APPENDIX A DATA TABLES FOR ROUND 3

A-1. All Analytes–Round 3

Table A-1-1. Concentrations of all analytes in Round 3 surface sediment samples: Samples SS301-010 through SS311-010

ANALYTE	UNIT	LDW-SS301-010	LDW-SS403-010 (field duplicate)	LDW-SS302-010	LDW-SS303-010	LDW-SS304-010	LDW-SS305-010	LDW-SS306-010	LDW-SS307-010	LDW-SS308-010	LDW-SS309-010	LDW-SS310-010	LDW-SS311-010
Metals and trace elements													
Antimony	mg/kg dw	0.3 UJ	0.3 UJ	0.4 UJ	0.3 UJ	0.3 UJ	1.1 J	0.4 J	0.3 UJ	0.4 UJ	0.4 UJ	0.4 UJ	0.6 UJ
Arsenic	mg/kg dw	7.8	7.6	15.2	11.7	13.9	123	5.1	13.7	10.1	10.6	11.5	19.2
Cadmium	mg/kg dw	0.3 U	0.3 U	0.5	0.3 U	0.5	1.1	0.3 U	0.5	0.5	0.5	0.5	0.7
Chromium	mg/kg dw	15.8	17.8	33	21.3	24.1	30	19.8	28.8	32.9	33.4	35	37
Cobalt	mg/kg dw	4.9	5.0	8.6	6.4	8.0	10.1	7.0	6.9	8.2	8.9	9.0	8.1
Copper	mg/kg dw	34.5	35.9	84	45.8	66.4	137	27.7	66.7	84.4	90.6	94	92
Lead	mg/kg dw	27	25	63	37	76	292	40	56	61	67	67	101
Mercury	mg/kg dw	0.91	0.16	0.59	0.13	0.18	0.27	0.060 U	0.27	0.37	1.55	1.8	0.3
Molybdenum	mg/kg dw	0.5	0.5	1.0	0.6	1.5	8.5	0.5	0.9	0.9	0.9	0.8	8.8
Nickel	mg/kg dw	10.9	11.9	23	20.4	22.5	20	22.4	18.8	22.6	23.8	24	21
Selenium	mg/kg dw	0.7 U	0.7 U	1 U	0.8 U	0.7 U	1 U	0.6 U	0.9 U	0.9 U	0.9 U	1 U	1 U
Silver	mg/kg dw	0.3 U	0.3 U	0.5	0.3 UJ	0.4 J	0.7	0.3 U	0.3 U	0.5	0.5	0.5	0.6 U
Thallium	mg/kg dw	0.3 U	0.3 U	0.4 U	0.3 U	0.3 U	0.4 U	0.3 U	0.3 U	0.4 U	0.4 U	0.4 U	0.6 U
Vanadium	mg/kg dw	37.4	40.6	64.0	40.3	49.3	52.0	43.6	45.3	54.6	59.6	59.4	70.7
Zinc	mg/kg dw	106	74	151	97	142	346	98	139	135	144	145	160
Organometals													
Monobutyltin as ion	µg/kg dw	3.9 U	4.0 U	5.4	na	na	na	na	na	na	na	5.2	na
Dibutyltin as ion	µg/kg dw	6.9	5.7 U	18	na	na	na	na	na	na	na	18	na
Tributyltin as ion	µg/kg dw	17	14	55	na	na	na	na	na	na	na	73	na
PAHs													
1-Methylnaphthalene	µg/kg dw	61 U	62 U	62 U	61 U	62 U	62	61 U	81	61 U	61 U	62 U	62 U
2-Chloronaphthalene	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
2-Methylnaphthalene	µg/kg dw	61 U	62 U	62 U	61 U	62 U	85	61 U	110	61 U	61 U	62 U	62 U

Table A-1-1, cont. All analytes, Samples SS301-010 through SS311-010

ANALYTE	UNIT	LDW-SS301-010	LDW-SS403-010 (field duplicate)	LDW-SS302-010	LDW-SS303-010	LDW-SS304-010	LDW-SS305-010	LDW-SS306-010	LDW-SS307-010	LDW-SS308-010	LDW-SS309-010	LDW-SS310-010	LDW-SS311-010
Acenaphthene	µg/kg dw	61 U	62 U	62 U	61 U	62 U	190	61 U	99	61 U	61 U	62 U	62 U
Acenaphthylene	µg/kg dw	61 U	81	37 J	61 U	62 U	53 J	61 U	36 J	61 U	61 U	38 J	130
Anthracene	µg/kg dw	73	290	100	130	47 J	420	61 U	280	100	130	170	200
Benzo(a)anthracene	µg/kg dw	310	2,200	320	340	120	680	61 U	870	280	330	400	820
Benzo(a)pyrene	µg/kg dw	320	2,600	380	390	190	570	61 U	600	380	400	430	1,000
Benzo(b)fluoranthene	µg/kg dw	520	4,600	820	780	340	840	61 U	1,400	480	590	640	1,900
Benzo(g,h,i)perylene	µg/kg dw	110	1,000	180	140	72	190	61 U	180	170	160	180	410
Benzo(k)fluoranthene	µg/kg dw	280	2,200	440	530	170	610	61 U	600	410	340	420	920
Benzofluoranthenes (total-calc'd)	µg/kg dw	800	6,800	1,260	1,310	510	1,450	61 U	2,000	890	930	1,060	2,800
Chrysene	µg/kg dw	520	3,600	890	860	210	1,100	61 U	1,700	500	580	720	1,800
Dibenzo(a,h)anthracene	µg/kg dw	50	340	60 J	100	33	77	6.1 U	81 J	93	91	98	160
Dibenzofuran	µg/kg dw	61 U	62 U	62 U	61 U	62 U	170	61 U	120	61 U	61 U	62 U	62 U
Fluoranthene	µg/kg dw	350	620	2,600	1,100	240	2,400	61 U	2,500	540	570	940	3,900
Fluorene	µg/kg dw	61 U	39 J	47 J	61 U	62 U	220	61 U	210	61 U	36 J	60 J	61 J
Indeno(1,2,3-cd)pyrene	µg/kg dw	120	1,100	190	140	74	200	61 U	210	160	160	190	420
Naphthalene	µg/kg dw	61 U	62 U	62 U	61 U	62 U	120	61 U	90	61 U	61 U	37 J	45 J
Phenanthrene	µg/kg dw	130	270	760	190	110	1,000	61 U	1,200	200	230	430	900
Pyrene	µg/kg dw	590	3,100	1,400	690	320	1,200	61 U	1,400	550	500	650	2,800
Total HPAH (calc'd)	µg/kg dw	3,170	21,400	7,300 J	5,100	1,770	7,900	61 U	9,500 J	3,560	3,720	4,670	14,100
Total LPAH (calc'd)	µg/kg dw	200	680 J	940 J	320	160 J	2,000 J	61 U	1,900 J	300	400 J	740 J	1,340 J
Total PAH (calc'd)	µg/kg dw	3,370	22,000 J	8,200 J	5,400	1,930 J	9,900 J	61 U	11,500 J	3,860	4,120 J	5,400 J	15,500 J
Phthalates													
Bis(2-ethylhexyl)phthalate	µg/kg dw	190	180	800	310	460	440	61 U	590	350	400	510	190
Butyl benzyl phthalate	µg/kg dw	11	14	35 J	20	30	32	6.1 U	30 J	40	40	53	9.3
Diethyl phthalate	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
Dimethyl phthalate	µg/kg dw	6.1 U	6.2 U	7.4 J	6.1	8.6	6.1 U	6.1 U	6.1 UJ	6.7	7.9	8.0	6.2
Di-n-butyl phthalate	µg/kg dw	61 U	32 J	62 U	61 U	62 U	61 U	61 U	61 U	33 J	36 J	43 J	43 J
Di-n-octyl phthalate	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
Other SVOCs													

Table A-1-1, cont. All analytes, Samples SS301-010 through SS311-010

ANALYTE	UNIT	LDW-SS301-010	LDW-SS403-010 (field duplicate)	LDW-SS302-010	LDW-SS303-010	LDW-SS304-010	LDW-SS305-010	LDW-SS306-010	LDW-SS307-010	LDW-SS308-010	LDW-SS309-010	LDW-SS310-010	LDW-SS311-010
1,2,4-Trichlorobenzene	µg/kg dw	6.1 U	6.2 U	6.2 UJ	6.1 U	6.2 U	6.1 U	6.1 U	6.1 UJ	6.1 U	6.1 U	6.2 U	6.2 U
1,2-Dichlorobenzene	µg/kg dw	6.1 U	6.2 U	6.2 UJ	6.1 U	6.2 U	6.1 U	6.1 U	6.1 UJ	6.1 U	6.1 U	6.2 U	6.2 U
1,3-Dichlorobenzene	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
1,4-Dichlorobenzene	µg/kg dw	6.1 U	6.2 U	6.2 UJ	6.1 U	6.2 U	6.1 U	6.1 U	6.1 UJ	6.1 U	6.1 U	7.4	6.2 U
2,4,5-Trichlorophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
2,4,6-Trichlorophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
2,4-Dichlorophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
2,4-Dimethylphenol	µg/kg dw	6.1 U	6.2 U	6.2 U	6.1 U	6.2 U	6.1	6.1 U	6.7	6.1 U	6.1 U	6.2 U	20
2,4-Dinitrophenol	µg/kg dw	610 U	620 U	620 U	610 UJ	620 UJ	610 U	610 U	610 U	610 U	610 U	620 U	620 U
2,4-Dinitrotoluene	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
2,6-Dinitrotoluene	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
2-Chlorophenol	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
2-Methylphenol	µg/kg dw	6.1 U	6.2 U	6.2 U	6.1 U	6.2 U	10	6.1 U	9.1	6.1 U	6.1 U	6.2 U	6.2 U
2-Nitroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
2-Nitrophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
3,3'-Dichlorobenzidine	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
3-Nitroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
4,6-Dinitro-o-cresol	µg/kg dw	610 U	620 U	620 U	610 U	620 U	610 U	610 U	610 U	610 U	610 U	620 U	620 U
4-Bromophenyl phenyl ether	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
4-Chloro-3-methylphenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
4-Chloroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
4-Chlorophenyl phenyl ether	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
4-Methylphenol	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
4-Nitroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
4-Nitrophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	300 U	310 U	310 U
Aniline	µg/kg dw	61 UJ	62 UJ	62 UJ	61 UJ	62 UJ	61 UJ	61 UJ	61 UJ	61 UJ	61 UJ	62 UJ	62 UJ
Benzoic acid	µg/kg dw	610 U	620 U	620 U	610 U	620 U	610 U	610 U	610 U	610 U	610 U	620 U	620 U
Benzyl alcohol	µg/kg dw	31 UJ	31 U	31 UJ	31 UJ	31 UJ	31 UJ	43 U	30 UJ	33 U	30 U	31 U	74 U
bis(2-chloroethoxy)methane	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U

Table A-1-1, cont. All analytes, Samples SS301-010 through SS311-010

ANALYTE	UNIT	LDW-SS301-010	LDW-SS403-010 (field duplicate)	LDW-SS302-010	LDW-SS303-010	LDW-SS304-010	LDW-SS305-010	LDW-SS306-010	LDW-SS307-010	LDW-SS308-010	LDW-SS309-010	LDW-SS310-010	LDW-SS311-010
bis(2-chloroethyl)ether	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
bis(2-chloroisopropyl)ether	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
Hexachlorobenzene	µg/kg dw	6.1 U	6.2 U	6.2 UJ	3.1 UJ	6.2 U	6.1 U	6.1 U	6.1 UJ	6.1 U	6.1 U	6.2 U	6.2 U
Hexachlorobutadiene	µg/kg dw	6.1 U	6.2 U	6.2 UJ	6.1 U	6.2 U	6.1 U	6.1 U	6.1 UJ	6.1 U	6.1 U	6.2 U	6.2 U
Hexachlorocyclopentadiene	µg/kg dw	310 U	310 U	310 U	310 UJ	310 UJ	310 U	310 U	300 U	300 U	300 U	310 U	310 U
Hexachloroethane	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
Isophorone	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
Nitrobenzene	µg/kg dw	61 U	62 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	61 U	62 U	62 U
N-Nitrosodimethylamine	µg/kg dw	31 U	31 U	31 UJ	31 U	31 U	31 U	31 U	30 UJ	30 U	30 U	31 U	31 U
N-Nitroso-di-n-propylamine	µg/kg dw	31 U	31 U	31 UJ	31 U	31 U	31 U	31 U	30 UJ	30 U	30 U	31 U	31 U
N-Nitrosodiphenylamine	µg/kg dw	6.1 U	10 U	6.2 UJ	6.1 U	6.2 U	6.1 U	6.1 U	6.1 UJ	14 U	9.7 U	11 U	12 U
Pentachlorophenol	µg/kg dw	31 U	31 U	31 U	31 U	31 U	31 U	31 U	30 U	30 U	30 U	31 U	31 U
Phenol	µg/kg dw	61 U	62 U	62 U	110	62 U	85 U	120 U	61 U	61 U	61 U	62 U	62 U
Polychlorinated biphenyls													
Aroclor-1016	µg/kg dw	11 U	30 U	20 U	3.9 U	3.9 U	40 U	3.9 U	36 U	37 U	40 U	20 U	120 U
Aroclor-1221	µg/kg dw	11 U	30 U	20 U	3.9 U	3.9 U	40 U	3.9 U	36 U	37 U	40 U	20 U	120 U
Aroclor-1232	µg/kg dw	11 U	30 U	20 U	3.9 U	3.9 U	40 U	3.9 U	36 U	37 U	40 U	20 U	120 U
Aroclor-1242	µg/kg dw	11 U	30 U	20 U	3.9 U	27 U	40 U	3.9 U	36 U	37 U	40 U	20 U	120 U
Aroclor-1248	µg/kg dw	32	30 U	79	28	27 U	95 J	3.9 U	43 J	69	69	77	120 U
Aroclor-1254	µg/kg dw	38	49	140	47	55	250 J	3.4 J	89	110	160	170	190
Aroclor-1260	µg/kg dw	38	46	100	62	82	240 J	5.0	99	100	140	120	180
PCBs (total calc'd)	µg/kg dw	108	95	320	137	137	590 J	8.4 J	231 J	280	370	370	370
Grain size													
Fractional % phi >-1 (>2000 µm)	% dw	8.6	7.2	1.6	6.3	20.5	26.7	*2.6*	23.9	0.1 U	0.2	1.3	8.5
Fractional % phi -1-0 (1000-2000 µm)	% dw	3.7	4.0	1.9	29.0	5.5	8.0	*1.5*	5.4	0.7	1.0	1.3	6.2
Fractional % phi 0-1 (500-1000 µm)	% dw	9.5	9.6	2.3	9.3	11.6	5.6	*14.6*	3.7	1.2	1.2	2.2	7.6
Fractional % phi 1-2 (250-500 µm)	% dw	37.0	37.5	12.8	18.1	13.7	7.3	*58.6*	5.4	6.4	5.1	8.3	10.9
Fractional % phi 2-3 (125-250 µm)	% dw	18.8	19.7	16.4	7.7	3.4	7.5	*19.9*	6.6	7.8	6.2	5.5	10.3
Fractional % phi 3-4 (62.5-125 µm)	% dw	4.1	4.1	7.9	3.5	2.7	6.7	*1.5*	6.9	18.2	12.1	11.0	11.1

Table A-1-1, cont. All analytes, Samples SS301-010 through SS311-010

ANALYTE	UNIT	LDW-SS301-010	LDW-SS403-010 (field duplicate)	LDW-SS302-010	LDW-SS303-010	LDW-SS304-010	LDW-SS305-010	LDW-SS306-010	LDW-SS307-010	LDW-SS308-010	LDW-SS309-010	LDW-SS310-010	LDW-SS311-010
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	2.6	3.0	5.2	3.6	4.6	5.5	*0.2*	8.8	9.9	14.2	12.7	8.8
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	3.5	3.2	14.2	5.1	6.9	10.2	*0.2*	8.6	14.5	15.2	14.6	12.9
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	3.6	3.3	14.1	5.1	8.7	7.9	*0.1*	8.6	13.3	14.2	14.0	8.3
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	2.6	2.6	6.2	3.8	7.2	4.2	*0.2*	6.8	9.0	10.0	9.8	4.2
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	1.7	1.7	4.6	2.6	4.4	2.7	*0.1*	4.4	5.6	6.4	5.7	2.6
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	1.5	1.5	4.3	2.1	3.5	2.6	*0.1*	3.6	4.3	4.6	4.8	1.8
Fractional % phi 10+ (<0.98 µm)	% dw	2.7	2.5	8.6	3.9	7.2	5.3	*0.7*	7.2	9.1	9.7	8.9	6.7
Gravel (total calc'd)	% dw	8.6	7.2	1.6	6.3	20.5	26.7	*2.6*	23.9	0.1 U	0.2	1.3	8.5
Sand (total calc'd)	% dw	73.1	74.9	41.3	67.6	36.9	35.1	*96.1*	28.0	34.3	25.6	28.3	46.1
Silt (total calc'd)	% dw	12.3	12.1	39.7	17.6	27.4	27.8	*0.7*	32.8	46.7	53.6	51.1	34.2
Clay (total calc'd)	% dw	5.9	5.7	17.5	8.6	15.1	10.6	*0.9*	15.2	19.0	20.7	19.4	11.1
Fines (percent silt+clay)	% dw	18.2	17.8	57.2	26.2	42.5	38.4	*1.6*	48.0	65.7	74.3	70.5	45.3
Conventional parameters													
Total organic carbon (TOC)	% dw	1.55	1.95	2.32	1.31	1.77	3.01	0.284	2.11	*1.86*	2.02	1.63	4.36
Total solids	% ww	67.50	66.80	49.70	64.20	63.70	50.70	78.50	57.60	*52.55*	50.00	49.50	34.20

dw – dry weight

na – not analyzed

ww – wet weight

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

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

Totals were calculated for each sediment grain size category using the following grain size ranges: gravel – 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: J – estimated concentration

U – not detected at reporting limit shown

UJ – not detected at estimated reporting limit shown

Table A-1-2. Concentrations of all analytes in Round 3 surface sediment samples: Samples SS312-010 through SS323-010

Analyte	Unit	LDW-SS312-010	LDW-SS313-010	LDW-SS314-010	LDW-SS315-010	LDW-SS316-010	LDW-SS317-010	LDW-SS318-010	LDW-SS319-010	LDW-SS320-010	LDW-SS321-010	LDW-SS322-010	LDW-SS323-010
Metals and trace elements													
Antimony	mg/kg dw	0.4 UJ	0.4 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.4 UJ	0.3 UJ
Arsenic	mg/kg dw	13.1	6.7	10.8	13.7	7.9	11.2	8.8	14.8	14.8	12.9	13.3	9.5
Cadmium	mg/kg dw	0.4 U	0.4 U	0.4	0.4 U	0.3 U	0.5	0.3 U	0.6	0.6	0.5	0.5	0.4
Chromium	mg/kg dw	29	18	19	19	20.3	28.0	23.9	35	35	21.1	35	27.7
Cobalt	mg/kg dw	4.9	3.6	6.3	12	5.6	8.5	7.3	9.5	9.2	7.3	9.5	8.5
Copper	mg/kg dw	79	36	40	60.7	45.5	80.4	63.3	103	101	53.6	96	75.9
Lead	mg/kg dw	138	30	19	36	25	58	43	62	63	49	56	37
Mercury	mg/kg dw	0.6	0.11	0.070 U	0.15	0.17	0.26	0.17	0.88	0.4	0.13	0.30	0.19
Molybdenum	mg/kg dw	2.1	1.9	3.7	0.7	0.4	1.0	0.6	0.8	0.7	1.3	0.7	0.7
Nickel	mg/kg dw	12	10	18	16.8	14.3	24.6	20.9	29	28	20.5	29	24.9
Selenium	mg/kg dw	1 U	1 U	1 U	0.9 U	0.7 U	0.8 U	0.8 U	1 U	1 U	0.7 U	1 U	0.8 U
Silver	mg/kg dw	0.4 U	0.4 UJ	0.4 UJ	0.5 J	0.3 J	0.4 J	0.3 J	0.7 J	0.8 J	0.4 J	0.5 J	0.5 J
Thallium	mg/kg dw	0.4 U	0.4 U	0.4 U	0.4 U	0.3 U	0.3 U	0.3 U	0.4 U	0.4 U	0.3 U	0.4 U	0.3 U
Vanadium	mg/kg dw	40.9	34.6	55.8	74	40.8	51.9	48.1	63.2	60.9	44.5	61.6	57.2
Zinc	mg/kg dw	122	86	57	117	77	180	112	170	168	107	155	118
Organometals													
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
PAHs													
1-Methylnaphthalene	µg/kg dw	110	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
2-Chloronaphthalene	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
2-Methylnaphthalene	µg/kg dw	96	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Acenaphthene	µg/kg dw	170	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Acenaphthylene	µg/kg dw	500	62 U	62 U	61 U	62 U	62 U	61 U	61 U	32 J	62 U	62 U	61 U

Table A-1-2, cont. All analytes, Samples SS312-010 through SS323-010

Analyte	Unit	LDW-SS312-010	LDW-SS313-010	LDW-SS314-010	LDW-SS315-010	LDW-SS316-010	LDW-SS317-010	LDW-SS318-010	LDW-SS319-010	LDW-SS320-010	LDW-SS321-010	LDW-SS322-010	LDW-SS323-010
Anthracene	µg/kg dw	710	33 J	62 U	61 U	60 J	79	53 J	130	150	58 J	130	67
Benzo(a)anthracene	µg/kg dw	2,200	100	100	60 J	220	180	150	330	370	160	430	180
Benzo(a)pyrene	µg/kg dw	3,200	120	140	72	220	270	200	390	440	160	380	220
Benzo(b)fluoranthene	µg/kg dw	3,000	120	120	100	610	370	270	560	590	190	620	360
Benzo(g,h,i)perylene	µg/kg dw	1,600	65	86	31 J	70 J	100	79	150	170	92	160	98
Benzo(k)fluoranthene	µg/kg dw	1,700	120	100	86	350	290	200	390	490	180	440	190
Benzofluoranthenes (total-calc'd)	µg/kg dw	4,700	240	220	190	960	660	470	950	1,080	370	1,060	550
Chrysene	µg/kg dw	3,000	150	150	80	1,200	290	250	540	630	220	710	300
Dibenzo(a,h)anthracene	µg/kg dw	320	17 J	8.1 J	16	26 J	39 J	30 J	49 J	56 J	39	51 J	16 J
Dibenzofuran	µg/kg dw	130	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Fluoranthene	µg/kg dw	4,900	360	300	120	7,400	390	370	760	860	370	720	360
Fluorene	µg/kg dw	260	62 U	62 U	61 U	62 U	62 U	61 U	43 J	47 J	62 U	46 J	61 U
Indeno(1,2,3-cd)pyrene	µg/kg dw	1,600	54 J	71	34 J	83	100	81	150	170	84	150	97
Naphthalene	µg/kg dw	180	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Phenanthrene	µg/kg dw	3,400	160	190	61 J	200	170	160	230	250	130	290	120
Pyrene	µg/kg dw	4,800	250	270	150	3,100	450	350	540	650	370	620	400
Total HPAH (calc'd)	µg/kg dw	26,300	1,360 J	1,300 J	750 J	13,300 J	2,480 J	1,980 J	3,860 J	4,430 J	1,870	4,280 J	2,220 J
Total LPAH (calc'd)	µg/kg dw	5,200	190 J	190	61 J	260 J	250	210 J	400 J	480 J	190 J	470 J	190
Total PAH (calc'd)	µg/kg dw	31,500	1,550 J	1,500 J	810 J	13,500 J	2,730 J	2,190 J	4,260 J	4,910 J	2,050 J	4,750 J	2,410 J
Phthalates													
Bis(2-ethylhexyl)phthalate	µg/kg dw	140	55 J	62 U	92	140	350	240	520	550	200	450	330
Butyl benzyl phthalate	µg/kg dw	34	6.2	6.2	11	17	36 J	24	48	50	21	38	27
Diethyl phthalate	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Dimethyl phthalate	µg/kg dw	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	8.0 J	6.1 U	7.9	9.3	25	8.7	7.3
Di-n-butyl phthalate	µg/kg dw	59 J	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Di-n-octyl phthalate	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Other SVOCs													
1,2,4-Trichlorobenzene	µg/kg dw	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 UJ	6.1 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U

Table A-1-2, cont. All analytes, Samples SS312-010 through SS323-010

ANALYTE	UNIT	LDW-SS312-010	LDW-SS313-010	LDW-SS314-010	LDW-SS315-010	LDW-SS316-010	LDW-SS317-010	LDW-SS318-010	LDW-SS319-010	LDW-SS320-010	LDW-SS321-010	LDW-SS322-010	LDW-SS323-010
1,2-Dichlorobenzene	µg/kg dw	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 UJ	6.1 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U
1,3-Dichlorobenzene	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
1,4-Dichlorobenzene	µg/kg dw	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 UJ	6.1 U	7.3	8.0	6.2 U	6.2	6.1 U
2,4,5-Trichlorophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
2,4,6-Trichlorophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
2,4-Dichlorophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
2,4-Dimethylphenol	µg/kg dw	17	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.1 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U
2,4-Dinitrophenol	µg/kg dw	620 U	620 UJ	620 UJ	610 UJ	620 UJ	620 UJ	610 UJ	610 UJ	620 UJ	620 UJ	620 UJ	610 UJ
2,4-Dinitrotoluene	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
2,6-Dinitrotoluene	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
2-Chlorophenol	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
2-Methylphenol	µg/kg dw	14	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.1 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U
2-Nitroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
2-Nitrophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
3,3'-Dichlorobenzidine	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
3-Nitroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
4,6-Dinitro-o-cresol	µg/kg dw	620 U	620 U	620 U	610 U	620 U	620 U	610 U	610 U	620 U	620 U	620 U	610 U
4-Bromophenyl phenyl ether	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
4-Chloro-3-methylphenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
4-Chloroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
4-Chlorophenyl phenyl ether	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
4-Methylphenol	µg/kg dw	36 J	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
4-Nitroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
4-Nitrophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	300 U	300 U	310 U	310 U	310 U	300 U
Aniline	µg/kg dw	62 UJ	62 UJ	62 UJ	61 UJ	62 UJ	62 UJ	61 UJ	61 UJ	62 UJ	62 UJ	62 UJ	61 UJ
Benzoic acid	µg/kg dw	620 U	620 U	620 U	610 U	620 U	620 U	610 U	610 U	620 U	620 U	620 U	610 U
Benzyl alcohol	µg/kg dw	31 U	31 U	31 U	31 UJ	31 U	31 UJ	30 U	30 U	31 U	31 U	31 U	30 U
bis(2-chloroethoxy)methane	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U

Table A-1-2, cont. All analytes, Samples SS312-010 through SS323-010

ANALYTE	UNIT	LDW-SS312-010	LDW-SS313-010	LDW-SS314-010	LDW-SS315-010	LDW-SS316-010	LDW-SS317-010	LDW-SS318-010	LDW-SS319-010	LDW-SS320-010	LDW-SS321-010	LDW-SS322-010	LDW-SS323-010
bis(2-chloroethyl)ether	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
bis(2-chloroisopropyl)ether	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Hexachlorobenzene	µg/kg dw	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 UJ	6.1 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U
Hexachlorobutadiene	µg/kg dw	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 UJ	6.1 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U
Hexachlorocyclopentadiene	µg/kg dw	310 U	310 UJ	310UJ	310 UJ	310 UJ	310 UJ	300 UJ	300 UJ	310 UJ	310 U	310 UJ	300 UJ
Hexachloroethane	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Isophorone	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Nitrobenzene	µg/kg dw	62 U	62 U	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
N-Nitrosodimethylamine	µg/kg dw	31 U	31 U	31 U	31 U	31 U	31 UJ	30 U	30 U	31 U	31 U	31 U	30 U
N-Nitroso-di-n-propylamine	µg/kg dw	31 U	31 U	31 U	31 U	31 U	31 UJ	30 U	30 U	31 U	31 U	31 U	30 U
N-Nitrosodiphenylamine	µg/kg dw	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 UJ	6.1 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U
Pentachlorophenol	µg/kg dw	31 U	31 U	31 U	31 U	31 U	31 U	30 U	30 U	31 U	31 U	31 U	30 U
Phenol	µg/kg dw	75 U	62 U	62 U	84	57 J	62 U	61 U	61 U	62 U	140	62 U	61 U
Polychlorinated biphenyls													
Aroclor-1016	µg/kg dw	28 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	30 U	18 U	22 U	29 U	40 U	18 U
Aroclor-1221	µg/kg dw	28 U	3.9 U	12 U	3.9 U	3.9 U	3.9 U	30 U	18 U	22 U	29 U	40 U	18 U
Aroclor-1232	µg/kg dw	28 U	3.9 U	12 U	3.9 U	3.9 U	3.9 U	30 U	18 U	22 U	29 U	40 U	18 U
Aroclor-1242	µg/kg dw	28 U	3.9 U	3.9 U	3.9 U	3.9 U	3.9 U	33	18 U	22 U	76 J	40 J	26
Aroclor-1248	µg/kg dw	240	11 J	3.9 U	53	31	74	30 U	74	76	29 U	40 U	18 U
Aroclor-1254	µg/kg dw	530	24	3.9 U	66	78	130	82	120	140	140 J	100	57
Aroclor-1260	µg/kg dw	240	28	3.9 U	77	97	110	97 J	160	170 J	230 J	140	83
PCBs (total calc'd)	µg/kg dw	1,010	63 J	12 U	196	206	310	212 J	350	390 J	450 J	280 J	166
Grain size													
Fractional % phi >-1 (>2000 µm)	% dw	7.5	0.1	1.0	0.1	*0.5*	0.6	3.6	0.1	0.2	5.0	0.3	6.8
Fractional % phi -1-0 (1000-2000 µm)	% dw	3.3	1.4	2.4	0.8	*1.5*	1.1	2.2	1.9	1.3	4.8	2.5	3.5
Fractional % phi 0-1 (500-1000 µm)	% dw	5.4	1.5	2.1	3.1	*3.2*	2.3	4.7	2.4	1.3	12.6	2.5	8.5
Fractional % phi 1-2 (250-500 µm)	% dw	12.1	3.4	3.1	5.5	*11.5*	6.6	12.8	3.2	3.4	23.8	5.9	12.5
Fractional % phi 2-3 (125-250 µm)	% dw	23.5	8.4	2.5	4.4	*31.1*	9.2	15.0	2.3	1.4	10.1	4.4	5.1

Table A-1-2, cont. All analytes, Samples SS312-010 through SS323-010

ANALYTE	UNIT	LDW-SS312-010	LDW-SS313-010	LDW-SS314-010	LDW-SS315-010	LDW-SS316-010	LDW-SS317-010	LDW-SS318-010	LDW-SS319-010	LDW-SS320-010	LDW-SS321-010	LDW-SS322-010	LDW-SS323-010
Fractional % phi 3-4 (62.5-125 µm)	% dw	27.5	15.0	4.6	4.9	*15.7*	13.9	18.6	6.4	5.2	6.9	7.9	4.9
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	6.2	20.9	15.3	4.0	*7.3*	12.7	10.9	13.0	13.5	7.2	12.4	9.5
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	4.9	18.9	19.7	5.3	*7.2*	12.4	8.1	19.7	20.2	6.5	17.1	13.4
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	2.6	12.1	17.5	17.3	*7.0*	13.5	7.4	17.2	17.7	7.2	15.5	12.1
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	1.7	6.4	13.0	12.0	*4.8*	9.5	5.7	11.5	11.9	5.2	11.0	8.4
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	1.1	4.0	6.5	9.5	*3.2*	5.5	3.2	6.4	7.0	3.1	6.3	4.8
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	0.2	2.2	4.3	9.5	*2.6*	3.9	2.4	5.1	5.2	2.4	4.1	3.1
Fractional % phi 10+ (<0.98 µm)	% dw	3.9	5.7	8.0	23.6	*4.6*	8.9	5.5	10.8	11.8	5.3	10.1	7.6
Gravel (total calc'd)	% dw	7.5	0.1	1.0	0.1	*0.5*	0.6	3.6	0.1	0.2	5.0	0.3	6.8
Sand (total calc'd)	% dw	71.8	29.7	14.7	18.7	*63.0*	33.1	53.3	16.2	12.6	58.2	23.2	34.5
Silt (total calc'd)	% dw	15.4	58.3	65.5	38.6	*26.3*	48.1	32.1	61.4	63.3	26.1	56.0	43.4
Clay (total calc'd)	% dw	5.2	11.9	18.8	42.6	*10.4*	18.3	11.1	22.3	24.0	10.8	20.5	15.5
Fines (percent silt+clay)	% dw	20.6	70.2	84.3	81.2	*36.7*	66.4	43.2	83.7	87.3	36.9	76.5	58.9
Conventional parameters													
Total organic carbon (TOC)	% dw	4.20	1.95	2.81	1.74	1.20	1.49	1.64	2.74	1.90	1.43	0.766	1.74
Total solids	% ww	42.80	47.20	48.30	50.50	64.90	55.80	63.80	45.00	45.00	69.10	48.30	59.00

dw – dry weight

na – not analyzed

ww – wet weight

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

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

Totals were calculated for each sediment grain size category using the following grain size ranges: gravel – 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: J – estimated concentration
U – not detected at reporting limit shown
UJ – not detected at estimated reporting limit shown

Table A-1-3. Concentrations of all analytes in Round 3 surface sediment samples: Samples SS324-010 through SS334-010

ANALYTE	UNIT	LDW-SS324-010	LDW-SS325-010	LDW-SS326-010	LDW-SS327-010	LDW-SS328-010	LDW-SS329-010	LDW-SS401-010 (field duplicate)	LDW-SS330-010	LDW-SS331-010	LDW-SS332-010	LDW-SS333-010	LDW-SS334-010
Metals and trace elements													
Antimony	mg/kg dw	0.3 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	*0.5 UJ*	0.4 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Arsenic	mg/kg dw	17.7	13.0	14.7	10.7	10.0	8.4	8.9	*23.1*	7.6	4.2	7.6	4.0
Cadmium	mg/kg dw	0.5	0.6	0.4	0.4	0.5	0.3 U	0.3 U	*0.5 U*	0.4 U	0.4	0.3 U	0.3 U
Chromium	mg/kg dw	21.7	34	32	21.7	27	26.5	38.8	*36*	19.6	13.2	20.6	11.0
Cobalt	mg/kg dw	7.6	9.2	9.2	6.8	11	6.1	6.4	*10.3*	5.4	4.1	5.9	4.4
Copper	mg/kg dw	71.9	96	82	52.5	42.1	62.9	41.9	*100*	35.5	19.0	33.0	14.5
Lead	mg/kg dw	32	61	45	34	25	303	44	*50*	34	16	20	7
Mercury	mg/kg dw	0.20	0.3	0.25	0.14	0.25	0.060	0.10	*0.26*	0.080 U	0.060 U	0.10	0.050 U
Molybdenum	mg/kg dw	1.8	0.9	0.5	0.5	0.5	0.5	0.6	*0.9*	1.0	0.3	0.4	0.3 U
Nickel	mg/kg dw	20.3	28	28	18.7	19.9	18.9	16.9	*29*	13.2	10.5	14.5	9.2
Selenium	mg/kg dw	0.7 U	1 U	1 U	0.7 U	0.8 U	0.7 U	0.7 U	*1 U*	0.9 U	0.7 U	0.8 U	0.7 U
Silver	mg/kg dw	0.5 J	0.6 J	0.5 J	0.4 J	0.6 J	0.3 UJ	0.3 UJ	*0.7 J*	0.4 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Thallium	mg/kg dw	0.3 U	0.4 U	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U	*0.5 U*	0.4 U	0.3 U	0.3 U	0.3 U
Vanadium	mg/kg dw	45.0	63.7	61.9	46.2	68	39.0	41.1	*71.9*	45.7	36.3	45.0	35.0
Zinc	mg/kg dw	102	170	138	143	88	75	74	*170*	91	57	78	39
Organometals													
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
PAHs													
1-Methylnaphthalene	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
2-Chloronaphthalene	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
2-Methylnaphthalene	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
Acenaphthene	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	34 J	61 U	61 U	62 U	62 U
Acenaphthylene	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
Anthracene	µg/kg dw	62 U	100	89	39 J	37 J	36 J	62 U	290	61 U	61 U	45 J	62 U

Table A-1-3, cont. All analytes, Samples SS324-010 through SS334-010

Analyte	Unit	LDW-SS324-010	LDW-SS325-010	LDW-SS326-010	LDW-SS327-010	LDW-SS328-010	LDW-SS329-010	LDW-SS401-010 (field duplicate)	LDW-SS330-010	LDW-SS331-010	LDW-SS332-010	LDW-SS333-010	LDW-SS334-010
Benzo(a)anthracene	µg/kg dw	49 J	320	240	97	62 U	97	49 J	500	56 J	83	120	62 U
Benzo(a)pyrene	µg/kg dw	62	330	270	120	62 U	97	63	520	50 J	86	130	62 U
Benzo(b)fluoranthene	µg/kg dw	76	580	440	200	62 U	110	100	770	80	110	190	36 J
Benzo(g,h,i)perylene	µg/kg dw	62 U	130	97	81	62 U	68	53 J	280	39 J	44 J	82	62 U
Benzo(k)fluoranthene	µg/kg dw	74	370	260	110	62 U	99	59 J	450	56 J	77	170	62 U
Benzofluoranthenes (total-calc'd)	µg/kg dw	150	950	700	310	62 U	210	160 J	1,220	136 J	190	360	36 J
Chrysene	µg/kg dw	66	530	380	170	35 J	170	73	810	89	160	200	38 J
Dibenzo(a,h)anthracene	µg/kg dw	7.4 J	38	37	31	6.2 U	13	9.2	110	10	8.6	15	6.2 U
Dibenzofuran	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
Fluoranthene	µg/kg dw	120	860	520	240	65	170	94	1,500	200	180	300	79
Fluorene	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	86	61 U	61 U	62 U	62 U
Indeno(1,2,3-cd)pyrene	µg/kg dw	62 U	130	98	70	62 U	53 J	38 J	260	61 U	46 J	70	62 U
Naphthalene	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	38 J	61 U	61 U	62 U	62 U
Phenanthrene	µg/kg dw	53 J	270	170	78	41 J	72	39 J	430	54 J	44 J	120	62 U
Pyrene	µg/kg dw	170	660	420	240	54 J	210	140	950	130	160	270	130
Total HPAH (calc'd)	µg/kg dw	620 J	3,950	2,760	1,360	154 J	1,090 J	680 J	6,200	710 J	950 J	1,550	280 J
Total LPAH (calc'd)	µg/kg dw	53 J	370	260	117 J	78 J	108 J	39 J	880 J	54 J	44 J	170 J	62 U
Total PAH (calc'd)	µg/kg dw	680 J	4,320	3,020	1,480 J	232 J	1,200 J	720 J	7,000 J	760 J	1,000 J	1,710 J	280 J
Phthalates													
Bis(2-ethylhexyl)phthalate	µg/kg dw	140	360	460	210	36 J	140	180	310	210	110	170	44 J
Butyl benzyl phthalate	µg/kg dw	14	30	33	18	6.2	12	12	44	24	8.6	16	6.2 U
Diethyl phthalate	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
Dimethyl phthalate	µg/kg dw	6.2 U	6.2	8.6	6.2 UJ	6.2 UJ	6.2 J	6.2 UJ	16 J	6.1 UJ	6.1 UJ	6.2 UJ	6.2 UJ
Di-n-butyl phthalate	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
Di-n-octyl phthalate	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
Other SVOCs													
1,2,4-Trichlorobenzene	µg/kg dw	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.2 U	6.2 U
1,2-Dichlorobenzene	µg/kg dw	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.2 U	6.2 U
1,3-Dichlorobenzene	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
1,4-Dichlorobenzene	µg/kg dw	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.2 U	6.2 U

Table A-1-3, cont. All analytes, Samples SS324-010 through SS334-010

ANALYTE	UNIT	LDW-SS324-010	LDW-SS325-010	LDW-SS326-010	LDW-SS327-010	LDW-SS328-010	LDW-SS329-010	LDW-SS401-010 (field duplicate)	LDW-SS330-010	LDW-SS331-010	LDW-SS332-010	LDW-SS333-010	LDW-SS334-010
2,4,5-Trichlorophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
2,4,6-Trichlorophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
2,4-Dichlorophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
2,4-Dimethylphenol	µg/kg dw	6.2 U	6.2 U	6.1 U	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.1 UJ	6.1 UJ	6.2 UJ	6.2 UJ
2,4-Dinitrophenol	µg/kg dw	620 UJ	620 UJ	610 UJ	620 UJ	620 UJ	620 UJ	620 UJ	620 UJ	610 UJ	610 UJ	620 UJ	620 UJ
2,4-Dinitrotoluene	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
2,6-Dinitrotoluene	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
2-Chlorophenol	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
2-Methylphenol	µg/kg dw	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.2 U	6.2 U
2-Nitroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
2-Nitrophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
3,3'-Dichlorobenzidine	µg/kg dw	310 U	310 U	310 U	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ
3-Nitroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
4,6-Dinitro-o-cresol	µg/kg dw	620 U	620 U	610 U	620 U	620 U	620 U	620 U	620 U	610 U	610 U	620 U	620 U
4-Bromophenyl phenyl ether	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
4-Chloro-3-methylphenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
4-Chloroaniline	µg/kg dw	310 U	310 U	310 U	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ
4-Chlorophenyl phenyl ether	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
4-Methylphenol	µg/kg dw	62 U	62 U	61 U	86	62	62 U	62 U	62 U	61 U	300	62 U	62 U
4-Nitroaniline	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
4-Nitrophenol	µg/kg dw	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U
Aniline	µg/kg dw	62 UJ	62 UJ	61 UJ	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
Benzoic acid	µg/kg dw	620 U	620 U	610 U	620 U	620 U	620 U	620 U	620 U	610 U	610 U	620 U	620 U
Benzyl alcohol	µg/kg dw	31 U	31 UJ	31 UJ	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U
bis(2-chloroethoxy)methane	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
bis(2-chloroethyl)ether	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
bis(2-chloroisopropyl)ether	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
Hexachlorobenzene	µg/kg dw	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	3.1 UJ	6.2 U	6.2 U	3.1 UJ	3.1 UJ	6.2 U	3.1 UJ
Hexachlorobutadiene	µg/kg dw	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.2 U	6.2 U
Hexachlorocyclopentadiene	µg/kg dw	310 UJ	310 UJ	310 UJ	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U	310 U

Table A-1-3, cont. All analytes, Samples SS324-010 through SS334-010

ANALYTE	UNIT	LDW-SS324-010	LDW-SS325-010	LDW-SS326-010	LDW-SS327-010	LDW-SS328-010	LDW-SS329-010	LDW-SS401-010 (field duplicate)	LDW-SS330-010	LDW-SS331-010	LDW-SS332-010	LDW-SS333-010	LDW-SS334-010
Hexachloroethane	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
Isophorone	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
Nitrobenzene	µg/kg dw	62 U	62 U	61 U	62 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U	62 U
N-Nitrosodimethylamine	µg/kg dw	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U
N-Nitroso-di-n-propylamine	µg/kg dw	31 U	31 U	49 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U
N-Nitrosodiphenylamine	µg/kg dw	6.2 U	6.2 U	6.7 U	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.1 UJ	6.1 UJ	6.2 UJ	6.2 UJ
Pentachlorophenol	µg/kg dw	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U
Phenol	µg/kg dw	62 U	62 U	61 U	80	62 U	62 U	62 U	62 U	61 U	63	40 J	62 U
Polychlorinated biphenyls													
Aroclor-1016	µg/kg dw	33 U	3.9 U	3.9 U	31 U	36 U	20 U	20 U	19 U	12 U	9.7 U	26 U	3.9 U
Aroclor-1221	µg/kg dw	33 U	3.9 U	3.9 U	31 U	36 U	20 U	20 U	19 U	12 U	23 U	26 U	3.9 U
Aroclor-1232	µg/kg dw	33 U	3.9 U	3.9 U	31 U	36 U	20 U	20 U	19 U	12 U	16 U	26 U	3.9 U
Aroclor-1242	µg/kg dw	110	3.9 U	3.9 U	31 U	36 U	20 U	20 U	19 U	12 U	16 U	26 U	3.9 U
Aroclor-1248	µg/kg dw	33 U	60	60	73	70	33	36	48	18	12 U	37	6.3
Aroclor-1254	µg/kg dw	210	100	76	74	120	46	43	100	42	19	62	12
Aroclor-1260	µg/kg dw	160	110	78	64	66	45	43	100	37 J	19	68	15
PCBs (total calc'd)	µg/kg dw	480	270	214	211	260	124	122	250	97 J	38	167	33
Grain size													
Fractional % phi >-1 (>2000 µm)	% dw	11.2	17.1	0.1 U	0.8	0.3	1.6	2.2	1.1	1.9	6.0	0.1	0.5
Fractional % phi -1-0 (1000-2000 µm)	% dw	6.5	2.4	3.8	1.1	1.1	1.9	1.5	1.8	1.1	2.2	0.6	3.6
Fractional % phi 0-1 (500-1000 µm)	% dw	14.4	3.1	3.8	7.6	3.1	10.4	10.2	1.7	3.2	7.1	5.8	27.6
Fractional % phi 1-2 (250-500 µm)	% dw	20.3	4.7	5.6	28.2	7.6	14.3	39.9	1.9	9.0	25.1	19.8	47.2
Fractional % phi 2-3 (125-250 µm)	% dw	6.2	4.0	3.6	15.4	4.9	25.6	11.7	1.0	14.2	22.8	15.0	8.6
Fractional % phi 3-4 (62.5-125 µm)	% dw	4.8	6.1	12.0	4.8	10.8	19.7	8.3	2.7	23.5	15.9	19.7	4.7
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	3.8	10.3	18.6	4.8	15.6	4.4	4.8	8.5	22.1	9.9	12.6	2.5
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	5.4	15.0	19.4	9.4	19.2	5.1	4.7	20.8	12.2	3.7	8.9	1.6
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	6.7	13.7	11.8	9.7	16.8	5.6	5.3	22.6	5.4	2.5	6.0	1.2
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	5.3	7.4	9.3	6.4	6.7	3.6	3.6	14.1	2.1	1.6	4.0	0.7
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	4.2	4.3	4.2	3.5	3.9	2.5	2.4	7.5	1.2	0.9	2.4	0.4
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	3.5	3.6	3.0	2.7	3.0	1.8	1.8	5.6	1.3	0.6	1.8	0.3

Table A-1-3, cont. All analytes, Samples SS324-010 through SS334-010

ANALYTE	UNIT	LDW-SS324-010	LDW-SS325-010	LDW-SS326-010	LDW-SS327-010	LDW-SS328-010	LDW-SS329-010	LDW-SS401-010 (field duplicate)	LDW-SS330-010	LDW-SS331-010	LDW-SS332-010	LDW-SS333-010	LDW-SS334-010
Fractional % phi 10+ (<0.98 µm)	% dw	7.8	8.3	4.9	5.5	7.1	3.5	3.6	10.6	2.9	1.6	3.2	1.0
Gravel (total calc'd)	% dw	11.2	17.1	0.1 U	0.8	0.3	1.6	2.2	1.1	1.9	6.0	0.1	0.5
Sand (total calc'd)	% dw	52.2	20.3	28.8	57.1	27.5	71.9	71.6	9.1	51.0	73.1	60.9	91.7
Silt (total calc'd)	% dw	21.2	46.4	59.1	30.3	58.3	18.7	18.4	66.0	41.8	17.7	31.5	6.0
Clay (total calc'd)	% dw	15.5	16.2	12.1	11.7	14.0	7.8	7.8	23.7	5.4	3.1	7.4	1.7
Fines (percent silt+clay)	% dw	36.7	62.6	71.2	42.0	72.3	26.5	26.2	89.7	47.2	20.8	38.9	7.7
Conventional parameters													
Total organic carbon (TOC)	% dw	1.05	2.11	2.33	1.84	1.78	0.972	1.59	*2.57*	1.32	1.42	1.66	0.909
Total solids	% ww	68.30	50.10	47.30	59.80	55.30	70.30	68.80	*40.58*	48.30	66.00	59.80	73.90

dw – dry weight

na – not analyzed

ww – wet weight

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

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

Totals were calculated for each sediment grain size category using the following grain size ranges: gravel – 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: J – estimated concentration
U – not detected at reporting limit shown
UJ – not detected at estimated reporting limit shown

Table A-1-4. Concentrations of all analytes in Round 3 surface sediment samples: Samples SS335-010 through SS344-010

ANALYTE	UNIT	LDW-SS335-010	LDW-SS336-010	LDW-SS337-010	LDW-SS402-010 (field duplicate)	LDW-SS338-010	LDW-SS339-010	LDW-SS340-010	LDW-SS341-010	LDW-SS342-010	LDW-SS343-010	LDW-SS344-010
Metals and trace elements												
Antimony	mg/kg dw	*0.5 UJ*	0.4 UJ	0.4 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*
Arsenic	mg/kg dw	*16.9*	14.3	8.8	8.5	8.7	6.2	6.6	5.4	6.5	10.8	*5.8*
Cadmium	mg/kg dw	*0.6*	0.4 U	0.4 U	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U	*0.3 U*
Chromium	mg/kg dw	*40*	26	23	23	26	15.9	18.5	14.4	15	24	*12.5*
Cobalt	mg/kg dw	*10.2*	8.3	7.5	7.2	8.3	5.9	6.4	5.9	6.5	8.7	*6.5*
Copper	mg/kg dw	*100*	58	30.5	29.6	43	17.9	26.9	18.2	17.3	32.2	*16.5*
Lead	mg/kg dw	*70*	33	14	13	22	15	26	9	7	18	*7*
Mercury	mg/kg dw	*0.28*	0.16	0.11	0.11	0.13	0.080	0.070	0.060	0.050 U	0.070	*0.050 U*
Molybdenum	mg/kg dw	*2.1*	0.7	0.4	0.3 U	0.8	0.4	0.5	0.3	0.3	0.8	*0.3*
Nickel	mg/kg dw	*35*	22	18.9	17.9	22	11.4	14.5	14.1	15.4	20.4	*13.9*
Selenium	mg/kg dw	*1 U*	1 U	0.9 U	0.8 U	1 U	0.7 U	0.9 U	0.6 U	0.7 U	0.8 U	*0.7 U*
Silver	mg/kg dw	*0.5 UJ*	0.4 U	0.9 J	0.3 UJ	0.4 U	0.3 U	0.4 U	0.3 U	0.3	0.4	*0.3 U*
Thallium	mg/kg dw	*0.5 U*	0.4 U	0.4 U	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U	*0.3 U*
Vanadium	mg/kg dw	*67.6*	58.0	50.6	48.3	57.5	40.7	49.9	39.2	40.9	54.1	*38.2*
Zinc	mg/kg dw	*250*	121	85	72	95	51	76	61	59	105	*57*
Organometals												
Monobutyltin as ion	µg/kg dw	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
Tributyltin as ion	µg/kg dw	na	na	na	na	na	na	na	na	na	na	na
PAHs												
1-Methylnaphthalene	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
2-Chloronaphthalene	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
2-Methylnaphthalene	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Acenaphthene	µg/kg dw	210	120	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Acenaphthylene	µg/kg dw	90 J	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Anthracene	µg/kg dw	1,200	110	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U

Table A-1-4, cont. All analytes, Samples SS335-010 through SS344-010

ANALYTE	UNIT	LDW-SS335-010	LDW-SS336-010	LDW-SS337-010	LDW-SS402-010 (field duplicate)	LDW-SS338-010	LDW-SS339-010	LDW-SS340-010	LDW-SS341-010	LDW-SS342-010	LDW-SS343-010	LDW-SS344-010
Benzo(a)anthracene	µg/kg dw	1,600	280	46 J	52 J	82	62 U	56 J	51 J	61 U	120	60 U
Benzo(a)pyrene	µg/kg dw	1,200	190	49 J	60 J	79	62 U	71	67	61 U	150	60 U
Benzo(b)fluoranthene	µg/kg dw	1,400	370	65	72	120	62 U	100	78	61 U	240	60 U
Benzo(g,h,i)perylene	µg/kg dw	340	81	42 J	44 J	58 J	62 U	60 J	59 J	61 U	140	60 U
Benzo(k)fluoranthene	µg/kg dw	1,400	220	62	55 J	84	62 U	52 J	65	61 U	150	60 U
Benzofluoranthenes (total-calc'd)	µg/kg dw	2,800	590	127	127 J	200	62 U	150 J	143	61 U	390	60 U
Chrysene	µg/kg dw	2,400	400	71	78	120	62 U	94	84	61 U	250	60 U
Dibenzo(a,h)anthracene	µg/kg dw	110 J	28	6.7 J	6.8 J	8.0	6.2 U	7.3	6.7	6.1 U	16	6.1 U
Dibenzofuran	µg/kg dw	150	96	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Fluoranthene	µg/kg dw	7,500	1,100	130	140	170	32 J	140	160	47 J	600	92
Fluorene	µg/kg dw	320	110	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Indeno(1,2,3-cd)pyrene	µg/kg dw	340	85	37 J	35 J	51 J	62 U	52 J	53 J	61 U	110	60 U
Naphthalene	µg/kg dw	110 U	52 J	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Phenanthrene	µg/kg dw	2,800	480	46 J	54 J	54 J	62 U	52 J	73	61 U	260	89
Pyrene	µg/kg dw	4,000	640	100	110	160	62 U	120	120	39 J	370	69
Total HPAH (calc'd)	µg/kg dw	20,300 J	3,400	610 J	650 J	930 J	32 J	750 J	740 J	86 J	2,150	161
Total LPAH (calc'd)	µg/kg dw	4,600 J	870 J	46 J	54 J	54 J	62 U	52 J	73	61 U	260	89
Total PAH (calc'd)	µg/kg dw	24,900 J	4,300 J	650 J	710 J	990 J	32 J	800 J	820 J	86 J	2,410	250
Phthalates												
Bis(2-ethylhexyl)phthalate	µg/kg dw	2,600	400	140	150	180	41 J	100	120	63	460	59 J
Butyl benzyl phthalate	µg/kg dw	200	30	20	19	17	6.2 U	13	6.1 U	6.1 U	20	6.1 U
Diethyl phthalate	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Dimethyl phthalate	µg/kg dw	33	16	6.1 UJ	6.2 UJ	9.3	8.6	6.1 U	6.1 U	6.1 U	6.0 U	6.1 U
Di-n-butyl phthalate	µg/kg dw	57 J	49 J	61 U	62 U	32 J	62 U	61 U	61 U	61 U	34 J	60 U
Di-n-octyl phthalate	µg/kg dw	92 J	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Other SVOCs												
1,2,4-Trichlorobenzene	µg/kg dw	11 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.1 U	6.0 U	6.1 U
1,2-Dichlorobenzene	µg/kg dw	11 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.1 U	6.0 U	6.1 U
1,3-Dichlorobenzene	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
1,4-Dichlorobenzene	µg/kg dw	64	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.1 U	6.0 U	6.1 U

Table A-1-4, cont. All analytes, Samples SS335-010 through SS344-010

ANALYTE	UNIT	LDW-SS335-010	LDW-SS336-010	LDW-SS337-010	LDW-SS402-010 (field duplicate)	LDW-SS338-010	LDW-SS339-010	LDW-SS340-010	LDW-SS341-010	LDW-SS342-010	LDW-SS343-010	LDW-SS344-010
2,4,5-Trichlorophenol	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
2,4,6-Trichlorophenol	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
2,4-Dichlorophenol	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
2,4-Dimethylphenol	µg/kg dw	11 U	6.2 U	6.1 UJ	6.2 UJ	6.2 U	6.2 U	6.1 U	6.1 U	6.1 U	6.0 U	6.1 U
2,4-Dinitrophenol	µg/kg dw	1,100 UJ	620 U	610 UJ	620 UJ	620 U	620 U	610 U	610 U	610 U	600 U	600 U
2,4-Dinitrotoluene	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
2,6-Dinitrotoluene	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
2-Chlorophenol	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
2-Methylphenol	µg/kg dw	11 U	8.6	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.1 U	6.0 U	6.1 U
2-Nitroaniline	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
2-Nitrophenol	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
3,3'-Dichlorobenzidine	µg/kg dw	540 U	310 U	300 UJ	310 UJ	310 U	310 U	300 U	300 U	310 U	300 U	300 U
3-Nitroaniline	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
4,6-Dinitro-o-cresol	µg/kg dw	1,100 U	620 U	610 U	620 U	620 U	620 U	610 U	610 U	610 U	600 U	600 U
4-Bromophenyl phenyl ether	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
4-Chloro-3-methylphenol	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
4-Chloroaniline	µg/kg dw	540 U	310 U	300 UJ	310 UJ	310 U	310 U	300 U	300 U	310 U	300 U	300 U
4-Chlorophenyl phenyl ether	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
4-Methylphenol	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
4-Nitroaniline	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
4-Nitrophenol	µg/kg dw	540 U	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
Aniline	µg/kg dw	110 UJ	62 UJ	61 U	62 U	62 UJ	62 UJ	61 UJ	61 UJ	61 UJ	60 UJ	60 UJ
Benzoic acid	µg/kg dw	540 UJ	1,600	610 U	620 U	620 U	620 U	610 U	610 U	610 U	600 U	600 U
Benzyl alcohol	µg/kg dw	54 U	540 J	30 U	31 U	31 UJ	33 UJ	32 UJ	30 UJ	31 UJ	30 UJ	31 UJ
bis(2-chloroethoxy)methane	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
bis(2-chloroethyl)ether	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
bis(2-chloroisopropyl)ether	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Hexachlorobenzene	µg/kg dw	11 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.1 U	6.0 U	3.0 UJ
Hexachlorobutadiene	µg/kg dw	11 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.1 U	6.0 U	6.1 U

Table A-1-4, cont. All analytes, Samples SS335-010 through SS344-010

ANALYTE	UNIT	LDW-SS335-010	LDW-SS336-010	LDW-SS337-010	LDW-SS402-010 (field duplicate)	LDW-SS338-010	LDW-SS339-010	LDW-SS340-010	LDW-SS341-010	LDW-SS342-010	LDW-SS343-010	LDW-SS344-010
Hexachlorocyclopentadiene	µg/kg dw	540 UJ	310 U	300 U	310 U	310 U	310 U	300 U	300 U	310 U	300 U	300 U
Hexachloroethane	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Isophorone	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Nitrobenzene	µg/kg dw	110 U	62 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
N-Nitrosodimethylamine	µg/kg dw	54 U	31 U	30 U	31 U	31 U	31 U	30 U	30 U	31 U	30 U	30 U
N-Nitroso-di-n-propylamine	µg/kg dw	54 U	31 U	30 U	31 U	31 U	31 U	30 U	30 U	31 U	30 U	30 U
N-Nitrosodiphenylamine	µg/kg dw	32 U	6.2 U	6.1 UJ	6.2 UJ	6.2 U	6.2 U	6.7 U	6.1 U	6.1 U	6.0 U	6.1 U
Pentachlorophenol	µg/kg dw	54 U	31 U	30 U	31 U	31 U	31 U	30 U	30 U	31 U	30 U	30 U
Phenol	µg/kg dw	110 U	250 U	61 U	62 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Polychlorinated biphenyls												
Aroclor-1016	µg/kg dw	4.0 U	41 U	16 U	12 U	24 U	11 U	17 U	3.8 U	5.8 U	16 U	3.9 U
Aroclor-1221	µg/kg dw	4.0 U	20 U	7.8 U	12 U	16 U	11 U	17 U	3.8 U	3.8 U	16 U	3.9 U
Aroclor-1232	µg/kg dw	4.0 U	61 U	16 U	19 U	32 U	11 U	17 U	3.8 U	7.7 U	32 U	5.9 U
Aroclor-1242	µg/kg dw	4.0 U	41 U	16 U	16 U	24 U	11 U	17 U	3.8 U	5.8 U	16 U	3.9 U
Aroclor-1248	µg/kg dw	53	82 U	16 U	16 U	32 U	11 U	17 U	12	7.7 U	16 U	3.9 U
Aroclor-1254	µg/kg dw	130	120	20	16	47	20	64	26	7.8	38	5.0
Aroclor-1260	µg/kg dw	120	74	20	18	41	40	24 J	12	5.7	29	4.0 J
PCBs (total calc'd)	µg/kg dw	300	190	40	34	88	60	88 J	50	13.5	67	9.0 J
Grain size												
Fractional % phi >-1 (>2000 µm)	% dw	0.1	2.5	*0.2*	0.2	0.6	0.2	1.5	3.7	0.4	0.1	0.9
Fractional % phi -1-0 (1000-2000 µm)	% dw	0.9	2.8	*0.9*	0.6	1.0	0.9	2.0	3.0	10.5	2.5	16.7
Fractional % phi 0-1 (500-1000 µm)	% dw	1.5	3.1	*1.5*	1.5	0.9	3.8	7.4	15.0	38.5	13.0	41.5
Fractional % phi 1-2 (250-500 µm)	% dw	2.4	8.9	*2.7*	2.8	2.6	40.1	23.3	33.9	28.5	21.3	16.0
Fractional % phi 2-3 (125-250 µm)	% dw	5.9	8.6	*23.9*	23.6	9.4	23.0	24.6	12.5	9.9	6.7	6.8
Fractional % phi 3-4 (62.5-125 µm)	% dw	11.1	15.9	*24.4*	24.9	16.8	9.3	12.1	9.9	3.6	11.9	7.5
Fractional % phi 4-5 (31.2-62.5 µm)	% dw	20.5	16.6	*13.8*	15.7	14.6	5.6	10.6	4.5	2.1	13.0	3.6
Fractional % phi 5-6 (15.6-31.2 µm)	% dw	30.5	15.5	*11.9*	10.8	17.4	5.5	6.7	5.8	2.1	14.7	2.2
Fractional % phi 6-7 (7.8-15.6 µm)	% dw	11.0	10.1	*8.1*	7.4	14.3	4.2	4.7	3.9	1.5	9.2	1.6
Fractional % phi 7-8 (3.9-7.8 µm)	% dw	4.7	5.3	*4.7*	4.4	8.2	3.0	2.7	3.1	1.0	3.4	1.2
Fractional % phi 8-9 (1.95-3.9 µm)	% dw	3.1	2.8	*2.3*	2.2	4.0	2.0	1.6	2.1	0.6	1.4	0.7

Table A-1-4, cont. All analytes, Samples SS335-010 through SS344-010

ANALYTE	UNIT	LDW-SS335-010	LDW-SS336-010	LDW-SS337-010	LDW-SS402-010 (field duplicate)	LDW-SS338-010	LDW-SS339-010	LDW-SS340-010	LDW-SS341-010	LDW-SS342-010	LDW-SS343-010	LDW-SS344-010
Fractional % phi 9-10 (0.98-1.95 µm)	% dw	2.3	3.4	*1.8*	1.7	3.3	1.1	0.9	1.2	0.4	0.4	0.5
Fractional % phi 10+ (<0.98 µm)	% dw	5.8	4.4	*4.2*	4.2	6.9	1.5	1.8	1.5	0.9	2.4	0.9
Gravel (total calc'd)	% dw	0.1	2.5	*0.2*	0.2	0.6	0.2	1.5	3.7	0.4	0.1	0.9
Sand (total calc'd)	% dw	21.8	39.3	*53.4*	53.4	30.7	77.1	69.4	74.3	91.0	55.4	88.5
Silt (total calc'd)	% dw	66.7	47.5	*38.5*	38.3	54.5	18.3	24.7	17.3	6.7	40.3	8.6
Clay (total calc'd)	% dw	11.2	10.6	*8.3*	8.1	14.2	4.6	4.3	4.8	1.9	4.2	2.1
Fines (percent silt+clay)	% dw	77.9	58.1	*46.8*	46.4	68.7	22.9	29.0	22.1	8.6	44.5	10.7
Conventional parameters												
Total organic carbon (TOC)	% dw	*2.89*	2.09	2.20	2.16	1.99	2.04	1.80	2.08	1.70	2.68	1.39
Total solids	% ww	*38.43*	45.80	55.80	56.10	48.50	73.90	57.30	70.80	70.30	62.40	72.90

dw – dry weight

na – not analyzed

ww – wet weight

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

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

Totals were calculated for each sediment grain size category using the following grain size ranges: gravel – 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: J – estimated concentration
U – not detected at reporting limit shown
UJ – not detected at estimated reporting limit shown

A-2. Dioxins and Furans—Round 3

Table A-2-1. Concentrations of dioxins and furans and mammalian TEQs in Round 3 surface sediment samples

DIOXIN/FURAN	UNIT	LDW-SS318-010	LDW-SS321-010	LDW-SS322-010	LDW-SS323-010	LDW-SS324-010
2,3,7,8-TCDD	ng/kg dw	0.653 J	0.823 J	0.719 J	*0.495 J*	0.710 J
1,2,3,7,8-PeCDD	ng/kg dw	1.31 J	1.76 J	2.06 J	*1.35 J*	1.45 J
1,2,3,4,7,8-HxCDD	ng/kg dw	1.98 J	2.27 J	3.75 J	*2.19 J*	2.10 J
1,2,3,6,7,8-HxCDD	ng/kg dw	11.0 J	17.9 J	17.6	*11.4 J*	13.0
1,2,3,7,8,9-HxCDD	ng/kg dw	6.48 J	9.44 J	11.5 J	*7.01 J*	7.00 J
1,2,3,4,6,7,8-HpCDD	ng/kg dw	296	668	476	*313*	433
OCDD	ng/kg dw	2,830	4,900	4,110	*2,970*	3,750
2,3,7,8-TCDF	ng/kg dw	0.992 J	1.48 J	2.04 J	*1.29 J*	1.79 J
1,2,3,7,8-PeCDF	ng/kg dw	0.905 J	1.17 J	1.52 J	*1.04 J*	1.30 J
2,3,4,7,8-PeCDF	ng/kg dw	2.05 J	2.85 J	3.81 J	*2.37 J*	4.49 J
1,2,3,4,7,8-HxCDF	ng/kg dw	6.81 J	9.13 J	11.9 J	*6.87 J*	14.2
1,2,3,6,7,8-HxCDF	ng/kg dw	2.00 J	2.67 J	3.69 J	*2.24 J*	3.85 J
1,2,3,7,8,9-HxCDF	ng/kg dw	0.214 J	0.253 U	0.317 J	*0.236 J*	0.331 J
2,3,4,6,7,8-HxCDF	ng/kg dw	1.59 J	1.69 J	2.63 J	*1.73 J*	1.99 J
1,2,3,4,6,7,8-HpCDF	ng/kg dw	56.3	65.4	92.1	*58.3*	82.5
1,2,3,4,7,8,9-HpCDF	ng/kg dw	4.20 J	5.80 J	7.14 J	*4.51 J*	8.31 J
OCDF	ng/kg dw	225	250	353	*203*	319
Dioxin/furan TEQ - Mammal - half DL	ng/kg dw	10.2 J	16.9 J	16.4 J	*10.6 J*	14.4 J

HpCDD – heptachlorodibenzo-*p*-dioxin
HpCDF – heptachlorodibenzofuran
HxCDD – hexachlorodibenzo-*p*-dioxin
HxCDF – hexachlorodibenzofuran
OCDD – octachlorodibenzo-*p*-dioxin
OCDF – octachlorodibenzofuran
TCDD – tetrachlorodibenzo-*p*-dioxin
TCDF – tetrachlorodibenzofuran

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

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

A-3. Comparisons to SQS/SL and CSL/ML

Table A-3-1. Concentrations of all analytes at Round 3 surface sediment locations compared to SQS/SL and CSL/ML: Locations SS301–SS313

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS301 [a]	LDW-SS302	LDW-SS303	LDW-SS304	LDW-SS305	LDW-SS307	LDW-SS308	LDW-SS309	LDW-SS310	LDW-SS313
Metals and trace elements													
Antimony	mg/kg dw	150[b]	200[b]	0.3 UJ	0.4 UJ	0.3 UJ	0.3 UJ	1.1 J	0.3 UJ	0.4 UJ	0.4 UJ	0.4 UJ	0.4 UJ
Arsenic	mg/kg dw	57	93	7.7	15.2	11.7	13.9	**123**	13.7	10.1	10.6	11.5	6.7
Cadmium	mg/kg dw	5.1	6.7	0.3 U	0.5	0.3 U	0.5	1.1	0.5	0.5	0.5	0.5	0.4 U
Chromium	mg/kg dw	260	270	16.8	33	21.3	24.1	30	28.8	32.9	33.4	35	18
Copper	mg/kg dw	390	390	35.2	84	45.8	66.4	137	66.7	84.4	90.6	94	36
Lead	mg/kg dw	450	530	26	63	37	76	292	56	61	67	67	30
Mercury	mg/kg dw	0.41	0.59	**0.54**	**0.59**	0.13	0.18	0.27	0.27	0.37	**1.55**	**1.8**	0.11
Nickel	mg/kg dw	140[b]	370[b]	11.4	23	20.4	22.5	20	18.8	22.6	23.8	24	10
Silver	mg/kg dw	6.1	6.1	0.3 U	0.5	0.3 UJ	0.4 J	0.7	0.3 U	0.5	0.5	0.5	0.4 UJ
Zinc	mg/kg dw	410	960	90	151	97	142	346	139	135	144	145	86
PAHs													
2-Methylnaphthalene	mg/kg OC	38	64	3.5 U	2.7 U	4.7 U	3.5 U	2.8	5.2	3.3 U	3.0 U	3.8 U	3.2 U
Acenaphthene	mg/kg OC	16	57	3.5 U	2.7 U	4.7 U	3.5 U	6.3	4.7	3.3 U	3.0 U	3.8 U	3.2 U
Acenaphthylene	mg/kg OC	66	66	4.6	1.6 J	4.7 U	3.5 U	1.8 J	1.7 J	3.3 U	3.0 U	2.3 J	3.2 U
Anthracene	mg/kg OC	220	1,200	10	4.3	9.9	2.7 J	14	13	5.4	6.4	10	1.7 J
Benzo(a)anthracene	mg/kg OC	110	270	74	14	26	6.8	23	41	15	16	25	5.1
Benzo(a)pyrene	mg/kg OC	99	210	86	16	30	11	19	28	20	20	26	6.2
Benzo(g,h,i)perylene	mg/kg OC	31	78	**32**	7.8	11	4.1	6.3	8.5	9.1	7.9	11	3.3
Benzofluoranthenes (total-calc'd)	mg/kg OC	230	450	220	54	100	29	48	95	48	46	65	12
Chrysene	mg/kg OC	110	460	**120**	38	66	12	37	81	27	29	44	7.7
Dibenzo(a,h)anthracene	mg/kg OC	12	33	11	2.6 J	7.6	1.9	2.6	3.8 J	5.0	4.5	6.0	0.87 J
Dibenzofuran	mg/kg OC	15	58	3.5 U	2.7 U	4.7 U	3.5 U	5.6	5.7	3.3 U	3.0 U	3.8 U	3.2 U

Table A-3-1, cont. All analytes, Locations SS301-010 through SS313-010

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS301 [a]	LDW-SS302	LDW-SS303	LDW-SS304	LDW-SS305	LDW-SS307	LDW-SS308	LDW-SS309	LDW-SS310	LDW-SS313
Fluoranthene	mg/kg OC	160	1,200	28	110	84	14	80	120	29	28	58	18
Fluorene	mg/kg OC	23	79	2.2 J	2.0 J	4.7 U	3.5 U	7.3	10	3.3 U	1.8 J	3.7 J	3.2 U
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	**35**	8.2	11	4.2	6.6	10	8.6	7.9	12	2.8 J
Naphthalene	mg/kg OC	99	170	3.5 U	2.7 U	4.7 U	3.5 U	4.0	4.3	3.3 U	3.0 U	2.3 J	3.2 U
Phenanthrene	mg/kg OC	100	480	11	33	15	6.2	33	57	11	11	26	8.2
Pyrene	mg/kg OC	1,000	1,400	100	60	53	18	40	66	30	25	40	13
Total HPAH (calc'd)	mg/kg OC	960	5,300	710	310 J	390	100	260	450 J	190	180	290	70 J
Total LPAH (calc'd)	mg/kg OC	370	780	29 J	41 J	24	9.0 J	66 J	90 J	16	20 J	45 J	9.7 J
Phthalates													
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	11	34	24	26	15	28	19	20	31	2.8 J
Butyl benzyl phthalate	mg/kg OC	4.9	64	0.74	1.5 J	1.5	1.7	1.1	1.4 J	2.2	2.0	3.3	0.32
Diethyl phthalate	mg/kg OC	61	110	3.5 U	2.7 U	4.7 U	3.5 U	2.0 U	2.9 U	3.3 U	3.0 U	3.8 U	3.2 U
Dimethyl phthalate	mg/kg OC	53	53	0.35 U	0.32 J	0.47	0.49	0.20 U	0.29 UJ	0.36	0.39	0.49	0.32 U
Di-n-butyl phthalate	mg/kg OC	220	1,700	1.8 J	2.7 U	4.7 U	3.5 U	2.0 U	2.9 U	1.8 J	1.8 J	2.6 J	3.2 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	3.5 U	2.7 U	4.7 U	3.5 U	2.0 U	2.9 U	3.3 U	3.0 U	3.8 U	3.2 U
Other SVOCs													
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.35 U	0.27 UJ	0.47 U	0.35 U	0.20 U	0.29 UJ	0.33 U	0.30 U	0.38 U	0.32 U
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.35 U	0.27 UJ	0.47 U	0.35 U	0.20 U	0.29 UJ	0.33 U	0.30 U	0.38 U	0.32 U
1,3-Dichlorobenzene	µg/kg dw	170[b]	nv	61 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	62 U	62 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.35 U	0.27 UJ	0.47 U	0.35 U	0.20 U	0.29 UJ	0.33 U	0.30 U	0.45	0.32 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.1 U	6.2 U	6.1 U	6.2 U	6.1	6.7	6.1 U	6.1 U	6.2 U	6.2 U
2-Methylphenol	µg/kg dw	63	63	6.1 U	6.2 U	6.1 U	6.2 U	10	9.1	6.1 U	6.1 U	6.2 U	6.2 U
4-Methylphenol	µg/kg dw	670	670	61 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	62 U	62 U
Benzoic acid	µg/kg dw	650	650	610 U	620 U	610 U	620 U	610 U	610 U	610 U	610 U	620 U	620 U
Benzyl alcohol	µg/kg dw	57	73	31 UJ	31 UJ	31 UJ	31 UJ	31 UJ	30 UJ	33 U	30 U	31 U	31 U
Hexachlorobenzene	mg/kg OC	0.38	2.3	0.35 U	0.27 UJ	0.24 UJ	0.35 U	0.20 U	0.29 UJ	0.33 U	0.30 U	0.38 U	0.32 U
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.35 U	0.27 UJ	0.47 U	0.35 U	0.20 U	0.29 UJ	0.33 U	0.30 U	0.38 U	0.32 U

Table A-3-1, cont. All analytes, Locations SS301-010 through SS313-010

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS301 [a]	LDW-SS302	LDW-SS303	LDW-SS304	LDW-SS305	LDW-SS307	LDW-SS308	LDW-SS309	LDW-SS310	LDW-SS313
Hexachloroethane	µg/kg dw	1,400[b]	14,000[b]	61 U	62 U	61 U	62 U	61 U	61 U	61 U	61 U	62 U	62 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.35 U	0.27 UJ	0.47 U	0.35 U	0.20 U	0.29 UJ	0.75 U	0.48 U	0.67 U	0.32 U
Pentachlorophenol	µg/kg dw	360	690	31 U	31 U	31 U	31 U	31 U	30 U	30 U	30 U	31 U	31 U
Phenol	µg/kg dw	420	1,200	61 U	62 U	110	62 U	85 U	61 U	61 U	61 U	62 U	62 U
Polychlorinated biphenyls													
PCBs (total calc'd)	mg/kg OC	12	65	6.7	**14**	10	7.7	**20 J**	11 J	**15**	**18**	**23**	3.2 J

[a] The results reported for this location are an average of the sample and the associated field duplicate sample, based on the averaging rules presented in Appendix C.

[b] **DMMP** SL or ML guideline.

dw – dry weight
nv – no value; there is neither a CSL nor an ML for this chemical
OC – organic carbon
SL and ML – screening level and maximum level (USACE et al. 2000)
SQS and CSL – sediment quality standard and cleanup screening level (WAC 173-204)
Concentration in *italics* indicates that laboratory replicate sample was run with sample. Value reported was based on averaging rules in Appendix C.
Concentration in **bold** indicates SQS/SL exceedance.
Concentration in **bold underline** indicates CSL/ML exceedance.
Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, and total PCBs are presented in Appendix C.
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 all analytes in Round 3 surface sediment locations compared to SQS/SL and CSL/ML: Locations SS314–SS323

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS314	LDW-SS315	LDW-SS316	LDW-SS317	LDW-SS318	LDW-SS319	LDW-SS320	LDW-SS321	LDW-SS322	LDW-SS323
Metals and trace elements													
Antimony	mg/kg dw	150[a]	200[a]	0.4 UJ	0.4 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.4 UJ	0.3 UJ
Arsenic	mg/kg dw	57	93	10.8	13.7	7.9	11.2	8.8	14.8	14.8	12.9	13.3	9.5
Cadmium	mg/kg dw	5.1	6.7	0.4	0.4 U	0.3 U	0.5	0.3 U	0.6	0.6	0.5	0.5	0.4
Chromium	mg/kg dw	260	270	19	19	20.3	28.0	23.9	35	35	21.1	35	27.7
Copper	mg/kg dw	390	390	40	60.7	45.5	80.4	63.3	103	101	53.6	96	75.9
Lead	mg/kg dw	450	530	19	36	25	58	43	62	63	49	56	37
Mercury	mg/kg dw	0.41	0.59	0.070 U	0.15	0.17	0.26	0.17	**0.88**	0.4	0.13	0.30	0.19
Nickel	mg/kg dw	140[a]	370[a]	18	16.8	14.3	24.6	20.9	29	28	20.5	29	24.9
Silver	mg/kg dw	6.1	6.1	0.4 UJ	0.5 J	0.3 J	0.4 J	0.3 J	0.7 J	0.8 J	0.4 J	0.5 J	0.5 J
Zinc	mg/kg dw	410	960	57	117	77	180	112	170	168	107	155	118
PAHs													
2-Methylnaphthalene	mg/kg OC	38	64	2.2 U	3.5 U	5.2 U	4.2 U	3.7 U	2.2 U	3.3 U	4.3 U	8.1 U	3.5 U
Acenaphthene	mg/kg OC	16	57	2.2 U	3.5 U	5.2 U	4.2 U	3.7 U	2.2 U	3.3 U	4.3 U	8.1 U	3.5 U
Acenaphthylene	mg/kg OC	66	66	2.2 U	3.5 U	5.2 U	4.2 U	3.7 U	2.2 U	1.7 J	4.3 U	8.1 U	3.5 U
Anthracene	mg/kg OC	220	1,200	2.2 U	3.5 U	5.0 J	5.3	3.2 J	4.7	7.9	4.1 J	17	3.9
Benzo(a)anthracene	mg/kg OC	110	270	3.6	3.4 J	18	12	9.1	12	19	11	56	10
Benzo(a)pyrene	mg/kg OC	99	210	5.0	4.1	18	18	12	14	23	11	50	13
Benzo(g,h,i)perylene	mg/kg OC	31	78	3.1	1.8 J	5.8 J	6.7	4.8	5.5	8.9	6.4	21	5.6
Benzofluoranthenes (total-calc'd)	mg/kg OC	230	450	7.9	11	80	44	29	35	57	26	140	32
Chrysene	mg/kg OC	110	460	5.3	4.6	100	19	15	20	33	15	93	17
Dibenzo(a,h)anthracene	mg/kg OC	12	33	0.29 J	0.92	2.2 J	2.6 J	1.8 J	1.8 J	2.9 J	2.7	6.7 J	0.92 J
Dibenzofuran	mg/kg OC	15	58	2.2 U	3.5 U	5.2 U	4.2 U	3.7 U	2.2 U	3.3 U	4.3 U	8.1 U	3.5 U
Fluoranthene	mg/kg OC	160	1,200	11	6.9	**620**	26	23	28	45	26	94	21
Fluorene	mg/kg OC	23	79	2.2 U	3.5 U	5.2 U	4.2 U	3.7 U	1.6 J	2.5 J	4.3 U	6.0 J	3.5 U
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	2.5	2.0 J	6.9	6.7	4.9	5.5	8.9	5.9	20	5.6

Table A-3-2, cont. All analytes, Locations SS314-010 through SS323-010

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS314	LDW-SS315	LDW-SS316	LDW-SS317	LDW-SS318	LDW-SS319	LDW-SS320	LDW-SS321	LDW-SS322	LDW-SS323
Naphthalene	mg/kg OC	99	170	2.2 U	3.5 U	5.2 U	4.2 U	3.7 U	2.2 U	3.3 U	4.3 U	8.1 U	3.5 U
Phenanthrene	mg/kg OC	100	480	6.8	3.5 J	17	11	9.8	8.4	13	9.1	38	6.9
Pyrene	mg/kg OC	1,000	1,400	9.6	8.6	260	30	21	20	34	26	81	23
Total HPAH (calc'd)	mg/kg OC	960	5,300	48 J	43 J	**1,100 J**	170 J	120 J	140 J	230 J	130	560 J	130 J
Total LPAH (calc'd)	mg/kg OC	370	780	3.8	3.5 J	22 J	17	13 J	15 J	25 J	13 J	61 J	11
Phthalates													
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	2.2 U	5.3	12	23	15	19	29	14	**59**	19
Butyl benzyl phthalate	mg/kg OC	4.9	64	0.22	0.63	1.4	2.4 J	1.5	1.8	2.6	1.5	**5.0**	1.6
Diethyl phthalate	mg/kg OC	61	110	2.2 U	3.5 U	5.2 U	4.2 U	3.7 U	2.2 U	3.3 U	4.3 U	8.1 U	3.5 U
Dimethyl phthalate	mg/kg OC	53	53	0.22 U	0.35 U	0.52 U	0.54 J	0.37 U	0.29	0.49	1.7	1.1	0.42
Di-n-butyl phthalate	mg/kg OC	220	1,700	2.2 U	3.5 U	5.2 U	4.2 U	3.7 U	2.2 U	3.3 U	4.3 U	8.1 U	3.5 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	2.2 U	3.5 U	5.2 U	4.2 U	3.7 U	2.2 U	3.3 U	4.3 U	8.1 U	3.5 U
Other SVOCs													
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.22 U	0.35 U	0.52 U	0.42 UJ	0.37 U	0.22 U	0.33 U	0.43 U	0.81 U	0.35 U
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.22 U	0.35 U	0.52 U	0.42 UJ	0.37 U	0.22 U	0.33 U	0.43 U	0.81 U	0.35 U
1,3-Dichlorobenzene	µg/kg dw	170[a]	nv	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.22 U	0.35 U	0.52 U	0.42 UJ	0.37 U	0.27	0.42	0.43 U	0.81	0.35 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.2 U	6.1 U	6.2 U	6.2 U	6.1 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U
2-Methylphenol	µg/kg dw	63	63	6.2 U	6.1 U	6.2 U	6.2 U	6.1 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U
4-Methylphenol	µg/kg dw	670	670	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
Benzoic acid	µg/kg dw	650	650	620 U	610 U	620 U	620 U	610 U	610 U	620 U	620 U	620 U	610 U
Benzyl alcohol	µg/kg dw	57	73	31 U	31 UJ	31 U	31 UJ	30 U	30 U	31 U	31 U	31 U	30 U
Hexachlorobenzene	mg/kg OC	0.38	2.3	0.22 U	0.35 U	**0.52 U**	**0.42 UJ**	0.37 U	0.22 U	0.33 U	**0.43 U**	**0.81 U**	0.35 U
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.22 U	0.35 U	0.52 U	0.42 UJ	0.37 U	0.22 U	0.33 U	0.43 U	0.81 U	0.35 U
Hexachloroethane	µg/kg dw	1,400[a]	14,000[a]	62 U	61 U	62 U	62 U	61 U	61 U	62 U	62 U	62 U	61 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.22 U	0.35 U	0.52 U	0.42 UJ	0.37 U	0.22 U	0.33 U	0.43 U	0.81 U	0.35 U
Pentachlorophenol	µg/kg dw	360	690	31 U	31 U	31 U	31 U	30 U	30 U	31 U	31 U	31 U	30 U
Phenol	µg/kg dw	420	1,200	62 U	84	57 J	62 U	61 U	61 U	62 U	140	62 U	61 U

Table A-3-2, cont. All analytes, Locations SS314-010 through SS323-010

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS314	LDW-SS315	LDW-SS316	LDW-SS317	LDW-SS318	LDW-SS319	LDW-SS320	LDW-SS321	LDW-SS322	LDW-SS323
Polychlorinated biphenyls													
PCBs (total calc'd)	mg/kg OC	12	65	0.43 U	11	**17**	**21**	**13 J**	**13**	**21 J**	**31 J**	**37 J**	9.5

[a] **DMMP** SL or ML guideline.

dw – dry weight

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

OC – organic carbon

SL and ML – screening level and maximum level (USACE et al. 2000)

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

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

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

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

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, and total PCBs are presented in Appendix C.

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 all analytes in Round 3 surface sediment locations compared to SQS/SL and CSL/ML: Locations SS324–SS333

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS324	LDW-SS325	LDW-SS326	LDW-SS327	LDW-SS328	LDW-SS329[a]	LDW-SS330	LDW-SS331	LDW-SS332	LDW-SS333
Metals and trace elements													
Antimony	mg/kg dw	150[b]	200[b]	0.3 UJ	0.4 UJ	0.4 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.5 UJ	0.4 UJ	0.3 UJ	0.3 UJ
Arsenic	mg/kg dw	57	93	17.7	13.0	14.7	10.7	10.0	8.7	*23.1*	7.6	4.2	7.6
Cadmium	mg/kg dw	5.1	6.7	0.5	0.6	0.4	0.4	0.5	0.3 U	0.5 U	0.4 U	0.4	0.3 U
Chromium	mg/kg dw	260	270	21.7	34	32	21.7	27	32.7	*36*	19.6	13.2	20.6
Copper	mg/kg dw	390	390	71.9	96	82	52.5	42.1	52.4	*100*	35.5	19.0	33.0
Lead	mg/kg dw	450	530	32	61	45	34	25	170	*50*	34	16	20
Mercury	mg/kg dw	0.41	0.59	0.20	0.3	0.25	0.14	0.25	0.080	*0.26*	0.080 U	0.060 U	0.10
Nickel	mg/kg dw	140[b]	370[b]	20.3	28	28	18.7	19.9	17.9	*29*	13.2	10.5	14.5
Silver	mg/kg dw	6.1	6.1	0.5 J	0.6 J	0.5 J	0.4 J	0.6 J	0.3 UJ	*0.7 J*	0.4 UJ	0.3 UJ	0.3 UJ
Zinc	mg/kg dw	410	960	102	170	138	143	88	75	*170*	91	57	78
PAHs													
2-Methylnaphthalene	mg/kg OC	38	64	5.9 U	2.9 U	2.6 U	3.4 U	3.5 U	4.8 U	2.4 U	4.6 U	4.3 U	3.7 U
Acenaphthene	mg/kg OC	16	57	5.9 U	2.9 U	2.6 U	3.4 U	3.5 U	4.8 U	1.3 J	4.6 U	4.3 U	3.7 U
Acenaphthylene	mg/kg OC	66	66	5.9 U	2.9 U	2.6 U	3.4 U	3.5 U	4.8 U	2.4 U	4.6 U	4.3 U	3.7 U
Anthracene	mg/kg OC	220	1,200	5.9 U	4.7	3.8	2.1 J	2.1 J	2.8 J	11	4.6 U	4.3 U	2.7 J
Benzo(a)anthracene	mg/kg OC	110	270	4.7 J	15	10	5.3	3.5 U	5.7 J	19	4.2 J	5.8	7.2
Benzo(a)pyrene	mg/kg OC	99	210	5.9	16	12	6.5	3.5 U	6.3	20	3.8 J	6.1	7.8
Benzo(g,h,i)perylene	mg/kg OC	31	78	5.9 U	6.2	4.2	4.4	3.5 U	4.8 J	11	3.0 J	3.1 J	4.9
Benzofluoranthenes (total-calc'd)	mg/kg OC	230	450	14	45	30	17	3.5 U	15 J	47	10 J	13	22
Chrysene	mg/kg OC	110	460	6.3	25	16	9.2	2.0 J	9.4	32	6.7	11	12
Dibenzo(a,h)anthracene	mg/kg OC	12	33	0.70 J	1.8	1.6	1.7	0.35 U	0.86	4.3	0.76	0.61	0.90
Dibenzofuran	mg/kg OC	15	58	5.9 U	2.9 U	2.6 U	3.4 U	3.5 U	4.8 U	2.4 U	4.6 U	4.3 U	3.7 U
Fluoranthene	mg/kg OC	160	1,200	11	41	22	13	3.7	10	58	15	13	18
Fluorene	mg/kg OC	23	79	5.9 U	2.9 U	2.6 U	3.4 U	3.5 U	4.8 U	3.3	4.6 U	4.3 U	3.7 U

Table A-3-3, cont. All analytes, Locations SS324-010 through SS333-010

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS324	LDW-SS325	LDW-SS326	LDW-SS327	LDW-SS328	LDW-SS329[a]	LDW-SS330	LDW-SS331	LDW-SS332	LDW-SS333
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	5.9 U	6.2	4.2	3.8	3.5 U	3.6 J	10	4.6 U	3.2 J	4.2
Naphthalene	mg/kg OC	99	170	5.9 U	2.9 U	2.6 U	3.4 U	3.5 U	4.8 U	1.5 J	4.6 U	4.3 U	3.7 U
Phenanthrene	mg/kg OC	100	480	5.0 J	13	7.3	4.2	2.3 J	4.4 J	17	4.1 J	3.1 J	7.2
Pyrene	mg/kg OC	1,000	1,400	16	31	18	13	3.0 J	14	37	9.8	11	16
Total HPAH (calc'd)	mg/kg OC	960	5,300	59 J	190	120	74	8.7 J	70 J	240	54 J	67 J	93
Total LPAH (calc'd)	mg/kg OC	370	780	5.0 J	18	11	6.4 J	4.4 J	7.2 J	34 J	4.1 J	3.1 J	10 J
Phthalates													
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	13	17	20	11	2.0 J	13	12	16	7.7	10
Butyl benzyl phthalate	mg/kg OC	4.9	64	1.3	1.4	1.4	0.98	0.35	0.94	1.7	1.8	0.61	0.96
Diethyl phthalate	mg/kg OC	61	110	5.9 U	2.9 U	2.6 U	3.4 U	3.5 U	4.8 U	2.4 U	4.6 U	4.3 U	3.7 U
Dimethyl phthalate	mg/kg OC	53	53	0.59 U	0.29	0.37	0.34 UJ	0.35 UJ	0.48 J	0.62 J	0.46 UJ	0.43 UJ	0.37 UJ
Di-n-butyl phthalate	mg/kg OC	220	1,700	5.9 U	2.9 U	2.6 U	3.4 U	3.5 U	4.8 U	2.4 U	4.6 U	4.3 U	3.7 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	5.9 U	2.9 U	2.6 U	3.4 U	3.5 U	4.8 U	2.4 U	4.6 U	4.3 U	3.7 U
Other SVOCs													
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.59 U	0.29 U	0.26 U	0.34 U	0.35 U	0.48 U	0.24 U	0.46 U	0.43 U	0.37 U
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.59 U	0.29 U	0.26 U	0.34 U	0.35 U	0.48 U	0.24 U	0.46 U	0.43 U	0.37 U
1,3-Dichlorobenzene	µg/kg dw	170[b]	nv	62 U	62 U	61 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.59 U	0.29 U	0.26 U	0.34 U	0.35 U	0.48 U	0.24 U	0.46 U	0.43 U	0.37 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.2 U	6.2 U	6.1 U	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.1 UJ	6.1 UJ	6.2 UJ
2-Methylphenol	µg/kg dw	63	63	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.2 U	6.1 U	6.1 U	6.2 U
4-Methylphenol	µg/kg dw	670	670	62 U	62 U	61 U	86	62	62 U	62 U	61 U	300	62 U
Benzoic acid	µg/kg dw	650	650	620 U	620 U	610 U	620 U	620 U	620 U	620 U	610 U	610 U	620 U
Benzyl alcohol	µg/kg dw	57	73	31 U	31 UJ	31 UJ	31 U	31 U	31 U	31 U	31 U	31 U	31 U
Hexachlorobenzene	mg/kg OC	0.38	2.3	**0.59 U**	0.29 U	0.26 U	0.34 U	0.35 U	0.24 UJ	0.24 U	0.23 UJ	0.22 UJ	0.37 U
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.59 U	0.29 U	0.26 U	0.34 U	0.35 U	0.48 U	0.24 U	0.46 U	0.43 U	0.37 U
Hexachloroethane	µg/kg dw	1,400[b]	14,000[b]	62 U	62 U	61 U	62 U	62 U	62 U	62 U	61 U	61 U	62 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.59 U	0.29 U	0.29 U	0.34 UJ	0.35 UJ	0.48 UJ	0.24 UJ	0.46 UJ	0.43 UJ	0.37 UJ
Pentachlorophenol	µg/kg dw	360	690	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U	31 U

Table A-3-3, cont. All analytes, Locations SS324-010 through SS333-010

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS324	LDW-SS325	LDW-SS326	LDW-SS327	LDW-SS328	LDW-SS329 [a]	LDW-SS330	LDW-SS331	LDW-SS332	LDW-SS333
Phenol	µg/kg dw	420	1,200	62 U	62 U	61 U	80	62 U	62 U	62 U	61 U	63	40 J
Polychlorinated biphenyls													
PCBs (total calc'd)	mg/kg OC	12	65	**46**	**13**	9.2	11	**15**	9.7	9.7	7.3 J	2.7	10

[a] The results reported for this location are an average of the sample and the associated field duplicate sample, based on the averaging rules presented in Appendix C.

[b] **DMMP** SL or ML guideline.

dw – dry weight

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

OC – organic carbon

SL and ML – screening level and maximum level (USACE et al. 2000)

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

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

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

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

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, and total PCBs are presented in Appendix C.

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

Table A-3-4. Concentrations of all analytes in Round 3 surface sediment locations compared to SQS/SL and CSL/ML: Locations SS334–SS344

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS334	LDW-SS335	LDW-SS336	LDW-SS337[a]	LDW-SS338	LDW-SS339	LDW-SS340	LDW-SS341	LDW-SS342	LDW-SS343	LDW-SS344
Metals and trace elements														
Antimony	mg/kg dw	150[b]	200[b]	0.3 UJ	0.5 UJ	0.4 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
Arsenic	mg/kg dw	57	93	4.0	*16.9*	14.3	8.7	8.7	6.2	6.6	5.4	6.5	10.8	*5.8*
Cadmium	mg/kg dw	5.1	6.7	0.3 U	*0.6*	0.4 U	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U
Chromium	mg/kg dw	260	270	11.0	*40*	26	23	26	15.9	18.5	14.4	15	24	*12.5*
Copper	mg/kg dw	390	390	14.5	*100*	58	30.1	43	17.9	26.9	18.2	17.3	32.2	*16.5*
Lead	mg/kg dw	450	530	7	*70*	33	14	22	15	26	9	7	18	*7*
Mercury	mg/kg dw	0.41	0.59	0.050 U	*0.28*	0.16	0.11	0.13	0.080	0.070	0.060	0.050 U	0.070	0.050 U
Nickel	mg/kg dw	140[b]	370[b]	9.2	*35*	22	18.4	22	11.4	14.5	14.1	15.4	20.4	*13.9*
Silver	mg/kg dw	6.1	6.1	0.3 UJ	0.5 UJ	0.4 U	0.9 J	0.4 U	0.3 U	0.4 U	0.3 U	0.3	0.4	0.3 U
Zinc	mg/kg dw	410	960	39	*250*	121	79	95	51	76	61	59	105	*57*
PAHs														
2-Methylnaphthalene	mg/kg OC	38	64	6.8 U	3.8 U	3.0 U	2.8 U	3.1 U	3.0 U	3.4 U	2.9 U	3.6 U	2.2 U	4.3 U
Acenaphthene	mg/kg OC	16	57	6.8 U	7.3	5.7	2.8 U	3.1 U	3.0 U	3.4 U	2.9 U	3.6 U	2.2 U	4.3 U
Acenaphthylene	mg/kg OC	66	66	6.8 U	3.1 J	3.0 U	2.8 U	3.1 U	3.0 U	3.4 U	2.9 U	3.6 U	2.2 U	4.3 U
Anthracene	mg/kg OC	220	1,200	6.8 U	42	5.3	2.8 U	3.1 U	3.0 U	3.4 U	2.9 U	3.6 U	2.2 U	4.3 U
Benzo(a)anthracene	mg/kg OC	110	270	6.8 U	55	13	2.2 J	4.1	3.0 U	3.1 J	2.5 J	3.6 U	4.5	4.3 U
Benzo(a)pyrene	mg/kg OC	99	210	6.8 U	42	9.1	2.5 J	4.0	3.0 U	3.9	3.2	3.6 U	5.6	4.3 U
Benzo(g,h,i)perylene	mg/kg OC	31	78	6.8 U	12	3.9	2.0 J	2.9 J	3.0 U	3.3 J	2.8 J	3.6 U	5.2	4.3 U
Benzofluoranthenes (total-calc'd)	mg/kg OC	230	450	4.0 J	97	28	5.9 J	10	3.0 U	8.3 J	6.9	3.6 U	15	4.3 U
Chrysene	mg/kg OC	110	460	4.2 J	83	19	3.4	6.0	3.0 U	5.2	4.0	3.6 U	9.3	4.3 U
Dibenzo(a,h)anthracene	mg/kg OC	12	33	0.68 U	3.8 J	1.3	0.31 J	0.40	0.30 U	0.41	0.32	0.36 U	0.60	0.44 U
Dibenzofuran	mg/kg OC	15	58	6.8 U	5.2	4.6	2.8 U	3.1 U	3.0 U	3.4 U	2.9 U	3.6 U	2.2 U	4.3 U
Fluoranthene	mg/kg OC	160	1,200	8.7	**260**	53	6.4	8.5	1.6 J	7.8	7.7	2.8 J	22	6.6
Fluorene	mg/kg OC	23	79	6.8 U	11	5.3	2.8 U	3.1 U	3.0 U	3.4 U	2.9 U	3.6 U	2.2 U	4.3 U

Table A-3-4, cont. All analytes, Locations SS334-010 through SS344-010

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS334	LDW-SS335	LDW-SS336	LDW-SS337[a]	LDW-SS338	LDW-SS339	LDW-SS340	LDW-SS341	LDW-SS342	LDW-SS343	LDW-SS344
Indeno(1,2,3-cd)pyrene	mg/kg OC	34	88	6.8 U	12	4.1	1.7 J	2.6 J	3.0 U	2.9 J	2.5 J	3.6 U	4.1	4.3 U
Naphthalene	mg/kg OC	99	170	6.8 U	3.8 U	2.5 J	2.8 U	3.1 U	3.0 U	3.4 U	2.9 U	3.6 U	2.2 U	4.3 U
Phenanthrene	mg/kg OC	100	480	6.8 U	97	23	2.3 J	2.7 J	3.0 U	2.9 J	3.5	3.6 U	9.7	6.4
Pyrene	mg/kg OC	1,000	1,400	14	140	31	5.0	8.0	3.0 U	6.7	5.8	2.3 J	14	5.0
Total HPAH (calc'd)	mg/kg OC	960	5,300	31 J	700 J	160	29 J	47 J	1.6 J	42 J	36 J	5.1 J	80	12
Total LPAH (calc'd)	mg/kg OC	370	780	6.8 U	160 J	42 J	2.3 J	2.7 J	3.0 U	2.9 J	3.5	3.6 U	9.7	6.4
Phthalates														
Bis(2-ethylhexyl)phthalate	mg/kg OC	47	78	4.8 J	**90**	19	6.9	9.0	2.0 J	5.6	5.8	3.7	17	4.2 J
Butyl benzyl phthalate	mg/kg OC	4.9	64	0.68 U	**6.9**	1.4	0.92	0.85	0.30 U	0.72	0.29 U	0.36 U	0.75	0.44 U
Diethyl phthalate	mg/kg OC	61	110	6.8 U	3.8 U	3.0 U	2.8 U	3.1 U	3.0 U	3.4 U	2.9 U	3.6 U	2.2 U	4.3 U
Dimethyl phthalate	mg/kg OC	53	53	0.68 UJ	1.1	0.77	0.28 UJ	0.47	0.42	0.34 U	0.29 U	0.36 U	0.22 U	0.44 U
Di-n-butyl phthalate	mg/kg OC	220	1,700	6.8 U	2.0 J	2.3 J	2.8 U	1.6 J	3.0 U	3.4 U	2.9 U	3.6 U	1.3 J	4.3 U
Di-n-octyl phthalate	mg/kg OC	58	4,500	6.8 U	3.2 J	3.0 U	2.8 U	3.1 U	3.0 U	3.4 U	2.9 U	3.6 U	2.2 U	4.3 U
Other SVOCs														
1,2,4-Trichlorobenzene	mg/kg OC	0.81	1.8	0.68 U	0.38 U	0.30 U	0.28 U	0.31 U	0.30 U	0.34 U	0.29 U	0.36 U	0.22 U	0.44 U
1,2-Dichlorobenzene	mg/kg OC	2.3	2.3	0.68 U	0.38 U	0.30 U	0.28 U	0.31 U	0.30 U	0.34 U	0.29 U	0.36 U	0.22 U	0.44 U
1,3-Dichlorobenzene	µg/kg dw	170[b]	nv	62 U	110 U	62 U	61 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
1,4-Dichlorobenzene	mg/kg OC	3.1	9	0.68 U	2.2	0.30 U	0.28 U	0.31 U	0.30 U	0.34 U	0.29 U	0.36 U	0.22 U	0.44 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.2 UJ	11 U	6.2 U	6.1 UJ	6.2 U	6.2 U	6.1 U	6.1 U	6.1 U	6.0 U	6.1 U
2-Methylphenol	µg/kg dw	63	63	6.2 U	11 U	8.6	6.1 U	6.2 U	6.2 U	6.1 U	6.1 U	6.1 U	6.0 U	6.1 U
4-Methylphenol	µg/kg dw	670	670	62 U	110 U	62 U	61 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Benzoic acid	µg/kg dw	650	650	620 U	540 UJ	**1,600**	610 U	620 U	620 U	610 U	610 U	610 U	600 U	600 U
Benzyl alcohol	µg/kg dw	57	73	31 U	54 U	**540 J**	30 U	31 UJ	33 UJ	32 UJ	30 UJ	31 UJ	30 UJ	31 UJ
Hexachlorobenzene	mg/kg OC	0.38	2.3	0.34 UJ	0.38 U	0.30 U	0.28 U	0.31 U	0.30 U	0.34 U	0.29 U	0.36 U	0.22 U	0.22 UJ
Hexachlorobutadiene	mg/kg OC	3.9	6.2	0.68 U	0.38 U	0.30 U	0.28 U	0.31 U	0.30 U	0.34 U	0.29 U	0.36 U	0.22 U	0.44 U
Hexachloroethane	µg/kg dw	1,400[b]	14,000[b]	62 U	110 U	62 U	61 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
N-Nitrosodiphenylamine	mg/kg OC	11	11	0.68 UJ	1.1 U	0.30 U	0.28 UJ	0.31 U	0.30 U	0.37 U	0.29 U	0.36 U	0.22 U	0.44 U
Pentachlorophenol	µg/kg dw	360	690	31 U	54 U	31 U	30 U	31 U	31 U	30 U	30 U	31 U	30 U	30 U

Table A-3-4, cont. All analytes, Locations SS334-010 through SS344-010

ANALYTE	UNIT	SQS/SL	CSL/ML	LDW-SS334	LDW-SS335	LDW-SS336	LDW-SS337 [a]	LDW-SS338	LDW-SS339	LDW-SS340	LDW-SS341	LDW-SS342	LDW-SS343	LDW-SS344
Phenol	µg/kg dw	420	1,200	62 U	110 U	250 U	61 U	62 U	62 U	61 U	61 U	61 U	60 U	60 U
Polychlorinated biphenyls														
PCBs (total calc'd)	mg/kg OC	12	65	3.6	10	9.1	1.7	4.4	2.9	4.9 J	2.4	0.79	2.5	0.65 J

[a] The results reported for this location are an average of the sample and the associated field duplicate sample, based on the averaging rules presented in Appendix C.

[b] **DMMP** SL or ML guideline.

dw – dry weight

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

OC – organic carbon

SL and ML – screening level and maximum level (USACE et al. 2000)

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

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

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

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

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, and total PCBs are presented in Appendix C.

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

Table A-3-5. Dry weight concentrations of all analytes in Round 3 surface sediment locations with TOC < 0.5 or > 4.0% compared to dry weight chemical criteria or guidelines: Locations SS306, SS311, and SS312

ANALYTE	UNIT	SQS/SL/LAET[a]	CSL/ML/2LAET[a]	LDW-SS306	LDW-SS311	LDW-SS312
Metals and trace elements						
Antimony	mg/kg dw	150	200	0.4 J	0.6 UJ	0.4 UJ
Arsenic	mg/kg dw	57	93	5.1	19.2	13.1
Cadmium	mg/kg dw	5.1	6.7	0.3 U	0.7	0.4 U
Chromium	mg/kg dw	260	270	19.8	37	29
Copper	mg/kg dw	390	390	27.7	92	79
Lead	mg/kg dw	450	530	40	101	138
Mercury	mg/kg dw	0.41	0.59	0.060 U	0.3	**0.6**
Nickel	mg/kg dw	140	370	22.4	21	12
Silver	mg/kg dw	6.1	6.1	0.3 U	0.6 U	0.4 U
Zinc	mg/kg dw	410	960	98	160	122
PAHs						
2-Methylnaphthalene	µg/kg dw	670	1,400	61 U	62 U	96
Acenaphthene	µg/kg dw	500	730	61 U	62 U	170
Acenaphthylene	µg/kg dw	1,300	1,300	61 U	130	500
Anthracene	µg/kg dw	960	4,400	61 U	200	710
Benzo(a)anthracene	µg/kg dw	1,300	1,600	61 U	820	**2,200**
Benzo(a)pyrene	µg/kg dw	1,600	3,000	61 U	1,000	**3,200**
Benzo(g,h,i)perylene	µg/kg dw	670	720	61 U	410	**1,600**
Benzofluoranthenes (total-calc'd)	µg/kg dw	3,200	3,600	61 U	2,800	**4,700**
Chrysene	µg/kg dw	1,400	2,800	61 U	**1,800**	**3,000**
Dibenzo(a,h)anthracene	µg/kg dw	230	540	6.1 U	160	**320**
Dibenzofuran	µg/kg dw	540	700	61 U	62 U	130
Fluoranthene	µg/kg dw	1,700	2,500	61 U	**3,900**	**4,900**
Fluorene	µg/kg dw	540	1,000	61 U	61 J	260
Indeno(1,2,3-cd)pyrene	µg/kg dw	600	690	61 U	420	**1,600**

Table A-3-5, cont. All analytes for locations with TOC < 0.5 or > 4%: Locations SS306, SS311, and SS312

ANALYTE	UNIT	SQS/SL/LAET[a]	CSL/ML/2LAET[a]	LDW-SS306	LDW-SS311	LDW-SS312
Naphthalene	µg/kg dw	2,100	2,400	61 U	45 J	180
Phenanthrene	µg/kg dw	1,500	5,400	61 U	900	**3,400**
Pyrene	µg/kg dw	2,600	3,300	61 U	**2,800**	**4,800**
Total HPAH (calc'd)	µg/kg dw	12,000	17,000	61 U	**14,100**	**26,300**
Total LPAH (calc'd)	µg/kg dw	5,200	13,000	61 U	1,340 J	5,200
Phthalates						
Bis(2-ethylhexyl)phthalate	µg/kg dw	1,300	1,900	61 U	190	140
Butyl benzyl phthalate	µg/kg dw	63	900	6.1 U	9.3	34
Diethyl phthalate	µg/kg dw	200	1,200	61 U	62 U	62 U
Dimethyl phthalate	µg/kg dw	71	160	6.1 U	6.2	6.2 U
Di-n-butyl phthalate	µg/kg dw	1,400	5,100	61 U	43 J	59 J
Di-n-octyl phthalate	µg/kg dw	6,200	nv	61 U	62 U	62 U
Other SVOCs						
1,2,4-Trichlorobenzene	µg/kg dw	31	51	6.1 U	6.2 U	6.2 U
1,2-Dichlorobenzene	µg/kg dw	35	50	6.1 U	6.2 U	6.2 U
1,3-Dichlorobenzene	µg/kg dw	170	nv	61 U	62 U	62 U
1,4-Dichlorobenzene	µg/kg dw	110	120	6.1 U	6.2 U	6.2 U
2,4-Dimethylphenol	µg/kg dw	29	29	6.1 U	20	17
2-Methylphenol	µg/kg dw	63	63	6.1 U	6.2 U	14
4-Methylphenol	µg/kg dw	670	670	61 U	62 U	36 J
Benzoic acid	µg/kg dw	650	650	610 U	620 U	620 U
Benzyl alcohol	µg/kg dw	57	73	43 U	**74 U**	31 U
Hexachlorobenzene	µg/kg dw	22	70	6.1 U	6.2 U	6.2 U
Hexachlorobutadiene	µg/kg dw	11	120	6.1 U	6.2 U	6.2 U
Hexachloroethane	µg/kg dw	1,400	14,000	61 U	62 U	62 U
N-Nitrosodiphenylamine	µg/kg dw	28	40	6.1 U	12 U	6.2 U
Pentachlorophenol	µg/kg dw	360	690	31 U	31 U	31 U
Phenol	µg/kg dw	420	1,200	120 U	62 U	75 U
Polychlorinated biphenyls						

Table A-3-5, cont. All analytes for locations with TOC < 0.5 or > 4%: Locations SS306, SS311, and SS312

ANALYTE	UNIT	SQS/SL/LAET[a]	CSL/ML/2LAET[a]	LDW-SS306	LDW-SS311	LDW-SS312
PCBs (total calc'd)	µg/kg dw	130	1,000	8.4 J	**370**	**<u>1,010</u>**

[a] SQS and CSL are reported, when available on a dry weight basis. For chemicals without dry weight SQS or CSL, LAET and 2LAET values are used. SL and ML guidelines are used for chemicals with no SQS or CSL criteria (i.e., antimony, nickel, 1,3-dichlorobenzene, and hexachloroethane).

dw – dry weight

LAET and 2LAET – lowest apparent effects threshold and second lowest apparent effects threshold (PTI 1988)

nv – no value; there is neither a CSL, ML, nor a 2LAET for this chemical

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

SL and ML – screening level and maximum level (USACE et al. 2000)

Concentration in **bold** indicates SQS, SL, or LAET exceedance.

Concentration in **<u>bold underline</u>** indicates CSL, ML, or 2LAET exceedance.

Methods for calculating total benzofluoranthenes, total LPAHs, total HPAHs, and total PCBs, are presented in Appendix C.

Data qualifiers:

J – estimated concentration

U – not detected at reporting limit shown

UJ – not detected at estimated reporting limit shown

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