chlordane	µg/kg dw	na	na	na	0.98 U	na	0.98 U	na	na	na	na	na	0.97 U
gamma-Chlordane	µg/kg dw	na	na	na	0.98 U	na	0.98 U	na	na	na	na	na	0.97 U
Total chlordane (calc'd)	µg/kg dw	na	na	na	2.0 U	na	10 U	na	na	na	na	na	2.0 U
alpha-Endosulfan	µg/kg dw	na	na	na	0.98 U	na	0.98 U	na	na	na	na	na	0.97 U
beta-Endosulfan	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
Endosulfan sulfate	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
Endrin	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
Endrin aldehyde	µg/kg dw	na	na	na	2.0 UJ	na	2.0 UJ	na	na	na	na	na	2.0 UJ
Endrin ketone	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
Heptachlor	µg/kg dw	na	na	na	0.98 U	na	0.98 U	na	na	na	na	na	0.97 U
Heptachlor epoxide	µg/kg dw	na	na	na	0.98 U	na	0.98 U	na	na	na	na	na	0.97 U
Methoxychlor	µg/kg dw	na	na	na	9.8 U	na	9.8 U	na	na	na	na	na	9.7 U
Mirex	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
Cis-nonachlor	µg/kg dw	na	na	na	2.0 U	na	10 U	na	na	na	na	na	2.0 U
Oxychlordane	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
Toxaphene	µg/kg dw	na	na	na	98 U	na	98 U	na	na	na	na	na	97 U
Trans-Nonachlor	µg/kg dw	na	na	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U
<b>Sediment grain size</b>													
Fractional % phi >-1 (>2,000 µm)	% dw	0.1 U	0.1	0.8	1.7	0.1	1.3	3.4	0.1	0.4	54.1	14.8	5.1
Fractional % phi -1-0 (1,000-2,000 µm)	% dw	0.2	0.3	1.1	2.1	0.1	0.9	10.6	0.3	0.9	1.5	4.0	3.2
Fractional % phi 0-1 (500-1,000 µm)	% dw	1.6	1.6	4.3	14.6	0.8	2.8	58.3	1.3	6.0	3.2	5.7	15.5
Fractional % phi 1-2 (250-500 µm)	% dw	1.0	2.7	8.9	43.4	2.4	21.6	26.6	2.2	10.3	8.2	14.7	37.5
Fractional % phi 2-3 (125-250 µm)	% dw	3.4	10.1	9.0	20.4	9.0	39.4	1.0	8.4	11.1	6.1	14.2	14.8
Fractional % phi 3-4 (62.5-125 µm)	% dw	10.5	24.7	24.6	6.6	23.3	17.6	0.1 U	23.1	11.7	5.2	8.8	9.0
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	17.9	18.5	17.0	1.8	15.9	4.6	0.1 U	21.1	14.7	5.0	7.9	5.3
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	26.1	14.5	12.0	2.8	16.2	3.4	0.1 U	14.3	16.0	5.6	10.2	2.4
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	17.0	10.3	8.2	2.1	11.3	2.1	0.1 U	10.9	11.7	4.1	7.4	2.1
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	7.9	6.4	5.1	1.4	7.3	1.7	0.1 U	7.1	7.0	2.5	4.3	1.8
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	4.3	3.4	2.7	0.8	4.1	0.8	0.1 U	3.3	3.1	1.4	2.2	1.1

**Table A-1-6. Samples SS137-010 through SS150-010, cont.**

ANALYTE	UNIT	LDW-SS137-010	LDW-SS138-010	LDW-SS139-010	LDW-SS140-010	LDW-SS141-010	LDW-SS144-010	LDW-SS145-010	LDW-SS146-010	LDW-SS147-010	LDW-SS148-010	LDW-SS149-010	LDW-SS150-010
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	3.1	2.5	2.1	0.4	2.3	0.9	0.1 U	2.6	2.0	0.9	1.6	0.6
Fractional % phi 10+ (<0.98 µm)	% dw	6.9	4.8	4.1	1.9	7.1	2.8	0.1 U	5.4	5.1	2.1	4.3	1.7
Rocks (total calc'd)	% dw	0.1 U	0.1	0.8	1.7	0.1	1.3	3.4	0.1	0.4	54.1	14.8	5.1
Sand (total calc'd)	% dw	16.7	39.4	47.9	87.1	35.6	82.3	96.5	35.3	40.0	24.2	47.4	80.0
Silt (total calc'd)	% dw	68.9	49.7	42.3	8.1	50.7	11.8	0.1 U	53.4	49.4	17.2	29.8	11.6
Clay (total calc'd)	% dw	14.3	10.7	8.9	3.1	13.5	4.5	0.1 U	11.3	10.2	4.4	8.1	3.4
Fines (percent silt+clay)	% dw	83.2	60.4	51.2	11.2	64.2	16.3	0.1 U	64.7	59.6	21.6	37.9	15.0
<b>Conventional parameters</b>													
Total organic carbon (TOC)	% dw	2.96	1.78	1.67	1.52	2.82	1.94	0.189	2.40	2.12	2.55	2.08	1.79
Total solids	% ww	38.70	51.50	54.90	70.80	47.40	69.60	<i>90.83</i>	47.00	51.00	47.90	58.80	66.00
Total solids (preserved)	% ww	33.40	39.70	44.90	47.60	39.30	66.00	<i>80.53</i>	39.60	38.90	33.20	36.40	64.20
Sulfides (total)	mg/kg dw	400 J	10 UJ	6.0 UJ	58 J	11 U	3.6 U	5.1 U	6.6 UJ	12 UJ	9.6 UJ	49 J	3.7 UJ
Ammonia (total as nitrogen)	mg-N/kg	13.8	8.16	7.17	2.89	9.90	5.37	0.18	15.9	5.89	5.47	6.37	0.73

dw – dry weight

ww – wet weight

na – not analyzed

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Totals were calculated for each sediment grain size category using the following grain size ranges: rock – all fractions >2,000 µm; sand – all fractions between 63 and 2,000 µm; silt – all fractions between 3.9 and 63 µm; and clay – all fractions <3.9 µm.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-1-7. Concentrations of all analytes in Round 2 LDW surface sediment samples: Samples SS151-010 through SSB5b-010**

ANALYTE	UNIT	LDW-SS151-010	LDW-SS152-010	LDW-SS153-010	LDW-SS154-010	LDW-SS155-010	LDW-SS156-010	LDW-SS157-010	LDW-SS158-010	LDW-SS159-010	LDW-SSB2b-010	LDW-SSB4a-010	LDW-SSB5b-010
<b>Metals and trace elements</b>													
Antimony	mg/kg dw	0.2 UJ	0.2 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.2 UJ	0.4 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3	0.3 U
Arsenic	mg/kg dw	4.1	4.7	6.3	7.3	5.4	3.3	21.1	20.5	10.0	16.5	38.1	5.6
Cadmium	mg/kg dw	0.2 U	0.2 U	0.3 U	0.3 U	0.3 U	0.2 U	1.6	0.7	0.4	0.7	0.3	0.3 U
Chromium	mg/kg dw	12.6	19.2	18.7	22.2	22.4	11.7	69	174	29.3	28.9	34.3	16.0
Cobalt	mg/kg dw	6.3	6.7	6.9	7.5	7.5	5.8	9	7.7	6.9	8.3	9.0	4.6
Copper	mg/kg dw	15.0	14.3	24.0	25.4	22.1	10.3	74.7 J	52.1 J	37.0 J	67.5	226 J	31.8 J
Lead	mg/kg dw	5	4	15	11	8	3	148	51	36	82	75	22
Mercury	mg/kg dw	0.04 U	0.04 U	0.07 U	0.06	0.07 U	0.06 U	0.12 J	0.10 J	0.10 J	0.26	0.23	0.08
Molybdenum	mg/kg dw	0.7 J	0.8 J	1.1	1.2	0.9	0.8	6	7.6	1.6	1.9	5.7	1.4
Nickel	mg/kg dw	13	15	14	18	17	10	37	48	19	19	14	11
Selenium	mg/kg dw	6 UJ	6 UJ	8 U	8 U	7 U	6 U	20 U	9 U	8 U	7 U	9 U	7 U
Silver	mg/kg dw	0.3 U	0.3 U	0.5 U	0.5 U	0.4 U	0.4 U	2	0.6	0.5 U	0.5	0.9	0.4 U
Thallium	mg/kg dw	0.2 U	0.2 U	0.3 U	0.3 U	0.3 U	0.2 U	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Vanadium	mg/kg dw	43.0	44.9	55.6	56.0	55.6	39.5	67	65.7	53.5	57.4	54.9	38.1
Zinc	mg/kg dw	49.6	47.8	56	68	55.8	37.9	248	151	99	146	214 J	63.3 J
<b>Organometals</b>													
Monobutyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	na	na	na
Dibutyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	na	na	na
Tributyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	na	na	na
<b>PAHs</b>													
2-Chloronaphthalene	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
2-Methylnaphthalene	µg/kg dw	42	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
Acenaphthene	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	86	59 U	58 U	20 U	44 U	25
Acenaphthylene	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	34 J	59 U	58 U	20 U	81	20 U
Anthracene	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	270	63	90	54	80	90
Benzo(a)anthracene	µg/kg dw	6.5 U	6.4 U	9.2	17	25	6.6 U	1,100	53	410	120	270	260
Benzo(a)pyrene	µg/kg dw	6.5 U	6.4 U	9.8	19	30	29	1,300	58	360	190	440	220

**Table A-1-7. Samples SS151-010 through SSB5b-010, cont.**

ANALYTE	UNIT	LDW-SS151-010	LDW-SS152-010	LDW-SS153-010	LDW-SS154-010	LDW-SS155-010	LDW-SS156-010	LDW-SS157-010	LDW-SS158-010	LDW-SS159-010	LDW-SSB2b-010	LDW-SSB4a-010	LDW-SSB5b-010
Benzo(b)fluoranthene	µg/kg dw	6.5 U	6.4 U	64	22	28	28	1,900	58	740	320	440	460
Benzo(g,h,i)perylene	µg/kg dw	20 U	19 U	58 U	58 U	58 U	31	510	140	120	54	130	54
Benzo(k)fluoranthene	µg/kg dw	20 U	19 U	54 J	60	50 J	23	1,500	310	600	170	400	230
Total benzofluoranthenes (calc'd)	µg/kg dw	20 U	19 U	118 J	82	78 J	51	3,400	370	1,340	490	840	690
Chrysene	µg/kg dw	20 U	19 U	48 J	56 J	47 J	20 U	1,500	320	780	180	470	520
Dibenzo(a,h)anthracene	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	79	54 J	58 U	20 U	44 U	28
Dibenzofuran	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	59	59 U	58 U	20 U	44 U	20 U
Fluoranthene	µg/kg dw	20 U	19 U	110	99	94	20 U	3,400	610	2,100	280	570	740
Fluorene	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	99	59 U	40 J	20 U	44 U	28
Indeno(1,2,3-cd)pyrene	µg/kg dw	6.5 U	6.4 U	9.8	14	34	35	670	170	180	65	200	74
Naphthalene	µg/kg dw	50	19 U	58 U	58 U	58 U	20 U	40 J	59 U	58 U	20 U	45	20 U
Phenanthrene	µg/kg dw	20 U	19 U	47 J	40 J	33 J	20 U	1,400	310	570	130	220	180
Pyrene	µg/kg dw	20 U	19 U	78	80	72	20 U	2,200	500	1,600	360	540	420
Total HPAH (calc'd)	µg/kg dw	20 U	19 U	380 J	367 J	380 J	146	14,200	2,270 J	6,900	1,740	3,460	3,010
Total LPAH (calc'd)	µg/kg dw	50	19 U	47 J	40 J	33 J	20 U	1,900 J	370	700 J	180	430	320
Total PAH (calc'd)	µg/kg dw	50	19 U	430 J	407 J	413 J	146	16,100 J	2,650 J	7,600 J	1,920	3,890	3,330
<b>Phthalates</b>													
Bis(2-ethylhexyl)phthalate	µg/kg dw	20 U	19 U	99	170	58 U	20 U	1,200	510	190	350	170	100
Butyl benzyl phthalate	µg/kg dw	6.5 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	200	78	24	6.5 U	42 U	6.6 U
Diethyl phthalate	µg/kg dw	11 U	8.4 U	6.6 U	6.4 U	6.6 U	11 U	7.7 U	6.4 U	6.6 U	8.4	42 U	6.6 U
Dimethyl phthalate	µg/kg dw	6.5 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	6.4 U	6.4 U	30	6.5 U	42 U	6.6 U
Di-n-butyl phthalate	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	91	59 U	58 U	20 U	44 U	20 U
Di-n-octyl phthalate	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
<b>Other SVOCs</b>													
1,2,4-Trichlorobenzene	µg/kg dw	3.3 UJ	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	6.4 U	6.4 U	6.6 U	6.5 U	6.1 U	6.6 U
1,2-Dichlorobenzene	µg/kg dw	6.5 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	6.4 U	6.4 U	6.6 U	6.5 U	42 U	6.6 U
1,3-Dichlorobenzene	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
1,4-Dichlorobenzene	µg/kg dw	6.5 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	6.4 U	6.4 U	6.6 U	6.5 U	42 U	6.6 U
2,4,5-Trichlorophenol	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
2,4,6-Trichlorophenol	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U



**Table A-1-7. Samples SS151-010 through SSB5b-010, cont.**

ANALYTE	UNIT	LDW-SS151-010	LDW-SS152-010	LDW-SS153-010	LDW-SS154-010	LDW-SS155-010	LDW-SS156-010	LDW-SS157-010	LDW-SS158-010	LDW-SS159-010	LDW-SSB2b-010	LDW-SSB4a-010	LDW-SSB5b-010
2,4-Dichlorophenol	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
2,4-Dimethylphenol	µg/kg dw	6.5 U	6.4 U	6.6 U	6.4 U	6.6 UJ	6.6 U	6.4 U	6.4 U	6.6 U	6.5 U	24 UJ	6.6 U
2,4-Dinitrophenol	µg/kg dw	200 UJ	190 UJ	580 UJ	580 UJ	580 UJ	200 UJ	580 U	590 U	580 U	200 U	440 U	200 U
2,4-Dinitrotoluene	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
2,6-Dinitrotoluene	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
2-Chlorophenol	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
2-Methylphenol	µg/kg dw	6.5 U	6.4 U	6.6 U	6.4 U	6.6 UJ	6.6 U	6.4 U	6.4 U	6.6 U	6.5 U	42 U	6.6 U
2-Nitroaniline	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
2-Nitrophenol	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
3,3'-Dichlorobenzidine	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
3-Nitroaniline	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
4,6-Dinitro-o-cresol	µg/kg dw	200 UJ	190 UJ	580 UJ	580 UJ	580 UJ	200 UJ	580 U	590 U	580 U	200 U	440 U	200 U
4-Bromophenyl phenyl ether	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
4-Chloro-3-methylphenol	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
4-Chloroaniline	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
4-Chlorophenyl phenyl ether	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
4-Methylphenol	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
4-Nitroaniline	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
4-Nitrophenol	µg/kg dw	98 U	97 U	290 U	290 U	290 U	97 U	290 U	290 U	290 U	97 U	220 U	98 U
Aniline	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
Benzoic acid	µg/kg dw	65 UJ	64 UJ	66 UJ	64 UJ	66 UJ	66 UJ	770	64 U	66 U	65 U	420 U	66 U
Benzyl alcohol	µg/kg dw	20 U	19 U	33 U	32 U	33 U	20 U	32 U	32 U	33 U	20 U	44 U	20 U
Bis(2-chloroethoxy)methane	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
Bis(2-chloroethyl)ether	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
Bis(2-chloroisopropyl)ether	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
Carbazole	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	260	54 J	85	20	44 U	38
Hexachlorobenzene	µg/kg dw	0.98 U	0.99 U	6.6 U	6.4 U	0.97 U	6.6 U	6.4 U	6.4 U	6.6 U	0.97 U	2.1 JN	0.97 U
Hexachlorobutadiene	µg/kg dw	0.98 U	0.99 U	6.6 U	6.4 U	0.97 U	6.6 U	6.4 U	6.4 U	6.6 U	0.97 U	0.97 U	0.97 U
Hexachlorocyclopentadiene	µg/kg dw	98 UJ	97 UJ	290 UJ	290 UJ	290 UJ	97 UJ	290 U	290 U	290 U	97 U	220 U	98 U
Hexachloroethane	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U

**Table A-1-7. Samples SS151-010 through SSB5b-010, cont.**

ANALYTE	UNIT	LDW-SS151-010	LDW-SS152-010	LDW-SS153-010	LDW-SS154-010	LDW-SS155-010	LDW-SS156-010	LDW-SS157-010	LDW-SS158-010	LDW-SS159-010	LDW-SSB2b-010	LDW-SSB4a-010	LDW-SSB5b-010
Isophorone	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
Nitrobenzene	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	58 U	59 U	58 U	20 U	44 U	20 U
N-Nitrosodimethylamine	µg/kg dw	33 UJ	32 UJ	33 UJ	32 UJ	33 UJ	33 UJ	32 U	32 U	33 U	32 U	210 U	33 U
N-Nitroso-di-n-propylamine	µg/kg dw	33 UJ	32 U	33 U	32 U	33 U	33 U	32 U	32 U	33 U	32 U	210 U	33 U
N-Nitrosodiphenylamine	µg/kg dw	6.5 U	6.4 U	6.6 U	6.4 U	6.6 U	6.6 U	7.1	6.4 U	8.0	6.5 U	42 U	6.6 U
Pentachlorophenol	µg/kg dw	33 U	32 U	33 U	32 U	33 UJ	33 U	32 U	32 U	33 U	32 U	410	33 U
Phenol	µg/kg dw	20 U	19 U	58 U	58 U	58 U	20 U	110	59 U	58 U	24	51 U	20 U
<b>Polychlorinated biphenyls</b>													
Aroclor-1016	µg/kg dw	19 U	19 U	20 U	19 U	19 U	19 U	20 U	20 U	20 U	19 U	97 U	19 U
Aroclor-1221	µg/kg dw	19 U	19 U	20 U	19 U	19 U	19 U	20 U	20 U	20 U	19 U	97 U	19 U
Aroclor-1232	µg/kg dw	19 U	19 U	20 U	19 U	19 U	19 U	39 U	20 U	39 U	19 U	97 U	19 U
Aroclor-1242	µg/kg dw	19 U	19 U	20 U	19 U	19 U	19 U	20 U	61 J	20 U	400	97 U	19 U
Aroclor-1248	µg/kg dw	19 U	19 U	20 U	19 U	19 U	19 U	39 U	20 U	39 U	19 U	97 U	28
Aroclor-1254	µg/kg dw	19 U	19 U	20 U	19 U	19 U	19 U	110	190	96	260	490	50
Aroclor-1260	µg/kg dw	19 U	19 U	20 U	19 U	19 U	19 U	150	140	77	130	320	29
Total PCBs (calc'd)	µg/kg dw	19 U	19 U	20 U	19 U	19 U	19 U	260	390 J	173	790	810	107
<b>Pesticides</b>													
2,4'-DDD	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	1.9 U	1.9 U	2.0 U
2,4'-DDE	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	1.9 U	1.9 U	2.0 U
2,4'-DDT	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	1.9 U	1.9 U	2.0 U
4,4'-DDD	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	5.8 U	1.9 U	2.0 U
4,4'-DDE	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	14 U	1.9 U	2.6 U
4,4'-DDT	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	25 U	1.9 U	2.0 U
Total DDTs (calc'd)	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	25 U	1.9 U	2.6 U
Aldrin	µg/kg dw	na	0.99 U	na	na	0.97 U	na	na	na	na	0.97 U	0.97 U	0.97 U
Dieldrin	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	11 U	1.9 U	2.0 U
Total aldrin/dieldrin (calc'd)	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	11 U	1.9 U	2.0 U
alpha-BHC	µg/kg dw	na	0.99 U	na	na	0.97 U	na	na	na	na	0.97 U	0.97 U	0.97 U
beta-BHC	µg/kg dw	na	0.99 U	na	na	0.97 U	na	na	na	na	7.2 U	0.97 U	0.97 U
delta-BHC	µg/kg dw	na	0.99 U	na	na	0.97 U	na	na	na	na	0.97 U	0.97 U	0.97 U

**Table A-1-7. Samples SS151-010 through SSB5b-010, cont.**

ANALYTE	UNIT	LDW-SS151-010	LDW-SS152-010	LDW-SS153-010	LDW-SS154-010	LDW-SS155-010	LDW-SS156-010	LDW-SS157-010	LDW-SS158-010	LDW-SS159-010	LDW-SSB2b-010	LDW-SSB4a-010	LDW-SSB5b-010
gamma-BHC	µg/kg dw	na	0.99 U	na	na	0.97 U	na	na	na	na	0.97 U	1.9 U	0.97 U
alpha-Chlordane	µg/kg dw	na	0.99 U	na	na	0.97 U	na	na	na	na	0.97 U	0.97 U	0.97 U
gamma-Chlordane	µg/kg dw	na	0.99 U	na	na	0.97 U	na	na	na	na	0.97 U	0.97 U	0.97 U
Total chlordane (calc'd)	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	20 U	1.9 U	3.3 U
alpha-Endosulfan	µg/kg dw	na	0.99 U	na	na	0.97 U	na	na	na	na	3.5 U	0.97 U	0.97 U
beta-Endosulfan	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	1.9 U	10 U	2.0 U
Endosulfan sulfate	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	1.9 U	1.9 U	2.0 U
Endrin	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	5.0 U	1.9 U	2.0 U
Endrin aldehyde	µg/kg dw	na	2.0 UJ	na	na	1.9 UJ	na	na	na	na	1.9 UJ	3.3 U	2.0 U
Endrin ketone	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	1.9 U	1.9 U	2.0 U
Heptachlor	µg/kg dw	na	0.99 U	na	na	0.97 U	na	na	na	na	0.97 U	0.97 U	0.97 U
Heptachlor epoxide	µg/kg dw	na	0.99 U	na	na	0.97 U	na	na	na	na	0.97 U	0.97 U	0.97 U
Methoxychlor	µg/kg dw	na	9.9 U	na	na	9.7 U	na	na	na	na	9.7 U	9.7 U	9.7 U
Mirex	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	1.9 U	1.9 U	2.0 U
Cis-nonachlor	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	16 U	1.9 U	3.3 U
Oxychlordane	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	20 U	1.9 U	2.0 U
Toxaphene	µg/kg dw	na	99 U	na	na	97 U	na	na	na	na	97 U	97 U	97 U
Trans-Nonachlor	µg/kg dw	na	2.0 U	na	na	1.9 U	na	na	na	na	5.6 U	1.9 U	2.0 U
<b>Sediment grain size</b>													
Fractional % phi >-1 (>2,000 µm)	% dw	15.4	1.7	0.1	0.1 U	0.1	0.1 U	3.8	4.4	0.3	2.4	0.6	3.6
Fractional % phi -1-0 (1,000-2,000 µm)	% dw	31.5	15.7	0.3	0.1	0.3	0.2	3.8	2.7	0.9	3.3	0.6	1.8
Fractional % phi 0-1 (500-1,000 µm)	% dw	47.7	53.2	3.8	0.6	0.9	28.4	9.8	7.3	4.5	13.1	2.5	11.6
Fractional % phi 1-2 (250-500 µm)	% dw	3.7	27.8	11.5	4.7	8.7	63.9	29.0	14.7	15.1	23.6	8.0	38.2
Fractional % phi 2-3 (125-250 µm)	% dw	0.8	1.3	19.6	23.2	25.5	6.8	19.3	10.5	24.3	11.9	20.5	22.9
Fractional % phi 3-4 (62.5-125 µm)	% dw	0.1	0.1	23.8	29.0	20.9	0.4	8.3	13.4	16.6	8.1	25.7	6.7
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	0.9	0.1	10.9	11.8	12.0	0.2	5.7	13.4	9.7	4.8	12	2.9
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	0.1 U	0.1 U	9.4	8.9	11.4	0.1 U	5.0	11.6	9.6	9.4	7.6	3.1
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	0.1 U	0.1 U	6.0	6.1	7.2	0.1 U	4.3	7.9	6.7	10.2	6.2	2.8
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	0.1 U	0.1 U	4.4	4.4	4.8	0.1 U	3.6	4.9	4.8	4.2	5.3	2.1
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	0.1 U	0.1 U	2.6	3.4	2.5	0.1 U	2.5	2.8	2.7	3.0	3.5	1.3

**Table A-1-7. Samples SS151-010 through SSB5b-010, cont.**

ANALYTE	UNIT	LDW-SS151-010	LDW-SS152-010	LDW-SS153-010	LDW-SS154-010	LDW-SS155-010	LDW-SS156-010	LDW-SS157-010	LDW-SS158-010	LDW-SS159-010	LDW-SSB2b-010	LDW-SSB4a-010	LDW-SSB5b-010
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	0.1 U	0.1 U	1.8	1.6	1.3	0.1 U	1.5	1.7	1.7	1.7	2.3	1.1
Fractional % phi 10+ (<0.98 µm)	% dw	0.1 U	0.1 U	5.8	6.2	4.4	0.1 U	3.4	4.5	3.3	4.3	5.4	2.0
Rocks (total calc'd)	% dw	15.4	1.7	0.1	0.1 U	0.1	0.1 U	3.8	4.4	0.3	2.4	0.6	3.6
Sand (total calc'd)	% dw	83.8	98.1	59.0	57.6	56.3	99.7	70.2	48.6	61.4	60.0	57.3	81.2
Silt (total calc'd)	% dw	0.9	0.1	30.7	31.2	35.4	0.2	18.6	37.8	30.8	28.6	31	10.9
Clay (total calc'd)	% dw	0.1 U	0.1 U	10.2	11.2	8.2	0.1 U	7.4	9.0	7.7	9.0	11.2	4.4
Fines (percent silt+clay)	% dw	0.9	0.1	40.9	42.4	43.6	0.2	26.0	46.8	38.5	37.6	42	15.3
<b>Conventional parameters</b>													
Total organic carbon (TOC)	% dw	0.516	0.236	2.01	2.08	1.88	0.194	3.10	1.96	2.78	1.70	1.82	1.75
Total solids	% ww	88.00	85.40	58.30	58.90	71.40	82.30	55.20	54.50	42.70	68.00	57.50	70.10
Total solids (preserved)	% ww	92.00	89.60	52.80	48.30	63.90	78.10	54.60	61.60	61.60	73.00	49.40	70.00
Sulfides (total)	mg/kg dw	3.4 U	2.6 U	5.1 U	9.2 U	4.2 U	5.5 U	5.9 U	4.9 UJ	5.1 J	80 J	360	32
Ammonia (total as nitrogen)	mg-N/kg	0.10 U	0.10 U	6.40	6.36	6.75	0.11 U	4.13	4.32	7.86	3.76	3.94	3.91

dw – dry weight

ww – wet weight

na – not analyzed

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Totals were calculated for each sediment grain size category using the following grain size ranges: rock – all fractions >2,000 µm; sand – all fractions between 63 and 2,000 µm; silt – all fractions between 3.9 and 63 µm; and clay – all fractions <3.9 µm.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-1-8. Concentrations of all analytes in Round 2 LDW surface sediment samples: Samples SSB6a-010 through SSC1-010**

ANALYTE	UNIT	LDW-SSB6a-010	LDW-SSB7a-010	LDW-SSB9a-010	LDW-SSC1-010
<b>Metals and trace elements</b>					
Antimony	mg/kg dw	0.7 J	0.4 UJ	0.3 UJ	0.2 UJ
Arsenic	mg/kg dw	17.3	9.2	5.9	3.5
Cadmium	mg/kg dw	0.3 U	0.4 U	0.3 U	0.3 U
Chromium	mg/kg dw	14.3	24	14.2	13.9
Cobalt	mg/kg dw	4.5	7.5	6.2	5.0
Copper	mg/kg dw	24.5	45.1	18.8	19.1
Lead	mg/kg dw	24	26	8	4
Mercury	mg/kg dw	0.06	0.1 U	0.07 U	0.05 U
Molybdenum	mg/kg dw	1.0	2	0.9	0.8
Nickel	mg/kg dw	9	18	12	10
Selenium	mg/kg dw	7 U	10 U	8 U	7 U
Silver	mg/kg dw	0.4 U	0.7 U	0.5 U	0.4 U
Thallium	mg/kg dw	0.3 U	0.4 U	0.3 U	0.2 U
Vanadium	mg/kg dw	41.4	62.1	43.4	47.2
Zinc	mg/kg dw	52.2	88	49.9	30.8
<b>Organometals</b>					
Monobutyltin as ion	µg/kg dw	na	na	na	na
Dibutyltin as ion	µg/kg dw	na	na	na	na
Tributyltin as ion	µg/kg dw	na	na	na	na
<b>PAHs</b>					
2-Chloronaphthalene	µg/kg dw	19 U	59 U	19 U	19 U
2-Methylnaphthalene	µg/kg dw	19 U	59 U	19 U	19 U
Acenaphthene	µg/kg dw	33	59 U	20	19 U
Acenaphthylene	µg/kg dw	19 U	59 U	19 U	19 U
Anthracene	µg/kg dw	430	59 U	19 U	19 U
Benzo(a)anthracene	µg/kg dw	55	59	22	6.5 U
Benzo(a)pyrene	µg/kg dw	36	66	27	6.5 U
Benzo(b)fluoranthene	µg/kg dw	58	120	35	6.5 U

**Table A-1-8. Samples SSB6a-010 through SSC1-010, cont.**

ANALYTE	UNIT	LDW-SSB6a-010	LDW-SSB7a-010	LDW-SSB9a-010	LDW-SSC1-010
Benzo(g,h,i)perylene	µg/kg dw	19 U	59 U	19 U	19 U
Benzo(k)fluoranthene	µg/kg dw	48	110	29	19 U
Total benzofluoranthenes (calc'd)	µg/kg dw	106	230	64	19 U
Chrysene	µg/kg dw	150	110	36	19 U
Dibenzo(a,h)anthracene	µg/kg dw	19 U	59 U	19 U	19 U
Dibenzofuran	µg/kg dw	23	59 U	19 U	19 U
Fluoranthene	µg/kg dw	130	200	54	19 U
Fluorene	µg/kg dw	80	59 U	19 U	19 U
Indeno(1,2,3-cd)pyrene	µg/kg dw	7.2	6.5	21	6.5 U
Naphthalene	µg/kg dw	19 U	59 U	19 U	19 U
Phenanthrene	µg/kg dw	150	58 J	37	19 U
Pyrene	µg/kg dw	110	160	60	19 U
Total HPAH (calc'd)	µg/kg dw	590	830	284	19 U
Total LPAH (calc'd)	µg/kg dw	690	58 J	57	19 U
Total PAH (calc'd)	µg/kg dw	1,290	890 J	341	19 U
<b>Phthalates</b>					
Bis(2-ethylhexyl)phthalate	µg/kg dw	48	150	84	19 U
Butyl benzyl phthalate	µg/kg dw	6.6 U	6.5 U	6.5 U	6.5 U
Diethyl phthalate	µg/kg dw	9.9	6.5	6.5 U	6.5 U
Dimethyl phthalate	µg/kg dw	6.6 U	6.5 U	6.5 U	6.5 U
Di-n-butyl phthalate	µg/kg dw	19 U	59 U	19 U	19 U
Di-n-octyl phthalate	µg/kg dw	19 U	59 U	19 U	19 U
<b>Other SVOCs</b>					
1,2,4-Trichlorobenzene	µg/kg dw	6.6 U	6.5 U	6.5 U	3.3 UJ
1,2-Dichlorobenzene	µg/kg dw	6.6 U	6.5 U	6.5 U	6.5 U
1,3-Dichlorobenzene	µg/kg dw	19 U	59 U	19 U	19 U
1,4-Dichlorobenzene	µg/kg dw	6.6 U	6.5 U	6.5 U	6.5 U
2,4,5-Trichlorophenol	µg/kg dw	97 U	290 U	97 U	96 U
2,4,6-Trichlorophenol	µg/kg dw	97 U	290 U	97 U	96 U
2,4-Dichlorophenol	µg/kg dw	97 U	290 U	97 U	96 U

**Table A-1-8. Samples SSB6a-010 through SSC1-010, cont.**

ANALYTE	UNIT	LDW-SSB6a-010	LDW-SSB7a-010	LDW-SSB9a-010	LDW-SSC1-010
2,4-Dimethylphenol	µg/kg dw	6.6 U	6.5 U	6.5 U	6.5 U
2,4-Dinitrophenol	µg/kg dw	190 U	590 U	190 UJ	190 U
2,4-Dinitrotoluene	µg/kg dw	97 U	290 U	97 U	96 U
2,6-Dinitrotoluene	µg/kg dw	97 U	290 U	97 U	96 U
2-Chlorophenol	µg/kg dw	19 U	59 U	19 U	19 U
2-Methylphenol	µg/kg dw	6.6 U	6.5 U	6.5 U	6.5 U
2-Nitroaniline	µg/kg dw	97 U	290 U	97 U	96 U
2-Nitrophenol	µg/kg dw	97 U	290 U	97 U	96 U
3,3'-Dichlorobenzidine	µg/kg dw	97 U	290 U	97 U	96 U
3-Nitroaniline	µg/kg dw	97 U	290 U	97 U	96 U
4,6-Dinitro-o-cresol	µg/kg dw	190 U	590 U	190 UJ	190 U
4-Bromophenyl phenyl ether	µg/kg dw	19 U	59 U	19 U	19 U
4-Chloro-3-methylphenol	µg/kg dw	97 U	290 U	97 U	96 U
4-Chloroaniline	µg/kg dw	97 U	290 U	97 U	96 U
4-Chlorophenyl phenyl ether	µg/kg dw	19 U	59 U	19 U	19 U
4-Methylphenol	µg/kg dw	19 U	59 U	19 U	19 U
4-Nitroaniline	µg/kg dw	97 U	290 U	97 U	96 U
4-Nitrophenol	µg/kg dw	97 U	290 U	97 U	96 U
Aniline	µg/kg dw	19 U	59 U	19 U	19 U
Benzoic acid	µg/kg dw	66 U	65 U	65 UJ	65 U
Benzyl alcohol	µg/kg dw	19 U	32 U	19 U	19 U
Bis(2-chloroethoxy)methane	µg/kg dw	19 U	59 U	19 U	19 U
Bis(2-chloroethyl)ether	µg/kg dw	19 U	59 U	19 U	19 U
Bis(2-chloroisopropyl)ether	µg/kg dw	19 U	59 U	19 U	19 U
Carbazole	µg/kg dw	40	59 U	19 U	19 U
Hexachlorobenzene	µg/kg dw	0.98 U	0.96 J	0.98 U	0.96 U
Hexachlorobutadiene	µg/kg dw	0.98 U	0.98 U	0.98 U	0.96 U
Hexachlorocyclopentadiene	µg/kg dw	97 U	290 U	97 UJ	96 U
Hexachloroethane	µg/kg dw	19 U	59 U	19 U	19 U
Isophorone	µg/kg dw	19 U	59 U	19 U	19 U

**Table A-1-8. Samples SSB6a-010 through SSC1-010, cont.**

ANALYTE	UNIT	LDW-SSB6a-010	LDW-SSB7a-010	LDW-SSB9a-010	LDW-SSC1-010
Nitrobenzene	µg/kg dw	19 U	59 U	19 U	19 U
N-Nitrosodimethylamine	µg/kg dw	33 U	32 U	32 UJ	33 U
N-Nitroso-di-n-propylamine	µg/kg dw	33 U	32 U	32 U	33 U
N-Nitrosodiphenylamine	µg/kg dw	6.6	6.5 U	6.5 U	6.5 U
Pentachlorophenol	µg/kg dw	33 U	32 U	32 U	33 U
Phenol	µg/kg dw	19 U	59 U	19 U	48
<b>Polychlorinated biphenyls</b>					
Aroclor-1016	µg/kg dw	19 U	20 U	19 U	19 U
Aroclor-1221	µg/kg dw	19 U	20 U	19 U	19 U
Aroclor-1232	µg/kg dw	19 U	20 U	19 U	19 U
Aroclor-1242	µg/kg dw	19 U	20 U	100	19 U
Aroclor-1248	µg/kg dw	50 U	20 U	19 U	19 U
Aroclor-1254	µg/kg dw	90	40	19 U	19 U
Aroclor-1260	µg/kg dw	63	64	19 U	19 U
Total PCBs (calc'd)	µg/kg dw	153	104	100	19 U
<b>Pesticides</b>					
2,4'-DDD	µg/kg dw	2.0 U	2.0 U	2.0 U	na
2,4'-DDE	µg/kg dw	2.0 U	2.0 U	2.0 U	na
2,4'-DDT	µg/kg dw	2.0 U	2.0 U	2.0 U	na
4,4'-DDD	µg/kg dw	4.9 U	2.0 U	2.0 U	na
4,4'-DDE	µg/kg dw	7.0 U	2.0 U	2.0 U	na
4,4'-DDT	µg/kg dw	2.0 U	4.3 U	2.0 U	na
Total DDTs (calc'd)	µg/kg dw	7.0 U	4.3 U	2.0 U	na
Aldrin	µg/kg dw	0.98 U	0.98 U	0.98 U	na
Dieldrin	µg/kg dw	4.7 U	2.0 U	2.0 U	na
Total aldrin/dieldrin (calc'd)	µg/kg dw	4.7 U	2.0 U	2.0 U	na
alpha-BHC	µg/kg dw	0.98 U	0.98 U	0.98 U	na
beta-BHC	µg/kg dw	0.98 U	0.98 U	0.98 U	na
delta-BHC	µg/kg dw	0.98 U	0.98 U	0.98 U	na
gamma-BHC	µg/kg dw	0.98 U	0.98 U	0.98 U	na



**Table A-1-8. Samples SSB6a-010 through SSC1-010, cont.**

ANALYTE	UNIT	LDW-SSB6a-010	LDW-SSB7a-010	LDW-SSB9a-010	LDW-SSC1-010
alpha-Chlordane	µg/kg dw	0.98 U	0.98 U	0.98 U	na
gamma-Chlordane	µg/kg dw	0.98 U	0.98 U	0.98 U	na
Total chlordane (calc'd)	µg/kg dw	6.7 U	3.3 U	2.0 U	na
alpha-Endosulfan	µg/kg dw	0.98 U	0.98 U	0.98 U	na
beta-Endosulfan	µg/kg dw	2.0 U	2.0 U	2.0 U	na
Endosulfan sulfate	µg/kg dw	2.0 U	2.0 U	2.0 U	na
Endrin	µg/kg dw	2.0 U	2.0 U	2.0 U	na
Endrin aldehyde	µg/kg dw	2.0 UJ	2.0 UJ	2.0 UJ	na
Endrin ketone	µg/kg dw	2.0 U	2.0 U	2.0 U	na
Heptachlor	µg/kg dw	1.8 U	0.98 U	2.5 U	na
Heptachlor epoxide	µg/kg dw	0.98 U	0.98 U	0.98 U	na
Methoxychlor	µg/kg dw	9.8 U	9.8 U	9.8 U	na
Mirex	µg/kg dw	2.0 U	2.0 U	2.0 U	na
Cis-nonachlor	µg/kg dw	6.7 U	3.3 U	2.0 U	na
Oxychlordane	µg/kg dw	2.0 U	2.0 U	2.0 U	na
Toxaphene	µg/kg dw	98 U	98 U	98 U	na
Trans-Nonachlor	µg/kg dw	2.0 U	2.0 U	2.0 U	na
<b>Sediment grain size</b>					
Fractional % phi >-1 (>2,000 µm)	% dw	0.7	6.4	0.8	0.1 U
Fractional % phi -1-0 (1,000-2,000 µm)	% dw	0.9	1.7	8.5	0.3
Fractional % phi 0-1 (500-1,000 µm)	% dw	12.1	4.9	27.1	4.5
Fractional % phi 1-2 (250-500 µm)	% dw	42.8	18.5	14.0	22.1
Fractional % phi 2-3 (125-250 µm)	% dw	17.5	15.8	13.3	16.2
Fractional % phi 3-4 (62.5-125 µm)	% dw	8.2	12.6	10.5	13.7
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	3.2	11.4	3.9	15.4
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	3.8	9.9	7.2	10.0
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	3.5	7.2	5.0	6.2
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	2.3	4.0	3.0	3.4
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	1.3	2.1	1.9	1.8
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	1.0	1.8	1.0	1.5

**Table A-1-8. Samples SSB6a-010 through SSC1-010, cont.**

ANALYTE	UNIT	LDW-SSB6a-010	LDW-SSB7a-010	LDW-SSB9a-010	LDW-SSC1-010
Fractional % phi 10+ (<0.98 µm)	% dw	2.6	3.7	3.8	4.9
Rocks (total calc'd)	% dw	0.7	6.4	0.8	0.1 U
Sand (total calc'd)	% dw	81.5	53.5	73.4	56.8
Silt (total calc'd)	% dw	12.8	32.5	19.1	35.0
Clay (total calc'd)	% dw	4.9	7.6	6.7	8.2
Fines (percent silt+clay)	% dw	17.7	40.1	25.8	43.2
<b>Conventional parameters</b>					
Total organic carbon (TOC)	% dw	1.26	2.14	2.44	0.625
Total solids	% ww	71.00	45.25	62.50	74.00
Total solids (preserved)	% ww	67.60	41.98	42.20	73.60
Sulfides (total)	mg/kg dw	110	160 J	6.7 U	3.6 U
Ammonia (total as nitrogen)	mg-N/kg	3.66	5.06	4.08	2.16

dw – dry weight

na – not analyzed

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Totals were calculated for each sediment grain size category using the following grain size ranges: rock – all fractions >2,000 µm; sand – all fractions between 63 and 2,000 µm; silt – all fractions between 3.9 and 63 µm; and clay – all fractions <3.9 µm.

Data qualifiers: U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

## A-2. PCB Congeners–Round 1 and Round 2

**Table A-2-1. Concentrations of PCB congeners in Round 1 and Round 2 LDW surface sediment samples: Samples SS6-010 through SS64-010**

PCB CONGENER	UNIT	LDW-SS6-010	LDW-SS14-010	LDW-SS17-010	LDW-SS19-010	LDW-SS24-010	LDW-SS25-010	LDW-SS28-010	LDW-SS37-010	LDW-SS46-010	LDW-SS56-010	LDW-SS64-010
PCB-066	ng/kg dw	87,300	1,670	11,200	4,860	6,030	389	6,070	221,000	8,700	10,000	4,090
PCB-077	ng/kg dw	7,630	197	906	466	633	40.9	669	19,500	573	716	406
PCB-081	ng/kg dw	450	11.8	78.2 J	38.2 J	43.3 J	2.56 J	41.8 J	976	72.3 J	80.9 J	27.6 J
PCB-090	ng/kg dw	136,000 C	1,350 C	19,600 C	12,800 C	18,700 C	575 C	11,300 C	294,000 C	44,000 C	56,800 C	8,780 C
PCB-101	ng/kg dw	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90
PCB-105	ng/kg dw	55,800	620	6,510	4,210	5,760	164	4,200	107,000	13,200	17,600	3,070
PCB-110	ng/kg dw	142,000 C	1,750 C	21,000 C	14,000 C	21,900 C	691 C	12,400 C	293,000 C	46,700 C	60,300 C	10,300 C
PCB-113	ng/kg dw	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90
PCB-114	ng/kg dw	3,650	37.0	353	223	239	7.83	208	6,140	823	971	156
PCB-115	ng/kg dw	C110	C110	C110	C110	C110	C110	C110	C110	C110	C110	C110
PCB-118	ng/kg dw	118,000	1,140	16,600	10,300	15,300	428	10,200	261,000	34,500	41,800	7,490
PCB-123	ng/kg dw	2,250	29.1	366	226	341	9.39	238	4,290	860	938	195
PCB-126	ng/kg dw	169	9.19	81.5	46.8 J	56.4	2.24 J	41.0	405	68.1 J	91.7 J	26.7 J
PCB-129	ng/kg dw	120,000 C	1,090 C	24,800 C	16,200 C	18,700 C	728 C	13,300 C	290,000 C	43,400 C	54,500 C	10,600 C
PCB-138	ng/kg dw	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129
PCB-153	ng/kg dw	87,600 C	769 C	21,200 C	13,700 C	15,300 C	555 C	11,000 C	220,000 C	29,500 C	37,900 C	8,430 C
PCB-156	ng/kg dw	16,400 C	123 C	2,420 C	1,840 C	1,950 C	64.2 C	1,310 C	37,500 C	5,350 C	7,290 C	1,100 C
PCB-157	ng/kg dw	C156	C156	C156	C156	C156	C156	C156	C156	C156	C156	C156
PCB-160	ng/kg dw	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129
PCB-163	ng/kg dw	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129
PCB-167	ng/kg dw	4,400	43.0	832	630	681	23.9	448	10,500	1,620	2,180	398
PCB-168	ng/kg dw	C153	C153	C153	C153	C153	C153	C153	C153	C153	C153	C153
PCB-169	ng/kg dw	91.3 U	1.60 U	33.8 U	20.9 U	16.2 U	0.993 U	16.8 U	148 U	17.5 U	28.5 U	12.8 U
PCB-180	ng/kg dw	38,300 C	481 C	12,300 C	9,760 C	9,550 C	407 C	6,250 C	112,000 C	12,000 C	16,900 C	5,020 C
PCB-189	ng/kg dw	840	8.13	192	152	136	7.08	111	2,060	248	338	84.0
PCB-193	ng/kg dw	C180	C180	C180	C180	C180	C180	C180	C180	C180	C180	C180

PCB CONGENER	UNIT	LDW-SS6-010	LDW-SS14-010	LDW-SS17-010	LDW-SS19-010	LDW-SS24-010	LDW-SS25-010	LDW-SS28-010	LDW-SS37-010	LDW-SS46-010	LDW-SS56-010	LDW-SS64-010
PCB mammalian TEQ - zero DL	ng/kg dw	45.5	1.20	12.0 J	7.26 J	8.96 J	0.325 J	6.41 J	102	14.9 J	19.5 J	4.43 J
PCB mammalian TEQ - half DL	ng/kg dw	45.9	1.21	12.2 J	7.36 J	9.04 J	0.330 J	6.49 J	103	15.0 J	19.6 J	4.49 J
PCB mammalian TEQ - full DL	ng/kg dw	46.4	1.22	12.4 J	7.47 J	9.12 J	0.335 J	6.58 J	103	15.0 J	19.8 J	4.56 J

dw – dry weight

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Note: Results for congeners that co-elute with each other are attributed to the congener with the lowest IUPAC number. For example, PCB-129, PCB-160, and PCB-163 co-elute with each other. The concentration for this trio of congeners is shown with PCB-129. For PCB-160 and PCB-163, C129 is shown rather than a concentration to indicate that these congeners co-elute with PCB-129. A similar convention is used for other co-eluting congeners.

Data qualifiers: C – concentration represents coelution  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-2-2. Concentrations of PCB congeners in Round 1 and Round 2 LDW surface sediment samples: Samples SS67-010 through SS108-010**

PCB CONGENER	UNIT	LDW-SS67-010	LDW-SS71-010	LDW-SS72-010	LDW-SS74-010	LDW-SS83-010	LDW-SS84-010	LDW-SS86-010	LDW-SS92-010	LDW-SS101-010	LDW-SS106-010	LDW-SS108-010
PCB-066	ng/kg dw	557	23,600	5,160	3,820	3,850	575,000	280	7,070	167	2,770	2,490
PCB-077	ng/kg dw	52.8	2,250	490	465	450	45,100	22.0	548	25.7	62.0	238
PCB-081	ng/kg dw	3.89 J	128	30.8 J	28.4 J	13.8 J	1,930	0.869 J	18.9 J	0.700 J	5.49 J	9.24
PCB-090	ng/kg dw	1,030 C	15,600 C	11,200 C	6,840 C	12,300 C	918,000 C	2,070 C	28,400 C	562 C	25,200 C	6,570 C
PCB-101	ng/kg dw	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90
PCB-105	ng/kg dw	361	5,990	3,730	2,410	4,120	300,000	664	9,500	176	9,900	2,060
PCB-110	ng/kg dw	1,240 C	17,300 C	12,000 C	8,210 C	15,500 C	913,000 C	2,180 C	31,400 C	653 C	29,100 C	6,660 C
PCB-113	ng/kg dw	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90
PCB-114	ng/kg dw	17.9	375	196	113	204	14,700	36.7	498	6.52	519	105
PCB-115	ng/kg dw	C110	C110	C110	C110	C110	C110	C110	C110	C110	C110	C110
PCB-118	ng/kg dw	894	13,300	9,360	5,980	10,800	747,000	1,660	26,000	461	24,200	5,230
PCB-123	ng/kg dw	20.2	415	234	154	186	10,800	26.2	343	9.34	358	81.5
PCB-126	ng/kg dw	3.36	63.8	27.6	31.4	34.6	1,440	2.72	38.3	2.17	12.1	16.8
PCB-129	ng/kg dw	1,380 C	18,000 C	16,200 C	10,700 C	23,600 C	1,250,000 C	2,300 C	34,300 C	1,300 C	26,700 C	15,200 C
PCB-138	ng/kg dw	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129

PCB CONGENER	UNIT	LDW-SS67-010	LDW-SS71-010	LDW-SS72-010	LDW-SS74-010	LDW-SS83-010	LDW-SS84-010	LDW-SS86-010	LDW-SS92-010	LDW-SS101-010	LDW-SS106-010	LDW-SS108-010
PCB-153	ng/kg dw	<i>1,080 C</i>	18,100 C	13,700 C	9,180 C	18,800 C	1,190,000 C	1,390 C	24,000 C	1,130 C	16,600 C	14,300 C
PCB-156	ng/kg dw	<i>141 C</i>	1,620 C	1,480 C	897 C	2,050 C	113,000 C	326 C	4,010 C	98.5 C	3,710 C	1,200 C
PCB-157	ng/kg dw	C156	C156	C156	C156	C156	C156	C156	C156	C156	C156	C156
PCB-160	ng/kg dw	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129
PCB-163	ng/kg dw	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129
PCB-167	ng/kg dw	<i>50.7</i>	573	487	360	793	39,400	101	1,260	44.0	1,070	453
PCB-168	ng/kg dw	C153	C153	C153	C153	C153	C153	C153	C153	C153	C153	C153
PCB-169	ng/kg dw	<i>1.28 U</i>	28.1 U	15.8 U	15.4 U	19.5 U	1,190 U	1.03 U	14.7 U	1.31 U	6.36 U	14.3 U
PCB-180	ng/kg dw	<i>735 C</i>	16,200 C	8,690 C	5,890 C	12,300 C	1,020,000 C	471 C	11,600 C	999 C	4,740 C	14,300 C
PCB-189	ng/kg dw	<i>12.7</i>	206	142	97.1	193	15,400	12.9	214	16.0	124	205
PCB-193	ng/kg dw	C180	C180	C180	C180	C180	C180	C180	C180	C180	C180	C180
PCB mammalian TEQ - zero DL	ng/kg dw	<i>0.550 J</i>	9.61	5.00 J	4.56 J	6.17 J	320	0.693 J	9.76 J	0.339 J	6.80 J	3.12
PCB mammalian TEQ - half DL	ng/kg dw	<i>0.557 J</i>	9.75	5.08 J	4.64 J	6.27 J	326	0.698 J	9.83 J	0.345 J	6.83 J	3.19
PCB mammalian TEQ - full DL	ng/kg dw	<i>0.563 J</i>	9.89	5.16 J	4.72 J	6.37 J	332	0.703 J	9.91 J	0.352 J	6.86 J	3.26

dw – dry weight

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Note: Results for congeners that co-elute with each other are attributed to the congener with the lowest IUPAC number. For example, PCB-129, PCB-160, and PCB-163 co-elute with each other. The concentration for this trio of congeners is shown with PCB-129. For PCB-160 and PCB-163, C129 is shown rather than a concentration to indicate that these congeners co-elute with PCB-129. A similar convention is used for other co-eluting congeners.

Data qualifiers:  
C – concentration represents coelution  
U – not detected at reporting limit shown  
J – estimated concentration  
UJ – not detected at estimated reporting limit shown

**Table A-2-3. Concentrations of PCB congeners in Round 1 and Round 2 LDW surface sediment samples: Samples SS109-010 through SSB9a-010**

PCB CONGENER	UNIT	LDW-SS109-010	LDW-SS110-010	LDW-SS120-010	LDW-SS130-010	LDW-SS136-010	LDW-SS141-010	LDW-SS142-010	LDW-SS143-010	LDW-SS149-010	LDW-SSB2b-010	LDW-SSB9a-010
PCB-066	ng/kg dw	3,060,000	163,000	8,040	2,050	1,090	354	4,860	165,000	4,160	30,600 J	4,780
PCB-077	ng/kg dw	80,500	8,990	1,060	217	122	39.9	638	17,100	445	3,100	388
PCB-081	ng/kg dw	6,970	878 J	34.0 J	8.42	4.65	1.61 J	18.3	365 J	11.0	146	15.8
PCB-090	ng/kg dw	11,700,000 C	1,060,000 C	32,200 CJ	4,120 C	1,260 C	623 C	12,400 C	125,000 C	3,860 C	30,700 CJ	2,330 C
PCB-101	ng/kg dw	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90
PCB-105	ng/kg dw	3,660,000	355,000	11,800 J	1,530	534	253	4,130	31,500	1,330	12,000 J	1,070
PCB-110	ng/kg dw	14,500,000 C	1,140,000 C	40,100 CJ	4,890 C	1,650 C	794 C	15,600 C	214,000 C	4,960 C	32,300 CJ	2,920 C
PCB-113	ng/kg dw	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90	C90
PCB-114	ng/kg dw	207,000	19,800	610	79.3	30.4	13.1	174	2,280	69.8	812	67.4
PCB-115	ng/kg dw	C110	C110	C110	C110	C110	C110	C110	C110	C110	C110	C110
PCB-118	ng/kg dw	12,000,000	981,000	28,400 J	4,000	1,160	614	10,100	108,000	3,910	25,600 J	2,290
PCB-123	ng/kg dw	138,000	13,200	551	67.0	28.0	11.6	163	1,790	64.5	582	44.8
PCB-126	ng/kg dw	7,980	1,170	163	13.7	4.64	3.30	28.1	242	16.3	86.3	7.93
PCB-129	ng/kg dw	14,000,000 C	1,020,000 C	48,400 CJ	6,200 C	1,380 C	964 C	16,100 C	56,700 C	3,580 C	40,900 CJ	1,720 C
PCB-138	ng/kg dw	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129
PCB-153	ng/kg dw	9,090,000 C	658,000 C	33,100 CJ	5,420 C	1,120 C	821 C	10,400 C	50,600 C	2,950 C	34,200 CJ	1,370 C
PCB-156	ng/kg dw	1,790,000 C	146,000 C	5,200 C	677 C	158 C	102 C	1,770 C	7,110 C	404 C	4,760 C	207 C
PCB-157	ng/kg dw	C156	C156	C156	C156	C156	C156	C156	C156	C156	C156	C156
PCB-160	ng/kg dw	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129
PCB-163	ng/kg dw	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129	C129
PCB-167	ng/kg dw	515,000	43,500	1,790	237	54.1	36.1	612	2,320	142	1,560	66.3
PCB-168	ng/kg dw	C153	C153	C153	C153	C153	C153	C153	C153	C153	C153	C153
PCB-169	ng/kg dw	1,700 U	233 U	17.4 U	3.64 U	1.86 U	0.671 U	5.87 U	20.5 U	2.47 U	26.1 U	1.07 U
PCB-180	ng/kg dw	1,600,000 C	183,000 C	11,600 CJ	3,550 C	632 C	552 C	5,050 C	12,800 C	1,920 C	20,600 CJ	667 C
PCB-189	ng/kg dw	65,700	5,340	239 J	57.7	10.8	9.30 J	97.4	338	27.7	475 J	11.2
PCB-193	ng/kg dw	C180	C180	C180	C180	C180	C180	C180	C180	C180	C180	C180

PCB CONGENER	UNIT	LDW-SS109-010	LDW-SS110-010	LDW-SS120-010	LDW-SS130-010	LDW-SS136-010	LDW-SS141-010	LDW-SS142-010	LDW-SS143-010	LDW-SS149-010	LDW-SSB2b-010	LDW-SSB9a-010
PCB mammalian TEQ - zero DL	ng/kg dw	3,400	337 <i>J</i>	23.4 J	2.34	0.745	0.481 J	5.30	44.8 J	2.45	15.6 J	1.31
PCB mammalian TEQ - half DL	ng/kg dw	3,410	338 <i>J</i>	23.5 J	2.36	0.754	0.484 J	5.33	44.9 J	2.46	15.8 J	1.32
PCB mammalian TEQ - full DL	ng/kg dw	3,410	339 <i>J</i>	23.6 J	2.37	0.763	0.488 J	5.36	45.0 J	2.47	15.9 J	1.32

dw – dry weight

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Note: Results for congeners that co-elute with each other are attributed to the congener with the lowest IUPAC number. For example, PCB-129, PCB-160, and PCB-163 co-elute with each other. The concentration for this trio of congeners is shown with PCB-129. For PCB-160 and PCB-163, C129 is shown rather than a concentration to indicate that these congeners co-elute with PCB-129. A similar convention is used for other co-eluting congeners.

Data qualifiers:  
C – concentration represents coelution  
U – not detected at reporting limit shown  
J – estimated concentration  
UJ – not detected at estimated reporting limit shown

## A-3. Dioxins and Furans – Round 1 and Round 2

**Table A-3-1. Concentrations of dioxins and furans in Round 1 and Round 2 LDW surface sediment samples: Samples SS14-010 through SS58-010**

ANALYTE	UNIT	LDW-SS14-010	LDW-SS18-010	LDW-SS20-010	LDW-SS22-010	LDW-SS28-010	LDW-SS36-010	LDW-SS37-010	LDW-SS43-010	LDW-SS56-010	LDW-SS57-010	LDW-SS58-010
2,3,7,8-TCDD	ng/kg dw	0.0890 J	0.0660 J	1.41 J	0.900 J	0.544 J	0.859 J	2.94	0.598 J	4.57 J	4.17 J	9.28
1,2,3,7,8-PeCDD	ng/kg dw	0.284 J	0.100 J	2.65 J	2.54 J	1.79 J	3.26 J	8.33	1.82 J	34.5 J	16.7 J	19.9 J
1,2,3,4,7,8-HxCDD	ng/kg dw	0.382 J	0.193 J	4.47 J	4.27 J	2.66 J	5.90 J	12.7	2.77 J	124	33.7 J	31.6 J
1,2,3,6,7,8-HxCDD	ng/kg dw	1.73 J	0.978 J	24.2 J	22.9	11.6 J	24.3	71.9	17.5	3,400	350	480
1,2,3,7,8,9-HxCDD	ng/kg dw	1.19 J	0.537 J	11.3 J	11.8 J	7.43 J	19.6 J	40.0	10.9 J	315	95.2	99.6
1,2,3,4,6,7,8-HpCDD	ng/kg dw	41.4 J	25.5	637	595	280	982	1,800	639	73,700	14,900	11,300
OCDD	ng/kg dw	297 J	203	5,440	4,920	2,550	9,230	18,200	6,620	241,000	172,000	124,000
2,3,7,8-TCDF	ng/kg dw	0.426 J	0.113 J	4.98	2.89	2.87	2.20	397	1.20	14.8	8.64	13.6
1,2,3,7,8-PeCDF	ng/kg dw	0.214 J	0.0950 J	2.77 J	1.91 J	1.57 J	1.90 J	13.8	1.22 J	69.3	27.8 J	56.9
2,3,4,7,8-PeCDF	ng/kg dw	0.392 J	0.212 J	9.95 J	5.19 J	3.73 J	4.25 J	62.5	2.44 J	230	95.9	181
1,2,3,4,7,8-HxCDF	ng/kg dw	0.694 J	0.513 J	18.7 J	14.8	9.22 J	15.4 J	97.1	14.4 J	2,530	895	1,670
1,2,3,6,7,8-HxCDF	ng/kg dw	0.335 J	0.174 J	5.28 J	5.03 J	2.94 J	4.20 J	22.6	3.44 J	365	151	284
1,2,3,7,8,9-HxCDF	ng/kg dw	0.0730 J	0.0590 UJ	1.20 UJ	0.383 J	0.284 J	0.550 J	1.20 J	0.364 J	33.8 J	10.6 J	21.7 J
2,3,4,6,7,8-HxCDF	ng/kg dw	0.307 J	0.155 J	3.69 J	3.70 J	2.34 J	3.31 J	11.9	2.38 J	302 J	62.0 J	121 J
1,2,3,4,6,7,8-HpCDF	ng/kg dw	6.71	5.18	153	174	63.4	123	411	110	40,300	4,040	4,710
1,2,3,4,7,8,9-HpCDF	ng/kg dw	0.421 J	0.385 J	10.3 J	10.5 J	5.50 J	10.3 J	42.8	9.85 J	3,720	487	756
OCDF	ng/kg dw	12.5	14.7	521	628	164	493	1,360	324	93,700	18,700	9,630
Dioxin/furan mammalian TEQ - zero DL	ng/kg dw	1.61 J	0.875 J	25.0 J	21.1 J	12.0 J	26.0 J	133 J	17.3 J	2,080 J	444 J	576 J
Dioxin/furan mammalian TEQ - half DL	ng/kg dw	1.61 J	0.878 J	25.1 J	21.1 J	12.0 J	26.0 J	133 J	17.3 J	2,080 J	444 J	576 J
Dioxin/furan mammalian TEQ - full DL	ng/kg dw	1.61 J	0.881 J	25.2 J	21.1 J	12.0 J	26.0 J	133 J	17.3 J	2,080 J	444 J	576 J

dw – dry weight

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Data qualifiers: U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown



**Table A-3-2. Concentrations of dioxins and furans in Round 1 and Round 2 LDW surface sediment samples: Samples SS59R1-010 through SS127-010**

ANALYTE	UNIT	LDW-SS59R1-010	LDW-SS59R2-010	LDW-SS64-010	LDW-SS71-010	LDW-SS83-010	LDW-SS84-010	LDW-SS109-010	LDW-SS123-010	LDW-SS203-010 (field duplicate)	LDW-SS127-010
2,3,7,8-TCDD	ng/kg dw	0.871 J	1.04 U	0.463 J	0.560 U	1.02 J	30.6	1.89	0.247 J	0.273 J	0.747 J
1,2,3,7,8-PeCDD	ng/kg dw	3.35 J	5.24 J	1.75 J	1.89 J	5.27 J	57.1	4.61	0.661 J	0.661 J	2.25 J
1,2,3,4,7,8-HxCDD	ng/kg dw	5.23 J	11.4 J	2.24 J	2.60 J	10.2 J	66.7	6.00	0.694 J	0.786 J	3.59 J
1,2,3,6,7,8-HxCDD	ng/kg dw	43.8 J	65.3	11.7 J	11.2	33.7	401	24.7	4.57 J	4.88 J	13.5 J
1,2,3,7,8,9-HxCDD	ng/kg dw	19.0	26.4	7.69 J	8.17	30.7	308	17.4	2.50 J	2.80 J	11.8 J
1,2,3,4,6,7,8-HpCDD	ng/kg dw	889	1,880	288	330	1,150	11,400	605	107	112	387
OCDD	ng/kg dw	8,970	15,600	2,380	2,960	9,950	103,000	6,080	830	894	3,890
2,3,7,8-TCDF	ng/kg dw	6.65	1.90	1.13	3.28	2.31	46.6	89.6	0.526 J	0.539 J	1.26
1,2,3,7,8-PeCDF	ng/kg dw	2.33 J	1.08 J	0.811 J	1.62 J	2.18 J	16.5 J	17.5	0.566 J	0.634 J	0.973 J
2,3,4,7,8-PeCDF	ng/kg dw	5.86	4.71 J	1.89 J	7.64	3.52 J	56.0	94.7	1.19 J	1.34 J	2.00 J
1,2,3,4,7,8-HxCDF	ng/kg dw	27.1	30.5	5.12 J	7.70	10.4 J	382	261	7.33 J	8.08 J	5.88 J
1,2,3,6,7,8-HxCDF	ng/kg dw	7.00	7.20 J	1.98 J	2.58 J	5.39 J	85.8	95.7	2.00 J	2.05 J	2.60 J
1,2,3,7,8,9-HxCDF	ng/kg dw	0.687 J	0.568 J	0.149 J	0.140 J	0.443 J	5.74 J	5.08 J	0.186 J	0.219 J	0.207 J
2,3,4,6,7,8-HxCDF	ng/kg dw	5.56 J	5.38 J	1.62 J	1.85 J	4.83 J	50.9	40.7	1.09 J	1.12 J	1.98 J
1,2,3,4,6,7,8-HpCDF	ng/kg dw	179	288	42.8	49.4	138	2,360	277	35.8	35.8	64.0
1,2,3,4,7,8,9-HpCDF	ng/kg dw	16.4	24.2 J	3.12 J	3.26 J	10.3 J	147	91.7	4.32 J	4.34 J	4.97 J
OCDF	ng/kg dw	556	1,030	144	185	451	7,320	383	104	79.3	226
Dioxin/furan mammalian TEQ - zero DL	ng/kg dw	30.6 J	46.1 J	9.95 J	13.7 J	32.0 J	401 J	119 J	4.99 J	5.30 J	13.1 J
Dioxin/furan mammalian TEQ - half DL	ng/kg dw	30.6 J	46.6 J	9.95 J	14.0 J	32.0 J	401 J	119 J	4.99 J	5.30 J	13.1 J
Dioxin/furan mammalian TEQ - full DL	ng/kg dw	30.6 J	47.1 J	9.95 J	14.2 J	32.0 J	401 J	119 J	4.99 J	5.30 J	13.1 J

dw – dry weight

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Data qualifiers: U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-3-3. Concentrations of dioxins and furans in Round 1 and Round 2 LDW surface sediment samples and samples from the greater Seattle area: Samples LDW-SS131-010 through LDW-SS143-010**

ANALYTE	UNIT	LDW-SS131-010	LDW-SS206-010 (field duplicate)	LDW-SS143-010
2,3,7,8-TCDD	ng/kg dw	1.07	2.41	0.425 J
1,2,3,7,8-PeCDD	ng/kg dw	2.38 J	7.98	0.715 J
1,2,3,4,7,8-HxCDD	ng/kg dw	1.86 J	5.40	0.928 J
1,2,3,6,7,8-HxCDD	ng/kg dw	7.25	24.8	3.55 J
1,2,3,7,8,9-HxCDD	ng/kg dw	7.40	21.9	2.80 J
1,2,3,4,6,7,8-HpCDD	ng/kg dw	171	395	67.9
OCDD	ng/kg dw	1,160	2,060	628
2,3,7,8-TCDF	ng/kg dw	0.614 J	0.728 J	4.10
1,2,3,7,8-PeCDF	ng/kg dw	0.463 J	0.474 J	0.537 J
2,3,4,7,8-PeCDF	ng/kg dw	0.876 J	1.94 J	2.71 J
1,2,3,4,7,8-HxCDF	ng/kg dw	3.10 J	7.20	2.96 J
1,2,3,6,7,8-HxCDF	ng/kg dw	1.25 J	3.00 J	1.44 J
1,2,3,7,8,9-HxCDF	ng/kg dw	0.172 J	0.526 J	0.112 J
2,3,4,6,7,8-HxCDF	ng/kg dw	0.843 J	1.93 J	0.867 J
1,2,3,4,6,7,8-HpCDF	ng/kg dw	21.9	51.7	15.5
1,2,3,4,7,8,9-HpCDF	ng/kg dw	1.76 J	3.32 J	1.30 J
OCDF	ng/kg dw	53.3	73.9	36.3
Dioxin/furan mammalian TEQ - zero DL	ng/kg dw	8.23 J	22.7 J	5.11 J
Dioxin/furan mammalian TEQ - half DL	ng/kg dw	8.23 J	22.7 J	5.11 J
Dioxin/furan mammalian TEQ - full DL	ng/kg dw	8.23 J	22.7 J	5.11 J

dw – dry weight

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Data qualifiers: U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

## A-4. Dioxins and Furans and Other Analytes – Greater Seattle Area

**Table A-4-1. Concentrations of dioxins and furans in Round 2 surface sediment samples from the greater Seattle area: Samples SC-SS1a-010 through LW-SS5b-010**

ANALYTE	UNIT	SC-SS1a-010	SC-SS1b-010	EB-SS2a-010	EB-SS2b-010	LW-SS3-010	LW-SS6-010 (field duplicate)	LW-SS4-010	LW-SS5a-010	LW-SS5b-010
2,3,7,8-TCDD	ng/kg dw	1.26 J	2.05 J	0.483 J	<i>0.748 J</i>	0.499 J	0.398 J	0.926 J	0.779 J	0.695 J
1,2,3,7,8-PeCDD	ng/kg dw	6.64 J	9.60 J	2.80 J	<i>3.79 J</i>	2.31 J	2.24 J	2.62 J	3.06 J	3.10 J
1,2,3,4,7,8-HxCDD	ng/kg dw	35.5	18.4 J	4.82 J	<i>7.17 J</i>	4.42 J	4.18 J	4.76 J	5.29 J	5.72 J
1,2,3,6,7,8-HxCDD	ng/kg dw	86.7	63.0	15.2 J	<i>21.8 J</i>	19.4 J	18.2 J	17.0 J	16.5 J	18.0 J
1,2,3,7,8,9-HxCDD	ng/kg dw	88.4	52.2	12.0 J	<i>17.7 J</i>	12.0 J	11.5 J	11.0 J	12.6 J	12.6 J
1,2,3,4,6,7,8-HpCDD	ng/kg dw	8,740	1,990	384	<i>507</i>	425	381	429	353	379
OCDD	ng/kg dw	208,000	20,000	2,760	<i>3,850</i>	2,940	2,650	3,080	2,500	3,030
2,3,7,8-TCDF	ng/kg dw	6.63	12.6	1.27	<i>1.93</i>	1.27	1.32	3.15	1.29	1.29
1,2,3,7,8-PeCDF	ng/kg dw	3.97 J	6.88 J	0.972 J	<i>1.51 J</i>	1.29 J	1.29 J	2.45 J	1.83 J	1.64 J
2,3,4,7,8-PeCDF	ng/kg dw	6.21 J	10.1 J	1.35 J	<i>2.00 J</i>	1.42 J	1.58 J	2.43 J	2.04 J	1.71 J
1,2,3,4,7,8-HxCDF	ng/kg dw	18.0 J	17.0 J	3.97 J	<i>5.56 J</i>	3.60 J	3.55 J	4.02 J	3.93 J	4.09 J
1,2,3,6,7,8-HxCDF	ng/kg dw	9.66 J	16.3 J	3.06 J	<i>4.50 J</i>	2.85 J	2.64 J	2.61 J	3.00 J	3.33 J
1,2,3,7,8,9-HxCDF	ng/kg dw	0.560 UJ	0.711 J	0.470 UJ	<i>0.366 J</i>	0.620 UJ	0.540 UJ	0.590 UJ	0.253 J	0.380 UJ
2,3,4,6,7,8-HxCDF	ng/kg dw	7.42 J	13.5 J	2.77 J	<i>4.07 J</i>	2.73 J	2.53 J	2.64 J	2.89 J	2.90 J
1,2,3,4,6,7,8-HpCDF	ng/kg dw	162	259	83.0	<i>102</i>	55.6	52.5	48.5	61.8	58.7
1,2,3,4,7,8,9-HpCDF	ng/kg dw	15.5 J	13.6 J	3.93 J	<i>5.15 J</i>	3.39 J	3.18 J	3.82 J	3.98 J	4.44 J
OCDF	ng/kg dw	714 J	692	221	<i>281</i>	143	124	111	208	132
Dioxin/furan mammalian TEQ - zero DL	ng/kg dw	147 J	61.0 J	13.3 J	<i>18.5 J</i>	13.4 J	12.5 J	14.5 J	14.0 J	14.3 J
Dioxin/furan mammalian TEQ - half DL	ng/kg dw	147 J	61.0 J	13.4 J	<i>18.5 J</i>	13.4 J	12.6 J	14.6 J	14.0 J	14.3 J
Dioxin/furan mammalian TEQ - full DL	ng/kg dw	147 J	61.0 J	13.4 J	<i>18.5 J</i>	13.4 J	12.6 J	14.6 J	14.0 J	14.3 J

dw – dry weight

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Data qualifiers: U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-4-2. Concentrations of dioxins and furans in Round 2 surface sediment samples from the greater Seattle area: Samples SB-SS6-010 through LU-SS9b-010**

ANALYTE	UNIT	SB-SS6-010	DRD-SS7-010	UB-SS8-010	LU-SS9a-010	LU-SS9b-010
2,3,7,8-TCDD	ng/kg dw	<i>0.125 J</i>	0.239 J	3.01 J	0.328 J	1.08 J
1,2,3,7,8-PeCDD	ng/kg dw	<i>0.481 J</i>	0.763 J	11.8 J	1.32 J	5.27 J
1,2,3,4,7,8-HxCDD	ng/kg dw	<i>0.768 J</i>	0.869 J	21.2 J	1.48 J	7.14 J
1,2,3,6,7,8-HxCDD	ng/kg dw	<i>2.54 J</i>	1.99 J	62.6	5.84 J	30.2 J
1,2,3,7,8,9-HxCDD	ng/kg dw	<i>2.03 J</i>	1.86 J	51.0	3.45 J	19.9 J
1,2,3,4,6,7,8-HpCDD	ng/kg dw	<i>52.4</i>	41.7	1,320	138	755
OCDD	ng/kg dw	<i>363</i>	316	8,280	1,000	5,660
2,3,7,8-TCDF	ng/kg dw	<i>0.284 J</i>	0.254 J	6.14	0.443 J	3.64
1,2,3,7,8-PeCDF	ng/kg dw	<i>0.265 J</i>	0.575 J	4.69 J	0.668 J	2.54 J
2,3,4,7,8-PeCDF	ng/kg dw	<i>0.360 J</i>	0.659 J	6.76 J	0.754 J	3.50 J
1,2,3,4,7,8-HxCDF	ng/kg dw	<i>0.864 J</i>	1.12 J	15.0 J	1.43 J	7.62 J
1,2,3,6,7,8-HxCDF	ng/kg dw	<i>0.627 J</i>	0.682 J	14.4 J	1.55 J	5.13 J
1,2,3,7,8,9-HxCDF	ng/kg dw	<i>0.0630 J</i>	0.336 J	0.858 J	0.303 J	0.707 J
2,3,4,6,7,8-HxCDF	ng/kg dw	<i>0.521 J</i>	0.624 J	10.8 J	1.25 J	5.69 J
1,2,3,4,6,7,8-HpCDF	ng/kg dw	<i>8.86 J</i>	7.31 J	222	22.6 J	120
1,2,3,4,7,8,9-HpCDF	ng/kg dw	<i>0.625 J</i>	0.882 J	12.8 J	6.45 J	9.75 J
OCDF	ng/kg dw	<i>20.5 J</i>	19.1 J	517	66.1	399
Dioxin/furan mammalian TEQ - zero DL	ng/kg dw	<i>2.23 J</i>	2.67 J	53.1 J	5.40 J	25.7 J
Dioxin/furan mammalian TEQ - half DL	ng/kg dw	<i>2.23 J</i>	2.67 J	53.1 J	5.40 J	25.7 J
Dioxin/furan mammalian TEQ - full DL	ng/kg dw	<i>2.23 J</i>	2.67 J	53.1 J	5.40 J	25.7 J

dw – dry weight

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-4-3. Concentrations of other analytes in Round 2 surface sediment samples from the greater Seattle area: Samples SC-SS1a-010 through UB-SS8-010**

ANALYTE	UNIT	SC-SS1a-010	SC-SS1b-010	EB-SS2a-010	EB-SS2b-010	LW-SS3-010	LW-SS6-010 (field duplicate)	LW-SS4-010	LW-SS5a-010	LW-SS5b-010	SB-SS6-010	DRD-SS7-010	UB-SS8-010
<b>Other SVOCs</b>													
Pentachlorophenol	µg/kg dw	7.8 U	21 U	na	na	na	na	na	na	na	na	na	na
<b>Polychlorinated biphenyls</b>													
Aroclor-1016	µg/kg dw	20 U	20 U	19 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 UJ
Aroclor-1221	µg/kg dw	20 U	20 U	19 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 UJ
Aroclor-1232	µg/kg dw	20 U	20 U	19 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 UJ
Aroclor-1242	µg/kg dw	20 U	20 U	19 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 UJ
Aroclor-1248	µg/kg dw	100	65 J	19 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 UJ
Aroclor-1254	µg/kg dw	160	98	37	48	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 UJ
Aroclor-1260	µg/kg dw	78 U	73 J	19 U	20 U	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 UJ
Total PCBs (calc'd)	µg/kg dw	260	236 J	37	48	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 UJ
<b>Conventional parameters</b>													
Total organic carbon (TOC)	% dw	10.0	2.30	6.80	4.64	5.36	6.11	16.4	5.89	5.45	1.27	2.03	14.2
Total solids	% ww	51.70 J	30.80	64.30 J	62.00 J	34.50 J	32.30 J	14.60	45.60	31.20	74.80 J	58.80 J	24.40 J

dw – dry weight

ww – wet weight

na – not analyzed

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Methods for calculating total PCBs are presented in Appendix D.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-4-4. Concentrations of other analytes in Round 2 surface sediment samples from the greater Seattle area:  
Samples LU-SS9a-010 and LU-SS9b-010**

ANALYTE	UNIT	LU-SS9a-010	LU-SS9b-010
<b>Other SVOCs</b>			
Pentachlorophenol	µg/kg dw	na	na
<b>Polychlorinated biphenyls</b>			
Aroclor-1016	µg/kg dw	19 U	20 U
Aroclor-1221	µg/kg dw	19 U	20 U
Aroclor-1232	µg/kg dw	19 U	20 U
Aroclor-1242	µg/kg dw	19 U	20 U
Aroclor-1248	µg/kg dw	19 U	20 U
Aroclor-1254	µg/kg dw	48	20 U
Aroclor-1260	µg/kg dw	19 U	20 U
Total PCBs (calc'd)	µg/kg dw	48	20 U
<b>Conventional parameters</b>			
Total organic carbon (TOC)	% dw	2.66	8.61
Total solids	% ww	81.90 J	29.80 J

dw – dry weight

ww – wet weight

na – not analyzed

Methods for calculating total PCBs are presented in Appendix D.

Data qualifiers: U – not detected at reporting limit shown  
J – estimated concentration

## A-5. Comparisons to SQS/SL and CSL/ML

**Table A-5-1. Concentrations of all analytes in Round 2 LDW surface sediment samples compared to SQS/SL and CSL/ML: Locations SS2 through SS25**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS2	LDW- SS3	LDW- SS6	LDW- SS7	LDW- SS8	LDW- SS9	LDW- SS11	LDW- SS16	LDW- SS19	LDW- SS21	LDW- SS24	LDW- SS25
<b>Metals and trace elements</b>															
Antimony	mg/kg dw	150	200	0.3 UJ	0.7 J	3.6 J	0.4 UJ	0.4 UJ	0.3 U	0.3 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.5	0.3 UJ
Arsenic	mg/kg dw	57	93	11.6	10.8	<b>82.9</b>	16.7	12.0	14.9	9.2	15.2	16.0	13.2	20.7	2.7
Cadmium	mg/kg dw	5.1	6.7	0.5	0.2 U	3.8	0.9	0.8	0.3 U	0.3	0.7	0.7	0.6	1.0	0.2 U
Chromium	mg/kg dw	260	270	30.1	16.8	38	43	41	20.8	18.4	43	40.6	33.1	48	11.1
Copper	mg/kg dw	390	390	68.8 J	40.4	103	123	116	46.7 J	40.2	124	131	86.7	172 J	11.5
Lead	mg/kg dw	450	530	44	37	<b>573</b>	94	79	71	33	81	76	59	400	9
Mercury	mg/kg dw	0.41	0.59	0.16 J	0.08	0.25	0.34	0.4	0.17	0.10	0.4	0.4	0.21	<b>0.63</b>	0.06 U
Nickel	mg/kg dw	140	370	22	12	15	28	26	16	14	27	29	21	21	6
Silver	mg/kg dw	6.1	6.1	0.5 U	0.4 U	3	0.7	0.7	0.4 U	0.4 U	0.7	0.5 U	0.5	1 U	0.4 U
Zinc	mg/kg dw	410	960	119	119	<b>553</b>	197	178	142 J	146	181	201	132	<b>435 J</b>	32.5
<b>PAHs</b>															
2-Methylnaphthalene	mg/kg OC	38	64	3.0 U	2.8 U	1.9 U	2.2 U	4.4 U	1.4	1.1 U	2.8 U	0.97 U	4.0 U	0.87	3.7 U
Acenaphthene	mg/kg OC	16	57	4.8	2.2 J	1.9 U	2.2 U	4.4 U	7.8	1.1 U	2.6 J	1.7 J	4.0 U	1.0	3.7 U
Acenaphthylene	mg/kg OC	66	66	3.4	2.1 J	1.9 U	1.4 J	4.4 U	7.8	1.1 U	1.7 J	2.0 J	4.0 U	4.0	3.7 U
Anthracene	mg/kg OC	220	1,200	9.6	6.6	2.8	4.0	8.4	23	1.4	6.2	6.3	5.2	12	3.7 U
Benzo(a)anthracene	mg/kg OC	110	270	27	14	6.8	11	15	47	3.4	15	13	13	43	1.3 U
Benzo(a)pyrene	mg/kg OC	99	210	23	24	9.1	14	17	47	4.8	16	14	18	35	1.3 U
Benzo(g,h,i)perylene	mg/kg OC	31	78	5.6	7.9	5.6 U	7.4	4.4	28	1.5	4.7	3.8	6.0	18	3.7 U
Total benzofluoranthenes (calc'd)	mg/kg OC	230	450	110	48	20	33	48	88	13	46	39	48	63	3.7 U
Chrysene	mg/kg OC	110	460	81	22	8.6	20	28	53	5.7	25	21	21	60	3.7 U
Dibenzo(a,h)anthracene	mg/kg OC	12	33	2.3 J	2.8	5.6 U	2.7	4.4 U	7.3	1.1 U	2.8 U	0.97 U	4.0 U	5.8	3.7 U
Dibenzofuran	mg/kg OC	15	58	3.0 U	2.5 J	2.3	2.2 U	4.4 U	2.5	1.1 U	1.8 J	1.4 J	4.0 U	1.1	3.7 U

**Table A-5-1. Locations SS2-010 through SS25-010, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS2	LDW- SS3	LDW- SS6	LDW- SS7	LDW- SS8	LDW- SS9	LDW- SS11	LDW- SS16	LDW- SS19	LDW- SS21	LDW- SS24	LDW- SS25
Fluoranthene	mg/kg OC	160	1,200	<b>230</b>	36	12	22	28	95	6.9	41	33	28	87	3.7 U
Fluorene	mg/kg OC	23	79	7.1	3.0	2.6	1.1 J	4.4 U	10	1.1 U	2.3 J	2.6	4.0 U	2.8	3.7 U
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	11	13	5.6	8.1	5.3	30	2.9	6.2	5.3	6.8	20	1.3 U
Naphthalene	mg/kg OC	99	170	3.0 U	1.8 J	3.5	2.2 U	4.4 U	2.1	1.1 U	2.8 U	0.97 U	4.0 U	1.8	3.7 U
Phenanthrene	mg/kg OC	100	480	91	25	8.3	9.2	11	78	3.5	15	17	11	32	3.7 U
Pyrene	mg/kg OC	1,000	1,400	140	40	53	19	23	89	7.4	32	32	30	73	3.7 U
Total HPAH (calc'd)	mg/kg OC	960	5,300	620 J	210	120	140	170	490	46	180	160	170	410	3.7 U
Total LPAH (calc'd)	mg/kg OC	370	780	120	40 J	17	16 J	20	130	4.9	28 J	29 J	16	53	3.7 U
<b>Phthalates</b>															
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	15	5.1 U	<b>81</b>	31 U	26	7.3	7.4 U	17	23	27	2.0	3.7 U
Butyl benzyl phthalate	mg/kg OC	4.9	64	0.33 U	1.8 U	1.9 U	2.2	0.29 U	0.36 U	0.80	0.85	1.0	2.3	0.43 U	1.3 U
Diethyl phthalate	mg/kg OC	61	110	0.33 U	1.8 U	1.9 U	0.24 U	0.29 U	0.36 U	0.37	0.31 U	0.32 U	0.59	0.43 U	1.9
Dimethyl phthalate	mg/kg OC	53	53	0.33 U	1.8 U	1.9 U	0.24 U	0.29 U	0.36 U	0.37 U	0.34	0.32 U	0.45 U	0.43 U	1.3 U
Di-n-butyl phthalate	mg/kg OC	220	1,700	3.0 U	2.8 U	2.0	2.2 U	4.4 U	1.1 U	1.1 U	2.8 U	0.97 U	4.0 U	0.45 U	3.7 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	3.0 U	2.8 U	1.9 U	2.2 U	4.4 U	1.1 U	1.1 U	2.8 U	0.97 U	4.0 U	0.88	3.7 U
<b>Other SVOCs</b>															
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.33 U	<b>1.8 U</b>	<b>1.9 U</b>	0.24 U	0.29 U	0.36 U	0.37 U	0.31 U	0.32 U	0.45 U	0.43 U	0.65 UJ
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.33 U	1.8 U	1.9 U	0.24 U	0.29 U	0.36 U	0.37 U	0.31 U	0.35	0.45 U	0.43 U	1.3 U
1,3-Dichlorobenzene	µg/kg dw	170	nv	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	27 U	19 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.33 U	1.8 U	1.9 U	0.24 U	0.29 U	0.36 U	0.37 U	0.31 U	0.32 U	0.45 U	0.43 U	1.3 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.6 U	13 U	20 U	6.5 U	6.5 U	6.5 U	6.5 U	6.6 U	6.6 U	6.6 U	26 U	6.5 U
2-Methylphenol	µg/kg dw	63	63	6.6 U	13 U	20 U	6.5 U	6.5 U	6.5 U	6.5 U	6.6 U	6.6 U	6.6 U	32	6.5 U
4-Methylphenol	µg/kg dw	670	670	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	54	19 U
Benzoic acid	µg/kg dw	650	650	66 U	130 U	200 UJ	65 U	65 U	65 U	65 U	66 U	66 U	66 U	260 U	65 UJ
Benzyl alcohol	µg/kg dw	57	73	33 U	20 U	20 U	33 U	32 U	20 U	19 U	33 U	20 U	33 U	<b>670</b>	19 U
Hexachlorobenzene	mg/kg OC	0.38	2.3	0.049 U	0.14 U	<b>1.9 U</b>	0.24 U	0.29 U	0.055 U	0.37 U	0.31 U	0.32 U	0.22 UJ	0.22 UJ	0.19 U
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.049 U	0.14 U	1.9 U	0.24 U	0.29 U	0.055 U	0.37 U	0.31 U	0.32 U	0.45 U	0.43 U	0.19 U
Hexachloroethane	µg/kg dw	1,400	14,000	60 U	20 U	20 U	59 U	98 U	20 U	19 U	59 U	20 U	59 U	27 U	19 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.33 U	1.8 U	2.3	0.24 U	0.29 U	0.36 U	0.37 U	0.31 U	0.32 U	0.45 U	0.43 U	1.3 U



**Table A-5-1. Locations SS2-010 through SS25-010, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS2	LDW- SS3	LDW- SS6	LDW- SS7	LDW- SS8	LDW- SS9	LDW- SS11	LDW- SS16	LDW- SS19	LDW- SS21	LDW- SS24	LDW- SS25
Pentachlorophenol	µg/kg dw	360	690	33 U	64 U	98 U	33 U	32 U	32 U	33 U	33 U	33 U	33 U	130 U	33 U
Phenol	µg/kg dw	420	1,200	60 U	21	20 U	59 U	98 U	20 U	19 U	240	180	59 U	38 U	19 U
<b>Polychlorinated biphenyls</b>															
Total PCBs (calc'd)	mg/kg OC	12	65	<b>12</b>	11	<b>180</b>	8.8	11	6.6	4.2 J	<b>15</b>	11	<b>29</b>	4.8	3.7 U
<b>Pesticides</b>															
Total DDTs (calc'd)	µg/kg dw	6.9	69	6.9 U	na	na	na	na	<b>7.4 U</b>	na	na	na	na	na	1.9 U
Aldrin	µg/kg dw	10	nv	1.5 U	na	na	na	na	0.98 U	na	na	na	na	na	0.96 U
Dieldrin	µg/kg dw	10	nv	2.0 U	na	na	na	na	2.5 U	na	na	na	na	na	1.9 U
gamma-BHC	µg/kg dw	10	nv	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	0.96 U
Total chlordane (calc'd)	µg/kg dw	10	nv	2.0 U	na	na	na	na	3.4 U	na	na	na	na	na	1.9 U
Heptachlor	µg/kg dw	10	nv	0.98 U	na	na	na	na	0.98 U	na	na	na	na	na	0.96 U

dw – dry weight

na – not analyzed

nv – no value; there is neither a CSL nor an ML for this chemical

OC – organic carbon

SQS and CSL – sediment quality standard and cleanup screening level (WAC 173-204)

SL and ML – screening level and maximum level (USACE 2000)

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Concentration in **bold** indicates SQS/SL exceedance.

Concentration in **bold underline** indicates CSL/ML exceedance.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Data qualifiers: U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-5-2. Concentrations of all analytes in Round 2 LDW surface sediment samples compared to SQS/SL and CSL/ML: Locations SS29 through SS61**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS29	LDW- SS30	LDW- SS34	LDW- SS35	LDW- SS39	LDW- SS41	LDW- SS45	LDW- SS46	LDW- SS47	LDW- SS53	LDW- SS59	LDW- SS61
<b>Metals and trace elements</b>															
Antimony	mg/kg dw	150	200	0.4 U	0.5 UJ	0.3 U	0.3 UJ	0.3 UJ	0.4 UJ	0.4 UJ	0.7 J	1.8 J	0.4 U	0.4 U	0.3 UJ
Arsenic	mg/kg dw	57	93	20.2	31.8	3.1	12.6	30.5	45.0	26.2	<b>71.1</b>	<b>161</b>	39.7	20.7	6.1
Cadmium	mg/kg dw	5.1	6.7	0.5	1.1	0.2 U	1.0	1.1	0.5	1	0.8	1 U	0.7	0.5	0.3 U
Chromium	mg/kg dw	260	270	36	44	9.9	35.1	40.4	30.5	41	56	53	42	43.5	20.9
Copper	mg/kg dw	390	390	80.8 J	136	16.0 J	180 J	55.2	103	155	<b>1,230</b>	<b>1,340</b>	163 J	102 J	38.4
Lead	mg/kg dw	450	530	131	90	7	55	79	62	98	125	130	74	60	19
Mercury	mg/kg dw	0.41	0.59	0.2	0.4	0.06 U	<b>0.46 J</b>	<b>1.09</b>	0.18	0.4	0.33	0.09	0.31	0.19	0.08
Nickel	mg/kg dw	140	370	25	29	8	22	16	19	25	27	30	26	33	15
Silver	mg/kg dw	6.1	6.1	0.6 U	0.9	0.4 U	0.8	0.6	0.5 U	0.7 U	1 U	2 U	0.7 U	0.6 U	0.4 U
Zinc	mg/kg dw	410	960	276 J	248	32.6 J	159	117	175	217	<b>794</b>	<b>878</b>	247 J	219 J	70.4
<b>PAHs</b>															
2-Methylnaphthalene	mg/kg OC	38	64	1.2 U	0.57 U	1.3 U	<b>160</b>	2.3	0.81 U	2.1 U	2.8 U	2.3	0.76 U	0.97 U	1.1 U
Acenaphthene	mg/kg OC	16	57	1.2 U	0.57	1.3 U	<b>260</b>	6.6	0.81 U	2.1 U	5.3	8.3	0.76 U	0.97 U	1.1 U
Acenaphthylene	mg/kg OC	66	66	1.2 U	1.8	1.3 U	6.5	2.0 U	0.81 U	2.1 U	2.8 U	1.9	0.76 U	0.97 U	1.1 U
Anthracene	mg/kg OC	220	1,200	1.9	8.9	1.3	170	6.4	2.1	3.1	15	14	3.4	3.6	1.1 U
Benzo(a)anthracene	mg/kg OC	110	270	5.9	16	3.9	<b>160</b>	9.9	13	8.2	44	34	42	9.7	2.4
Benzo(a)pyrene	mg/kg OC	99	210	7.1	13	3.0	<b>100</b>	12	17	8.5	53	33	16	14	3.6
Benzo(g,h,i)perylene	mg/kg OC	31	78	2.3	2.9	1.3 U	23	4.1	2.2	3.6	15	16	2.2	5.3	2.2
Total benzofluoranthenes (calc'd)	mg/kg OC	230	450	20	33	8.9	<b>250</b>	27	17	21	140	63	42	42	8.3
Chrysene	mg/kg OC	110	460	12	28	6.3	<b>180</b>	13	9.4	14	68	41	17	19	4.2
Dibenzo(a,h)anthracene	mg/kg OC	12	33	1.2 U	1.6	1.3 U	<b>15 U</b>	2.0 U	0.81 U	2.1 U	2.8 J	4.0 U	1.3	2.2	1.1 U
Dibenzofuran	mg/kg OC	15	58	1.2 U	0.57 U	1.3 U	<b>170</b>	2.0 U	0.81 U	2.1 U	3.4	5.4	0.76 U	0.97 U	1.1 U
Fluoranthene	mg/kg OC	160	1,200	14	27	12	<b>850</b>	31	14	18	92	83	28	25	4.0
Fluorene	mg/kg OC	23	79	1.2 U	1.3	1.3 U	<b>240</b>	3.1	0.81 U	2.1 U	5.8	9.7	1.1	0.97 U	1.1 U
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	2.9	4.3	0.92	33	6.6	9.4	4.3	33	21	7.6	15	2.2

**Table A-5-2. Locations SS29 through SS61, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS29	LDW- SS30	LDW- SS34	LDW- SS35	LDW- SS39	LDW- SS41	LDW- SS45	LDW- SS46	LDW- SS47	LDW- SS53	LDW- SS59	LDW- SS61
Naphthalene	mg/kg OC	99	170	1.2 U	0.57 U	1.3 U	<u>260</u>	2.5	0.81 U	2.1 U	4.3	4.9	0.76 U	0.97 U	1.1 U
Phenanthrene	mg/kg OC	100	480	5.1	7.1	2.2	<u>750</u>	24	5.5	6.4	44	69	6.8	8.2	1.7
Pyrene	mg/kg OC	1,000	1,400	10	14	7.2	500	31	13	16	120	68	16	17	7.7
Total HPAH (calc'd)	mg/kg OC	960	5,300	75	140	42	<b>2,100</b>	130	94	93	570 J	360	170	150	35
Total LPAH (calc'd)	mg/kg OC	370	780	7.0	20	3.6	<u>1,700</u>	42	7.7	9.6	74	110	11	12	1.7
<b>Phthalates</b>															
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	6.5	4.9 U	2.2	18	2.8 U	6.0 U	11	<b>77</b>	14	7.6	26	4.4
Butyl benzyl phthalate	mg/kg OC	4.9	64	0.39 U	0.46	0.43 U	0.33 U	1.4 U	0.60	0.23 U	0.68 U	1.5	0.95	3.9	0.39 U
Diethyl phthalate	mg/kg OC	61	110	0.43	0.34	0.43 U	0.33 U	3.1	0.31	0.23 U	0.77	0.83	0.76 U	0.97 U	0.43 U
Dimethyl phthalate	mg/kg OC	53	53	0.39 U	0.19 J	0.43 U	0.33 U	1.4 U	0.34	0.23 U	0.68 U	0.83	0.76 U	0.97 U	0.39 U
Di-n-butyl phthalate	mg/kg OC	220	1,700	1.2 U	0.57 U	1.3 U	2.9 U	3.1 U	0.81 U	2.1 U	2.8 U	3.0	0.76 U	0.97 U	1.1 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	1.2 U	0.57 U	1.3 U	2.9 U	2.0 U	0.81 U	2.1 U	2.8 U	1.3 U	0.76 U	0.97 U	1.1 U
<b>Other SVOCs</b>															
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.39 U	0.19 U	0.43 U	0.33 U	0.69 UJ	0.28 U	0.23 U	0.68 U	0.76 U	0.76 U	0.47 UJ	0.39 U
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.39 U	0.19 U	0.43 U	0.33 U	1.4 U	0.28 U	0.23 U	0.68 U	0.76 U	0.76 U	0.97 U	0.39 U
1,3-Dichlorobenzene	µg/kg dw	170	nv	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U	19 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.39 U	0.19 U	0.43 U	0.33 U	1.4 U	0.28 U	0.23 U	0.68 U	0.76 U	0.76 U	0.97 U	0.39 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.6 U	6.6 U	6.5 U	6.6 U	<b>31 UJ</b>	6.6 U	6.6 U	14 U	11 U	20 U	20 U	6.5 U
2-Methylphenol	µg/kg dw	63	63	6.6 U	6.6 U	6.5 U	6.6 U	54 U	6.6 U	6.6 U	14 U	11 U	20 U	20 U	6.5 U
4-Methylphenol	µg/kg dw	670	670	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	21	20 U	20 U	19 U
Benzoic acid	µg/kg dw	650	650	66 U	64 J	65 U	82	540 U	66 U	66 UJ	220 J	220 J	200 U	200 U	65 UJ
Benzyl alcohol	µg/kg dw	57	73	20 U	20 U	20 U	33 U	<b>80 U</b>	19 U	33 U	34 UJ	54 U	20 U	20 U	19 U
Hexachlorobenzene	mg/kg OC	0.38	2.3	0.20 UJ	0.19 U	0.22 UJ	0.33 U	<b>1.4 U</b>	0.072 U	0.23 U	0.33 UJ	0.37 UJ	0.038 U	0.047 U	0.20 UJ
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.39 U	0.19 U	0.43 U	0.33 U	1.4 U	0.072 U	0.23 U	0.68 U	0.76 U	0.038 U	0.047 U	0.39 U
Hexachloroethane	µg/kg dw	1,400	14,000	20 U	20 U	20 U	59 U	80 U	19 U	59 U	58 U	19 U	20 U	20 U	19 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.39 U	0.19 U	0.43 U	0.33 U	1.4 U	0.28 U	0.23 U	0.68 U	1.0	0.76 U	0.97 U	0.39 U
Pentachlorophenol	µg/kg dw	360	690	33 U	33 U	32 U	33 U	270 U	33 U	33 U	76	54 U	99 U	98 U	33 U
Phenol	µg/kg dw	420	1,200	46 U	64	20 U	59 U	80 U	19 U	59 U	62	220	59 U	49 U	19 U

**Table A-5-2. Locations SS29 through SS61, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS29	LDW- SS30	LDW- SS34	LDW- SS35	LDW- SS39	LDW- SS41	LDW- SS45	LDW- SS46	LDW- SS47	LDW- SS53	LDW- SS59	LDW- SS61
<b>Polychlorinated biphenyls</b>															
Total PCBs (calc'd)	mg/kg OC	12	65	7.3	6.9	1.3 U	<b>32</b>	5.9	8.4	10	12	4.8	8.3	2.6	3.7
<b>Pesticides</b>															
Total DDTs (calc'd)	µg/kg dw	6.9	69	na	na	na	na	na	3.4 U	na	na	na	na	<b>8.9 U</b>	na
Aldrin	µg/kg dw	10	nv	na	na	na	na	na	1.7 U	na	na	na	na	0.98 U	na
Dieldrin	µg/kg dw	10	nv	na	na	na	na	na	3.4 U	na	na	na	na	2.0 U	na
gamma-BHC	µg/kg dw	10	nv	na	na	na	na	na	1.7 U	na	na	na	na	0.98 U	na
Total chlordane (calc'd)	µg/kg dw	10	nv	na	na	na	na	na	3.4 U	na	na	na	na	3.9 U	na
Heptachlor	µg/kg dw	10	nv	na	na	na	na	na	1.7 U	na	na	na	na	1.9 U	na

dw – dry weight

na – not analyzed

nv – no value; there is neither a CSL nor an ML for this chemical

OC – organic carbon

SQS and CSL – sediment quality standard and cleanup screening level (WAC 173-204)

SL and ML – screening level and maximum level (USACE 2000)

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Concentration in **bold** indicates SQS/SL exceedance.

Concentration in **bold underline** indicates CSL/ML exceedance.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-5-3. Concentrations of all analytes in Round 2 LDW surface sediment samples compared to SQS/SL and CSL/ML: Locations SS62 through SS82**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS62	LDW- SS65	LDW- SS66	LDW- SS68	LDW- SS69b	LDW- SS71	LDW- SS73	LDW- SS74	LDW- SS77	LDW- SS78	LDW- SS81	LDW- SS82
<b>Metals and trace elements</b>															
Antimony	mg/kg dw	150	200	0.4 UJ	0.3 UJ	0.5 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.4 UJ	0.6 J	3.0	0.4 UJ	0.4 UJ	0.4 UJ
Arsenic	mg/kg dw	57	93	16.7	11.3	15.7	12.1	16.9	9.5	17.5	47.3	<b>80.9</b>	14.0	18.1	9.0
Cadmium	mg/kg dw	5.1	6.7	0.8	0.4	1 U	0.6	0.7	0.6	0.4	0.5	0.4	0.7	0.7	0.4
Chromium	mg/kg dw	260	270	39	25.2	85	36	36	27.7	28.6	36.5	28.7	36	35	27
Copper	mg/kg dw	390	390	108	58.9	171	87.4	94.0 J	57.9 J	70.1	132	98.4 J	82.8	89.4	55.7
Lead	mg/kg dw	450	530	58	34	50	47	55	46	48	75	81	41	52	180
Mercury	mg/kg dw	0.41	0.59	0.4	0.12	0.40	0.2	0.34 J	0.29 J	0.13	0.11	0.08	0.3	0.2	0.13
Nickel	mg/kg dw	140	370	24	17	44	24	25	15	21	21	22	24	23	20
Silver	mg/kg dw	6.1	6.1	0.7 U	0.5 U	2 U	0.6 U	0.6 U	1	0.6 U	0.4 U	0.4 U	0.7 U	0.6 U	0.6 U
Zinc	mg/kg dw	410	960	160	101	154	152	163	110	133	401	259 J	142	159	128
<b>PAHs</b>															
2-Methylnaphthalene	mg/kg OC	38	64	2.0 U	0.82 U	2.2 U	3.8 U	2.3 U	2.9 U	4.0 U	6.6 U	0.96 U	3.9 U	0.77 U	1.0 U
Acenaphthene	mg/kg OC	16	57	2.0 U	0.82 U	2.2 U	3.8 U	2.3 U	2.9 U	4.0 U	6.6 U	1.6	3.9 U	0.77 U	2.5 J
Acenaphthylene	mg/kg OC	66	66	1.2 J	0.82 U	2.2 U	3.8 U	1.5 J	1.5 J	4.0 U	6.6 U	2.2	3.9 U	0.77 U	1.1
Anthracene	mg/kg OC	220	1,200	4.5	1.8	3.5	2.8 J	8.4	4.7	4.9	6.6 U	10	2.3 J	1.7	6.6
Benzo(a)anthracene	mg/kg OC	110	270	10	4.9	11	8.1	13	24	16	5.3 J	30	8.2	6.5	20
Benzo(a)pyrene	mg/kg OC	99	210	11	4.5	8.0	8.1	15	23	21	6.8	31	10	7.3	17
Benzo(g,h,i)perylene	mg/kg OC	31	78	3.1	2.0	2.5	2.1 J	3.6	6.4	7.0	6.6 U	7.7	3.7 J	3.8	4.3
Total benzofluoranthenes (calc'd)	mg/kg OC	230	450	29	11	25	24	49	68	53	17	82	24	18	42
Chrysene	mg/kg OC	110	460	17	7.4	13	13	22	30	29	8.2	39	13	11	31
Dibenzo(a,h)anthracene	mg/kg OC	12	33	2.0 U	0.82 U	2.2 U	3.8 U	2.3 U	2.7 J	4.0 U	6.6 U	4.0	3.9 U	1.7	1.0 U
Dibenzofuran	mg/kg OC	15	58	2.0 U	0.82 U	2.2 U	3.8 U	2.3 U	2.9 U	4.0 U	6.6 U	1.0	3.9 U	0.77 U	1.0 U
Fluoranthene	mg/kg OC	160	1,200	25	11	20	18	38	59	23	11	58	15	12	42
Fluorene	mg/kg OC	23	79	1.3 J	0.82 U	1.1 J	3.8 U	2.4	2.9 U	4.0 U	6.6 U	2.1	3.9 U	0.77 U	1.2
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	4.2	2.6	4.6	0.54	5.0	7.4	9.1	6.8	13	4.7	4.5	6.1

**Table A-5-3. Locations SS62 through SS82, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS62	LDW- SS65	LDW- SS66	LDW- SS68	LDW- SS69b	LDW- SS71	LDW- SS73	LDW- SS74	LDW- SS77	LDW- SS78	LDW- SS81	LDW- SS82
Naphthalene	mg/kg OC	99	170	4.2	0.82 U	2.2 U	3.8 U	2.3 U	2.9 U	4.0 U	6.6 U	0.96 U	3.9 U	0.77 U	1.0 U
Phenanthrene	mg/kg OC	100	480	8.0	3.0	6.1	5.4	11	9.4	9.1	4.9 J	19	4.7	3.6	16
Pyrene	mg/kg OC	1,000	1,400	16	7.4	14	14	30	45	22	8.9	48	16	8.9	31
Total HPAH (calc'd)	mg/kg OC	960	5,300	120	51	98	88 J	180	270 J	180	64 J	310	96 J	73	190
Total LPAH (calc'd)	mg/kg OC	370	780	19 J	4.8	11 J	8.1 J	23 J	15 J	14	4.9 J	35	7.1 J	5.4	27 J
<b>Phthalates</b>															
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	16 U	7.4 U	14 U	12	17	15	15	8.2	9.6	10	7.7 U	9.6
Butyl benzyl phthalate	mg/kg OC	4.9	64	0.97 J	0.27 U	0.46	0.47	0.25 U	1.8	0.27 U	0.44 U	1.2	0.26 U	1.7	0.32 U
Diethyl phthalate	mg/kg OC	61	110	0.23 U	0.27 U	0.25 U	0.25 U	0.25 U	0.32 U	0.27 U	0.44 U	0.72 U	0.55	0.26 U	0.32 U
Dimethyl phthalate	mg/kg OC	53	53	0.23 U	0.27 U	0.25 U	0.25 U	0.25 U	0.36	0.27 U	5.7	0.72 U	0.26 U	0.29	0.32 U
Di-n-butyl phthalate	mg/kg OC	220	1,700	2.0 U	0.86 U	2.2 U	3.8 U	2.3 U	2.9 U	4.0 U	6.6 U	0.96 U	3.9 U	0.77 U	1.0 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	2.0 U	0.82 U	2.2 U	3.8 U	2.3 U	2.9 U	4.0 U	6.6 U	0.96 U	3.9 U	0.77 U	1.0 U
<b>Other SVOCs</b>															
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.23 U	0.27 U	0.25 U	0.25 U	0.25 U	0.32 U	0.27 U	0.44 U	0.72 U	0.26 U	0.26 U	0.32 U
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.23 U	0.27 U	0.25 U	0.25 U	0.25 U	0.32 U	0.27 U	0.44 U	0.72 U	0.26 U	0.26 U	0.32 U
1,3-Dichlorobenzene	µg/kg dw	170	nv	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U	19 U	20 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.23 U	0.27 U	0.25 U	0.25 U	0.25 U	0.45	0.27 U	0.44 U	0.72 U	0.26 U	0.26 U	0.32 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.5 U	6.6 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.4 U	15 U	6.6 U	6.5 U	6.4 U
2-Methylphenol	µg/kg dw	63	63	6.5 U	6.6 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.4 U	15 U	6.6 U	6.5 U	6.4 U
4-Methylphenol	µg/kg dw	670	670	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U	19 U	20 U
Benzoic acid	µg/kg dw	650	650	65 U	66 U	71	65 U	65 U	120	65 U	64 U	150 U	66 U	65 U	64 U
Benzyl alcohol	µg/kg dw	57	73	32 U	20 U	33 U	33 U	33 U	32 U	<b>150</b>	32 U	20 U	33 U	19 U	20 U
Hexachlorobenzene	mg/kg OC	0.38	2.3	0.23 U	0.27 U	0.25 U	<b>3.7 J</b>	0.038 U	0.32 U	0.040 U	0.066 U	0.37 UJ	0.26 U	0.039 U	0.049 U
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.23 U	0.27 U	0.25 U	0.25 U	0.038 U	0.32 U	0.040 U	0.066 U	0.72 U	0.26 U	0.039 U	0.049 U
Hexachloroethane	µg/kg dw	1,400	14,000	59 U	20 U	59 U	98 U	59 U	58 U	98 U	96 U	20 U	99 U	19 U	20 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.23 U	0.27 U	0.25 U	0.25 U	0.28	0.36	0.27 U	0.44 U	0.72 U	0.26 U	0.26 U	0.32 U
Pentachlorophenol	µg/kg dw	360	690	32 U	33 U	33 U	33 U	33 U	32 U	33 U	32 U	77 U	33 U	32 U	32 U
Phenol	µg/kg dw	420	1,200	59 U	280	59 U	98 U	59 U	58 U	98 U	280 J	20 U	99 U	90	20 U

**Table A-5-3. Locations SS62 through SS82, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS62	LDW- SS65	LDW- SS66	LDW- SS68	LDW- SS69b	LDW- SS71	LDW- SS73	LDW- SS74	LDW- SS77	LDW- SS78	LDW- SS81	LDW- SS82
<b>Polychlorinated biphenyls</b>															
Total PCBs (calc'd)	mg/kg OC	12	65	12	5.8 J	10	7.5	<b>13</b>	<b>23</b>	9.5	11	3.4	4.3	8.5	10
<b>Pesticides</b>															
Total DDTs (calc'd)	µg/kg dw	6.9	69	na	na	na	na	<b>12 U</b>	na	<b>12 U</b>	<b>8.5 U</b>	na	na	<b>9.2 U</b>	6.0 U
Aldrin	µg/kg dw	10	nv	na	na	na	na	0.99 U	na	0.97 U	0.97 U	na	na	0.97 U	0.97 U
Dieldrin	µg/kg dw	10	nv	na	na	na	na	5.5 U	na	4.5 U	1.9 U	na	na	4.7 U	2.0 U
gamma-BHC	µg/kg dw	10	nv	na	na	na	na	0.99 U	na	0.97 U	0.97 U	na	na	0.97 U	0.97 U
Total chlordane (calc'd)	µg/kg dw	10	nv	na	na	na	na	<b>11 U</b>	na	6.4 U	4.2 U	na	na	4.7 U	5.2 U
Heptachlor	µg/kg dw	10	nv	na	na	na	na	3.1 U	na	3.7 U	0.97 U	na	na	0.97 U	0.97 U

dw – dry weight

na – not analyzed

nv – no value; there is neither a CSL nor an ML for this chemical

OC – organic carbon

SQS and CSL – sediment quality standard and cleanup screening level (WAC 173-204)

SL and ML – screening level and maximum level (USACE 2000)

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Concentration in **bold** indicates SQS/SL exceedance.

Concentration in **bold underline** indicates CSL/ML exceedance.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-5-4. Concentrations of all analytes in Round 2 LDW surface sediment samples compared to SQS/SL and CSL/ML: Locations SS85 through SS122**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS85	LDW- SS90	LDW- SS91	LDW- SS93	LDW- SS95	LDW- SS98	LDW- SS100	LDW- SS103	LDW- SS105	LDW- SS106	LDW- SS107	LDW- SS108	LDW- SS122
<b>Metals and trace elements</b>																
Antimony	mg/kg dw	150	200	0.3 UJ	0.3 UJ	0.3 UJ	0.4 UJ	0.3 UJ	0.4 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.4 U	0.5 UJ	0.3 UJ
Arsenic	mg/kg dw	57	93	6.3	11.8	6.9	9.1	16.5	9.0	7.5	7.1	8.8	5.0	8.7	11.4	7.5
Cadmium	mg/kg dw	5.1	6.7	0.3 U	0.7 U	0.3	0.4	0.4	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U	0.4
Chromium	mg/kg dw	260	270	17.3	61 J	27.6	33	30.3	19.2	13.5	22.5	21.2	15.3	52.3	29	25.8
Copper	mg/kg dw	390	390	38.1	71.8	180	61.7	65.4	34.4	17.1	35.6	35.3	25.8	40.5 J	61.4	29.5
Lead	mg/kg dw	450	530	37	70 J	38	42	38	17	61	22	30	25	33	26	20
Mercury	mg/kg dw	0.41	0.59	0.07 U	0.07 U	0.07	0.17	0.26	0.08	0.06 U	0.11	0.08 U	0.06 U	0.09 U	0.2	0.08
Nickel	mg/kg dw	140	370	13	24	22	22	18	13	10	16	15	9	31	21	18
Silver	mg/kg dw	6.1	6.1	0.4 U	1 U	0.4 U	0.6 U	0.5 U	0.6 U	0.4 U	0.5 U	0.5 U	0.4 U	0.5 U	0.7 U	0.4 U
Zinc	mg/kg dw	410	960	79.2	246 J	225	122	183	65	52.1	76	86.8	66.1	84 J	109	83.0
<b>PAHs</b>																
2-Methylnaphthalene	mg/kg OC	38	64	5.2 U	1.3 U	5.2 U	1.5 J	29	4.3 U	2.5 U	0.75 U	1.6 U	2.1 U	1.2 U	2.1 U	1.5 U
Acenaphthene	mg/kg OC	16	57	5.2 U	1.3 U	5.2 U	4.9	<b>170</b>	4.3 U	2.5 U	0.75 U	1.6 U	2.1 U	1.2 U	2.1 U	1.5 U
Acenaphthylene	mg/kg OC	66	66	5.2 U	1.3 U	5.2 U	3.6	7.5	4.3 U	2.5 U	0.75 U	1.6 U	2.1 U	1.2 U	2.1 U	1.5 U
Anthracene	mg/kg OC	220	1,200	5.2 U	4.2	13	13	<b>380</b>	4.3 U	2.5 U	0.75 U	1.9	2.1 U	1.2	1.3 J	1.5 U
Benzo(a)anthracene	mg/kg OC	110	270	5.8	7.5	32	41	<b>150</b>	5.4	2.8	1.9	9.5	0.77 J	3.9	5.8	0.49 U
Benzo(a)pyrene	mg/kg OC	99	210	0.68	8.8	31	30	75	5.3	2.5	1.9	8.7	0.77	4.6	5.4	0.49 U
Benzo(g,h,i)perylene	mg/kg OC	31	78	5.2 U	3.1	8.3	7.2	30	2.4 J	2.5 U	0.75 U	3.0	2.1 U	1.4	2.6	1.5 U
Total benzofluoranthenes (calc'd)	mg/kg OC	230	450	13 J	21	76	94	200	15	3.3	5.6	32	0.85 J	13	14	0.49 J
Chrysene	mg/kg OC	110	460	11	14	46	54	<b>220</b>	8.8	3.2	3.5	21	2.1 U	7.1	8.7	1.5 U
Dibenzo(a,h)anthracene	mg/kg OC	12	33	5.2 U	1.3 U	5.2 U	1.5 J	3.8 J	4.3 U	2.5 U	0.75 U	1.6 U	2.1 U	1.2 U	2.1 U	1.5 U
Dibenzofuran	mg/kg OC	15	58	5.2 U	1.3 U	5.2 U	2.5 J	<b>150</b>	4.3 U	2.5 U	0.75 U	1.6 U	2.1 U	1.2 U	2.1 U	1.5 U
Fluoranthene	mg/kg OC	160	1,200	15	19	89	120	<b>640</b>	14	4.6	6.3	29	2.1	18	13	2.1
Fluorene	mg/kg OC	23	79	5.2 U	1.3 U	3.8 J	4.5	<b>260</b>	4.3 U	2.5 U	0.75 U	1.6 U	2.1 U	1.2 U	2.1 U	1.5 U
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	0.51	4.2	13	9.0	<b>37</b>	1.7	2.3	0.83	3.8	0.70 J	1.9	3.6	0.49 U



**Table A-5-4. Locations SS85 through SS122, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS85	LDW- SS90	LDW- SS91	LDW- SS93	LDW- SS95	LDW- SS98	LDW- SS100	LDW- SS103	LDW- SS105	LDW- SS106	LDW- SS107	LDW- SS108	LDW- SS122
Naphthalene	mg/kg OC	99	170	5.2 U	1.3 U	5.2 U	1.8 J	17	4.3 U	2.5 U	0.75 U	1.6 U	2.1 U	1.2 U	2.1 U	1.5 U
Phenanthrene	mg/kg OC	100	480	4.8 J	7.5	36	29	<u>830</u>	4.7	2.5 U	1.5	5.9	2.1 U	6.5	3.6	1.5 U
Pyrene	mg/kg OC	1,000	1,400	11	13	57	110	450	11	3.3	4.4	17	2.1 U	9.4	11	1.6
Total HPAH (calc'd)	mg/kg OC	960	5,300	56 J	90	350	470 J	<b>1,800 J</b>	64 J	22	25	120	5.2 J	59	64	4.1 J
Total LPAH (calc'd)	mg/kg OC	370	780	4.8 J	12	53 J	57 J	<u>1,700</u>	4.7	2.5 U	1.5	7.8	2.1 U	7.6	5.1 J	1.5 U
<b>Phthalates</b>																
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	7.9	2.9	27	24	16	8.1	3.0 U	3.6	7.9 U	2.1 U	7.6	5.8	3.7 U
Butyl benzyl phthalate	mg/kg OC	4.9	64	0.34 U	0.40 U	0.34 U	0.30 U	0.72 UJ	0.48 U	0.80 U	0.25 U	0.52 U	0.70 UJ	0.39 U	0.24 U	0.74
Diethyl phthalate	mg/kg OC	61	110	0.34 U	0.40 U	0.34 U	0.35	0.83 U	1.0 U	0.72 J	0.25 U	0.52 U	0.70 UJ	1.2 U	0.36	0.49 U
Dimethyl phthalate	mg/kg OC	53	53	0.34 U	2.3	0.34 U	0.30 U	0.72 UJ	0.48 U	0.80 U	0.25 U	0.52 U	0.70 UJ	0.39 U	0.24 U	0.49 U
Di-n-butyl phthalate	mg/kg OC	220	1,700	5.2 U	1.3 U	5.2 U	2.7 U	0.72 UJ	4.3 U	2.5 U	1.2	1.6 U	2.1 U	1.5	2.1 U	1.5 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	5.2 U	1.3 U	5.2 U	2.7 U	0.72 UJ	4.3 U	2.5 U	0.75 U	1.6 U	2.1 U	1.2 U	2.1 U	1.5 U
<b>Other SVOCs</b>																
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.34 U	0.40 U	0.34 U	0.30 U	0.72 UJ	0.48 U	0.80 U	0.25 U	0.52 U	0.70 UJ	0.39 U	0.24 U	0.49 U
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.34 U	0.40 U	0.34 U	0.30 U	0.72 UJ	0.48 U	0.80 U	0.25 U	0.52 U	0.70 UJ	0.39 U	0.24 U	0.49 U
1,3-Dichlorobenzene	µg/kg dw	170	nv	98 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U	20 U	20 U	20 U	59 U	20 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.34 U	0.40 U	0.34 U	0.30 U	0.72 UJ	0.48 U	0.80 U	0.25 U	0.52 U	0.70 UJ	0.39 U	0.24 U	0.49 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.4 U	6.4 U	6.6 U	6.6 U	19 UJ	6.5 U	6.3 U	6.4 U	6.5 U	6.6 U	6.7 U	6.5 U	6.6 U
2-Methylphenol	µg/kg dw	63	63	6.4 U	6.4 U	6.6 U	6.6 U	19 UJ	6.5 U	6.3 U	6.4 U	6.5 U	6.6 U	6.7 U	6.5 U	6.6 U
4-Methylphenol	µg/kg dw	670	670	98 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U	20 U	20 U	20 U	59 U	20 U
Benzoic acid	µg/kg dw	650	650	64 U	65	66 U	66 U	270	65 UJ	63 U	64 U	270	66 U	67 U	65 UJ	66 U
Benzyl alcohol	µg/kg dw	57	73	32 U	20 U	33 U	33 U	19 UJ	32 U	20 U	19 U	20 U	20 U	20 U	33 U	20 U
Hexachlorobenzene	mg/kg OC	0.38	2.3	0.34 U	0.20 UJ	0.34 U	0.044 U	<b>0.42 UJ</b>	0.24 UJ	0.12 U	0.25 U	0.25 UJ	0.35 UJ	0.19 UJ	0.036 U	0.24 UJ
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.34 U	0.40 U	0.34 U	0.044 U	0.72 UJ	0.48 U	0.12 U	0.25 U	0.52 U	0.70 UJ	0.39 U	0.036 U	0.49 U
Hexachloroethane	µg/kg dw	1,400	14,000	98 U	20 U	99 U	60 U	19 UJ	58 U	20 U	19 U	20 U	20 U	20 U	59 U	20 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.34 U	0.40 U	0.34 U	0.30	0.72 UJ	0.48 U	0.80 U	0.25 U	0.52 U	0.70 UJ	0.43	0.24 U	0.49 U
Pentachlorophenol	µg/kg dw	360	690	32 U	32 U	33 U	33 U	97 UJ	32 U	32 U	32 U	32 U	33 U	33 U	33 U	33 U
Phenol	µg/kg dw	420	1,200	98 U	84 U	99 U	60 U	19 UJ	58 U	20 U	19 U	21	20 U	34 U	59 U	34

**Table A-5-4. Locations SS85 through SS122, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS85	LDW- SS90	LDW- SS91	LDW- SS93	LDW- SS95	LDW- SS98	LDW- SS100	LDW- SS103	LDW- SS105	LDW- SS106	LDW- SS107	LDW- SS108	LDW- SS122
<b>Polychlorinated biphenyls</b>																
Total PCBs (calc'd)	mg/kg OC	12	65	<b>33</b>	3.4	8.9	5.8	7.5	5.3 J	9.1	3.2	3.7	<b>22</b>	7.1	4.6	<b>27</b>
<b>Pesticides</b>																
Total DDTs (calc'd)	µg/kg dw	6.9	69	<b>20 U</b>	na	na	<b>13 U</b>	na	na	na	na	na	na	na	<b>14 U</b>	na
Aldrin	µg/kg dw	10	nv	9.8 U	na	na	4.3 U	na	na	na	na	na	na	na	0.98 U	na
Dieldrin	µg/kg dw	10	nv	<b>20 U</b>	na	na	5.2 U	na	na	na	na	na	na	na	5.4 U	na
gamma-BHC	µg/kg dw	10	nv	9.8 U	na	na	0.99 U	na	na	na	na	na	na	na	0.98 U	na
Total chlordane (calc'd)	µg/kg dw	10	nv	<b>95</b>	na	na	8.8 U	na	na	na	na	na	na	na	2.0 U	na
Heptachlor	µg/kg dw	10	nv	9.8 U	na	na	2.5 U	na	na	na	na	na	na	na	0.98 U	na

dw – dry weight

na – not analyzed

nv – no value; there is neither a CSL nor an ML for this chemical

OC – organic carbon

SQS and CSL – sediment quality standard and cleanup screening level (WAC 173-204)

SL and ML – screening level and maximum level (USACE 2000)

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Concentration in **bold** indicates SQS/SL exceedance.

Concentration in **bold underline** indicates CSL/ML exceedance.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-5-5. Concentrations of all analytes in Round 2 LDW surface sediment samples compared to SQS/SL and CSL/ML: Locations SS124 through SS144**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS124	LDW- SS131	LDW- SS132	LDW- SS133	LDW- SS135	LDW- SS136	LDW- SS137	LDW- SS138	LDW- SS139	LDW- SS140	LDW- SS141	LDW- SS144
<b>Metals and trace elements</b>															
Antimony	mg/kg dw	150	200	0.3 UJ	0.4 UJ	0.5 UJ	0.5 UJ	0.3 UJ	0.3 UJ	0.5 UJ	0.4 UJ	0.3 UJ	0.3 UJ	0.4 UJ	0.3 UJ
Arsenic	mg/kg dw	57	93	4.8	10	15.8	10.0	9.8	5.6	13.2	7.5	6.8	5.0	6.7	3.4
Cadmium	mg/kg dw	5.1	6.7	0.3 U	0.4 U	0.5 U	0.5 U	0.8	0.3 U	0.5 U	0.4 U	0.3 U	0.3 U	0.4 U	0.3 U
Chromium	mg/kg dw	260	270	21.3	31	29	27	26.3	21.1	28	24.6	24.4	16.1	23	13.1
Copper	mg/kg dw	390	390	23.1	46.7	55.0	49.4	38.8	26.3	48.8	33.9	29.7	17.4	30.9	15.4
Lead	mg/kg dw	450	530	11	21	24	19	18	11	21	14	13	7	13	14
Mercury	mg/kg dw	0.41	0.59	0.06 U	0.1	0.1 U	0.1	0.16	0.07	0.1 U	0.10	0.08 U	0.06 U	0.1 U	0.07 U
Nickel	mg/kg dw	140	370	18	23	21	20	19	18	20	19	18	14	18	9
Silver	mg/kg dw	6.1	6.1	0.4 U	0.6 U	0.7 U	0.7 U	0.5 U	0.4 U	0.7 U	0.6 U	0.5 U	0.4 U	0.6 U	0.4 U
Zinc	mg/kg dw	410	960	50.7	113	104	99	80.1	65.9	96	77	71	51.9	71	42.6
<b>PAHs</b>															
2-Methylnaphthalene	mg/kg OC	38	64	2.1 U	0.67 U	0.66 U	0.77 U	0.88 U	1.2 U	0.68 U	1.1 U	1.1 U	1.3 U	2.1 U	1.0 U
Acenaphthene	mg/kg OC	16	57	2.1 U	0.67 U	0.66 U	0.77 U	0.88 U	1.2 U	0.68 U	1.1 U	1.1 U	1.3 U	2.1 U	1.0 U
Acenaphthylene	mg/kg OC	66	66	2.1 U	0.67 U	0.66 U	0.77 U	0.88 U	1.2 U	0.68 U	1.1 U	1.1 U	1.3 U	2.1 U	1.0 U
Anthracene	mg/kg OC	220	1,200	2.9	1.2	1.3	2.4	0.88 U	1.2 U	1.5	1.1 U	1.1 U	1.3 U	2.1 U	0.93 J
Benzo(a)anthracene	mg/kg OC	110	270	5.1	4.0	3.9	4.2	0.29 U	0.77	6.1	2.8	4.3	0.61	1.2 J	5.2
Benzo(a)pyrene	mg/kg OC	99	210	4.7	3.2	4.3	3.9	0.29 U	1.5	6.8	3.4	5.0	0.66	0.25	6.2
Benzo(g,h,i)perylene	mg/kg OC	31	78	2.1 U	1.1	1.6	1.4	0.88 U	1.2 U	2.4	1.2	2.0	1.3 U	2.1 U	2.4
Total benzofluoranthenes (calc'd)	mg/kg OC	230	450	11	10	13	11	0.88 U	3.8	23	8.8	15	3.0 J	2.4	15
Chrysene	mg/kg OC	110	460	6.8	6.4	6.6	5.8	0.88 U	1.7	12	4.4	7.8	1.4	1.9 J	7.7
Dibenzo(a,h)anthracene	mg/kg OC	12	33	2.1 U	0.67 U	0.66 U	0.77 U	0.88 U	1.2 U	0.91	1.1 U	1.1 U	1.3 U	2.1 U	0.62 J
Dibenzofuran	mg/kg OC	15	58	2.1 U	0.67 U	0.66 U	0.77 U	0.88 U	1.2 U	0.68 U	1.1 U	1.1 U	1.3 U	2.1 U	1.0 U
Fluoranthene	mg/kg OC	160	1,200	17	15	12	15	0.92	3.1	28	11	16	2.8	3.9	14
Fluorene	mg/kg OC	23	79	2.1 U	0.67 U	0.66 U	0.77 U	0.88 U	1.2 U	0.68 U	1.1 U	1.1 U	1.3 U	2.1 U	1.0 U
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	0.66 U	1.5	1.9	1.8	0.29 U	0.77	3.2	1.5	2.3	0.65	0.23	3.7

**Table A-5-5. Locations SS124 through SS144, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS124	LDW- SS131	LDW- SS132	LDW- SS133	LDW- SS135	LDW- SS136	LDW- SS137	LDW- SS138	LDW- SS139	LDW- SS140	LDW- SS141	LDW- SS144
Naphthalene	mg/kg OC	99	170	2.1 U	0.67 U	0.66 U	0.77 U	0.88 U	1.2 U	0.68 U	1.1 U	1.1 U	1.3 U	2.1 U	1.0 U
Phenanthrene	mg/kg OC	100	480	12	3.0	3.9	3.5	0.88 U	1.3	7.8	3.4	5.6	1.3 U	1.4 J	6.7
Pyrene	mg/kg OC	1,000	1,400	12	9.1	8.2	8.5	1.1	2.8	19	6.2	9.6	2.0	3.1	12
Total HPAH (calc'd)	mg/kg OC	960	5,300	57	51	51	52	2.0	14	100	39	62	11 J	13 J	68 J
Total LPAH (calc'd)	mg/kg OC	370	780	16	4.2	5.2	5.9	0.88 U	1.3	9.5	3.4	5.6	1.3 U	1.4 J	7.7 J
<b>Phthalates</b>															
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	2.8	9.1	10 U	9.7 U	1.5	1.6	11 U	6.7 U	10 U	3.8 U	3.5	1.4
Butyl benzyl phthalate	mg/kg OC	4.9	64	0.66 U	1.2	1.1	1.0	0.29 U	0.42 U	1.5	0.37 U	1.2	0.43 U	0.23 U	0.34 U
Diethyl phthalate	mg/kg OC	61	110	0.66 U	0.22 U	0.22 U	0.25 U	0.29 U	0.42 U	0.22 U	0.37 U	0.40 U	0.43 U	0.34 U	0.38 U
Dimethyl phthalate	mg/kg OC	53	53	0.66 U	1.7	0.26	1.3	0.29 U	0.42 U	0.22 U	0.37 U	0.40 U	0.43 U	0.23 U	0.34 U
Di-n-butyl phthalate	mg/kg OC	220	1,700	2.1 U	0.67 U	0.66 U	0.77 U	0.88 U	1.2 U	0.81	1.1 U	1.1 U	1.3 U	2.1 U	1.0 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	2.1 U	0.67 U	0.66 U	0.77 U	0.88 U	1.2 U	0.68 U	1.1 U	1.1 U	1.3 U	2.1 U	1.0 U
<b>Other SVOCs</b>															
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.66 U	0.22 U	0.22 U	0.25 U	0.29 U	0.42 U	0.22 U	0.37 U	0.40 U	0.43 U	0.23 U	0.34 U
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.66 U	0.22 U	0.22 U	0.25 U	0.29 U	0.42 U	0.22 U	0.37 U	0.40 U	0.43 U	0.23 U	0.34 U
1,3-Dichlorobenzene	µg/kg dw	170	nv	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	19 U	20 U	59 U	20 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.66 U	0.22 U	0.22 U	0.25 U	0.29 U	0.42 U	0.22 U	0.37 U	0.40 U	0.43 U	0.23 U	0.34 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.4 U	6.5 U	6.6 U	6.5 U	6.6 U	6.5 U	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U
2-Methylphenol	µg/kg dw	63	63	6.4 U	6.5 U	6.6 U	6.5 U	6.6 U	6.5 U	6.6 U	6.5 U	6.6 U	6.6 U	6.5 U	6.6 U
4-Methylphenol	µg/kg dw	670	670	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	19 U	20 U	59 U	20 U
Benzoic acid	µg/kg dw	650	650	64 U	110	100	65 U	66 U	65 U	99	65 U	71	66 U	65 UJ	66 UJ
Benzyl alcohol	µg/kg dw	57	73	20 U	20 U	20	20	20 U	19 U	23	20 U	19 U	20 U	32 U	20 U
Hexachlorobenzene	mg/kg OC	0.38	2.3	0.33 UJ	0.054	0.22 U	0.038 U	0.29 U	0.21 UJ	0.22 U	0.37 U	0.20 UJ	0.064 U	0.23 U	0.051 U
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.66 U	0.033 U	0.22 U	0.038 U	0.29 U	0.42 U	0.22 U	0.37 U	0.40 U	0.064 U	0.23 U	0.051 U
Hexachloroethane	µg/kg dw	1,400	14,000	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	19 U	20 U	59 U	20 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.66 U	0.22 U	0.22 U	0.25 U	0.35	0.42 U	0.22 U	0.37 U	0.40 U	0.43 U	0.23 U	0.34
Pentachlorophenol	µg/kg dw	360	690	32 U	32 U	33 U	32 U	33 U	33 U	33 U	33 U	33 U	33 U	32 U	33 U
Phenol	µg/kg dw	420	1,200	20 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	19 U	20 U	59 U	20 U

**Table A-5-5. Locations SS124 through SS144, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS124	LDW- SS131	LDW- SS132	LDW- SS133	LDW- SS135	LDW- SS136	LDW- SS137	LDW- SS138	LDW- SS139	LDW- SS140	LDW- SS141	LDW- SS144
<b>Polychlorinated biphenyls</b>															
Total PCBs (calc'd)	mg/kg OC	12	65	2.0 U	0.74 J	4.2	1.4 J	11	1.2 U	2.6 J	0.96 J	1.2 U	1.3 U	0.71 U	<b>25</b>
<b>Pesticides</b>															
Total DDTs (calc'd)	µg/kg dw	6.9	69	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U	na	<b>18 U</b>
Aldrin	µg/kg dw	10	nv	na	0.98 U	na	0.98 U	na	na	na	na	na	0.98 U	na	0.98 U
Dieldrin	µg/kg dw	10	nv	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U	na	7.6 U
gamma-BHC	µg/kg dw	10	nv	na	0.98 U	na	0.98 U	na	na	na	na	na	0.98 U	na	0.98 U
Total chlordane (calc'd)	µg/kg dw	10	nv	na	2.0 U	na	2.0 U	na	na	na	na	na	2.0 U	na	10 U
Heptachlor	µg/kg dw	10	nv	na	0.98 U	na	1.1 U	na	na	na	na	na	0.98 U	na	0.98 U

dw – dry weight

na – not analyzed

nv – no value; is neither a CSL nor an ML for this chemical

OC – organic carbon

SQS and CSL – sediment quality standard and cleanup screening level (WAC 173-204)

SL and ML – screening level and maximum level (USACE 2000)

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Concentration in **bold** indicates SQS/SL exceedance.

Concentration in **bold underline** indicates CSL/ML exceedance.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-5-6. Concentrations of all analytes in Round 2 LDW surface sediment samples compared to SQS/SL and CSL/ML: Locations SS146 through SS159**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS146	LDW- SS147	LDW- SS148	LDW- SS149	LDW- SS150	LDW- SS151	LDW- SS153	LDW- SS154	LDW- SS155	LDW- SS157	LDW- SS158	LDW- SS159
<b>Metals and trace elements</b>															
Antimony	mg/kg dw	150	200	0.4 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.3 UJ	0.2 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.4 UJ	0.3 UJ	0.3 UJ
Arsenic	mg/kg dw	57	93	7.1	8.7	15.6	6.4	5.8	4.1	6.3	7.3	5.4	21.1	20.5	10.0
Cadmium	mg/kg dw	5.1	6.7	0.4 U	0.4 U	0.4 U	0.3 U	0.3 U	0.2 U	0.3 U	0.3 U	0.3 U	1.6	0.7	0.4
Chromium	mg/kg dw	260	270	23	24	26	23.4	25.0	12.6	18.7	22.2	22.4	69	174	29.3
Copper	mg/kg dw	390	390	34.9	35.8	36.0	28.2	24.9	15.0	24.0	25.4	22.1	74.7 J	52.1 J	37.0 J
Lead	mg/kg dw	450	530	14	28	95	20	28	5	15	11	8	148	51	36
Mercury	mg/kg dw	0.41	0.59	0.1 U	0.13	0.1 U	0.07 U	0.11	0.04 U	0.07 U	0.06	0.07 U	0.12 J	0.10 J	0.10 J
Nickel	mg/kg dw	140	370	18	19	15	23	16	13	14	18	17	37	48	19
Silver	mg/kg dw	6.1	6.1	0.6 U	0.6 U	0.6 U	0.5 U	0.4 U	0.3 U	0.5 U	0.5 U	0.4 U	2	0.6	0.5 U
Zinc	mg/kg dw	410	960	80	86	97	65	59.7	49.6	56	68	55.8	248	151	99
<b>PAHs</b>															
2-Methylnaphthalene	mg/kg OC	38	64	0.83 U	0.94 U	0.78 U	2.8 U	1.1 U	8.1	2.9 U	2.8 U	3.1 U	1.9 U	3.0 U	2.1 U
Acenaphthene	mg/kg OC	16	57	0.83 U	0.94 U	0.78 U	3.9	1.1 U	3.9 U	2.9 U	2.8 U	3.1 U	2.8	3.0 U	2.1 U
Acenaphthylene	mg/kg OC	66	66	0.83 U	1.1	0.78 U	2.8 U	1.1 U	3.9 U	2.9 U	2.8 U	3.1 U	1.1 J	3.0 U	2.1 U
Anthracene	mg/kg OC	220	1,200	1.1	2.3	0.86	5.8	1.1 U	3.9 U	2.9 U	2.8 U	3.1 U	8.7	3.2	3.2
Benzo(a)anthracene	mg/kg OC	110	270	5.4	7.5	4.3	17	1.6	1.3 U	0.46	0.82	1.3	35	2.7	15
Benzo(a)pyrene	mg/kg OC	99	210	6.3	7.1	6.3	13	1.8	1.3 U	0.49	0.91	1.6	42	3.0	13
Benzo(g,h,i)perylene	mg/kg OC	31	78	2.4	2.5	2.3	2.3 J	1.1 U	3.9 U	2.9 U	2.8 U	3.1 U	16	7.1	4.3
Total benzofluoranthenes (calc'd)	mg/kg OC	230	450	19	18	17	27	4.3	3.9 U	5.9 J	3.9	4.1 J	110	19	48
Chrysene	mg/kg OC	110	460	8.8	11	6.3	21	2.3	3.9 U	2.4 J	2.7 J	2.5 J	48	16	28
Dibenzo(a,h)anthracene	mg/kg OC	12	33	0.83 U	0.94 U	0.78 U	2.8 U	1.1 U	3.9 U	2.9 U	2.8 U	3.1 U	2.5	2.8 J	2.1 U
Dibenzofuran	mg/kg OC	15	58	0.42 J	0.94 U	0.78 U	2.1 J	1.1 U	3.9 U	2.9 U	2.8 U	3.1 U	1.9	3.0 U	2.1 U
Fluoranthene	mg/kg OC	160	1,200	20	22	13	77	4.6	3.9 U	5.5	4.8	5.0	110	31	76
Fluorene	mg/kg OC	23	79	0.83 U	0.94 U	0.78 U	2.8 J	1.1 U	3.9 U	2.9 U	2.8 U	3.1 U	3.2	3.0 U	1.4 J
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	2.8	3.1	2.6	6.7	0.67	1.3 U	0.49	0.67	1.8	22	8.7	6.5

**Table A-5-6. Locations SS146 through SS159, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS146	LDW- SS147	LDW- SS148	LDW- SS149	LDW- SS150	LDW- SS151	LDW- SS153	LDW- SS154	LDW- SS155	LDW- SS157	LDW- SS158	LDW- SS159
Naphthalene	mg/kg OC	99	170	0.83 U	0.94 U	0.78 U	2.8 U	1.1 U	9.7	2.9 U	2.8 U	3.1 U	1.3 J	3.0 U	2.1 U
Phenanthrene	mg/kg OC	100	480	6.3	9.0	3.5	9.1	3.8	3.9 U	2.3 J	1.9 J	1.8 J	45	16	21
Pyrene	mg/kg OC	1,000	1,400	13	17	9.0	37	3.6	3.9 U	3.9	3.8	3.8	71	26	58
Total HPAH (calc'd)	mg/kg OC	960	5,300	78	89	61	200 J	19	3.9 U	19 J	18 J	20 J	460	120 J	250
Total LPAH (calc'd)	mg/kg OC	370	780	7.5	12	4.4	22 J	3.8	9.7	2.3 J	1.9 J	1.8 J	61 J	19	25 J
<b>Phthalates</b>															
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	5.4 U	3.9 U	6.3 U	2.8 U	1.6 U	3.9 U	4.9	8.2	3.1 U	39	26	6.8
Butyl benzyl phthalate	mg/kg OC	4.9	64	0.27 U	0.31 U	0.94	0.31 U	0.37 U	1.3 U	0.33 U	0.31 U	0.35 U	<b>6.5</b>	4.0	0.86
Diethyl phthalate	mg/kg OC	61	110	0.27 U	0.31 U	0.25 U	0.31 U	0.37 U	2.1 U	0.33 U	0.31 U	0.35 U	0.25 U	0.33 U	0.24 U
Dimethyl phthalate	mg/kg OC	53	53	0.27 U	0.31 U	0.25 U	0.31 U	0.37 U	1.3 U	0.33 U	0.31 U	0.35 U	0.21 U	0.33 U	1.1
Di-n-butyl phthalate	mg/kg OC	220	1,700	0.83 U	0.94 U	0.78 U	2.8 U	1.1 U	3.9 U	2.9 U	2.8 U	3.1 U	2.9	3.0 U	2.1 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	0.83 U	0.94 U	0.78 U	2.8 U	1.1 U	3.9 U	2.9 U	2.8 U	3.1 U	1.9 U	3.0 U	2.1 U
<b>Other SVOCs</b>															
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.27 U	0.31 U	0.25 U	0.31 U	0.37 U	0.64 UJ	0.33 U	0.31 U	0.35 U	0.21 U	0.33 U	0.24 U
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.27 U	0.31 U	0.25 U	0.31 U	0.37 U	1.3 U	0.33 U	0.31 U	0.35 U	0.21 U	0.33 U	0.24 U
1,3-Dichlorobenzene	µg/kg dw	170	nv	20 U	20 U	20 U	59 U	20 U	20 U	58 U	58 U	58 U	58 U	59 U	58 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.27 U	0.31 U	0.25 U	0.31 U	0.37 U	1.3 U	0.33 U	0.31 U	0.35 U	0.21 U	0.33 U	0.24 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.5 U	6.5 U	6.4 U	6.5 U	6.6 U	6.5 U	6.6 U	6.4 U	6.6 UJ	6.4 U	6.4 U	6.6 U
2-Methylphenol	µg/kg dw	63	63	6.5 U	6.5 U	6.4 U	6.5 U	6.6 U	6.5 U	6.6 U	6.4 U	6.6 UJ	6.4 U	6.4 U	6.6 U
4-Methylphenol	µg/kg dw	670	670	20 U	20 U	20	59 U	20 U	20 U	58 U	58 U	58 U	58 U	59 U	58 U
Benzoic acid	µg/kg dw	650	650	210	65 U	64 U	65 U	66 U	65 UJ	66 UJ	64 UJ	66 UJ	<b>770</b>	64 U	66 U
Benzyl alcohol	µg/kg dw	57	73	20 U	20 U	20 U	32 U	20 U	20 U	33 U	32 U	33 U	32 U	32 U	33 U
Hexachlorobenzene	mg/kg OC	0.38	2.3	0.27 U	0.31 U	0.25 U	0.31 U	0.054 U	0.19 U	0.33 U	0.31 U	0.052 U	0.21 U	0.33 U	0.24 U
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.27 U	0.31 U	0.25 U	0.31 U	0.054 U	0.19 U	0.33 U	0.31 U	0.052 U	0.21 U	0.33 U	0.24 U
Hexachloroethane	µg/kg dw	1,400	14,000	20 U	20 U	20 U	59 U	20 U	20 U	58 U	58 U	58 U	58 U	59 U	58 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.27 U	0.31 U	0.25 U	0.31 U	0.37 U	1.3 U	0.33 U	0.31 U	0.35 U	0.23	0.33 U	0.29
Pentachlorophenol	µg/kg dw	360	690	32 U	32 U	32 U	32 U	33 U	33 U	33 U	32 U	33 UJ	32 U	32 U	33 U
Phenol	µg/kg dw	420	1,200	20 U	20 U	20 U	59 U	20 U	20 U	58 U	58 U	58 U	110	59 U	58 U

**Table A-5-6. Locations SS146 through SS159, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SS146	LDW- SS147	LDW- SS148	LDW- SS149	LDW- SS150	LDW- SS151	LDW- SS153	LDW- SS154	LDW- SS155	LDW- SS157	LDW- SS158	LDW- SS159
<b>Polychlorinated biphenyls</b>															
Total PCBs (calc'd)	mg/kg OC	12	65	0.83 U	0.94 U	<b>20</b>	4.7	3.0	3.7 U	1.0 U	0.91 U	1.0 U	8.4	<b>20 J</b>	6.2
<b>Pesticides</b>															
Total DDTs (calc'd)	µg/kg dw	6.9	69	na	na	na	na	2.0 U	na	na	na	1.9 U	na	na	na
Aldrin	µg/kg dw	10	nv	na	na	na	na	0.97 U	na	na	na	0.97 U	na	na	na
Dieldrin	µg/kg dw	10	nv	na	na	na	na	2.0 U	na	na	na	1.9 U	na	na	na
gamma-BHC	µg/kg dw	10	nv	na	na	na	na	0.97 U	na	na	na	0.97 U	na	na	na
Total chlordane (calc'd)	µg/kg dw	10	nv	na	na	na	na	2.0 U	na	na	na	1.9 U	na	na	na
Heptachlor	µg/kg dw	10	nv	na	na	na	na	0.97 U	na	na	na	0.97 U	na	na	na

dw – dry weight

na – not analyzed

nv – no value; there is neither a CSL nor an ML for this chemical

OC – organic carbon

SQS and CSL – sediment quality standard and cleanup screening level (WAC 173-204)

SL and ML – screening level and maximum level (USACE 2000)

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Concentration in **bold** indicates SQS/SL exceedance.

Concentration in **bold underline** indicates CSL/ML exceedance.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown



**Table A-5-7. Concentrations of all analytes in Round 2 LDW surface sediment samples compared to SQS/SL and CSL/ML: Locations SSB2B through SSC1**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SSB2b	LDW- SSB4a	LDW- SSB5b	LDW- SSB6a	LDW- SSB7a	LDW- SSB9a	LDW- SSC1
<b>Metals and trace elements</b>										
Antimony	mg/kg dw	150	200	0.3 UJ	0.3	0.3 U	0.7 J	0.4 UJ	0.3 UJ	0.2 UJ
Arsenic	mg/kg dw	57	93	16.5	38.1	5.6	17.3	9.2	5.9	3.5
Cadmium	mg/kg dw	5.1	6.7	0.7	0.3	0.3 U	0.3 U	0.4 U	0.3 U	0.3 U
Chromium	mg/kg dw	260	270	28.9	34.3	16.0	14.3	24	14.2	13.9
Copper	mg/kg dw	390	390	67.5	226 J	31.8 J	24.5	45.1	18.8	19.1
Lead	mg/kg dw	450	530	82	75	22	24	26	8	4
Mercury	mg/kg dw	0.41	0.59	0.26	0.23	0.08	0.06	0.1 U	0.07 U	0.05 U
Nickel	mg/kg dw	140	370	19	14	11	9	18	12	10
Silver	mg/kg dw	6.1	6.1	0.5	0.9	0.4 U	0.4 U	0.7 U	0.5 U	0.4 U
Zinc	mg/kg dw	410	960	146	214 J	63.3 J	52.2	88	49.9	30.8
<b>PAHs</b>										
2-Methylnaphthalene	mg/kg OC	38	64	1.2 U	2.4 U	1.1 U	1.5 U	2.8 U	0.78 U	3.0 U
Acenaphthene	mg/kg OC	16	57	1.2 U	2.4 U	1.4	2.6	2.8 U	0.82	3.0 U
Acenaphthylene	mg/kg OC	66	66	1.2 U	4.5	1.1 U	1.5 U	2.8 U	0.78 U	3.0 U
Anthracene	mg/kg OC	220	1,200	3.2	4.4	5.1	34	2.8 U	0.78 U	3.0 U
Benzo(a)anthracene	mg/kg OC	110	270	7.1	15	15	4.4	2.8	0.90	1.0 U
Benzo(a)pyrene	mg/kg OC	99	210	11	24	13	2.9	3.1	1.1	1.0 U
Benzo(g,h,i)perylene	mg/kg OC	31	78	3.2	7.1	3.1	1.5 U	2.8 U	0.78 U	3.0 U
Total benzofluoranthenes (calc'd)	mg/kg OC	230	450	29	46	39	8.4	11	2.6	3.0 U
Chrysene	mg/kg OC	110	460	11	26	30	12	5.1	1.5	3.0 U
Dibenzo(a,h)anthracene	mg/kg OC	12	33	1.2 U	2.4 U	1.6	1.5 U	2.8 U	0.78 U	3.0 U
Dibenzofuran	mg/kg OC	15	58	1.2 U	2.4 U	1.1 U	1.8	2.8 U	0.78 U	3.0 U
Fluoranthene	mg/kg OC	160	1,200	16	31	42	10	9.3	2.2	3.0 U
Fluorene	mg/kg OC	23	79	1.2 U	2.4 U	1.6	6.3	2.8 U	0.78 U	3.0 U
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	3.8	11	4.2	0.57	0.30	0.86	1.0 U

**Table A-5-7. Locations SSB2b through SSC1, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SSB2b	LDW- SSB4a	LDW- SSB5b	LDW- SSB6a	LDW- SSB7a	LDW- SSB9a	LDW- SSC1
Naphthalene	mg/kg OC	99	170	1.2 U	2.5	1.1 U	1.5 U	2.8 U	0.78 U	3.0 U
Phenanthrene	mg/kg OC	100	480	7.6	12	10	12	2.7 J	1.5	3.0 U
Pyrene	mg/kg OC	1,000	1,400	21	30	24	8.7	7.5	2.5	3.0 U
Total HPAH (calc'd)	mg/kg OC	960	5,300	100	190	170	47	39	12	3.0 U
Total LPAH (calc'd)	mg/kg OC	370	780	11	24	18	55	2.7 J	2.3	3.0 U
<b>Phthalates</b>										
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	21	9.3	5.7	3.8	7.0	3.4	3.0 U
Butyl benzyl phthalate	mg/kg OC	4.9	64	0.38 U	2.3 U	0.38 U	0.52 U	0.30 U	0.27 U	1.0 U
Diethyl phthalate	mg/kg OC	61	110	0.49	2.3 U	0.38 U	0.79	0.30	0.27 U	1.0 U
Dimethyl phthalate	mg/kg OC	53	53	0.38 U	2.3 U	0.38 U	0.52 U	0.30 U	0.27 U	1.0 U
Di-n-butyl phthalate	mg/kg OC	220	1,700	1.2 U	2.4 U	1.1 U	1.5 U	2.8 U	0.78 U	3.0 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	1.2 U	2.4 U	1.1 U	1.5 U	2.8 U	0.78 U	3.0 U
<b>Other SVOCs</b>										
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.38 U	0.34 U	0.38 U	0.52 U	0.30 U	0.27 U	0.53 UJ
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.38 U	<b>2.3 U</b>	0.38 U	0.52 U	0.30 U	0.27 U	1.0 U
1,3-Dichlorobenzene	µg/kg dw	170	nv	20 U	44 U	20 U	19 U	59 U	19 U	19 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.38 U	2.3 U	0.38 U	0.52 U	0.30 U	0.27 U	1.0 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.5 U	24 UJ	6.6 U	6.6 U	6.5 U	6.5 U	6.5 U
2-Methylphenol	µg/kg dw	63	63	6.5 U	42 U	6.6 U	6.6 U	6.5 U	6.5 U	6.5 U
4-Methylphenol	µg/kg dw	670	670	20 U	44 U	20 U	19 U	59 U	19 U	19 U
Benzoic acid	µg/kg dw	650	650	65 U	420 U	66 U	66 U	65 U	65 UJ	65 U
Benzyl alcohol	µg/kg dw	57	73	20 U	44 U	20 U	19 U	32 U	19 U	19 U
Hexachlorobenzene	mg/kg OC	0.38	2.3	0.057 U	0.12	0.055 U	0.078 U	0.045 J	0.040 U	0.15 U
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.057 U	0.053 U	0.055 U	0.078 U	0.046 U	0.040 U	0.15 U
Hexachloroethane	µg/kg dw	1,400	14,000	20 U	44 U	20 U	19 U	59 U	19 U	19 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.38 U	2.3 U	0.38 U	0.52	0.30 U	0.27 U	1.0 U
Pentachlorophenol	µg/kg dw	360	690	32 U	<b>410</b>	33 U	33 U	32 U	32 U	33 U
Phenol	µg/kg dw	420	1,200	24	51 U	20 U	19 U	59 U	19 U	48

**Table A-5-7. Locations SSB2b through SSC1, cont.**

ANALYTE	UNIT	SQS/ SL	CSL/ ML	LDW- SSB2b	LDW- SSB4a	LDW- SSB5b	LDW- SSB6a	LDW- SSB7a	LDW- SSB9a	LDW- SSC1
<b>Polychlorinated biphenyls</b>										
Total PCBs (calc'd)	mg/kg OC	12	65	<b>46</b>	<b>45</b>	6.1	<b>12</b>	4.9	4.1	3.0 U
<b>Pesticides</b>										
Total DDTs (calc'd)	µg/kg dw	6.9	69	<b>25 U</b>	1.9 U	2.6 U	<b>7.0 U</b>	4.3 U	2.0 U	na
Aldrin	µg/kg dw	10	nv	0.97 U	0.97 U	0.97 U	0.98 U	0.98 U	0.98 U	na
Dieldrin	µg/kg dw	10	nv	<b>11 U</b>	1.9 U	2.0 U	4.7 U	2.0 U	2.0 U	na
gamma-BHC	µg/kg dw	10	nv	0.97 U	1.9 U	0.97 U	0.98 U	0.98 U	0.98 U	na
Total chlordane (calc'd)	µg/kg dw	10	nv	<b>20 U</b>	<b>21 U</b>	<b>22 U</b>	<b>23 U</b>	<b>24 U</b>	<b>25 U</b>	na
Heptachlor	µg/kg dw	10	nv	0.97 U	0.97 U	0.97 U	1.8 U	0.98 U	2.5 U	na

dw – dry weight

na – not analyzed

nv – no value; there is neither a CSL nor an ML for this chemical

OC – organic carbon

SQS and CSL – sediment quality standard and cleanup screening level (WAC 173-204)

SL and ML – screening level and maximum level (USACE 2000)

Concentration in *italics* indicates that laboratory replicate was run for sample. Value reported was based on averaging rules in Appendix D.

Concentration in **bold** indicates SQS/SL exceedance.

Concentration in **bold underline** indicates CSL/ML exceedance.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Data qualifiers:  
 U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-5-8. Dry weight concentrations of all analytes in Round 2 LDW surface sediment samples with TOC < 0.5% compared to dry weight chemical standards: Locations SS86, SS145, SS152, and SS156**

ANALYTE	UNIT	SQS/SL/LAET <sup>a</sup>	CSL/ML/2LAET <sup>a</sup>	LDW-SS86	LDW-SS145	LDW-SS152	LDW-SS156
<b>Metals and trace elements</b>							
Antimony	mg/kg dw	150	200	0.2 UJ	0.2 U	0.2 UJ	0.2 UJ
Arsenic	mg/kg dw	57	93	2.7	4.5	4.7	3.3
Cadmium	mg/kg dw	5.1	6.7	0.2 U	0.2 U	0.2 U	0.2 U
Chromium	mg/kg dw	260	270	13.9	14.5	19.2	11.7
Copper	mg/kg dw	390	390	13.3	13.7 J	14.3	10.3
Lead	mg/kg dw	450	530	9	5	4	3
Mercury	mg/kg dw	0.41	0.59	0.05 U	0.06 U	0.04 U	0.06 U
Nickel	mg/kg dw	140	370	8	14	15	10
Silver	mg/kg dw	6.1	6.1	0.4 U	0.3 U	0.3 U	0.4 U
Zinc	mg/kg dw	410	960	35.3	47.4 J	47.8	37.9
<b>PAHs</b>							
2-Methylnaphthalene	µg/kg dw	670	670	19 U	19 U	20 U	20 U
Acenaphthene	µg/kg dw	500	500	19 U	19 U	20 U	20 U
Acenaphthylene	µg/kg dw	1,300	1,300	19 U	19 U	20 U	20 U
Anthracene	µg/kg dw	960	960	19 U	19 U	20 U	20 U
Benzo(a)anthracene	µg/kg dw	1,300	1,600	6.6 U	6.4 U	6.6 U	6.6 U
Benzo(a)pyrene	µg/kg dw	1,600	1,600	6.6 U	6.4 U	6.6 U	29
Benzo(g,h,i)perylene	µg/kg dw	670	720	19 U	19 U	20 UJ	31
Total benzofluoranthenes (calc'd)	µg/kg dw	3,200	3,600	19 U	19 U	20 U	51
Chrysene	µg/kg dw	1,400	2,800	19 U	19 U	20 U	20 U
Dibenzo(a,h)anthracene	µg/kg dw	230	230	19 U	19 U	20 U	20 U
Dibenzofuran	µg/kg dw	540	540	19 U	19 U	20 U	20 U
Fluoranthene	µg/kg dw	1,700	2,500	19 U	19 U	20 U	20 U
Fluorene	µg/kg dw	540	540	19 U	19 U	20 U	20 U
Indeno(1,2,3-cd)pyrene	µg/kg dw	600	690	6.6 U	6.4 U	6.6 U	35

**Table A-5-8. Locations SS86, SS145, SS152, and SS156, cont.**

ANALYTE	UNIT	SQS/SL/LAET <sup>a</sup>	CSL/ML/2LAET <sup>a</sup>	LDW-SS86	LDW-SS145	LDW-SS152	LDW-SS156
Naphthalene	µg/kg dw	2,100	2,100	19 U	19 U	20 U	20 U
Phenanthrene	µg/kg dw	1,500	1,500	19 U	19 U	20 U	20 U
Pyrene	µg/kg dw	2,600	3,300	19 U	19 U	20 U	20 U
Total HPAH (calc'd)	µg/kg dw	12,000	17,000	19 U	19 U	20 UJ	150
Total LPAH (calc'd)	µg/kg dw	5,200	5,200	19 U	19 U	20 U	20 U
<b>Phthalates</b>							
Bis(2-ethylhexyl)phthalate	µg/kg dw	1,300	1,900	19 U	20 U	19 U	20 U
Butyl benzyl phthalate	µg/kg dw	63	900	6.6 U	6.6 U	6.4 U	6.6 U
Diethyl phthalate	µg/kg dw	200	200	7.2	6.6 U	8.4 U	11 U
Dimethyl phthalate	µg/kg dw	71	160	6.6 U	6.6 U	6.4 U	6.6 U
Di-n-butyl phthalate	µg/kg dw	1,400	1,400	19 U	20 U	19 U	20 U
Di-n-octyl phthalate	µg/kg dw	6,200	6,200	19 U	20 U	19 U	20 U
<b>Other SVOCs</b>							
1,2,4-Trichlorobenzene	µg/kg dw	31	51	6.6 U	6.6 U	6.4 U	6.6 U
1,2-Dichlorobenzene	µg/kg dw	35	50	6.6 U	6.6 U	6.4 U	6.6 U
1,3-Dichlorobenzene	µg/kg dw	170	nv	19 U	20 U	19 U	20 U
1,4-Dichlorobenzene	µg/kg dw	110	110	6.6 U	6.6 U	6.4 U	6.6 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.6 U	6.6 U	6.4 U	6.6 U
2-Methylphenol	µg/kg dw	63	63	6.6 U	6.6 U	6.4 U	6.6 U
4-Methylphenol	µg/kg dw	670	670	19 U	20 U	19 U	20 U
Benzoic acid	µg/kg dw	650	650	66 UJ	66 U	64 UJ	66 UJ
Benzyl alcohol	µg/kg dw	57	73	19 U	20 U	19 U	20 U
Hexachlorobenzene	µg/kg dw	22	70	6.6 U	6.6 U	0.99 U	6.6 U
Hexachlorobutadiene	µg/kg dw	11	120	6.6 U	6.6 U	0.99 U	6.6 U
Hexachloroethane	µg/kg dw	1,400	14,000	19 U	20 U	19 U	20 U
N-Nitrosodiphenylamine	µg/kg dw	28	40	6.6 U	6.6 U	6.4 U	6.6 U
Pentachlorophenol	µg/kg dw	360	690	33 U	33 UJ	32 U	33 U
Phenol	µg/kg dw	420	1,200	19 U	20 U	19 U	20 U

**Table A-5-8. Locations SS86, SS145, SS152, and SS156, cont.**

ANALYTE	UNIT	SQS/SL/LAET <sup>a</sup>	CSL/ML/2LAET <sup>a</sup>	LDW-SS86	LDW-SS145	LDW-SS152	LDW-SS156
<b>Polychlorinated biphenyls</b>							
Total PCBs (calc'd)	µg/kg dw	130	1,000	24	20 U	19 U	19 U
<b>Pesticides</b>							
Total DDTs (calc'd)	µg/kg dw	6.9	69	na	na	2.0 U	na
Aldrin	µg/kg dw	10	nv	na	na	0.99 U	na
Dieldrin	µg/kg dw	10	nv	na	na	2.0 U	na
gamma-BHC	µg/kg dw	10	nv	na	na	0.99 U	na
Total chlordane (calc'd)	µg/kg dw	10	nv	na	na	2.0 U	na
Heptachlor	µg/kg dw	10	nv	na	na	0.99 U	na

<sup>a</sup> SQS and CSL are reported, when available on a dry weight basis. For chemicals with no SQS or CSL in dry weight, then LAET and 2LAET values are used. SL and ML values are used for chemicals with no SQS/CSL or LAET/2LAET values (i.e., antimony, nickel, 1,3-dichlorobenzene, hexachloroethane, and pesticides)

LAET and 2LAET – lowest apparent effects threshold and 2<sup>nd</sup> lowest apparent effects threshold (PTI 1988)

SQS and CSL – sediment quality standard and cleanup screening level (WAC 173-204)

SL and ML – screening level and maximum level (USACE 2000)

dw – dry weight

na – not analyzed

nv – no value; there is no CSL, ML, or 2LAET for this chemical

Concentration in **bold** indicates SQS/SL exceedance.

Concentration in **bold underline** indicates CSL/ML exceedance.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, total PCBs, total DDTs, and total chlordane are presented in Appendix D.

Data qualifiers: U – not detected at reporting limit shown  
 J – estimated concentration  
 UJ – not detected at estimated reporting limit shown

**Table A-5-9. Concentrations of pentachlorophenol and total PCBs in Round 2 surface sediment samples from the greater Seattle area compared to SQS and CSL**

ANALYTE	UNIT	SQS	CSL	SC-SS1a	SC-SS1b	EB-SS2a	EB-SS2b	LW-SS3	LW-SS4	LW-SS5a	LW-SS5b	SB-SS6	DRD-SS7	UB-SS8	LU-SS9a	LU-SS9b
<b>SVOCs</b>																
Pentachlorophenol	µg/kg dw	360	690	7.8 U	21 U	na	na	na	na	na	na	na	na	na	na	na
<b>Polychlorinated biphenyls</b>																
Total PCBs (calc'd)	mg/kg OC	12	65	2.6	10 J	0.54	1.0	0.35 U	<sup>a</sup>	0.34 U	0.37 U	1.5 U	0.99 U	<sup>a</sup>	1.8	0.23 U

<sup>a</sup> These samples had TOC > 10%, so dry weight concentrations of total PCBs were compared to AETs, as presented in Table A-5-10

dw – dry weight

na – not analyzed

OC – organic carbon

SQS and CSL – sediment quality standard and cleanup screening level (WAC 173-204)SMS chemical standards apply only to marine sediments. All but two of these samples (EB-SS2a and EBSS2b) were collected from freshwater locations, but results are compared to SQS and CSL in this report for informational purposes.

**Table A-5-10. Dry weight concentrations of total PCBs in Round 2 surface sediment samples from the greater Seattle area with TOC > 10% compared to AETs**

ANALYTE	UNIT	LAET	2LAET	LW-SS4	UB-SS8
<b>Polychlorinated biphenyls</b>					
Total PCBs (calc'd)	µg/kg dw	130	1,000	20 U	20 UJ

dw – dry weight

LAET – lowest apparent effects threshold

2LAET – 2<sup>nd</sup> lowest apparent effects threshold

AETs apply only to marine sediments. These samples were collected from freshwater locations, but results are compared to AETs in this report for informational purposes.

Methods for calculating total PCBs are presented in Appendix D.

Data qualifiers: U – not detected at reporting limit shown  
 UJ – not detected at estimated reporting limit shown

## References

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- PTI. 1988. Sediment quality values refinement: Volume I. Update and evaluation of Puget Sound AET. Prepared for Puget Sound Estuary Program (PSEP), US Environmental Protection Agency, Region 10. PTI Environmental Services, Inc., Bellevue, WA.
- USACE, EPA, WDNR, Ecology. 2000. Dredged material evaluation and disposal procedures. A user's manual for the Puget Sound Dredged Disposal Analysis (PSDDA) Program. US Army Corps of Engineers, Seattle District, Seattle, WA; US Environmental Protection Agency, Region 10, Seattle, WA; Washington Department of Natural Resources; and Washington Department of Ecology.