APPENDIX G

Summary Chemistry Analytical Results

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor																	
				SH-01-SS-00	SH-01-SC-12	SH-02-SS-00	SH-02-SC-12	SH-02-SC-23	SH-03-SS-00	SH-04-SS-00 [d]	SH-04-SC-12 [d]	SH-04-SC-23	SH-05-SS-00	SH-05-SC-12 [d]	SH-07-SS-00	SH-07-SC-12	SH-08-SC-12	SH-09-SS-00	SH-09-SC-12	SH-09-SC-23	SH-10-SS-00
	LAET	SQS	CSL	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	1 to 2 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm
Conventional Parameters																					
Particle/Grain Size, Fines (Silt/Clay)	---	---	---	27.8	47.9	59.7	57.4		66.2	76	74.4		29	2.3	34.2	28.9	30.2	32.4	21.7		15
Particle/Grain Size, Phi Scale <-1	---	---	---	0.4	1.0	2.0	7.4		2.5	1.5	2.3		36.3	49.4	1	8.3	1.3	0.5	17		0.1
Particle/Grain Size, Phi Scale >10	---	---	---	5.4	8.4	7.6	10.1		8.8	10.8	12.8		4		4.1	3.8	3.7	4.8	3.3		2.2
Particle/Grain Size, Phi Scale 0 to 1	---	---	---	0.8	1.2	2.2	4.6		2.1	3.2	4.8		3.1	13.6	1	11.4	6.2	5	8.5		5
Particle/Grain Size, Phi Scale -1 to 0	---	---	---	0.6	1.0	2.6	4.0		2.9	3.0	4.1		5.7	10.8	1.6	5.6	4.3	1.9	6.3		0.3
Particle/Grain Size, Phi Scale 1 to 2	---	---	---	2.0	1.7	3.3	7.9		4.1	4.3	4.1		4.6	21	3.4	17.2	11.8	19	16.9		14.8
Particle/Grain Size, Phi Scale 2 to 3	---	---	---	19.1	13.8	6.6	8.3		7.3	4.6	4.8		10.4	2.7	27.1	13.6	22.9	25.3	18.8		38.7
Particle/Grain Size, Phi Scale 3 to 4	---	---	---	49.4	33.4	23.6	10.5		14.8	7.4	5.5		11	0.3	31.7	15	23.3	15.8	10.7		26.2
Particle/Grain Size, Phi Scale 4 to 5	---	---	---	10	11.7	20	8.1		14.9	10.9	10.2		5.8		13.1	10	11.1	9.6	8.4		8.4
Particle/Grain Size, Phi Scale 5 to 6	---	---	---	2.9	6.7	10.5	9.8		14.6	19.1	12		6		6.2	4.3	4.9	6.1	2.9		2.1
Particle/Grain Size, Phi Scale 6 to 7	---	---	---	2.7	5.7	7.2	8.4		12.9	12.8	12		5.2		3.8	3.2	3.7	2.6	2.1		0.8
Particle/Grain Size, Phi Scale 7 to 8	---	---	---	2.1	5.2	5.2	7.9		4.9	10.5	10.3		2.4		2.8	2.9	2.6	3.6	1.9		0.5
Particle/Grain Size, Phi Scale 8 to 9	---	---	---	2.4	5.3	4.6	6.7		5.2	6.2	8.6		2.8		2.1	2.4	2.3	2.5	1.8		0.4
Particle/Grain Size, Phi Scale 9 to 10	---	---	---	2.4	4.7	4.5	6.3		5.0	5.8	8.4		2.8		2	2.2	2	3.2	1.4		0.6
Total Volatile Solids %	---	---	---																		
Ammonia (mg/kg)	---	---	---	12.9	46.3	14.8	42.5		11.2	14.8	65.8		6.33	0.03 U	8.21	6.47	21.3	7.91	2.91		9.69
Sulfide	---	---	---	283	91	548	152		155	550	461		391	36.1	158	109	433	192	192		159
Total organic carbon (%)	---	---	---	1.59	1.58	2.46	1.35		3.8	4.13	5.82		3.2	1.45	1.59	0.232	1.28	2.17	2.09		2.03
Total solids (%)	---	---	---	58.7	59.4	44.4	50.6		45.4	34.4	33.2		51.9	90.6	56.3	65.9	64.2	59.4	70.7		59.8
Metals (mg/kg dry weight)																					
Antimony	150	---	---	0.22 J	0.22 J	0.33 J	0.22 J		0.4 J	0.35 J	0.28 J		0.2 J	0.074 J	0.19 J	0.22 J	0.17 J	0.14 J	0.19 J		0.18 J
Arsenic	57	57	93	5.5	4.7	8.2	4.6		7.3	6	4.1		3.7	1.5	3.4	3.8	2.8	3.5	3.6		4.6
Cadmium	5.1	5.1	6.7	0.72	0.75	1	0.74		0.66	0.87	0.98		0.29 J	0.25	0.25 J	0.33	0.21 J	0.35	0.39		0.53
Chromium	260	260	270	35	39	51	40		52	45	35		33	43	46	45	39	40	47		36
Copper	390	390	390	28	25	55	35		51	49	41		38	44	53	50	48	42	50		33
Lead	450	450	530	7.4	4	16	15		22	14	21		6	2.2	5.6	8.7	5.9	6.2	6.4		5.9
Mercury	0.41	0.41	0.59	0.068	0.034	0.092	0.184 U		0.1	0.066	0.092		0.029 J	0.0064 U	0.029 J	0.047	0.112 U	0.027 J	0.029		0.039
Nickel	140	---	---	33	35	42	33		41	36	27		28	34	41	40	38	36	42		34
Silver	6.1	6.1	6.1	0.09 J	0.067 J	0.22 J	0.098 J		0.2 J	0.16 J	0.2 J		0.067 J	0.045 J	0.07 J	0.094 J	0.065 J	0.079 J	0.082 J		0.079 J
Zinc	410	410	960	65	45	100	57		91	88	76		53	44	58	62	55	61	63		59
Butyltins (ug/kg dry weight)																					
Butyltin Ion	---	---	---	3.9 U	1.5 U	8.0	3.9 U														
Dibutyltin Ion	---	---	---	3.0 U	3.6 U	30	3.0 U														
Tributyltin Ion	---	---	---	1.7 U	2.8 U	13	1.7 U														
Aromatic Hydrocarbons (ug/kg dry weight or mg/kg OC)																					
LPAHs																					
2-Methylnaphthalene (dry)	670	---	---	8.0 U	8.0 U	8.1 U	8.1 U		8 U	8.1 U	8.2 U		8.1 U	8.0 U	8.1 U	8.0 U	8.0 U	7.9 U	7.9 U		8.1 U
2-Methylnaphthalene (OC)	---	38	64	0.50 U	0.51 U	0.33 U	0.60 U		0.21 U	0.20 U	0.14 U		0.25 U	0.55 U	0.51 U	3.4 U	0.63 U	0.36 U	0.4 U		0.40 U
Acenaphthene (dry)	500	---	---	8 U	8.1 U	13 J	8.1 U		8.1 U	8.2 U	14 J		8.1 U	8.1 U	8.1 U	8.0 U	8 U	8.0 U	7.9 U		8.1 U
Acenaphthene (OC)	---	16	57	0.50 U	0.51 U	0.53 J	0.60 U		0.21 U	0.20 U	0.24 J		0.25 U	0.56 U	0.51 U	3.4 U	0.63 U	0.37 U	0.4 U		0.4 U
Acenaphthylene (dry)	560	---	---	8.4 U	8.5 U	32	8.5 U		8.5 U	8.6 U	12 J		8.6 U	8.5 U	8.5 U	8.4 U	8.4 U	8.4 U	8.4 U		8.5 U
Acenaphthylene (OC)	---	66	66	0.53 U	0.54 U	1.3	0.63 U		0.22 U	0.21 U	0.21 J		0.27 U	0.59 U	0.53 U	3.6 U	0.66 U	0.39 U	0.4 U		0.42 U
Anthracene (dry)	960	---	---	7.5 U	7.6 U	130	7.6 U		7.6 U	7.7 U	42		7.7 U	7.6 U	7.6 U	7.5 U	7.5 U	7.5 U	7.5 U		14 J
Anthracene (OC)	---	220	1,200	0.47 U	0.48 U	5.3	0.56 U		0.20 U	0.19 U	0.72		0.24 U	0.52 U	0.48 U	3.2 U	0.6 U	0.35 U	0.4 U		0.7 J
Fluorene (dry)	540	---	---	8.7 U	8.8 U	48	8.8 U		8.8 U	8.9 U	13 J		8.9 U	8.8 U	8.8 U	8.7 U	8.7 U	8.7 U	8.6 U		8.8 U
Fluorene (OC)	---	23	79	0.55 U	0.56 U	2.0	0.65 U		0.23 U	0.22 U	0.22 J		0.28 U	0.61 U	0.55 U	3.8 U	0.68 U	0.40 U	0.4 U		0.43 U
Naphthalene (dry)	2,100	---	---	30	8.5 U	13 J	8.6 U		8.5 U	8.6 U	8.6 U		8.6 U	8.5 U	8.6 U	8.5 U	8.5 U	8.4 U	8.4 U		8.6 U
Naphthalene (OC)	---	99	170	1.9	0.5 U	0.53 J	0.64 U		0.22 U	0.21 U	0.15 U		0.27 U	0.59 U	0.54 U	3.7 U	0.66 U	0.4 U	0.4 U		0.42 U
Phenanthrene (dry)	1500	---	---	29	8.2 U	380	26		49	8.3 U	160		27	14 J	8.3 U	24	28	8.1 U	16 J		22
Phenanthrene (OC)	---	100	480	1.8	0.5 U	15	1.9		1.3	0.20 U	2.7		0.84	1.0 J	0.52 U	10	2.2	0.4 U	0.8 J		1.1
Total LPAHs (dry) [c]	5200	---	---	59	20 U	620	26		49	20 U	240		27	14 J	20 U	24	28	19 U	16 J		36
Total LPAHs (OC) [c]	---	370	780	3.7	1.3 U	25	1.9		1.3	0.48 U	4.1		0.84	0.97 J	1.3 U	10	2.2	0.88 U	0.77 J		1.8
HPAHs																					
Benzo(a)anthracene (dry)	1,300	---	---	18 J	5.8 U	170	26		88	42	71		58	10 J	5.8 U	35	50	5.7 U	23		70
Benzo(a)anthracene (OC)	---	110	270	1.1 J	0.37 U	6.9	1.9		2.3	1.0	1.2		1.8	0.69 J	0.36 U	15	3.9	0.26 U	1.1		3.4
Benzo(a)pyrene (dry)	1,600	---	---	21	8 U	180	29		200	64	220		69	15 J	8.1 U	54	43	7.9 U	28		53
Benzo(a)pyrene (OC)	---	99	210	1.3	0.51 U	7.3	2.1		5.3	1.5	3.8		2.2	1.0 J	0.51 U	23	3.4	0.36 U	1.3		2.6
Benzo(b)fluoranthene (dry)	---	---	---	23	9.3 U	130	28		70	40	100		58	9.3 U	12 J	26	45	9.2 U	20		93
Benzo(b)fluoranthene (OC)	---	---	---	1.4	0.59 U	5.3	2.1		1.8	1.0	1.7		1.8	0.64 U	0.8 J	11	3.5	0.42 U	1.0		4.6
Benzo(g,h,i)perylene (dry)	670	---	---	20	6.6 U	66	6.7 U		82	29	80		35	16 J	6.7 U	51	6.6 U	6.6 U	11 J		28
Benzo(g,h,i)perylene (OC)	---	31	78	1.3	0.42 U	2.7	0.50 U		2.2	0.70	1.4		1.1	1.1 J	0.42 U	22	0.52 U	0.30 U	0.53 J		1.4
Benzo(k)fluoranthene (dry)	---	---	---	16 J	9.1 U	130	31		96	29	120		38	9.1 U	10 J	26	42	9 U	33		63
Benzo(k)fluoranthene (OC)	---	---	---	1.0 J	0.58 U	5.3	2.3		2.5	0.70	2.1		1.2	0.63 U	0.63 J	11	3.3	0.41 U	1.6		3.1
Benzofluoranthenes, Total (b+k+j) (dry)	3,200	---	---	39	20 U	260	59		170	69	220		96	20 U	22 J	52	87	19 U	53		160
Benzofluoranthenes, Total (b+k+j) (OC)	---	230	450	2.4	1.3 U	11	4.4		4.5	1.7	3.8		3.0	1.4 U	1.4 J	22	6.8	0.88 U	2.5		7.9
Chrysene (dry)	1,400	---	---	34	6.5 U	200	38		160	76	220		130	19 J	11 J	67	82	26	37		140
Chrysene (OC)	---	110	460	2.1	0.41 U	8.1	2.8		4.2	1.8	3.8		4.1	1.3 J	0.69 J	29	6.4	1.2	1.8		6.9
Dibenz(a,h)anthracene (dry)	230	---	---	8.3 U	8.4 U	14 J	8.4 U		8.4 U	8.5 U	8.5 U		8.5 U	8.4 U	8.4 U	8.3 U	8.3 U	8.3 U	8.3 U		11 J
Dibenz(a,h)anthracene (OC)	---	12	33	0.52 U	0.53 U	0.57 J	0.62 U		0.22 U	0.21 U	0.15 U		0.27 U	0.58 U	0.53 U	3.6 U	0.65 U	0.38 U	0.40 U		0.54 J
Fluoranthene (dry)	1,700	---	---	46	7.8 U	370	44		93	46	470		100	27	15 J	76	99	44	48		170
Fluoranthene (OC)	---	160	1,200	2.9	0.49 U	15.0	3.3		2.4	1.1	8.1		3.1	1.9	0.94 J	33	7.7	2.0	2.3		8.4
Indeno(1,2,3-cd)pyrene (dry)	600	---	---	13 J	8.4 U	60	8.5 U		23	8.5 U	33		8.5 U	8.4 U	8.5 U	13 J	8.4 U	8.3 U	8.3 U		24
Indeno(1,2,3-cd)pyrene (OC)	---	34	88	0.82 J	0.53 U	2.4	0.63 U		0.61	0.21 U	0.57		0.27 U	0.58 U	0.53 U	5.6 J	0.66 U	0.38 U	0.40 U		1.2
Pyrene (dry)	2,600	---	---	56	21	370	54		140	61	190		140	28	11 J	76	130	42	92		160
Pyrene (OC)	---	1,000	1,400	3.5	1.3	15	4.0		3.7	1.5	3.3		4.4	1.9	0.69 J	33	10	1.9	4.4		7.9
Total HPAHs (dry) [c]	12,000	---	---	250	21	1,500	250		960	390	1500		630	120	59 J	420	490	110	290		820
Total HPAHs (OC) [c]	---	960	5,300	16	1.3	61	19		25	9.4	26		20	8.3	3.7 J	180	38	5.1	14		40

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor																	
				SH-01-SS-00	SH-01-SC-12	SH-02-SS-00	SH-02-SC-12	SH-02-SC-23	SH-03-SS-00	SH-04-SS-00 [d]	SH-04-SC-12 [d]	SH-04-SC-23	SH-05-SS-00	SH-05-SC-12 [d]	SH-07-SS-00	SH-07-SC-12	SH-08-SC-12	SH-09-SS-00	SH-09-SC-12	SH-09-SC-23	SH-10-SS-00
	LAET	SQS	CSL	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	1 to 2 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm
Chlorinated Benzenes (ug/kg dry weight or mg/kg OC)																					
1,2,4-Trichlorobenzene (dry)	31	---	---	8.8 U	8.9 U	9 U	8.9 U		8.9 U	9 U	9.0 U		9.0 U	8.9 U	9.0 U	8.8 U	8.8 U	8.8 U	8.8 U		8.9 U
1,2,4-Trichlorobenzene (OC)	---	0.81	1.8	0.55 U	0.56 U	0.37 U	0.66 U		0.23 U	0.22 U	0.15 U		0.28 U	0.61 U	0.57 U	3.8 U	0.69 U	0.41 U	0.42 U		0.44 U
1,2-Dichlorobenzene (dry)	35	---	---	7.7 U	7.7 U	7.8 U	7.8 U		7.7 U	7.8 U	7.8 U		7.8 U	7.7 U	7.8 U	7.7 U	7.7 U	7.6 U	7.6 U		7.8 U
1,2-Dichlorobenzene (OC)	---	2.3	2.3	0.48 U	0.49 U	0.32 U	0.58 U		0.20 U	0.19 U	0.13 U		0.24 U	0.53 U	0.49 U	3.3 U	0.60 U	0.35 U	0.36 U		0.38 U
1,4-Dichlorobenzene (dry)	110	---	---	7.2 U	7.2 U	7.3 U	7.2 U		7.2 U	7.3 U	7.3 U		7.3 U	7.2 U	7.3 U	7.2 U	7.2 U	7.1 U	7.1 U		7.2 U
1,4-Dichlorobenzene (OC)	---	3.1	9	0.45 U	0.46 U	0.30 U	0.53 U		0.19 U	0.18 U	0.13 U		0.23 U	0.50 U	0.46 U	3.1 U	0.56 U	0.33 U	0.34 U		0.35 U
Phthalates (ug/kg dry weight or mg/kg OC)																					
bis(2-Ethylhexyl)phthalate (dry)	1,300	---	---	**20**	11 U	**37**	11 U		60 U	55 U	**82 J**		49 U	11 U	**24**	11 U	**45**	11 U	**27**		**65**
bis(2-Ethylhexyl)phthalate (OC)	---	47	78	**1.3**	0.70 U	**1.5**	0.81 U		1.6 U	1.3 U	**1.4 J**		1.5 U	0.76 U	**1.5**	4.7 U	**3.5**	0.51 U	**1.3**		**3.2**
Butylbenzylphthalate (dry)	63	---	---	11 U	11 U	11 U	11 U		**38**	11 U	11 U		11 U	11 U	11 U	11 U	11 U	11 U	11 U		11 U
Butylbenzylphthalate (OC)	---	4.9	64	0.69 U	0.70 U	0.45 U	0.81 U		**1.0**	0.27 U	0.19 U		0.34 U	0.76 U	0.69 U	4.7 U	0.86 U	0.51 U	0.53 U		0.54 U
Di-n-Butylphthalate (dry)	1400	---	---	12 U	12 U	12 U	12 U		12 U	12 U	12 U		12 U	12 U	12 U	12 U	12 U	12 U	12 U		12 U
Di-n-Butylphthalate (OC)	---	220	1,700	0.75 U	0.76 U	0.49 U	0.89 U		0.32 U	0.29 U	0.21 U		0.38 U	0.83 U	0.75 U	5.2 U	0.94 U	0.55 U	0.57 U		0.59 U
Di-n-Octyl phthalate (dry)	6200	---	---	8.1 U	8.2 U	8.3 U	8.2 U		8.2 U	8.3 U	8.3 U		8.3 U	8.2 U	8.2 U	8.1 U	8.1 U	8.1 U	8.0 U		8.2 U
Di-n-Octyl phthalate (OC)	---	58	4,500	0.51 U	0.52 U	0.34 U	0.61 U		0.22 U	0.20 U	0.14 U		0.26 U	0.57 U	0.52 U	3.5 U	0.63 U	0.37 U	0.38 U		0.40 U
Diethylphthalate (dry)	200	---	---	16 U	16 U	16 U	16 U		16 U	16 U	16 U		16 U	16 U	16 U	16 U	16 U	16 U	16 U		16 U
Diethylphthalate (OC)	---	61	110	1.0 U	1.0 U	0.65 U	1.2 U		0.42 U	0.39 U	0.27 U		0.50 U	1.1 U	1.0 U	6.9 U	1.3 U	0.74 U	0.77 U		0.79 U
Dimethylphthalate (dry)	71	---	---	7.6 U	7.6 U	7.7 U	7.6 U		7.6 U	7.7 U	7.7 U		7.7 U	7.6 U	7.7 U	7.6 U	7.6 U	7.5 U	7.5 U		7.6 U
Dimethylphthalate (OC)	---	53	53	0.48 U	0.48 U	0.31 U	0.56 U		0.20 U	0.19 U	0.1 U		0.24 U	0.52 U	0.48 U	3.3 U	0.59 U	0.35 U	0.36 U		0.37 U
Ionizable Organic Compounds (ug/kg dry weight)																					
2,4-Dimethylphenol	29	29	29	14 U	15 U	15 U	15 U		15 U	15 U	15 U		15 U	15 U	15 U	14 U	14 U	14 U	14 U		15 U
Benzoic Acid	650	650	650	110 U	110 U	110 U	110 U		110 U	110 U	110 U		110 U	110 U	110 U	110 U	110 U	110 U	110 U		110 U
Benzyl Alcohol	57	57	73	14 U	14 U	14 U	14 U		14 U	14 U	14 U		14 U	14 U	14 U	14 U	14 U	14 U	14 U		14 U
Pentachlorophenol	360	360	690	46 U	47 U	47 U	47 U		47 U	47 U	47 U		47 U	47 U	47 U	46 U	46 U	46 U	46 U		47 U
Phenol	420	420	1,200	13 U	13 U	14 U	13 U		**20**	14 U	**40**		14 U	13 U	14 U	**36**	13 U	13 U	13 U		13 U
Miscellaneous Extractables (ug/kg dry weight or mg/kg OC)																					
Dibenzofuran (dry)	540	---	---	7.4 U	7.4 U	7.5 U	7.4 U		7.4 U	7.5 U	**15 J**		7.5 U	7.4 U	7.5 U	7.4 U	7.4 U	7.3 U	7.3 U		7.4 U
Dibenzofuran (OC)	---	15	58	0.47 U	0.47 U	0.30 U	0.55 U		0.19 U	0.18 U	**0.26 J**		0.23 U	0.51 U	0.47 U	3.2 U	0.58 U	0.34 U	0.35 U		0.36 U
Hexachlorobenzene (dry)	22	---	---	7.8 U	7.9 U	7.9 U	7.9 U		7.9 U	8.0 U	8.0 U		7.9 U	7.9 U	7.9 U	7.8 U	7.8 U	7.8 U	7.7 U		7.9 U
Hexachlorobenzene (OC)	---	0.38	2.3	0.49 U	0.50 U	0.32 U	0.59 U		0.21 U	0.19 U	0.14 U		0.25 U	0.54 U	0.50 U	3.4 U	0.61 U	0.36 U	0.37 U		0.39 U
Hexachlorobutadiene (dry)	11	---	---	7.9 U	8 U	8.0 U	8.0 U		8.0 U	8.1 U	8.1 U		8.0 U	8.0 U	8.0 U	7.9 U	7.9 U	7.9 U	7.8 U		8.0 U
Hexachlorobutadiene (OC)	---	3.9	6.2	0.50 U	0.5 U	0.33 U	0.59 U		0.21 U	0.20 U	0.14 U		0.25 U	0.55 U	0.50 U	3.4 U	0.62 U	0.36 U	0.37 U		0.39 U
N-Nitrosodiphenylamine (dry)	28	---	---	8.5 U	8.5 U	8.6 U	8.6 U		8.5 U	8.6 U	8.6 U		8.6 U	8.5 U	8.6 U	8.5 U	8.5 U	8.4 U	8.4 U		8.6 U
N-Nitrosodiphenylamine (OC)	---	11	11	0.53 U	0.54 U	0.35 U	0.64 U		0.22 U	0.21 U	0.15 U		0.27 U	0.59 U	0.54 U	3.7 U	0.66 U	0.39 U	0.40 U		0.42 U
2-Methylphenol	---	63	63	14 U	14 U	14 U	14 U		14 U	14 U	14 U		14 U	14 U	14 U	14 U	14 U	14 U	14 U		14 U
4-Methylphenol	---	670	670	**54**	13 U	13 U	13 U		13 U	13 U	13 U		13 U	13 U	13 U	12 U	12 U	12 U	12 U		13 U
Polychlorinated Biphenyls (ug/kg dry weight or mg/kg OC)																					
Total PCBs (OC) [c]	---	12	65	**0.62 JG**	0.25 UJ	0.12 U	0.29 UJG		0.11 UJ	0.085 UJG	0.067 U		0.12 U	0.26 U	0.25 UJ	1.7 U	0.41 U	0.18 UJ	0.19 UJ		0.14 UJG
Total PCBs (dry) [c]	130	---	---	**9.9 JG**	4.0 UJ	2.9 U	3.9 UJG		4.1 UJ	3.5 UJG	3.9 U		3.8 U	3.8 U	4.0 UJ	4.0 U	5.3 U	4.0 UJ	3.9 UJ		2.8 UJG
Aroclor 1016	---	---	---	2.8 UJG	1.6 UJ	2.9 U	1.6 UJG		1.6 UJ	1.6 UJG	1.6 U		1.5 U	1.5 U	1.6 UJ	1.6 U	2.1 U	1.6 UJ	1.5 UJ		2.8 UJG
Aroclor 1221	---	---	---	2.8 UJG	4.0 UJ	2.9 U	3.9 UJG		4.1 UJ	4 UJG	3.9 U		3.8 U	3.8 U	4 UJ	4.0 U	5.3 U	4.0 UJ	3.9 UJ		2.8 UJG
Aroclor 1232	---	---	---	2.8 UJG	3.5 UJ	2.9 U	3.4 UJG		3.6 UJ	3.5 UJG	3.4 U		3.3 U	3.3 U	3.5 UJ	3.5 U	4.7 U	3.5 UJ	3.4 UJ		2.8 UJG
Aroclor 1242	---	---	---	2.8 UJG	1.1 UJ	2.9 U	1.0 UJG		1.1 UJ	1.1 UJG	1.0 U		1.0 U	0.99 U	1.0 UJ	1.0 U	1.4 U	1.1 UJ	1.0 UJ		2.8 UJG
Aroclor 1248	---	---	---	2.8 UJG	0.66 UJ	2.9 U	0.64 UJG		0.66 UJ	0.66 UJG	0.64 U		0.62 U	0.61 U	0.65 UJ	0.65 U	0.87 U	0.65 UJ	0.63 UJ		2.8 UJG
Aroclor 1254	---	---	---	0.72 UJG	1.1 UJ	0.74 U	1.0 UJG		1.1 UJ	1.1 UJG	1.0 U		1.0 U	0.99 U	1.0 UJ	1.0 U	1.4 U	1.1 UJ	1.0 UJ		0.72 UJG
Aroclor 1260	---	---	---	**9.9 JG**	1.5 UJ	0.74 U	1.5 UJG		1.5 UJ	1.5 UJG	1.5 U		1.4 U	1.4 U	1.5 UJ	1.5 U	2.0 U	1.5 UJ	1.4 UJ		0.72 UJG
Chlorinated Pesticides (ug/kg dry weight)																					
4,4'-DDD	16	---	---	0.26 UJG	0.14 U	**0.47 J**	**0.53 J**		**1.7 J**	**2.9 J**	0.14 U		**1 J**	0.14 U	0.15 U	**0.14 JTG**	0.19 U	**0.44 J**	**0.31 J**		0.26 UJG
4,4'-DDE	9	---	---	0.23 UJG	**1.5 J**	**0.31 J**	0.14 UJ		**0.35 J**	**0.81 J**	0.14 U		**1.4 J**	0.14 U	**2.3 J**	0.13 U	0.19 U	**0.99 J**	**0.89 J**		0.22 UJG
4,4'-DDT	34	---	---	0.26 UJG	0.15 U	0.26 U	**0.27 J**		0.15 U	0.15 U	0.15 U		0.15 U	0.15 U	**0.65 J**	**1.2 JTG**	0.2 U	0.15 U	**3 J**		0.25 UJG
Aldrin	---	---	---	0.11 UJG	0.22 U	0.11 U	0.22 UJ		0.22 U	**2.0 J**	0.21 U		**2.2 J**	0.22 U	0.22 U	0.21 U	**19 J**	0.22 U	0.21 U		0.1 UJG
alpha-Chlordane	---	---	---	0.12 UJG	0.13 U	0.12 U	0.13 UJ		0.13 U	0.13 U	**0.42 J**		0.13 U	**0.14 J**	**0.14 J**	**0.13 JTG**	0.18 U	0.13 U	0.13 U		0.11 UJG
Dieldrin	---	---	---	0.22 UJG	0.12 U	0.22 U	0.12 UJ		0.12 U	**1.9** J	0.11 U		0.11 U	**0.18 J**	0.12 U	0.11 U	0.16 U	**0.12 J**	0.11 U		0.21 UJG
gamma-BHC	---	---	---	0.12 UJG	**0.33 J**	0.11 U	0.076 UJ		0.077 U	**3.1 J**	0.075 U		0.076 U	0.077 U	0.079 U	0.074 U	**0.77 J**	**0.48 J**	**0.3 J**		**0.39 JTG**
Heptachlor	---	---	---	**0.19** JTG	0.46 U	0.13 U	0.45 UJ		0.46 U	0.46 U	0.45 U		0.45 U	0.46 U	0.47 U	0.44 U	**16 J**	0.46 U	0.44 U		**0.27 JTG**
Petroleum Hydrocarbons (mg/kg dry weight)																					
Gasoline	---	---	---	31 U	30 U	43 U	38 UJ						33 U								
Diesel Range	---	---	---	78 U	76 U	110 U	96 UJ						82 U								
Motor Oil	---	---	---	160 U	150 U	210 U	**270 J**						**220**								
Dioxins/Furans (ng/kg dry weight)																					
DX TOTAL (TEQ ND=1/2 DL)	---	---	---	**22.7**		**53**		**14**	**175**	**57.9**		**315**	**26.5**		**6.47**			**10.6**		**2.68**	**35.5**
1,2,3,4,6,7,8-HPCDD	---	---	---	**468**		**1,040**		**255 B**	**5,590 B**	**1,550**		**5,100 B**	**712**		**152 B**			**247**		**67.9 B**	**754**
1,2,3,4,6,7,8-HPCDF	---	---	---	**176**		**290**		**95.4**	**1,700 B**	**368**		**1,500**	**179**		**42.8 B**			**87.4**		**22.3**	**336**
1,2,3,4,7,8,9-HPCDF	---	---	---	**10**		**16.2**		**4.26 B**	**98.8**	**24.1**		**76.3 B**	**11.5**		**2.91**			**5.4**		**1.38 B**	**31.7**
1,2,3,4,7,8-HXCDD	---	---	---	**4.74**		**21**		**6.51**	**29.3**	**15.9**		**169**	**6.73**		**1.97**			**2.95**		**0.517 J**	**3.41**
1,2,3,4,7,8-HXCDF	---	---	---	**15.7**		**27.2**		**7.53**	**126**	**31.2**		**124**	**16.1**		**3.46**			**7.27**		**2.31**	**73.1**
1,2,3,6,7,8-HXCDD	---	---	---	**30.3**		**76.8**		**20.4**	**220**	**75.2**		**502**	**31.7**		**8**			**14**		**3.63**	**48.3**
1,2,3,6,7,8-HXCDF	---	---	---	**5.15**		**10.5**		**2.79**	**37.4**	**11.9**		**65**	**5.8**		**1.33**			**2.63**		**0.683**	**12.5**
1,2,3,7,8,9-HXCDD	---	---	---	**16.7**		**50.6**		**14.8**	**85.9**	**44**		**357**	**19.2**		**5.09**			**8.67**		**1.74**	**11.2**
1,2,3,7,8,9-HXCDF	---	---	---	**0.482 J**		**0.98**		**2.28**	**4.04**	**1.15**		**8.17**	**0.556**		**0.132 J**			**0.225 J**		**0.089 J**	**1.21**
1,2,3,7,8-PECDD	---	---	---	**3.88**		**11.6**		**3.19**	**15.4**	**7.91**		**75.1**	**3.44**		**1.17**			**1.72**		**0.233 J**	**2.1**
1,2,3,7,8-PECDF	---	---	---	**2.85**		**5.5**		**1.42**	**12.6**	**4.76**		**32.2**	**2.31**		**0.592**			**1.01**		**0.31 J**	**4.01**
2,3,4,6,7,8-HXCDF	---	---	---	**4.52**		**9.37**		**2.51**	**29.9**	**10.7**		**51.2**	**4.71**		**1.2**			**2.25**		**0.545**	**7.06**
2,3,4,7,8-PECDF	---	---	---	**4.91**		**8.17**		**2.3 B**	**20.4 B**	**6.84**		**51.1 B**	**3.22**		**0.801 B**			**1.47**		**0.564 B**	**14.3**
2,3,7,8-TCDD	---	---	---	**0.978**		**2.45**		**0.387 J**	**2.88**	**1.33**		**9.1 B**	**0.621**		**0.295**			**0.351**		**0.092 BJ**	**0.477**
2,3,7,8-TCDF	---	---	---	**3.78**		**5.21**		**1.8**	**7.47**	**3.89**		**38.2**	**1.66 J**		**0.581**			**0.341 J**		**0.217**	**1.75**
OCDD	---	---	---	**4,850 B**		**8,030 B**		**1,860 B**	**67,600 B**	**24,200 B**		**48,700 B**	**12,500 B**		**1,810 B**			**2,470 B**		**894 B**	**3,500 B**
OCDF	---	---	---	**652**		**947**		**220 B**	**7,660 B**	**1,210**		**4,230 B**	**607**		**157 B**			**292**		**56.7 B**	**1,230**

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor																	
				SH-01-SS-00	SH-01-SC-12	SH-02-SS-00	SH-02-SC-12	SH-02-SC-23	SH-03-SS-00	SH-04-SS-00 [d]	SH-04-SC-12 [d]	SH-04-SC-23	SH-05-SS-00	SH-05-SC-12 [d]	SH-07-SS-00	SH-07-SC-12	SH-08-SC-12	SH-09-SS-00	SH-09-SC-12	SH-09-SC-23	SH-10-SS-00
	LAET	SQS	CSL	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	1 to 2 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm
TOTAL HEPTA-DIOXINS	---	---	---	**1,260**		**2,370**		**552**	**14,000 B**	**4,870**		**12,000**	**2,280**		**421 B**			**636**		**194**	**1,460**
TOTAL HEPTA-FURANS	---	---	---	**722**		**1,150**		**335**	**8,090**	**1,410**		**5,670**	**687**		**246**			**329**		**81.3**	**1,780**
TOTAL HEXA-DIOXINS	---	---	---	**574**		**1,680**		**505**	**2,090**	**1,130**		**12,500**	**452**		**113**			**207**		**53.7**	**319**
TOTAL HEXA-FURANS	---	---	---	**314**		**466**		**123**	**2,570**	**579**		**2,180**	**272**		**56.2**			**121**		**36.3**	**687**
TOTAL PENTA-DIOXINS	---	---	---	**207**		**1,380**		**430**	**660**	**449**		**9,650**	**163**		**55.4**			**89.8**		**16.5**	**76.1**
TOTAL PENTA-FURANS	---	---	---	**115**		**177**		**44.9**	**457**	**155**		**857**	**72**		**18.3**			**36.4**		**9.18**	**140**
TOTAL TETRA-DIOXINS	---	---	---	**243**		**1,640**		**382**	**640**	**409**		**7,780**	**132**		**44.6**			**88.8**		**12.5**	**68**
TOTAL TETRA-FURANS	---	---	---	**96.5**		**170**		**51.7**	**198**	**78.8**		**923**	**32.3**		**12.7**			**21.8**		**4.04**	**36.8**
Guaicols and Resin Acids (ug/kg dry weight)																					
12-Chlorodehydroabietic Acid	---	---	---																		
14-Chlorodehydroabietic Acid	---	---	---																		
3,4,5-Trichloroguaiacol	---	---	---																		
3,4,6-Trichloroguaiacol	---	---	---																		
3,4-Dichloroguaiacol	---	---	---																		
4,5,6-Trichloroguaiacol	---	---	---																		
4,5-Dichloroguaiacol	---	---	---																		
4,6-Dichloroguaiacol	---	---	---																		
4-Chloroguaiacol	---	---	---																		
9,10-Dichlorostearic Acid	---	---	---																		
Abietic Acid	---	---	---																		
Dehydroabietic Acid	---	---	---																		
Dichlorodehydroabietic Acid	---	---	---																		
Guaiacol	---	---	---																		
Isopimaric Acid	---	---	---																		
Linolenic Acid	---	---	---																		
Neoabietic Acid	---	---	---																		
Oleic Acid	---	---	---																		
Palustric Acid	---	---	---																		
Pimaric Acid	---	---	---																		
Retene	---	---	---																		
Sandaracopimaric Acid	---	---	---																		
Tetrachloroguaiacol	---	---	---																		
Total resin acids [c]	---	---	---																		

[a] Lowest and second lowest apparent effects thresholds for freshwater sediments in Washington State 2003).

[b] Washington State Marine Sediment Management Standards, Sediment Quality Standards (SQS) and Cleanup Screening Level (CSL) (WAC Chapter 173-204).

[c] Totals only include detected and estimated values

[d] Sample has organic carbon content less than 0.5 percent or greater than 4.0 percent and should be compared to LAET criteria rather than organic-carbon normalized SMS criteria.

ng/kg	nanograms per kilogram
µg/kg	micrograms per kilogram.
mg/kg	milligrams per kilogram.
PCBs	polychlorinated biphenyls.

Bold type indicates the sample result is greater than the laboratory detection limit.

Underlined	value indicates the sample result or detection limit is greater than the LAET or SQS value.
Shaded	value indicates the sample result or detection limit is greater than the CSL value.
U	The material was analyzed for, but was not detected. The associated numerical value is the detection limit. For petroleum hydrocarbons, guaiacols and resin acids, the associated numerical value is the reporting limit.
J	The associated numerical value is considered an estimated concentration.
G	Bias is high.
B	Specifyied compound was detected in the associated method blank.

LPAH represents the sum of the following "low molecular weight polynuclear aromatic hydrocarbon" compounds: naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene. 2-Methylnaphthalene is not included in the LPAH sum.

HPAH represents the sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds: fluoranthene, pyrene, benzo(a)anthracene, chrysene, total benzofluoranthenes, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Total benzofluoranthenes represents the sum of the concentrations of the "b" and "k" isomers.

Total PAHs (carcinogenic) represents the sum of the following PAH compounds: benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene.

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor																			
				SH-10-SC-12	SH-10-SC-23	SH-11-SS-00	SH-11-SC-12 [d]	SH-12-SS-00 [d]	SH-12-SC-12 [d]	SH-12-SC-23	SH-13-SS-00 [d]	SH-13-SC-12	SH-13-SC-23	SH-14-SS-00	SH-14-SC-12	SH-14-SC-23	SH-15-SS-00	SH-15-SC-12	SH-16-SS-00	SH-16-SC-12	SH-18-WS-00 [d]	SH-18-WC-12 [d]	SH-19-WS-00 [d]
	LAET	SQS	CSL	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm
Conventional Parameters																							
Particle/Grain Size, Fines (Silt/Clay)	---	---	---	28.3		63.4	36.8	57.6	69.2		65.3	9.4		51.7	48.9		4.6	5.6	2.2	1.6	85	74.5	67.3
Particle/Grain Size, Phi Scale <-1	---	---	---	1.7		7.2	1.3	4.6	3.5		7.3	62.8		1.3	1.8		0.1	0.3	1.7	3.5	2.7	3.1	7.9
Particle/Grain Size, Phi Scale >10	---	---	---	4.9		10.2	5.4	8.5	10.4		10.2	1.8		9.8	7.8		1.4	1.3			12.7	14.4	11.3
Particle/Grain Size, Phi Scale 0 to 1	---	---	---	1.8		4.5	8.1	5.9	5.8		4.4	6.6		3.1	1.6		0.4	0.4	13.2	9.9	1.9	4.2	4.2
Particle/Grain Size, Phi Scale -1 to 0	---	---	---	1.9		4.6	2.6	4.6	4.8		5.6	7.6		3	1.7		0.1	0.3	4.6	2.7	4	4.5	4.4
Particle/Grain Size, Phi Scale 1 to 2	---	---	---	8.5		7.5	25	9.1	6.1		5.2	7.1		3.6	2.2		28.4	20.2	62.6	64	2.3	5.2	5.9
Particle/Grain Size, Phi Scale 2 to 3	---	---	---	27.5		6.3	17.1	8.5	5		4.8	4.2		11	12.1		65.2	69.5	15.3	17	1.7	4.5	4.6
Particle/Grain Size, Phi Scale 3 to 4	---	---	---	30.3		6.5	9.1	9.6	5.6		7.4	2.4		26.3	31.8		1.1	3.6	0.5	1.5	2.5	4	5.9
Particle/Grain Size, Phi Scale 4 to 5	---	---	---	8.9		8	7	10.2	8.1		10.5	1.2		11	14.7		0.6	1.1			5.7	7.1	5.8
Particle/Grain Size, Phi Scale 5 to 6	---	---	---	3.1		13	6.4	13.1	12.8		14.3	1.8		7.3	6.2		0.4	0.6			18.3	10.6	14.1
Particle/Grain Size, Phi Scale 6 to 7	---	---	---	3.4		11.2	5.9	10.2	12.1		11.4	1.5		6.5	5.8		0.5	0.8			23.9	13.7	12.6
Particle/Grain Size, Phi Scale 7 to 8	---	---	---	2.8		9.5	5.2	7.2	10.4		8.6	1.3		5.5	5.1		0.5	0.7			10.8	10.5	11.2
Particle/Grain Size, Phi Scale 8 to 9	---	---	---	2.7		6.1	3.8	4	8.7		4.9	1		6.1	5		0.6	0.6			6.6	10.1	6.6
Particle/Grain Size, Phi Scale 9 to 10	---	---	---	2.5		5.4	3.2	4.2	6.7		5.3	0.8		5.6	4.3		0.6	0.6			6.9	8.1	5.8
Total Volatile Solids %	---	---	---																		14.3	23.78	17.72
Ammonia (mg/kg)	---	---	---	39.3		4.96	61.4	10.7	12.4		7.34	1.16		18.7	39.1		4.3	4.33	2.76	0.03 U	32.4	113	17.1
Sulfide	---	---	---	259		541	123	1070	27		518	15.3		1,350	19.7		5.01	123	0.01 U	14.5	1,710	24.6	916
Total organic carbon (%)	---	---	---	2.49		2.32	4.31	4.79	8.79		11	2.84		3.1	3		0.542	1.12	0.511	1.03	4.79	5.08	4.44
Total solids (%)	---	---	---	59.2		94.1	55.1	37.7	33.2		35.1	77.4		40.8	56.8		74.3	79	75.4	79.7	27.7	34.3	31.5
Metals (mg/kg dry weight)																							
Antimony	150	---	---	0.23 J		0.83	0.62	0.36 J	0.69		0.41 J	0.12 J		0.33 J	0.37		0.12 J	0.15 J	0.1 J	0.14 J	0.45 J	0.67	0.54 J
Arsenic	57	57	93	4.7		6.2	4.9	6.9	9.1		7	2.1		8.1	5.9		2.3	3.6	2.9	2.6	8	7.6	8.5
Cadmium	5.1	5.1	6.7	0.43		1.2	1.2	0.97	1.4		1.1	0.32		0.88	0.88		0.11 J	0.17 J	0.13 J	0.18 J	1.8	1.8	1.3
Chromium	260	260	270	40		62	65	43	54		41	32		41	40		20	25	21	24	58	55	53
Copper	390	390	390	42		120	110	73	110		60	30		37	44		10	15	13	16	83	84	76
Lead	450	450	530	9.2		43	47	21	34		19	4.3		11	16		2.4	4.2	2.8	3.9	22	43	26
Mercury	0.41	0.41	0.59	0.055		0.19	0.11	0.17	0.29		0.15	0.065		0.088	0.11		0.036	0.012 J	0.0078 U	0.013 J	0.12	0.29	0.16
Nickel	140	---	---	38		44	45	34	41		31	22		37	35		21	27	24	26	46	40	42
Silver	6.1	6.1	6.1	0.12 J		0.18 J	0.15 J	0.16 J	0.55 J		0.18 J	0.053 J		0.13 J	0.17 J		0.033 J	0.036 J	0.018 J	0.023 J	0.23 J	0.37 J	0.19 J
Zinc	410	410	960	63		110	80	98	130		95	33		83	69		29	35	35	36	130	120	110
Butyltins (ug/kg dry weight)																							
Butyltin Ion	---	---	---																				
Dibutyltin Ion	---	---	---																				
Tributyltin Ion	---	---	---																				
Aromatic Hydrocarbons (ug/kg dry weight or mg/kg OC)																							
LPAHs																							
2-Methylnaphthalene (dry)	670	---	---	8.1 U		8.0 U	8.0 U	8.1 U	24 U		8.1 U	8.1 U		8.1 U	8.1 U		7.9 U	7.9 U	8.0 U	7.9 U	8.1 U	24 U	8.1 U
2-Methylnaphthalene (OC)	---	38	64	0.33 U		0.34 U	0.19 U	0.17 U	0.27 U		0.07 U	0.29 U		0.26 U	0.27 U		1.5 U	0.71 U	1.6 U	0.77 U	0.17 U	0.47 U	0.18 U
Acenaphthene (dry)	500	---	---	8.1 U		8.0 U	8.0 U	10 J	120		8.1 U	8.1 U		8.1 U	8.1 U		8.0 U	8.0 U	8.1 U	7.9 U	8.1 U	68	8.1 U
Acenaphthene (OC)	---	16	57	0.33 U		0.34 U	0.19 U	0.21 J	1.4		0.07 U	0.29 U		0.26 U	0.27 U		1.5 U	0.71 U	1.6 U	0.77 U	0.17 U	1.3	0.18 U
Acenaphthylene (dry)	560	---	---	8.5 U		14 J	8.5 U	23	60		12 J	8.6 U		8.6 U	8.6 U		8.4 U	8.4 U	8.5 U	8.3 U	8.6 U	25 U	8.6 U
Acenaphthylene (OC)	---	66	66	0.34 U		0.60 J	0.20 U	0.48	0.68		0.11 J	0.30 U		0.28 U	0.29 U		1.5 U	0.75 U	1.7 U	0.81 U	0.18 U	0.49 U	0.19 U
Anthracene (dry)	960	---	---	7.6 U		18 J	7.6 U	67	190		37	7.7 U		7.7 U	7.6 U		7.5 U	7.5 U	7.6 U	7.5 U	21	100	7.7 U
Anthracene (OC)	---	220	1,200	0.31 U		0.78 J	0.18 U	1.4	2.2		0.34	0.27 U		0.25 U	0.25 U		1.4 U	0.7 U	1.5 U	0.73 U	0.44	2.0	0.17 U
Fluorene (dry)	540	---	---	8.8 U		10 J	8.8 U	18 J	110		15 J	8.9 U		8.9 U	8.9 U		8.7 U	8.7 U	8.8 U	8.6 U	8.9 U	88	8.9 U
Fluorene (OC)	---	23	79	0.35 U		0.4 J	0.20 U	0.38 J	1.3		0.14 J	0.31 U		0.29 U	0.30 U		1.6 U	0.78 U	1.7 U	0.83 U	0.19 U	1.7	0.20 U
Naphthalene (dry)	2,100	---	---	23		45	47	25	190		14 J	10 J		8.6 U	18 J		8.4 U	8.4 U	8.5 U	8.4 U	16 J	150	8.6 U
Naphthalene (OC)	---	99	170	0.92		1.9	1.1	0.52	2.2		0.13 J	0.4 J		0.28 U	0.60 J		1.5 U	0.75 U	1.7 U	0.82 U	0.33 J	3.0	0.19 U
Phenanthrene (dry)	1500	---	---	33		73	89	140	430		110	12 J		21	20		8.1 U	8.1 U	8.2 U	8.1 U	36	390	20
Phenanthrene (OC)	---	100	480	1.3		3.1	2.1	2.9	4.9		1.0	0.4 J		0.68	0.67		1.5 U	0.72 U	1.6 U	0.79 U	0.75	7.7	0.45
Total LPAHs (dry) [c]	5200	---	---	56		160	140	280	1100		190	22 J		21	38		19 U	19 U	20 U	19 U	73	800	20
Total LPAHs (OC) [c]	---	370	780	2.2		53	3.2	5.9	13		1.7	0.77 J		0.68	1.3		3.5 U	1.7 U	3.9 U	1.8 U	1.5	16	0.45
HPAHs																							
Benzo(a)anthracene (dry)	1,300	---	---	38		26	5.8 U	130	490		76	5.9 U		26	15 J		5.7 U	5.7 U	5.8 U	5.7 U	58	200	24
Benzo(a)anthracene (OC)	---	110	270	1.5		1.1	0.13 U	2.7	5.6		0.69	0.21 U		0.84	0.50 J		1.1 U	0.51 U	1.1 U	0.55 U	1.2	3.9	0.54
Benzo(a)pyrene (dry)	1,600	---	---	56		40	8.0 U	120	330		74	8.1 U		19 J	18 J		7.9 U	7.9 U	8.0 U	7.9 U	67	230	24
Benzo(a)pyrene (OC)	---	99	210	2.2		1.7	0.2 U	2.5	3.8		0.67	0.29 U		0.61 J	0.60 J		1.5 U	0.71 U	1.6 U	0.77 U	1.4	4.5	0.54
Benzo(b)fluoranthene (dry)	---	---	---	32		54	9.3 U	190	370		85	9.4 U		34	9.4 U		9.2 U	9.2 U	9.3 U	9.2 U	64	210	36
Benzo(b)fluoranthene (OC)	---	---	---	1.3		2.3	0.2 U	4.0	4.2		0.77	0.33 U		1.1	0.31 U		1.7 U	0.82 U	1.8 U	0.89 U	1.3	4.1	0.81
Benzo(g,h,i)perylene (dry)	670	---	---	51		17 J	6.6 U	30	110		23	6.7 U		9.9 J	19 J		6.6 U	6.5 U	6.6 U	6.5 U	30	83	6.7 U
Benzo(g,h,i)perylene (OC)	---	31	78	2.0		0.73 J	0.2 U	0.63	1.3		0.21	0.24 U		0.32 J	0.63 J		1.2 U	0.58 U	1.3 U	0.63 U	0.63	1.6	0.15 U
Benzo(k)fluoranthene (dry)	---	---	---	38		49	9.1 U	160	490		100	9.2 U		20	9.1 U		9.0 U	9.0 U	9.1 U	8.9 U	100	250	35
Benzo(k)fluoranthene (OC)	---	---	---	1.5		2.1	0.2 U	3.3	5.6		0.91	0.32 U		0.65	0.30 U		1.7 U	0.80 U	1.8 U	0.86 U	2.1	4.9	0.79
Benzofluoranthenes, Total (b+k+j) (dry)	3,200	---	---	70		100	20 U	350	860		190	20 U		54	20 U		19 U	19 U	20 U	19 U	160	460	71
Benzofluoranthenes, Total (b+k+j) (OC)	---	230	450	2.8		4.3	0.46 U	7.3	9.8		1.7	0.70 U		1.7	0.67 U		3.5 U	1.7 U	3.9 U	1.8 U	3.3	9.1	1.6
Chrysene (dry)	1,400	---	---	66		39	23	290	800		200	6.6 U		47	20		6.4 U	6.4 U	6.5 U	6.4 U	93	320	44
Chrysene (OC)	---	110	460	2.7		1.7	0.53	6.1	9.1		1.8	0.23 U		1.5	0.67		1.2 U	0.57 U	1.3 U	0.62 U	1.9	6.3	1.0
Dibenz(a,h)anthracene (dry)	230	---	---	8.4 U		8.4 U	8.4 U	8.5 U	25 U		8.4 U	8.5 U		8.5 U	8.5 U		8.3 U	8.3 U	8.4 U	8.2 U	8.5 U	25 U	8.5 U
Dibenz(a,h)anthracene (OC)	---	12	33	0.34 U		0.36 U	0.19 U	0.18 U	0.28 U		0.08 U	0.30 U		0.27 U	0.28 U		1.5 U	0.74 U	1.6 U	0.80 U	0.18 U	0.49 U	0.19 U
Fluoranthene (dry)	1,700	---	---	68		140	100	360	1,000		280	26		65	29		7.7 U	22	7.8 U	7.6 U	110	540	58
Fluoranthene (OC)	---	160	1,200	2.7		6.0	2.3	7.5	11.4		2.5	0.92		2.1	1.0		1.4 U	2.0	1.5 U	0.74 U	2.3	10.6	1.3
Indeno(1,2,3-cd)pyrene (dry)	600	---	---	15 J		11 J	8.4 U	31	110		25	8.5 U		8.5 U	8.5 U		8.3 U	8.3 U	8.4 U	8.3 U	23	25 U	8.5 U
Indeno(1,2,3-cd)pyrene (OC)	---	34	88	0.60 J		0.47 J	0.19 U	0.65	1.3		0.23	0.30 U		0.27 U	0.28 U		1.5 U	0.74 U	1.6 U	0.81 U	0.48	0.49 U	0.19 U
Pyrene (dry)	2,600	---	---	72		100	110	320	1,000		210	26		59	36		7.5 U	23	7.6 U	7.5 U	110	680	62
Pyrene (OC)	---	1,000	1,400	2.9		4.3	2.6	6.7	11.4		1.9	0.92		1.9	1.2		1.4 U	2.1	1.5 U	0.73 U	2.3	13.4	1.4
Total HPAHs (dry) [c]	12,000	---	---	440		470	230	1600	4700		1,100	52		280	140		19 U	55	20 U	19 U	650	2,500	280
Total HPAHs (OC) [c]	---	960	5,300	18		20	5.3	33	53		10	1.8		9	4.7		3.5 U	4.9	3.9 U	1.8 U	14	49	6.3

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor																			
				SH-10-SC-12	SH-10-SC-23	SH-11-SS-00	SH-11-SC-12 [d]	SH-12-SS-00 [d]	SH-12-SC-12 [d]	SH-12-SC-23	SH-13-SS-00 [d]	SH-13-SC-12	SH-13-SC-23	SH-14-SS-00	SH-14-SC-12	SH-14-SC-23	SH-15-SS-00	SH-15-SC-12	SH-16-SS-00	SH-16-SC-12	SH-18-WS-00 [d]	SH-18-WC-12 [d]	SH-19-WS-00 [d]
	LAET	SQS	CSL	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm
Chlorinated Benzenes (ug/kg dry weight or mg/kg OC)																							
1,2,4-Trichlorobenzene (dry)	31	---	---	8.9 U		8.9 U	8.9 U	9.0 U	27 U		8.9 U	9.0 U		9.0 U	9.0 U		8.8 U	8.8 U	8.9 U	8.7 U	9.0 U	27 U	9.0 U
1,2,4-Trichlorobenzene (OC)	---	0.81	1.8	0.36 U		0.38 U	0.21 U	0.19 U	0.31 U		0.081 U	0.32 U		0.29 U	0.30 U		1.6 U	0.79 U	1.7 U	0.84 U	0.19 U	0.53 U	0.20 U
1,2-Dichlorobenzene (dry)	35	---	---	7.7 U		7.7 U	7.7 U	7.8 U	23 U		7.7 U	7.8 U		7.8 U	7.8 U		7.6 U	7.6 U	7.7 U	7.6 U	7.8 U	23 U	7.8 U
1,2-Dichlorobenzene (OC)	---	2.3	2.3	0.31 U		0.33 U	0.18 U	0.16 U	0.26 U		0.07 U	0.27 U		0.25 U	0.26 U		1.4 U	0.68 U	1.5 U	0.74 U	0.16 U	0.45 U	0.18 U
1,4-Dichlorobenzene (dry)	110	---	---	7.2 U		7.2 U	7.2 U	7.3 U	22 U		7.2 U	7.3 U		7.3 U	7.3 U		7.1 U	7.1 U	7.2 U	7.1 U	7.3 U	22 U	7.3 U
1,4-Dichlorobenzene (OC)	---	3.1	9	0.29 U		0.31 U	0.17 U	0.15 U	0.25 U		0.07 U	0.26 U		0.24 U	0.24 U		1.3 U	0.63 U	1.4 U	0.69 U	0.15 U	0.43 U	0.16 U
Phthalates (ug/kg dry weight or mg/kg OC)																							
bis(2-Ethylhexyl)phthalate (dry)	1,300	---	---	**11 J**		**19 J**	11 U	**68**	73 U		**16 J**	11 U		**12 J**	11 U		11 U	11 U	11 U	**15 J**	**40**	32 U	35 U
bis(2-Ethylhexyl)phthalate (OC)	---	47	78	**0.44 J**		**0.82 J**	0.26 U	**1.4**	0.83 U		**0.15 J**	0.39 U		**0.39 J**	0.37 U		2.0 U	1.0 U	2.2 U	**1.5 J**	**0.8**	0.63 U	0.79 U
Butylbenzylphthalate (dry)	63	---	---	11 U		11 U	11 U	11 U	33 U		11 U	11 U		11 U	11 U		11 U	11 U	11 U	11 U	11 U	33 U	11 U
Butylbenzylphthalate (OC)	---	4.9	64	0.44 U		0.47 U	0.26 U	0.23 U	0.38 U		0.10 U	0.39 U		0.35 U	0.37 U		2.0 U	1.0 U	2.2 U	1.1 U	0.23 U	0.65 U	0.25 U
Di-n-Butylphthalate (dry)	1400	---	---	12 U		12 U	12 U	12 U	37 U		12 U	12 U		12 U	12 U		12 U	12 U	12 U	12 U	12 U	36 U	12 U
Di-n-Butylphthalate (OC)	---	220	1,700	0.48 U		0.52 U	0.28 U	0.25 U	0.42 U		0.11 U	0.42 U		0.39 U	0.40 U		2.2 U	1.1 U	2.3 U	1.2 U	0.3 U	0.71 U	0.27 U
Di-n-Octyl phthalate (dry)	6200	---	---	8.2 U		8.1 U	8.2 U	8.3 U	25 U		8.2 U	8.3 U		8.3 U	8.2 U		8.1 U	8.1 U	8.2 U	8 U	8.3 U	25 U	8.3 U
Di-n-Octyl phthalate (OC)	---	58	4,500	0.33 U		0.35 U	0.19 U	0.17 U	0.28 U		0.07 U	0.29 U		0.27 U	0.27 U		1.5 U	0.72 U	1.6 U	0.78 U	0.17 U	0.49 U	0.19 U
Diethylphthalate (dry)	200	---	---	16 U		16 U	16 U	16 U	49 U		16 U	16 U		16 U	16 U		16 U	16 U	16 U	16 U	16 U	48 U	16 U
Diethylphthalate (OC)	---	61	110	0.64 U		0.69 U	0.37 U	0.33 U	0.56 U		0.15 U	0.56 U		0.52 U	0.53 U		3.0 U	1.4 U	3.1 U	1.6 U	0.3 U	0.94 U	0.36 U
Dimethylphthalate (dry)	71	---	---	7.6 U		7.6 U	7.6 U	7.7 U	23 U		7.6 U	7.7 U		7.7 U	7.7 U		7.5 U	7.5 U	7.6 U	7.5 U	7.7 U	23 U	7.7 U
Dimethylphthalate (OC)	---	53	53	0.31 U		0.33 U	0.18 U	0.16 U	0.26 U		0.07 U	0.27 U		0.25 U	0.26 U		1.4 U	0.67 U	1.5 U	0.73 U	0.16 U	0.45 U	0.17 U
Ionizable Organic Compounds (ug/kg dry weight)																							
2,4-Dimethylphenol	29	29	29	15 U		14 U	14 U	15 U	44 U		15 U	15 U		15 U	15 U		14 U	14 U	15 U	14 U	15 U	44 U	15 U
Benzoic Acid	650	650	650	110 U		110 U	110 U	110 U	340 U		110 U	110 U		110 U	110 U		110 U	110 U	110 U	110 U	110 U	340 U	110 U
Benzyl Alcohol	57	57	73	14 U		14 U	14 U	14 U	43 U		14 U	14 U		14 U	14 U		14 U	14 U	14 U	14 U	14 U	43 U	14 U
Pentachlorophenol	360	360	690	47 U		46 U	47 U	47 U	140 U		47 U	47 U		47 U	47 U		46 U	46 U	47 U	46 U	47 U	140 U	47 U
Phenol	420	420	1,200	13 U		13 U	13 U	14 U	41 U		13 U	14 U		**66**	14 U		13 U	13 U	13 U	13 U	14 U	40 U	14 U
Miscellaneous Extractables (ug/kg dry weight or mg/kg OC)																							
Dibenzofuran (dry)	540	---	---	7.4 U		7.4 U	7.4 U	7.5 U	**75**		7.4 U	7.5 U		7.5 U	7.5 U		7.3 U	7.3 U	7.4 U	7.3 U	7.5 U	**62**	7.5 U
Dibenzofuran (OC)	---	15	58	0.30 U		0.32 U	0.17 U	0.16 U	**0.9**		0.07 U	0.26 U		0.24 U	0.25 U		1.3 U	0.65 U	1.4 U	0.71 U	0.16 U	**1.2**	0.17 U
Hexachlorobenzene (dry)	22	---	---	7.9 U		7.8 U	7.8 U	8 U	24 U		7.9 U	7.9 U		7.9 U	7.9 U		7.8 U	7.8 U	7.9 U	7.7 U	8 U	24.0 U	7.9 U
Hexachlorobenzene (OC)	---	0.38	2.3	0.32 U		0.34 U	0.18 U	0.17 U	0.27 U		0.07 U	0.28 U		0.25 U	0.26 U		1.4 U	0.70 U	1.5 U	0.75 U	0.17 U	0.47 U	0.18 U
Hexachlorobutadiene (dry)	11	---	---	8.0 U		7.9 U	7.9 U	8.1 U	24 U		8.0 U	8.0 U		8.0 U	8.0 U		7.9 U	7.9 U	8.0 U	7.8 U	8 U	24 U	8.0 U
Hexachlorobutadiene (OC)	---	3.9	6.2	0.32 U		0.34 U	0.18 U	0.17 U	0.27 U		0.07 U	0.28 U		0.26 U	0.27 U		1.5 U	0.71 U	1.6 U	0.76 U	0.17 U	0.47 U	0.18 U
N-Nitrosodiphenylamine (dry)	28	---	---	8.5 U		8.5 U	8.5 U	8.6 U	26 U		8.5 U	8.6 U		8.6 U	8.6 U		8.4 U	8.4 U	8.5 U	8.4 U	8.6 U	26 U	8.6 U
N-Nitrosodiphenylamine (OC)	---	11	11	0.34 U		0.37 U	0.20 U	0.18 U	0.30 U		0.08 U	0.30 U		0.28 U	0.29 U		1.5 U	0.75 U	1.7 U	0.82 U	0.18 U	0.51 U	0.19 U
2-Methylphenol	---	63	63	14 U		14 U	14 U	14 U	42 U		14 U	14 U		14 U	14 U		14 U	14 U	14 U	14 U	14 U	42 U	14 U
4-Methylphenol	---	670	670	13 U		**410**	**320**	**50**	**140**		13 U	**18** J		13 U	**23**		12 U	12 U	13 U	12 U	**18** J	**84**	**100**
Polychlorinated Biphenyls (ug/kg dry weight or mg/kg OC)																							
Total PCBs (OC) [c]	---	12	65	0.11 U		0.17 U	0.09 U	0.084 UJ	0.046 UJG		0.036 UJ	0.14 U		0.094 U	0.093 U		0.72 U	0.34 UJ	0.74 UJG	0.37 UJ	0.086 UJ	0.077 UJG	0.79 UJG
Total PCBs (dry) [c]	130	---	---	2.8 U		3.9 U	3.9 U	4 UJ	4 UJG		4 UJ	3.9 U		2.9 U	2.8 U		3.9 U	3.8 UJ	3.8 UJG	3.8 UJ	4.1 UJ	3.9 UJG	3.5 UJG
Aroclor 1016	---	---	---	2.8 U		1.6 U	1.6 U	1.6 UJ	1.6 UJG		1.6 UJ	1.6 U		2.9 U	2.8 U		1.6 U	1.5 UJ	1.5 UJG	1.5 UJ	1.6 UJ	1.6 UJG	1.6 UJG
Aroclor 1221	---	---	---	2.8 U		3.9 U	3.9 U	4 UJ	4 UJG		4 UJ	3.9 U		2.9 U	2.8 U		3.9 U	3.8 UJ	3.8 UJG	3.8 UJ	4.1 UJ	3.9 UJG	4 UJG
Aroclor 1232	---	---	---	2.8 U		3.4 U	3.4 U	3.5 UJ	3.5 UJG		3.5 UJ	3.4 U		2.9 U	2.8 U		3.5 U	3.3 UJ	3.3 UJG	3.3 UJ	3.5 UJ	3.4 UJG	3.5 UJG
Aroclor 1242	---	---	---	2.8 U		1.0 U	1 U	1.1 UJ	1.1 UJG		1 UJ	1 U		2.9 U	2.8 U		1.0 U	0.98 UJ	1.0 UJG	0.99 UJ	1.1 UJ	1.0 UJG	1.0 UJG
Aroclor 1248	---	---	---	2.8 U		0.63 U	0.64 U	0.65 UJ	0.66 UJG		0.65 UJ	0.63 U		2.9 U	2.8 U		0.64 U	0.61 UJ	0.62 UJG	0.61 UJ	0.66 UJ	0.63 UJG	0.64 UJG
Aroclor 1254	---	---	---	0.73 U		1.0 U	1 U	1.1 UJ	1.1 UJG		1 UJ	1 U		0.75 U	0.72 U		1.0 U	0.98 UJ	1.0 UJG	0.99 UJ	1.1 UJ	1.0 UJG	1.0 UJG
Aroclor 1260	---	---	---	0.73 U		1.5 U	1.5 U	1.5 UJ	1.5 UJG		1.5 UJ	1.5 U		0.75 U	0.72 U		1.5 U	1.4 UJ	1.4 UJG	1.4 UJ	1.5 UJ	1.5 UJG	1.5 UJG
Chlorinated Pesticides (ug/kg dry weight)																							
4,4'-DDD	16	---	---	**0.95 JTG**		0.14 U	0.14 U	**1.2 J**	0.15 U		**0.34 J**	0.14 U		**2.9 JG**	**1.1 JTG**		0.14 U	0.14 UJG	0.14 UJG	0.13 U	0.15 U	**1.1 J**	0.14 UJG
4,4'-DDE	9	---	---	0.23 U		**0.24 J**	0.14 U	**2 J**	**1.4 J**		**0.42 J**	0.14 U		**4.1 JG**	0.22 U		0.14 U	0.14 UJG	0.13 UJG	**0.45 J**	0.14 U	**1.3 J**	0.14 UJG
4,4'-DDT	34	---	---	0.26 U		**0.24 J**	**0.8 J**	**4.8 J**	**0.71 J**		0.15 U	0.15 U		**2.7 JG**	**5.8 JG**		0.15 U	0.15 UJG	0.14 UJG	**2.5**	**3 J**	**1 J**	0.15 UJG
Aldrin	---	---	---	**0.19 J**		0.22 U	0.21 U	0.23 U	0.22 U		0.22 U	0.21 U		**4.8 JG**	**0.15 JTG**		0.22 U	0.22 UJG	0.21 UJG	0.2 U	0.22 U	**0.48 J**	0.22 UJG
alpha-Chlordane	---	---	---	0.12 U		0.13 U	0.13 U	**0.85 J**	**1.3 J**		**0.32 J**	**0.34 J**		**4.3 JG**	0.12 U		0.13 U	0.13 UJG	0.13 UJG	0.12 U	0.14 U	**0.62 J**	0.13 UJG
Dieldrin	---	---	---	0.22 U		0.11 U	0.11 U	0.12 U	0.12 U		0.12 U	0.11 U		**3.4 JG**	0.21 U		0.12 U	0.12 UJG	0.11 UJG	0.11 U	0.12 U	0.11 U	**1.7 JTG**
gamma-BHC	---	---	---	0.12 U		0.076 U	0.075 U	0.079 U	0.078 U		0.077 U	0.075 U		**4.4 JG**	0.11 U		0.077 U	0.076 UJG	0.074 UJG	**0.17 J**	**0.62 J**	0.076 U	**0.29 JTG**
Heptachlor	---	---	---	0.13 U		0.45 U	0.45 U	0.47 U	0.46 U		0.46 U	0.45 U		**5.6 JG**	0.13 U		0.46 U	0.45 UJG	0.44 UJG	0.43 U	0.47 U	0.45 U	0.46 UJG
Petroleum Hydrocarbons (mg/kg dry weight)																							
Gasoline	---	---	---																		72 U		
Diesel Range	---	---	---																		180 U		
Motor Oil	---	---	---																		360 U		
Dioxins/Furans (ng/kg dry weight)																							
DX TOTAL (TEQ ND=1/2 DL)	---	---	---		**902**	**48.6**		**100**	**202**	**309**	**106**	**12.6**	**16.2**	**35**		**8.02**	**1.89**		**1**		**69**		**78.6**
1,2,3,4,6,7,8-HPCDD	---	---	---		**32,000 B**	**498 B**		**1,980 B**	**3,680 B**	**5,820 B**	**2,870 B**	**330 B**	**516 B**	**815**		**149 B**	**41.6**		**22.2**		**1,610 B**		**1,660**
1,2,3,4,6,7,8-HPCDF	---	---	---		**14,100**	**180 B**		**605 B**	**1,270**	**2,200**	**652 B**	**156**	**207**	**300**		**96.9**	**18.2**		**10.2**		**558 B**		**688**
1,2,3,4,7,8,9-HPCDF	---	---	---		**801 B**	**10.7**		**33.6**	**72.7 B**	**98.8 B**	**38.9**	**8.05 B**	**12.6 B**	**15.2**		**3.95 B**	**1.13**		**0.579**		**29.1**		**36.3**
1,2,3,4,7,8-HXCDD	---	---	---		**61.6**	**16.8**		**32**	**66.9**	**135**	**28.8**	**2.78**	**1.74**	**8.38**		**1.44**	**0.525 J**		**0.288 J**		**18.2**		**17.6**
1,2,3,4,7,8-HXCDF	---	---	---		**1110**	**24.4**		**64.3**	**127**	**173**	**72.4**	**8.85**	**8.46**	**24.6**		**6.48**	**1.43**		**0.786**		**51.6**		**61.4**
1,2,3,6,7,8-HXCDD	---	---	---		**1170**	**40.1**		**122**	**251**	**415**	**121**	**16.4**	**20.3**	**44.5**		**10.2**	**2.34**		**1.28**		**85.4**		**99.8**
1,2,3,6,7,8-HXCDF	---	---	---		**211**	**10.4**		**22**	**41.4**	**59.9**	**20.9**	**2.73**	**2.84**	**8.38**		**1.97**	**0.521**		**0.296 J**		**16.5**		**19.1**
1,2,3,7,8,9-HXCDD	---	---	---		**237**	**32.7**		**71.3**	**152**	**268**	**79.8**	**7.27**	**5.53**	**24.1**		**4.04**	**1.59**		**0.811**		**48.8**		**45.1**
1,2,3,7,8,9-HXCDF	---	---	---		**15.7**	**1.04**		**1.94**	**3.67**	**5.13**	**2.48**	**0.563**	**0.219 J**	**0.669**		**0.17 J**	**0.047 J**		**0.026 J**		**1.26**		**1.51**
1,2,3,7,8-PECDD	---	---	---		**31.4**	**14.6**		**20.1**	**43**	**65.3**	**15.6**	**1.53**	**1.26**	**5.67**		**1.4**	**0.297 J**		**0.162 J**		**11.2**		**13**
1,2,3,7,8-PECDF	---	---	---		**40.7**	**10.8**		**15.5**	**27.5**	**34.1**	**12.7**	**1.04**	**0.795**	**3.73**		**1.15**	**0.177 J**		**0.077 J**		**8.43**		**10.9**
2,3,4,6,7,8-HXCDF	---	---	---		**118**	**8.71**		**18**	**55.5**	**46.9**	**18.3**	**1.89**	**2.03**	**7.49**		**1.76**	**0.505 J**		**0.284 J**		**13.6**		**16.7**
2,3,4,7,8-PECDF	---	---	---		**88.7 B**	**14.2**		**21.2**	**38.2 B**	**49.2 B**	**17**	**1.57 B**	**1.35 B**	**6.44**		**1.55 B**	**0.271 J**		**0.157 J**		**12.5**		**16.6**
2,3,7,8-TCDD	---	---	---		**9.51 B**	**5.72**		**5.67**	**9.93 B**	**12.7 B**	**4.09**	**0.337 B**	**0.321 B**	**1.23**		**0.433 B**	**0.061 J**		**0.043 J**		0.0976 U		**3.69**
2,3,7,8-TCDF	---	---	---		**23.1**	**20.5**		**22.1**	**46.8**	**54.1**	**13.4**	**1.25**	**1.07**	**3.68**		**1.46**	**0.138**		**0.079 J**		**11.5**		**16.3**
OCDD	---	---	---		**171,000 B**	**3,900 B**		**18,600 B**	**34,900 B**	**53,400 B**	**28,900 B**	**3,290 B**	**8,090 B**	**7,300 B**		**1220 B**	**373 B**		**203 B**		**14,600 B**		**14,500 B**
OCDF	---	---	---		**59,400 B**	**562 B**		**1,970 B**	**4,380 B**	**6,170 B**	**1,880 B**	**475 B**	**556 B**	**1,160**		**242 B**	**45**		**22.4**		**1,820 B**		**2,260**

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor																			
				SH-10-SC-12	SH-10-SC-23	SH-11-SS-00	SH-11-SC-12 [d]	SH-12-SS-00 [d]	SH-12-SC-12 [d]	SH-12-SC-23	SH-13-SS-00 [d]	SH-13-SC-12	SH-13-SC-23	SH-14-SS-00	SH-14-SC-12	SH-14-SC-23	SH-15-SS-00	SH-15-SC-12	SH-16-SS-00	SH-16-SC-12	SH-18-WS-00 [d]	SH-18-WC-12 [d]	SH-19-WS-00 [d]
	LAET	SQS	CSL	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	2 to 3 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm
TOTAL HEPTA-DIOXINS	---	---	---		**62,500**	**1,190 B**		**5,850 B**	**10,100**	**14,800**	**7,490 B**	**899**	**1,870**	**2,100**		**355**	**98.3**		**52.8**		**4,240 B**		**3,970**
TOTAL HEPTA-FURANS	---	---	---		**80,900**	**668 B**		**2,450 B**	**5,270**	**8,240**	**2,620**	**705**	**971**	**1,200**		**336**	**54.2**		**29**		**2,160 B**		**2,660**
TOTAL HEXA-DIOXINS	---	---	---		**9,040**	**911**		**2,250**	**4,870**	**10,000**	**2,110**	**278**	**392**	**617**		**113**	**35**		**18.3**		**1,190**		**1,100**
TOTAL HEXA-FURANS	---	---	---		**19,100**	**296**		**970**	**1,940**	**2,990**	**1,100**	**170**	**221**	**434**		**116**	**22.9**		**13.2**		**800**		**1,040**
TOTAL PENTA-DIOXINS	---	---	---		**687**	**874**		**1,560**	**3,560**	**7,530**	**1,230**	**167**	**59.7**	**267**		**42.3**	**11.6**		**5.54**		**600**		**569**
TOTAL PENTA-FURANS	---	---	---		**1930**	**222**		**397**	**711**	**931**	**335**	**38.3**	**36.7**	**149**		**41.1**	**6.91**		**3.79**		**254**		**351**
TOTAL TETRA-DIOXINS	---	---	---		**420**	**1,200**		**1,790**	**3,680**	**7,620**	**1,530**	**174**	**55.8**	**317**		**52.8**	**7.62**		**3.52**		**602**		**682**
TOTAL TETRA-FURANS	---	---	---		**526**	**477**		**552**	**1,010**	**1,110**	**330**	**33.1**	**35.8**	**111**		**44.6**	**3.25**		**1.74**		**270**		**427**
Guaicols and Resin Acids (ug/kg dry weight)																							
12-Chlorodehydroabietic Acid	---	---	---																		190 U	300 U	**130**
14-Chlorodehydroabietic Acid	---	---	---																		190 U	300 U	98 U
3,4,5-Trichloroguaiacol	---	---	---																		20 U	59 U	20 U
3,4,6-Trichloroguaiacol	---	---	---																		20 U	59 U	20 U
3,4-Dichloroguaiacol	---	---	---																		20 U	59 U	20 U
4,5,6-Trichloroguaiacol	---	---	---																		20 U	59 U	20 U
4,5-Dichloroguaiacol	---	---	---																		20 U	59 U	20 U
4,6-Dichloroguaiacol	---	---	---																		20 U	59 U	20 U
4-Chloroguaiacol	---	---	---																		20 U	59 U	20 U
9,10-Dichlorostearic Acid	---	---	---																		190 U	300 U	98 U
Abietic Acid	---	---	---																		**760**	**33,000**	**1,200**
Dehydroabietic Acid	---	---	---																		**1600**	**9,000**	**1,700**
Dichlorodehydroabietic Acid	---	---	---																		190 U	300 U	98 U
Guaiacol	---	---	---																		20 U	59 U	20 U
Isopimaric Acid	---	---	---																		**220**	**3300**	**190**
Linolenic Acid	---	---	---																		**200**	300 U	98 U
Neoabietic Acid	---	---	---																		190 UJ	**550 J**	98 UJ
Oleic Acid	---	---	---																		**430**	300 U	**210**
Palustric Acid	---	---	---																		190 U	**920**	98 U
Pimaric Acid	---	---	---																		190 U	300 U	98 U
Retene	---	---	---																		**110**	**7300**	**900**
Sandaracopimaric Acid	---	---	---																		190 U	**580**	98 U
Tetrachloroguaiacol	---	---	---																		20 U	59 U	20 U
Total resin acids [c]	---	---	---																		**3,300**	**53,000**	**4,200**

[a] Lowest and second lowest apparent effects thresholds for freshwater sediments in Washington State 2003).

[b] Washington State Marine Sediment Management Standards, Sediment Quality Standards (SQS) and Cleanup Screening Level (CSL) (WAC Chapter 173-204).

[c] Totals only include detected and estimated values

[d] Sample has organic carbon content less than 0.5 percent or greater than 4.0 percent and should be compared to LAET criteria rather than organic-carbon normalized SMS criteria.

ng/kg	nanograms per kilogram
µg/kg	micrograms per kilogram.
mg/kg	milligrams per kilogram.
PCBs	polychlorinated biphenyls.

Bold type indicates the sample result is greater than the laboratory detection limit.

Underlined	value indicates the sample result or detection limit is greater than the LAET or SQS value.
Shaded	value indicates the sample result or detection limit is greater than the CSL value.
U	The material was analyzed for, but was not detected. The associated numerical value is the detection limit. For petroleum hydrocarbons, guaiacols and resin acids, the associated numerical value is the reporting limit.
J	The associated numerical value is considered an estimated concentration.
G	Bias is high.
B	Specifyied compound was detected in the associated method blank.

LPAH represents the sum of the following "low molecular weight polynuclear aromatic hydrocarbon" compounds: naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene. 2-Methylnaphthalene is not included in the LPAH sum.

HPAH represents the sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds: fluoranthene, pyrene, benzo(a)anthracene, chrysene, total benzofluoranthenes, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Total benzofluoranthenes represents the sum of the concentrations of the "b" and "k" isomers.

Total PAHs (carcinogenic) represents the sum of the following PAH compounds: benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene.

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor																			
				SH-19-WC-12	SH-20-WS-00 [d]	SH-20-WC-12	SH-21-WS-00 [d]	SH-21-WC-12 [d]	SH-22-WS-00 [d]	SH-22-WC-12	SH-23-WS-00	SH-23-WC-12 [d]	SH-24-WS-00 [d]	SH-25-WS-00	SH-26-WS-00	SH-26-WC-12 [d]	SH-27-WS-00	SH-27-WC-12	SH-28-WS-00	SH-28-WC-12	SH-29-WS-00	SH-29-WC-12	SH-30-WS-00
	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	0 to 10 cm	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm
Conventional Parameters																							
Particle/Grain Size, Fines (Silt/Clay)	---	---	---	56.8	77.2	62.5	76.2	39.1	36.8	31.1	64.8	60.4	42	49.6	12.8	1.8	21.6	10.3	24.1	39.4	4.1	5.8	31.2
Particle/Grain Size, Phi Scale <-1	---	---	---	1	2.2	8.5	1.1	21.8	12.5	11.8	1.8	4.6	6.1	6.3	21.3	6.7	25.3	37	0.2	4	5.8	6.8	1.2
Particle/Grain Size, Phi Scale >10	---	---	---	6.7	12.1	12.1	10.8	7.2	6.6	5.4	10.6	10.6	7.1	7.4	1.9		3.4	2	5	6.9	1.1	1.1	6
Particle/Grain Size, Phi Scale 0 to 1	---	---	---	3.9	4.9	6	3.4	8.8	5.6	11.6	2.4	2.7	5.1	4.5	13.9	21.1	8	9.8	1.5	2.3	23.7	19.4	2.4
Particle/Grain Size, Phi Scale -1 to 0	---	---	---	1.6	8.9	5.3	8.4	10.9	6.7	9	2.5	3.4	4.3	4.2	7.7	6.1	7.6	8.9	1.1	2.4	16.8	11.9	1.7
Particle/Grain Size, Phi Scale 1 to 2	---	---	---	14	1.9	8.8	3.4	9.1	11.2	17	3.9	3.8	15.5	5.7	26.4	53.7	15	15.4	2.5	2.5	33.3	32.5	3.8
Particle/Grain Size, Phi Scale 2 to 3	---	---	---	11.4	1.3	7.5	2.9	6.1	14.2	12.4	7.3	8.7	15.8	9.5	14.4	9.9	12.8	13.3	28.6	17.1	15.3	21.4	19
Particle/Grain Size, Phi Scale 3 to 4	---	---	---	11.3	3.5	1.4	4.6	4.3	13	7.1	17.2	16.3	11.2	20.2	3.7	0.7	9.7	5.2	42	32.3	1	2.1	40.7
Particle/Grain Size, Phi Scale 4 to 5	---	---	---	11.1	6.6	8.7	8	2.5	8.1	6.4	13.8	13.6	7.8	13.8	4.2		7.5	1.7	6.1	11.3	0.6	1.1	8.6
Particle/Grain Size, Phi Scale 5 to 6	---	---	---	10.1	15.3	8.3	16.6	7.1	7	4.6	10.6	9.4	7.7	9.2	1.8		3.1	2	2.4	4.7	0.4	0.8	3.7
Particle/Grain Size, Phi Scale 6 to 7	---	---	---	9.3	15	11.4	14.7	7.1	4.8	4.4	9.6	8.1	6.1	5.7	1.5		2.4	1.5	2.8	4.7	0.5	1	3.1
Particle/Grain Size, Phi Scale 7 to 8	---	---	---	8.5	12.2	8.3	11.1	6.3	4	3.9	8.3	7.8	4.6	5.5	1.2		1.9	1.4	2.6	4.2	0.5	0.9	3.3
Particle/Grain Size, Phi Scale 8 to 9	---	---	---	6	8.4	7.5	6.8	4.8	3.5	3.4	6.3	5.8	4.4	4.2	1.2		1.8	0.9	2.6	4.1	0.5	0.6	3.1
Particle/Grain Size, Phi Scale 9 to 10	---	---	---	5.1	7.7	6.1	8.2	4.1	2.9	3	5.6	5.2	4.4	3.8	1		1.5	0.9	2.6	3.5	0.5	0.4	3.4
Total Volatile Solids %	---	---	---	8.62	12.81	9.23	16.64	39.5	19.68	17.13	10.26	16.65	14.17	10.77	2.62	1.85	3.52	6.72	5.47	8.42	1.55	2.07	8.31
Ammonia (mg/kg)	---	---	---	6.74	17.8	58.3	18.6	59.7	30.5	37.2	21.4	59.7	17.2	8.45	8.77	1.71	6.97	8.65	12	42.7	6.67	0.19	17.1
Sulfide	---	---	---	65.1	1,810	490	1,890 J	759	969	200	1,760	239	148	950	510	0.01 U	15.8	678	338	227	1.42	87.6	896
Total organic carbon (%)	---	---	---	2.47	5.15	1.38	5.59	11.1	5.77	3.4	3.33	6.88	4.97	2.6	1.92	0.153	1.38	3.48	1.24	2.76	0.594	1.14	1.99
Total solids (%)	---	---	---	43.7	30.2	50.5	30.1	31.5	39.8	58.5	38.6	44.7	45.7	42.1	67.9	84.7	63.8	60.8	57.3	55.7	77.5	81.7	51.8
Metals (mg/kg dry weight)																							
Antimony	150	---	---	0.35 J	0.34 J	0.37 J	0.37 J	0.22 J	0.27 J	0.24 J	0.29 J	0.39 J	0.26 J	0.33 J	0.11 J	0.065 J	0.1 J	0.14 J	0.21 J	0.24 J	0.13 J	0.17 J	0.25 J
Arsenic	57	57	93	3.2	7	6.1	7.8	3	6.5	5.5	7.6	7.1	6.1	7.5	2.1	1.3	3.5	2.6	5.6	5.9	4.1	2.9	7.6
Cadmium	5.1	5.1	6.7	0.62	1.6	1.2	1.6	0.74	0.59	0.52	0.89	1	0.71	0.64	0.25 J	0.23 J	0.34	0.29 J	0.58	0.66	0.1 J	0.15 J	1.1
Chromium	260	260	270	60	51	53	55	32	32	41	47	53	37	41	44	38	33	33	30	37	27	23	32
Copper	390	390	390	62	63	62	66	50	29	42	47	60	37	41	44	49	25	31	26	32	18	15	29
Lead	450	450	530	12	17	19	17	14	7.2	9.3	12	17	9.8	12	3.4	2	2.5	4.3	6.1	9.2	3.2	3.5	13
Mercury	0.41	0.41	0.59	0.045	0.1	0.222	0.1 J	0.088	0.048	0.141 U	0.072	0.12	0.086	0.06	0.019 J	0.11 U	0.012 J	0.122 U	0.07	0.056	0.0073 U	0.104 U	0.095
Nickel	140	---	---	42	42	39	44	26	26	32	41	44	31	36	39	37	25	28	30	34	30	31	30
Silver	6.1	6.1	6.1	0.097 J	0.18 J	0.18 J	0.21 J	0.14 J	0.095 J	0.11 J	0.14 J	0.16 J	0.11 J	0.13 J	0.046 J	0.035 J	0.04 J	0.038 J	0.075 J	0.11 J	0.017 J	0.02 J	0.11 J
Zinc	410	410	960	66	120	100	120	59	63	59	92	82	71	76	48	45	40	40	55	57	35	30	82
Butyltins (ug/kg dry weight)																							
Butyltin Ion	---	---	---																				3.6 U
Dibutyltin Ion	---	---	---																				2.8 U
Tributyltin Ion	---	---	---																				1.6 U
Aromatic Hydrocarbons (ug/kg dry weight or mg/kg OC)																							
LPAHs																							
2-Methylnaphthalene (dry)	670	---	---	8 U	8.1 U	8.1 U	8.1 U	20 U	8.1 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.1 U	8.2 U	8.0 U	7.9 U	8.1 U	7.8 U	8.0 U	8.1 U
2-Methylnaphthalene (OC)	---	38	64	0.32 U	0.16 U	0.59 U	0.14 U	0.18 U	0.14 U	0.24 U	0.24 U	0.12 U	0.16 U	0.31 U	0.42 U	5.3 U	0.59 U	0.23 U	0.64 U	0.29 U	1.3 U	0.70 U	0.41 U
Acenaphthene (dry)	500	---	---	8 U	8.1 U	8.1 U	8.2 U	20 U	13 J	8.0 U	8.0 U	8.1 U	8.0 U	8.1 U	8.0 U	8.1 U	8.2 U	8.0 U	7.9 U	8.1 U	7.9 U	8.1 U	8.1 U
Acenaphthene (OC)	---	16	57	0.32 U	0.16 U	0.59 U	0.15 U	0.18 U	0.23 J	0.24 U	0.24 U	0.12 U	0.16 U	0.31 U	0.42 U	5.3 U	0.59 U	0.23 U	0.64 U	0.29 U	1.3 U	0.71 U	0.41 U
Acenaphthylene (dry)	560	---	---	8.5 U	8.6 U	8.5 U	8.6 U	21 U	29	8.4 U	8.5 U	8.5 U	8.5 U	8.5 U	8.4 U	8.6 U	8.6 U	8.5 U	8.4 U	8.5 U	8.3 U	8.5 U	8.5 U
Acenaphthylene (OC)	---	66	66	0.34 U	0.17 U	0.62 U	0.15 U	0.19 U	0.50	0.25 U	0.26 U	0.12 U	0.17 U	0.33 U	0.44 U	5.6 U	0.62 U	0.24 U	0.68 U	0.31 U	1.4 U	0.75 U	0.43 U
Anthracene (dry)	960	---	---	7.6 U	7.7 U	7.6 U	7.7 U	160	100	20	7.6 U	7.6 U	7.6 U	21	7.5 U	7.7 U	7.7 U	7.6 U	7.5 U	7.6 U	7.4 U	7.6 U	7.6 U
Anthracene (OC)	---	220	1,200	0.31 U	0.15 U	0.55 U	0.14 U	1.4	1.7	0.59	0.23 U	0.11 U	0.15 U	0.8	0.39 U	5.0 U	0.56 U	0.22 U	0.60 U	0.28 U	1.2 U	0.67 U	0.38 U
Fluorene (dry)	540	---	---	8.8 U	8.9 U	8.8 U	8.9 U	22 U	17 J	8.7 U	8.8 U	8.8 U	8.8 U	8.8 U	8.7 U	8.9 U	8.9 U	8.8 U	8.6 U	8.8 U	8.6 U	8.8 U	8.8 U
Fluorene (OC)	---	23	79	0.36 U	0.17 U	0.64 U	0.16 U	0.20 U	0.29 J	0.26 U	0.26 U	0.13 U	0.18 U	0.34 U	0.45 U	5.8 U	0.64 U	0.25 U	0.69 U	0.32 U	1.4 U	0.77 U	0.44 U
Naphthalene (dry)	2,100	---	---	36	8.6 U	8.5 U	8.6 U	22 U	8.6 U	8.4 U	8.5 U	8.5 U	8.5 U	8.5 U	8.4 U	8.6 U	8.6 U	8.5 U	8.4 U	8.6 U	8.3 U	8.5 U	8.5 U
Naphthalene (OC)	---	99	170	1.5	0.17 U	0.62 U	0.15 U	0.20 U	0.15 U	0.25 U	0.26 U	0.12 U	0.17 U	0.33 U	0.44 U	5.6 U	0.62 U	0.24 U	0.68 U	0.31 U	1.4 U	0.75 U	0.43 U
Phenanthrene (dry)	1500	---	---	88	8.3 U	24	21	74	270	61	18 J	14 J	8.20 U	56	8.2 U	8.3 U	8.4 U	8.2 U	9.6 J	20 J	25	8.2 U	25
Phenanthrene (OC)	---	100	480	3.6	0.16 U	1.7	0.38	0.67	4.7	1.8	0.54 J	0.20 J	0.16 U	2.2	0.43 U	5.4 U	0.61 U	0.24 U	0.77 J	0.72 J	4.2	0.72 U	1.3
Total LPAHs (dry) [c]	5200	---	---	120	20 U	24	21	230	430	81	18 J	14 J	20 U	77	19 U	20 U	20 U	20 U	9.6 J	20 J	25	20 U	25
Total LPAHs (OC) [c]	---	370	780	4.9	0.39 U	1.7	0.38	2.1	7.4	2.4	0.54 J	0.20 J	0.40 U	3.0	0.99 U	13 U	1.4 U	0.57 U	0.77 J	0.72 J	4.2	1.8 U	1.3
HPAHs																							
Benzo(a)anthracene (dry)	1,300	---	---	24	5.9 U	27	41	150	290	64	19 J	15 J	5.8 U	38	5.7 U	5.9 U	5.9 U	5.8 U	9.6 J	14 J	5.7 U	5.8 U	26
Benzo(a)anthracene (OC)	---	110	270	1.0	0.11 U	2.0	0.73	1.4	5.0	1.9	0.57 J	0.22 J	0.12 U	1.5	0.30 U	3.9 U	0.43 U	0.17 U	0.8 J	0.51 J	1.0 U	0.51 U	1.3
Benzo(a)pyrene (dry)	1,600	---	---	33	8.1 U	30	36	150	200	59	20	22	8.0 U	61	7.9 U	8.1 U	8.1 U	8.0 U	12 J	15 J	7.8 U	8 U	21
Benzo(a)pyrene (OC)	---	99	210	1.3	0.16 U	2.2	0.64	1.4	3.5	1.7	0.60	0.32	0.16 U	2.3	0.41 U	5.3 U	0.59 U	0.23 U	1.0 J	0.54 J	1.3 U	0.70 U	1.1
Benzo(b)fluoranthene (dry)	---	---	---	26	9.4 U	26	45	290	380	89	31	18 J	22	51	9.2 U	9.4 U	9.5 U	9.3 U	9.2 U	11 J	9.1 U	9.3 U	21
Benzo(b)fluoranthene (OC)	---	---	---	1.1	0.18 U	1.9	0.81	2.6	6.6	2.6	0.93	0.26 J	0.44	2.0	0.48 U	6.1 U	0.69 U	0.27 U	0.74 U	0.40 J	1.5 U	0.82 U	1.1
Benzo(g,h,i)perylene (dry)	670	---	---	22	6.7 U	6.7 U	6.7 U	47 J	64	6.6 U	6.6 U	6.6 U	6.6 U	26	6.6 U	6.7 U	6.7 U	6.6 U	6.5 U	15 J	6.5 U	6.6 U	6.7 U
Benzo(g,h,i)perylene (OC)	---	31	78	0.89	0.13 U	0.49 U	0.12 U	0.42 J	1.1	0.19 U	0.20 U	0.10 U	0.13 U	1.0	0.34 U	4.4 U	0.49 U	0.19 U	0.52 U	0.54 J	1.1 U	0.58 U	0.34 U
Benzo(k)fluoranthene (dry)	---	---	---	23	9.2 U	45	99	390	370	110	24	12 J	9.1 U	74	9 U	9.2 U	9.2 U	9.1 U	8.9 U	11 J	8.9 U	9.1 U	27
Benzo(k)fluoranthene (OC)	---	---	---	0.93	0.18 U	3.3	1.8	3.5	6.4	3.2	0.72	0.17 J	0.18 U	2.8	0.47 U	6.0 U	0.67 U	0.26 U	0.72 U	0.40 J	1.5 U	0.80 U	1.4
Benzofluoranthenes, Total (b+k+j) (dry)	3,200	---	---	49	20 U	71	140	680	750	200	55	30 J	22	120	19 U	20 U	20 U	20 U	19 U	22 J	19 U	20 U	48
Benzofluoranthenes, Total (b+k+j) (OC)	---	230	450	2	0.39 U	5.1	2.5	6.1	13	5.9	1.7	0.44 J	0.44	4.6	0.99 U	13 U	1.4 U	0.57 U	1.5 U	0.80 J	3.2 U	1.8 U	2.4
Chrysene (dry)	1,400	---	---	30	26	34	100	240	800	130	58	22	34	76	12 J	6.6 U	6.6 U	6.5 U	14 J	18 J	6.3 U	6.5 U	44
Chrysene (OC)	---	110	460	1.2	0.50	2.5	1.8	2.2	13.9	3.8	1.7	0.32	0.68	2.9	0.63 J	4.3 U	0.48 U	0.19 U	1.1 J	0.65 J	1.1 U	0.57 U	2.2
Dibenz(a,h)anthracene (dry)	230	---	---	8.4 U	8.5 U	8.4 U	8.5 U	21 U	18 J	8.3 U	8.4 U	8.4 U	8.4 U	8.4 U	8.3 U	8.5 U	8.5 U	8.4 U	8.3 U	8.4 U	8.2 U	8.4 U	8.4 U
Dibenz(a,h)anthracene (OC)	---	12	33	0.34 U	0.17 U	0.61 U	0.15 U	0.19 U	0.31 J	0.24 U	0.25 U	0.12 U	0.17 U	0.32 U	0.43 U	5.6 U	0.62 U	0.24 U	0.67 U	0.30 U	1.4 U	0.74 U	0.42 U
Fluoranthene (dry)	1,700	---	---	170	28	43	78	1,500	2,000	320	81	29	43	93	14 J	7.8 U	7.9 U	7.7 U	17 J	34	34	7.8 U	78
Fluoranthene (OC)	---	160	1,200	6.9	0.54	3.1	1.4	13.5	34.7	9.4	2.4	0.42	0.87	3.6	0.73 J	5.1 U	0.57 U	0.22 U	1.4 J	1.2	5.7	0.68 U	3.9
Indeno(1,2,3-cd)pyrene (dry)	600	---	---	8.4 U	8.5 U	8.5 U	8.5 U	33 J	78	8.3 U	8.4 U	8.4 U	8.4 U	22	8.3 U	8.5 U	8.6 U	8.4 U	8.3 U	8.5 U	8.2 U	8.4 U	8.5 U
Indeno(1,2,3-cd)pyrene (OC)	---	34	88	0.34 U	0.17 U	0.62 U	0.15 U	0.30 J	1.4	0.24 U	0.25 U	0.12 U	0.17 U	0.85	0.43 U	5.6 U	0.62 U	0.24 U	0.67 U	0.31 U	1.4 U	0.74 U	0.43 U
Pyrene (dry)	2,600	---	---	200	28	49	86	640	1,000	230	68	31	45	85	14 J	7.7 U	7.7 U	7.6 U	19	24	34	7.6 U	71
Pyrene (OC)	---	1,000	1,400	8.1	0.54	3.6	1.5	5.8	17.3	6.8	2.0	0.45	0.91	3.3	0.73 J	5.0 U	0.56 U	0.22 U	1.5	0.87	5.7	0.67 U	3.6
Total HPAHs (dry) [c]	12,000	---	---	530	82	250	480	3,400	5,200	1,000	300	150	140	520	40	20 U	20 U	20 U	91	140	68	20 U	290
Total HPAHs (OC) [c]	---	960	5,300	21	1.6	18	8.6	31	90	29	9.0	2.2	2.8	20	2.1	13 U	1.4 U	0.57 U	7.3	5.1	11	1.8 U	15

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor																			
				SH-19-WC-12	SH-20-WS-00 [d]	SH-20-WC-12	SH-21-WS-00 [d]	SH-21-WC-12 [d]	SH-22-WS-00 [d]	SH-22-WC-12	SH-23-WS-00	SH-23-WC-12 [d]	SH-24-WS-00 [d]	SH-25-WS-00	SH-26-WS-00	SH-26-WC-12 [d]	SH-27-WS-00	SH-27-WC-12	SH-28-WS-00	SH-28-WC-12	SH-29-WS-00	SH-29-WC-12	SH-30-WS-00
	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	0 to 10 cm	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm
Chlorinated Benzenes (ug/kg dry weight or mg/kg OC)																							
1,2,4-Trichlorobenzene (dry)	31	---	---	8.9 U	9.0 U	8.9 U	9.0 U	23 U	8.9 U	8.8 U	8.9 U	8.9 U	8.9 U	8.9 U	8.8 U	9.0 U	9.0 U	8.9 U	8.8 U	9.0 U	8.7 U	8.9 U	8.9 U
1,2,4-Trichlorobenzene (OC)	---	0.81	1.8	0.36 U	0.17 U	0.64 U	0.16 U	0.21 U	0.15 U	0.26 U	0.27 U	0.13 U	0.18 U	0.34 U	0.46 U	5.9 U	0.65 U	0.26 U	0.71 U	0.33 U	1.5 U	0.78 U	0.45 U
1,2-Dichlorobenzene (dry)	35	---	---	7.7 U	7.8 U	7.8 U	7.8 U	20 U	7.8 U	7.6 U	7.7 U	7.7 U	7.7 U	7.7 U	7.6 U	7.8 U	7.8 U	7.7 U	7.6 U	7.8 U	7.5 U	7.7 U	7.8 U
1,2-Dichlorobenzene (OC)	---	2.3	2.3	0.31 U	0.15 U	0.57 U	0.14 U	0.18 U	0.14 U	0.22 U	0.23 U	0.11 U	0.15 U	0.30 U	0.40 U	5.1 U	0.57 U	0.22 U	0.61 U	0.28 U	1.3 U	0.68 U	0.39 U
1,4-Dichlorobenzene (dry)	110	---	---	7.2 U	7.3 U	7.2 U	7.3 U	18 U	7.2 U	7.1 U	7.2 U	7.2 U	7.2 U	7.2 U	7.1 U	7.3 U	7.3 U	7.2 U	7.1 U	7.3 U	7.0 U	7.2 U	7.2 U
1,4-Dichlorobenzene (OC)	---	3.1	9	0.29 U	0.14 U	0.52 U	0.13 U	0.16 U	0.12 U	0.21 U	0.22 U	0.10 U	0.14 U	0.28 U	0.37 U	4.8 U	0.53 U	0.21 U	0.57 U	0.26 U	1.2 U	0.63 U	0.36 U
Phthalates (ug/kg dry weight or mg/kg OC)																							
bis(2-Ethylhexyl)phthalate (dry)	1,300	---	---	11 U	23 U	11 U	11 U	**72**	**11 J**	11 U	**11 J**	11 U	11 U	**36**	**25**	**20**	11 U	**36**	11 U	11 U	11 U	**24**	21 U
bis(2-Ethylhexyl)phthalate (OC)	---	47	78	0.45 U	0.45 U	0.80 U	0.20 U	**0.65**	**0.19 J**	0.32 U	**0.33 J**	0.16 U	0.22 U	**1.4**	**1.3**	**13.1**	0.80 U	**1.0**	0.89 U	0.40 U	1.9 U	**2.1**	1.1 U
Butylbenzylphthalate (dry)	63	---	---	11 U	11 U	11 U	11 U	28 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U
Butylbenzylphthalate (OC)	---	4.9	64	0.45 U	0.21 U	0.80 U	0.20 U	0.25 U	0.19 U	0.32 U	0.33 U	0.16 U	0.22 U	0.42 U	0.57 U	7.2 U	0.80 U	0.32 U	0.89 U	0.40 U	1.9 U	1.0 U	0.55 U
Di-n-Butylphthalate (dry)	1400	---	---	12 U	12 U	12 U	12 U	31 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
Di-n-Butylphthalate (OC)	---	220	1,700	0.49 U	0.23 U	0.87 U	0.21 U	0.28 U	0.21 U	0.35 U	0.36 U	0.17 U	0.24 U	0.46 U	0.63 U	7.8 U	0.87 U	0.34 U	1.0 U	0.43 U	2.0 U	1.1 U	0.60 U
Di-n-Octyl phthalate (dry)	6200	---	---	8.2 U	8.3 U	8.2 U	8.3 U	21 U	8.2 U	8.1 U	8.2 U	8.2 U	8.2 U	8.2 U	8.1 U	8.3 U	8.3 U	8.2 U	8.0 U	8.2 U	8 U	8.2 U	8.2 U
Di-n-Octyl phthalate (OC)	---	58	4,500	0.33 U	0.16 U	0.59 U	0.15 U	0.19 U	0.14 U	0.24 U	0.25 U	0.12 U	0.16 U	0.32 U	0.42 U	5.4 U	0.60 U	0.24 U	0.65 U	0.30 U	1.3 U	0.72 U	0.41 U
Diethylphthalate (dry)	200	---	---	16 U	16 U	16 U	16 U	41 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U	16 U
Diethylphthalate (OC)	---	61	110	0.65 U	0.31 U	1.2 U	0.29 U	0.37 U	0.28 U	0.47 U	0.48 U	0.23 U	0.32 U	0.62 U	0.83 U	10.5 U	1.2 U	0.46 U	1.3 U	0.58 U	2.7 U	1.4 U	0.80 U
Dimethylphthalate (dry)	71	---	---	7.6 U	7.7 U	7.6 U	7.7 U	19 U	7.6 U	7.5 U	7.6 U	7.6 U	7.6 U	7.6 U	7.5 U	7.7 U	7.7 U	7.6 U	7.5 U	7.7 U	7.4 U	7.6 U	7.6 U
Dimethylphthalate (OC)	---	53	53	0.31 U	0.15 U	0.55 U	0.14 U	0.17 U	0.13 U	0.22 U	0.23 U	0.11 U	0.15 U	0.29 U	0.39 U	5.0 U	0.56 U	0.22 U	0.60 U	0.28 U	1.2 U	0.67 U	0.38 U
Ionizable Organic Compounds (ug/kg dry weight)																							
2,4-Dimethylphenol	29	29	29	14 U	15 U	15 U	15 U	37 U	15 U	14 U	14 U	15 U	14 U	15 U	14 U	15 U	15 U	14 U	14 U	15 U	14 U	15 U	15 U
Benzoic Acid	650	650	650	110 U	110 U	110 U	110 U	290 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U	110 U
Benzyl Alcohol	57	57	73	14 U	14 U	14 U	14 U	36 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U
Pentachlorophenol	360	360	690	47 U	47 U	47 U	47 U	120 U	47 U	46 U	47 U	47 U	47 U	47 U	46 U	47 U	47 U	47 U	46 U	47 U	46 U	47 U	47 U
Phenol	420	420	1,200	13 U	14 U	13 U	14 U	**47 J**	**16 J**	13 U	13 U	**19 J**	13 U	13 U	13 U	14 U	**21**	13 U	**40**	**20**	**54**	13 U	13 U
Miscellaneous Extractables (ug/kg dry weight or mg/kg OC)																							
Dibenzofuran (dry)	540	---	---	7.4 U	7.5 U	7.4 U	7.5 U	19 U	7.4 U	7.3 U	7.4 U	7.4 U	7.4 U	7.4 U	7.3 U	7.5 U	7.5 U	7.4 U	7.3 U	7.5 U	7.2 U	7.4 U	7.4 U
Dibenzofuran (OC)	---	15	58	0.30 U	0.15 U	0.54 U	0.13 U	0.17 U	0.13 U	0.21 U	0.22 U	0.11 U	0.15 U	0.28 U	0.38 U	4.9 U	0.54 U	0.21 U	0.59 U	0.27 U	1.2 U	0.65 U	0.37 U
Hexachlorobenzene (dry)	22	---	---	7.9 U	7.9 U	7.9 U	8 U	20 U	7.9 U	7.8 U	7.9 U	7.9 U	7.9 U	7.9 U	7.8 U	7.9 U	8.0 U	7.8 U	7.7 U	7.9 U	7.7 U	7.9 U	7.9 U
Hexachlorobenzene (OC)	---	0.38	2.3	0.32 U	0.15 U	0.57 U	0.14 U	0.18 U	0.14 U	0.23 U	0.24 U	0.11 U	0.16 U	0.30 U	0.41 U	5.2 U	0.58 U	0.22 U	0.62 U	0.29 U	1.3 U	0.69 U	0.40 U
Hexachlorobutadiene (dry)	11	---	---	7.9 U	8.0 U	8.0 U	8.1 U	20 U	8.0 U	7.9 U	8.0 U	8.0 U	8.0 U	8.0 U	7.9 U	8 U	8.1 U	7.9 U	7.8 U	8.0 U	7.8 U	8.0 U	8.0 U
Hexachlorobutadiene (OC)	---	3.9	6.2	0.32 U	0.16 U	0.58 U	0.14 U	0.18 U	0.14 U	0.23 U	0.24 U	0.12 U	0.16 U	0.31 U	0.41 U	5.2 U	0.59 U	0.23 U	0.63 U	0.29 U	1.3 U	0.70 U	0.40 U
N-Nitrosodiphenylamine (dry)	28	---	---	8.5 U	8.6 U	8.5 U	8.6 U	22 U	8.6 U	8.4 U	8.5 U	8.5 U	8.5 U	8.5 U	8.4 U	8.6 U	8.6 U	8.5 U	8.4 U	8.6 U	8.3 U	8.5 U	8.5 U
N-Nitrosodiphenylamine (OC)	---	11	11	0.34 U	0.17 U	0.62 U	0.15 U	0.20 U	0.15 U	0.25 U	0.26 U	0.12 U	0.17 U	0.33 U	0.44 U	5.6 U	0.62 U	0.24 U	0.68 U	0.31 U	1.4 U	0.75 U	0.43 U
2-Methylphenol	---	63	63	14 U	14 U	14 U	14 U	35 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U
4-Methylphenol	---	670	670	**140**	13 U	13 U	13 U	32 U	13 U	12 U	13 U	13 U	**34**	**22**	12 U	13 U	13 U	13 U	**27**	13 U	12 U	13 U	32
Polychlorinated Biphenyls (ug/kg dry weight or mg/kg OC)																							
Total PCBs (OC) [c]	---	12	65	0.16 U	0.78 UJG	0.29 UJ	0.14 UJG	0.035 UJ	0.049 U	0.11 UJ	0.087 UJG	0.041 UJG	0.076 UJG	0.15 UJ	0.15 U	2.5 U	0.2 U	0.11 UJ	0.22 UJG	0.11 UJG	0.66 U	0.33 U	0.19 UJ
Total PCBs (dry) [c]	130	---	---	3.9 U	4.0 UJG	4.0 UJ	8.0 UJG	3.9 UJ	2.8 U	3.9 UJ	2.9 UJG	2.8 UJG	3.8 UJG	3.9 UJ	2.8 U	3.8 U	2.8 U	4 UJ	2.7 UJG	2.9 UJG	3.9 U	3.8 U	3.8 UJ
Aroclor 1016	---	---	---	1.6 U	1.6 UJG	1.6 UJ	3.2 UJG	1.6 UJ	2.8 U	1.6 UJ	2.9 UJG	2.8 UJG	1.5 UJG	1.6 UJ	2.8 U	1.5 U	2.8 U	1.6 UJ	2.7 UJG	2.9 UJG	1.5 U	1.5 U	1.5 UJ
Aroclor 1221	---	---	---	3.9 U	4.0 UJG	4.0 UJ	8.0 UJG	3.9 UJ	2.8 U	3.9 UJ	2.9 UJG	2.8 UJG	3.8 UJG	3.9 UJ	2.8 U	3.8 U	2.8 U	4 UJ	2.7 UJG	2.9 UJG	3.9 U	3.8 U	3.8 UJ
Aroclor 1232	---	---	---	3.4 U	3.5 UJG	3.5 UJ	7.0 UJG	3.4 UJ	2.8 U	3.4 UJ	2.9 UJG	2.8 UJG	3.4 UJG	3.5 UJ	2.8 U	3.3 U	2.8 U	3.5 UJ	2.7 UJG	2.9 UJG	3.4 U	3.4 U	3.3 UJ
Aroclor 1242	---	---	---	1.0 U	1.0 UJG	1.0 UJ	2.1 UJG	1.0 UJ	2.8 U	1.0 UJ	2.9 UJG	2.8 UJG	1.0 UJG	1.0 UJ	2.8 U	0.99 U	2.8 U	1.1 UJ	2.7 UJG	2.9 UJG	1.0 U	1.0 U	0.99 UJ
Aroclor 1248	---	---	---	0.64 U	0.65 UJG	0.64 UJ	1.3 UJG	0.63 UJ	2.8 U	0.63 UJ	2.9 UJG	2.8 UJG	0.62 UJG	0.6 UJ	2.8 U	0.61 U	2.8 U	0.65 UJ	2.7 UJG	2.9 UJG	0.63 U	0.62 U	0.61 UJ
Aroclor 1254	---	---	---	1.0 U	1.0 UJG	1.0 UJ	2.1 UJG	1.0 UJ	0.73 U	1.0 UJ	0.75 UJG	0.72 UJG	1.0 UJG	1.0 UJ	0.72 U	0.99 U	0.72 U	1.1 UJ	0.71 UJG	0.75 UJG	1.0 U	1.0 U	0.99 UJ
Aroclor 1260	---	---	---	1.5 U	1.5 UJG	1.5 UJ	3.0 UJG	1.5 UJ	0.73 U	1.5 UJ	0.75 UJG	0.72 UJG	1.4 UJG	1.5 UJ	0.72 U	1.4 U	0.72 U	1.5 UJ	0.71 UJG	0.75 UJG	1.4 U	1.4 U	1.4 UJ
Chlorinated Pesticides (ug/kg dry weight)																							
4,4'-DDD	16	---	---	0.15 U	0.14 U	**2.7 J**	0.15 UJG	**3.6 J**	0.25 U	**1.1 J**	0.27 U	**1.1 J**	0.14 U	0.14 UJG	0.26 U	0.14 U	0.25 U	0.15 U	0.25 U	0.26 U	0.14 U	**0.34 J**	**2.3**
4,4'-DDE	9	---	---	0.14 U	0.14 U	0.14 U	0.14 UJG	0.14 U	0.22 U	**0.52 J**	0.23 U	0.22 U	0.14 U	**1.3 JTG**	0.22 U	0.13 U	0.22 U	0.14 U	0.22 U	**0.9 J**	0.14 U	**0.14 J**	0.14 U
4,4'-DDT	34	---	---	0.15 U	0.15 U	0.15 U	0.15 UJG	0.15 U	0.25 U	0.15 U	0.27 U	0.25 U	0.15 U	0.15 UJG	0.26 U	0.14 U	0.25 U	0.15 U	0.25 U	0.26 U	0.15 U	0.15 U	0.15 U
Aldrin	---	---	---	0.22 U	0.22 U	0.22 U	0.22 UJG	0.22 U	**0.63 JTG**	0.22 U	0.11 U	0.1 U	0.22 U	0.22 UJG	0.1 U	0.21 U	0.1 U	**2.9 J**	0.1 U	0.1 U	0.21 U	**0.36 J**	0.21 U
alpha-Chlordane	---	---	---	**0.15 J**	0.13 U	0.13 U	0.13 UJG	**2.5 J**	0.11 U	0.13 U	0.12 U	0.11 U	0.13 U	0.13 UJG	0.12 U	0.13 U	0.11 U	0.13 U	0.11 U	0.12 U	0.13 U	0.13 U	0.13 U
Dieldrin	---	---	---	0.12 U	0.12 U	0.12 U	0.12 UJG	0.12 U	0.21 U	0.11 U	0.22 U	0.21 U	0.12 U	0.12 UJG	**0.37 JTG**	**0.37 J**	0.21 U	0.12 U	0.21 U	**1.9 J**	0.11 U	0.11 U	0.11 U
gamma-BHC	---	---	---	0.078 U	0.077 U	**2.8**	0.078 UJG	0.076 U	0.11 U	0.076 U	0.12 U	0.11 U	**0.4 J**	**0.48 JTG**	0.11 U	0.074 U	0.11 U	**0.95 J**	0.11 U	0.11 U	0.075 U	0.075 U	**0.51 J**
Heptachlor	---	---	---	0.47 U	0.46 U	0.46 U	0.46 UJG	0.45 U	0.13 U	0.45 U	0.14 U	0.13 U	0.46 U	0.45 UJG	0.13 U	0.44 U	**0.22 JTG**	0.46 U	0.13 U	0.13 U	0.45 U	0.45 U	0.45 U
Petroleum Hydrocarbons (mg/kg dry weight)																							
Gasoline	---	---	---		65 U																		
Diesel Range	---	---	---		160 U																		
Motor Oil	---	---	---		320 U																		
Dioxins/Furans (ng/kg dry weight)																							
DX TOTAL (TEQ ND=1/2 DL)	---	---	---		**50.8**		**53.7**		**47.4**		**28.8**		**31.8**	**37.9**	**5.16**		**3.8**		**29.8**		**2.08**		**36**
1,2,3,4,6,7,8-HPCDD	---	---	---		**1,230**		**1,420**		**1,810**		**712**		**717**	**820 B**	**113**		**83.7**		**654**		**45.4**		**649 B**
1,2,3,4,6,7,8-HPCDF	---	---	---		**447**		**393**		**197**		**217**		**298**	**330 B**	**37.5**		**29.2**		**262**		**18.7**		**204 B**
1,2,3,4,7,8,9-HPCDF	---	---	---		**24.8**		**22.2**		**11**		**13.5**		**16.1**	**16.7**	**2.42**		**1.53**		**15.3**		**1.07**		**12.4**
1,2,3,4,7,8-HXCDD	---	---	---		**13.4**		**15.7**		**9.27**		**7.04**		**8.19**	**9.34**	**1.88**		**1.34**		**6.82**		**0.606**		**9.84**
1,2,3,4,7,8-HXCDF	---	---	---		**39.4**		**33.4**		**22.5**		**22**		**26.5**	**26.2**	**3.16**		**2.32**		**27.1**		**1.56**		**25.5**
1,2,3,6,7,8-HXCDD	---	---	---		**62.8**		**70.8**		**61.6**		**36.1**		**42.3**	**48.5**	**6.56**		**5.48**		**40.3**		**2.6**		**48.4**
1,2,3,6,7,8-HXCDF	---	---	---		**12.9**		**11.4**		**7.18**		**7.13**		**8.21**	**9.18**	**1.29**		**0.878**		**7.86**		**0.595**		**8.77**
1,2,3,7,8,9-HXCDD	---	---	---		**35.9**		**43.2**		**39.5**		**28.6**		**22.1**	**26.9**	**5.34**		**3.48**		**21.8**		**1.85**		**31.1**
1,2,3,7,8,9-HXCDF	---	---	---		**1.1**		**1.02**		**0.792**		**0.611 J**		**0.666**	**0.715**	**0.111 J**		**0.075 J**		**0.66**		**0.052 J**		**0.785**
1,2,3,7,8-PECDD	---	---	---		**7.26**		**8.34**		**4.23**		**3.93 J**		**5.01**	**6.82**	**0.951**		**0.657**		**4.39**		**0.339 J**		**7.39**
1,2,3,7,8-PECDF	---	---	---		**5.29**		**5.62**		**4.18**		**2.65 J**		**3.25**	**4.12**	**0.433 J**		**0.373 J**		**3.14**		**0.179 J**		**4.56**
2,3,4,6,7,8-HXCDF	---	---	---		**10.6**		**11**		**7.41**		**6.2**		**7.51**	**8.07**	**1.02**		**0.896**		**6.41**		**0.5 J**		**7.39**
2,3,4,7,8-PECDF	---	---	---		**7.88**		**7.56**		**5.81**		**4.27 J**		**5.22**	**6.23**	**0.602**		**0.488**		**5.74**		**0.279 J**		**8.02**
2,3,7,8-TCDD	---	---	---		**1.62**		**1.72**		**0.885**		**1.19**		**1.05**	**1.59**	**0.211**		**0.143**		**0.813**		**0.073 J**		**1.84**
2,3,7,8-TCDF	---	---	---		**5.35**		**5.08 J**		**4.59**		**2.3 J**		**2.92 J**	**4.01**	**0.325 J**		**0.284 J**		**3.89**		**0.163**		**5.51**
OCDD	---	---	---		**12,400 B**		**12,900 B**		**16,100 B**		**6,340 B**		**6,430 B**	**7,400 B**	**1,030 B**		**756 B**		**5,860 B**		**394 B**		**5,720 B**
OCDF	---	---	---		**1,750**		**1,230**		**490**		**634**		**1,030**	**1,020 B**	**105**		**80.2**		**735**		**50**		**586 B**

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor																			
				SH-19-WC-12	SH-20-WS-00 [d]	SH-20-WC-12	SH-21-WS-00 [d]	SH-21-WC-12 [d]	SH-22-WS-00 [d]	SH-22-WC-12	SH-23-WS-00	SH-23-WC-12 [d]	SH-24-WS-00 [d]	SH-25-WS-00	SH-26-WS-00	SH-26-WC-12 [d]	SH-27-WS-00	SH-27-WC-12	SH-28-WS-00	SH-28-WC-12	SH-29-WS-00	SH-29-WC-12	SH-30-WS-00
	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	0 to 10 cm	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm
TOTAL HEPTA-DIOXINS	---	---	---		**3,080**		**4,450**		**10,200**		**2,280**		**1,750**	**2,120 B**	**283**		**204**		**1,600**		**109**		**2,090 B**
TOTAL HEPTA-FURANS	---	---	---		**1,810**		**1,500**		**744**		**776**		**1,160**	**1,230 B**	**132**		**98.1**		**931**		**61.3**		**836 B**
TOTAL HEXA-DIOXINS	---	---	---		**898**		**1,180**		**1,130**		**570**		**527**	**655**	**121**		**92.8**		**646**		**39.5**		**924**
TOTAL HEXA-FURANS	---	---	---		**605**		**553**		**400**		**342**		**429**	**456**	**48.1**		**37.1**		**434**		**24.4**		**439**
TOTAL PENTA-DIOXINS	---	---	---		**391**		**574**		**182**		**215**		**259**	**293**	**67.9**		**54**		**248**		**13.6**		**400**
TOTAL PENTA-FURANS	---	---	---		**165**		**163**		**129**		**102**		**119**	**143**	**14.4**		**11.7**		**143**		**7.25**		**195**
TOTAL TETRA-DIOXINS	---	---	---		**367**		**545**		**169**		**163**		**247**	**262**	**61.5**		**40.8**		**263**		**9.78**		**441**
TOTAL TETRA-FURANS	---	---	---		**131**		**132**		**72.8**		**63.1**		**78.9**	**94.9**	**10**		**7.09**		**87.3**		**3.74**		**158**
Guaicols and Resin Acids (ug/kg dry weight)																							
12-Chlorodehydroabietic Acid	---	---	---	99 U	300 U	290 U	100 U	220 UJ	99 U	480 U	98 U	99 U	290 U	98 U	97 U	98 U	98 U	97 U	98 U	99 U	96 U	97 U	290 U
14-Chlorodehydroabietic Acid	---	---	---	99 U	300 U	290 U	100 U	220 UJ	99 U	480 U	98 U	99 U	290 U	98 U	97 U	98 U	98 U	97 U	98 U	99 U	96 U	97 U	290 U
3,4,5-Trichloroguaiacol	---	---	---	20 U	20 U	20 U	20 U	50 U	20 U	19 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	20 U	19 U	20 U	19 U	20 U	20 U
3,4,6-Trichloroguaiacol	---	---	---	20 U	20 U	20 U	20 U	50 U	20 U	19 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	20 U	19 U	20 U	19 U	20 U	20 U
3,4-Dichloroguaiacol	---	---	---	20 U	20 U	20 U	20 U	50 U	20 U	19 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	20 U	19 U	20 U	19 U	20 U	20 U
4,5,6-Trichloroguaiacol	---	---	---	20 U	20 U	20 U	20 U	50 U	20 U	19 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	20 U	19 U	20 U	19 U	20 U	20 U
4,5-Dichloroguaiacol	---	---	---	20 U	20 U	20 U	20 U	50 U	20 U	19 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	20 U	19 U	20 U	19 U	20 U	20 U
4,6-Dichloroguaiacol	---	---	---	20 U	20 U	20 U	20 U	50 U	20 U	19 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	20 U	19 U	20 U	19 U	20 U	20 U
4-Chloroguaiacol	---	---	---	20 U	20 U	20 U	20 U	50 U	20 U	19 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	20 U	19 U	20 U	19 U	20 U	20 U
9,10-Dichlorostearic Acid	---	---	---	99 U	300 U	290 U	100 U	220 UJ	99 U	480 U	98 U	99 U	290 U	98 U	97 U	98 U	98 U	97 U	98 U	99 U	96 U	97 U	290 U
Abietic Acid	---	---	---	**960**	**840**	**2,600**	**1,900**	**38,000 J**	**3,300**	**13,000**	**1,100**	**1,000**	**3,000**	**1,300**	**210**	98 U	**120**	**8,500**	**600**	**1,600**	96 U	**230**	**710**
Dehydroabietic Acid	---	---	---	**460**	**1,200**	**1,400**	**1,600**	**22,000 J**	**3,200**	**5,300**	**740**	**530**	**4,200**	**1,800**	**120**	98 U	98 U	**7,500**	**710**	**360**	96 U	**110**	**580**
Dichlorodehydroabietic Acid	---	---	---	99 U	300 U	290 U	100 U	220 UJ	99 U	480 U	98 U	99 U	290 U	98 U	97 U	98 U	98 U	97 U	98 U	99 U	96 U	97 U	290 U
Guaiacol	---	---	---	20 U	20 U	20 U	20 U	50 U	20 U	19 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	20 U	19 U	20 U	19 U	20 U	20 U
Isopimaric Acid	---	---	---	**140**	300 U	**290 J**	100 U	**3,700 J**	**540**	**2,400**	**130**	**120**	**520**	**340**	97 U	98 U	98 U	**3,300**	**100**	99 U	96 U	97 U	290 U
Linolenic Acid	---	---	---	99 U	300 U	290 U	**180**	**1,000 J**	99 U	480 U	**190**	99 U	290 U	**160**	97 U	98 U	98 U	**150**	**160**	99 U	96 U	97 U	**290 J**
Neoabietic Acid	---	---	---	99 UJ	300 UJ	290 UJ	100 UJ	**280 J**	99 U	480 UJ	98 U	99 U	290 UJ	98 UJ	97 U	98 UJ	98 U	97 UJ	98 U	99 U	96 UJ	97 UJ	290 UJ
Oleic Acid	---	---	---	99 U	300 U	290 U	**450**	**820 J**	**310**	480 U	**320**	**140**	**650**	**240**	**200**	98 U	**150**	**190**	**280**	**140**	**300**	97 U	**370**
Palustric Acid	---	---	---	99 U	300 U	290 U	100 U	220 U	99 U	**600**	98 U	99 U	290 U	98 U	97 U	98 U	98 U	**530**	98 U	99 U	96 U	97 U	290 U
Pimaric Acid	---	---	---	99 U	300 U	290 U	100 U	**220 J**	99 U	480 U	98 U	99 U	290 U	98 U	97 U	98 U	98 U	97 U	98 U	99 U	96 U	97 U	290 U
Retene	---	---	---	**220**	**26**	**21,000**	**230**	**220 J**	**36**	**16,000**	**10**	**30**	**640**	**62**	8.7 U	20 U	8.9 U	**50**	**18**	**15**	19 U	20 U	20 U
Sandaracopimaric Acid	---	---	---	99 U	300 U	290 U	**1,300**	**1,300 J**	99 U	480 U	98 U	99 U	290 U	98 U	97 U	98 U	98 U	**570**	98 U	99 U	96 U	97 U	290 U
Tetrachloroguaiacol	---	---	---	20 U	20 U	20 U	20 U	50 U	20 U	19 U	20 U	20 U	20 U	20 U	19 U	20 U	20 U	20 U	19 U	20 U	19 U	20 U	20 U
Total resin acids [c]	---	---	---	**1,800**	**2,100**	**25,000**	**5,700**	**68,000**	**7,400**	**38,000**	**2,500**	**1,800**	**9,000**	**3,900**	**530**	98 U	**270**	**21,000**	**1,900**	**2,100**	**300**	**340**	**2,000**

[a] Lowest and second lowest apparent effects thresholds for freshwater sediments in Washington State 2003).

[b] Washington State Marine Sediment Management Standards, Sediment Quality Standards (SQS) and Cleanup Screening Level (CSL) (WAC Chapter 173-204).

[c] Totals only include detected and estimated values

[d] Sample has organic carbon content less than 0.5 percent or greater than 4.0 percent and should be compared to LAET criteria rather than organic-carbon normalized SMS criteria.

ng/kg	nanograms per kilogram
µg/kg	micrograms per kilogram.
mg/kg	milligrams per kilogram.
PCBs	polychlorinated biphenyls.

Bold type indicates the sample result is greater than the laboratory detection limit.

Underlined	value indicates the sample result or detection limit is greater than the LAET or SQS value.
Shaded	value indicates the sample result or detection limit is greater than the CSL value.
U	The material was analyzed for, but was not detected. The associated numerical value is the detection limit. For petroleum hydrocarbons, guaiacols and resin acids, the associated numerical value is the reporting limit.
J	The associated numerical value is considered an estimated concentration.
G	Bias is high.
B	Specifyied compound was detected in the associated method blank.

LPAH represents the sum of the following "low molecular weight polynuclear aromatic hydrocarbon" compounds: naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene. 2-Methylnaphthalene is not included in the LPAH sum.

HPAH represents the sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds: fluoranthene, pyrene, benzo(a)anthracene, chrysene, total benzofluoranthenes, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Total benzofluoranthenes represents the sum of the concentrations of the "b" and "k" isomers.

Total PAHs (carcinogenic) represents the sum of the following PAH compounds: benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene.

	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor	Oakland Bay																	
				SH-30-WC-12	OB-01-SS-00	OB-01-SC-12 [d]	OB-02-SS-00	OB-02-SC-12	OB-03-SS-00	OB-03-SC-12	OB-04-SS-00	OB-04-SC-12	OB-05-SS-00	OB-05-SC-12	OB-06-SS-00 [d]	OB-06-SC-12	OB-07-SS-00	OB-07-SC-12	OB-08-SS-00	OB-08-SC-12	OB-09-SS-00
Parameter	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm
Conventional Parameters																					
Particle/Grain Size, Fines (Silt/Clay)	---	---	---	54.3	11.9	3.1	31.1	61.6	69.5	67.6	42.6	54.3	71.6	67.2	96.9	87.2	16.9	21.2	87.4	62	87.8
Particle/Grain Size, Phi Scale <-1	---	---	---	0.5	17.9	66.5	0.1	0.3	6	0.8	0.7	2.5	2.1	1	0.5	0.7	24.4	45.6	0.4	13.8	3.5
Particle/Grain Size, Phi Scale >10	---	---	---	10.5	2.2		6.6	11.4	13.5	13.8	5.1	10.3	12.4	11.4	9.2	14.4	2.9	3.2	12.8	12.7	13.4
Particle/Grain Size, Phi Scale 0 to 1	---	---	---	0.9	16.5	7.6	1.4	0.5	4	1.3	1.8	1.3	3.4	1.7	0.3	2.3	4	3.4	1.7	4.1	1.6
Particle/Grain Size, Phi Scale -1 to 0	---	---	---	0.6	12	10.4	0.8	0.5	5.1	1.1	0.8	0.9	3	1.7	0.2	4.6	3.6	3.5	1.3	2.2	2.9
Particle/Grain Size, Phi Scale 1 to 2	---	---	---	1.4	27.7	8.9	2.2	0.8	3	1.5	3.6	1.7	3.7	2.3	0.2	1.1	11.7	8.3	1.6	7.4	1
Particle/Grain Size, Phi Scale 2 to 3	---	---	---	10	10.4	2.7	21.1	10.6	2.4	5.4	13.4	11.6	4.1	7.1	0.3	1	22.2	9.4	2.2	5.1	0.8
Particle/Grain Size, Phi Scale 3 to 4	---	---	---	32.3	3.6	0.9	43.3	25.6	10.1	22.2	37	27.6	12.1	19	1.6	3.2	17.2	8.6	5.5	5.3	2.3
Particle/Grain Size, Phi Scale 4 to 5	---	---	---	9.8	1.9		6.1	7.6	8.1	13	13.3	8.2	7.2	9.4	10.8	10.9	4.3	6.8	13.4	4.9	5.5
Particle/Grain Size, Phi Scale 5 to 6	---	---	---	7.2	1.1		3.3	6.7	10.1	9.1	14.9	6.4	12.2	11.1	24.3	15.2	2.4	2.6	18.7	8.9	18.1
Particle/Grain Size, Phi Scale 6 to 7	---	---	---	7.1	1.5		3.4	8	10.7	8.9	3.3	7.7	14.9	9	22.4	15.7	1.9	2.5	16.5	11	21.7
Particle/Grain Size, Phi Scale 7 to 8	---	---	---	7.7	1.8		4.4	9.3	10.9	9.4	1.9	8.1	9.4	9.7	13.1	12.3	1.9	2.4	10.7	11.3	12.1
Particle/Grain Size, Phi Scale 8 to 9	---	---	---	6.4	1.6		3.9	9.7	8.4	6.6	1.9	7.3	8.1	8.5	11	10.3	1.8	2.1	8.1	7.4	9.1
Particle/Grain Size, Phi Scale 9 to 10	---	---	---	5.6	1.7		3.4	8.7	7.8	6.8	2.1	6.3	7.5	8	6.2	8.5	1.7	1.7	7.3	5.8	8
Total Volatile Solids %	---	---	---	4.76																	
Ammonia (mg/kg)	---	---	---	45.1	15.1	0.18	4.79	40	11.7	13.5	8.52	58.6	11.6	36.3	9.47	0.03 U	9.34	6	8.22	7.38	10.8
Sulfide	---	---	---	19.3	6.83	0.01 U	489	216	1,240	241	599	216	761	555	1,190	351	0.01 U	141	167	0.01 U	1,530
Total organic carbon (%)	---	---	---	0.736	0.878	0.164	1.4	1.15	2.79	2.64	3.45	1.55	2.35	2.94	4.68	2.09	0.995	0.986	1.36	1.38	2.69
Total solids (%)	---	---	---	55.4	69.1	85.6	55.7	49	35.4	45.8	49.1	56.4	35.3	45.4	34.7	80.9	63.7	71.5	46.3	57	31.5
Metals (mg/kg dry weight)																					
Antimony	150	---	---	0.33 J	0.23 J		0.25 J		0.35 J		0.26 J		0.39 J		0.31 J		0.14 J		0.27 J		0.18 J
Arsenic	57	57	93	4.8	4.7		6.1		6.9		7.2		5.3		7.3		3.6		6.6		3.6
Cadmium	5.1	5.1	6.7	0.78	0.36		0.64		0.87		0.74		0.71		0.96		0.2 J		0.37 J		0.44
Chromium	260	260	270	37	29		37		46		33		36		47		28		46		24
Copper	390	390	390	26	18		26		43		26		34		47		19		34		23
Lead	450	450	530	3.5	4.1		7.2		13		8.1		10		15		5.2		11		7.1
Mercury	0.41	0.41	0.59	0.026 J	0.017 J		0.053		0.08		0.038		0.056		0.057 J		0.014 J		0.063		0.025 J
Nickel	140	---	---	35	22		36		43		31		33		42		24		37		21
Silver	6.1	6.1	6.1	0.16 J	0.037 J		0.089 J		0.16 J		0.097 J		0.34 J		0.21 J		0.065 J		0.14 J		0.1 J
Zinc	410	410	960	45	55		69		95		70		74		97		45		75		50
Butyltins (ug/kg dry weight)																					
Butyltin Ion	---	---	---	3.8 U																	
Dibutyltin Ion	---	---	---	3.0 U																	
Tributyltin Ion	---	---	---	1.7 U																	
Aromatic Hydrocarbons (ug/kg dry weight or mg/kg OC)																					
LPAHs																					
2-Methylnaphthalene (dry)	670	---	---	8.1 U	8.1 U		8.1 U		8.1 U		8.1 U		8.1 U		8.1 U		8.0 U		8.0 U		8.1 U
2-Methylnaphthalene (OC)	---	38	64	1.1 U	0.92 U		0.58 U		0.29 U		0.23 U		0.34 U		0.17 U		0.80 U		0.59 U		0.30 U
Acenaphthene (dry)	500	---	---	8.1 U	8.1 U		8.1 U		8.1 U		8.1 U		8.1 U		8.1 U		8.0 U		8.0 U		8.1 U
Acenaphthene (OC)	---	16	57	1.1 U	0.92 U		0.58 U		0.29 U		0.23 U		0.34 U		0.17 U		0.80 U		0.59 U		0.30 U
Acenaphthylene (dry)	560	---	---	8.6 U	8.6 U		8.5 U		8.5 U		8.6 U		8.6 U		8.5 U		8.5 U		8.5 U		8.6 U
Acenaphthylene (OC)	---	66	66	1.2 U	1.0 U		0.61 U		0.30 U		0.25 U		0.37 U		0.18 U		0.85 U		0.63 U		0.32 U
Anthracene (dry)	960	---	---	7.7 U	7.7 U		7.6 U		7.6 U		7.7 U		7.7 U		7.6 U		7.6 U		7.6 U		7.7 U
Anthracene (OC)	---	220	1,200	1.0 U	0.88 U		0.54 U		0.27 U		0.22 U		0.33 U		0.16 U		0.76 U		0.56 U		0.29 U
Fluorene (dry)	540	---	---	8.9 U	8.9 U		8.8 U		8.8 U		8.9 U		8.9 U		8.8 U		8.8 U		8.8 U		8.9 U
Fluorene (OC)	---	23	79	1.2 U	1.0 U		0.63 U		0.32 U		0.26 U		0.38 U		0.19 U		0.88 U		0.65 U		0.33 U
Naphthalene (dry)	2,100	---	---	8.6 U	8.6 U		8.5 U		8.6 U		8.6 U		8.6 U		8.6 U		8.5 U		8.5 U		8.6 U
Naphthalene (OC)	---	99	170	1.2 U	1.0 U		0.61 U		0.31 U		0.25 U		0.37 U		0.18 U		0.85 U		0.63 U		0.32 U
Phenanthrene (dry)	1500	---	---	8.3 U	8.3 U		8.3 U		8.3 U		51		8.3 U		8.3 U		25		8.2 U		8.3 U
Phenanthrene (OC)	---	100	480	1.1 U	0.95 U		0.59 U		0.30 U		1.5		0.35 U		0.18 U		2.5		0.60 U		0.31 U
Total LPAHs (dry) [c]	5200	---	---	20 U	20 U		20 U		20 U		51		20 U		20 U		25		20 U		20 U
Total LPAHs (OC) [c]	---	370	780	2.7 U	2.3 U		1.4 U		0.72 U		1.5		0.85 U		0.43 U		2.5		1.5 U		0.74 U
HPAHs																					
Benzo(a)anthracene (dry)	1,300	---	---	5.9 U	5.9 U		5.8 U		5.8 U		24		5.9 U		5.8 U		18 J		5.8 U		5.9 U
Benzo(a)anthracene (OC)	---	110	270	0.80 U	0.67 U		0.41 U		0.21 U		0.70		0.25 U		0.12 U		1.8 J		0.43 U		0.22 U
Benzo(a)pyrene (dry)	1,600	---	---	8.1 U	8.1 U		8.0 U		8.0 U		8.1 U		8.1 U		8.1 U		15 J		8.0 U		8.1 U
Benzo(a)pyrene (OC)	---	99	210	1.1 U	0.92 U		0.57 U		0.29 U		0.23 U		0.34 U		0.17 U		1.5 J		0.59 U		0.30 U
Benzo(b)fluoranthene (dry)	---	---	---	9.4 U	9.4 U		9.4 U		9.4 U		9.4 U		9.4 U		9.4 U		9.8 J		9.3 U		9.4 U
Benzo(b)fluoranthene (OC)	---	---	---	1.3 U	1.1 U		0.67 U		0.34 U		0.27 U		0.40 U		0.20 U		1.0 J		0.68 U		0.35 U
Benzo(g,h,i)perylene (dry)	670	---	---	6.7 U	6.7 U		6.6 U		6.7 U		6.7 U		6.7 U		6.7 U		6.6 U		6.6 U		6.7 U
Benzo(g,h,i)perylene (OC)	---	31	78	0.91 U	0.76 U		0.47 U		0.24 U		0.19 U		0.29 U		0.14 U		0.66 U		0.49 U		0.25 U
Benzo(k)fluoranthene (dry)	---	---	---	9.2 U	9.2 U		9.1 U		9.1 U		9.2 U		9.2 U		9.1 U		18 J		9.1 U		9.2 U
Benzo(k)fluoranthene (OC)	---	---	---	1.3 U	1.0 U		0.65 U		0.33 U		0.27 U		0.39 U		0.19 U		1.8 J		0.67 U		0.34 U
Benzofluoranthenes, Total (b+k+j) (dry)	3,200	---	---	20 U	20 U		20 U		20 U		20 U		20 U		20 U		28 J		20 U		20 U
Benzofluoranthenes, Total (b+k+j) (OC)	---	230	450	2.7 U	2.3 U		1.4 U		0.72 U		0.58 U		0.85 U		0.43 U		2.8 J		1.5 U		0.74 U
Chrysene (dry)	1,400	---	---	6.6 U	6.6 U		11 J		15 J		25		6.6 U		6.6 U		21		6.5 U		6.6 U
Chrysene (OC)	---	110	460	0.90 U	0.75 U		0.8 J		0.54 J		0.72		0.28 U		0.14 U		2.1		0.48 U		0.25 U
Dibenz(a,h)anthracene (dry)	230	---	---	8.5 U	8.5 U		8.4 U		8.4 U		8.5 U		8.5 U		8.4 U		8.4 U		8.4 U		8.5 U
Dibenz(a,h)anthracene (OC)	---	12	33	1.2 U	1.0 U		0.60 U		0.30 U		0.25 U		0.36 U		0.18 U		0.84 U		0.62 U		0.32 U
Fluoranthene (dry)	1,700	---	---	7.8 U	7.8 U		20 U		13 J		48		7.8 U		7.8 U		36		7.7 U		7.8 U
Fluoranthene (OC)	---	160	1,200	1.1 U	0.89 U		1.4 U		0.47 J		1.4		0.33 U		0.17 U		3.6		0.57 U		0.29 U
Indeno(1,2,3-cd)pyrene (dry)	600	---	---	8.5 U	8.5 U		16 J		8.5 U		8.5 U		8.5 U		8.5 U		8.4 U		8.4 U		8.5 U
Indeno(1,2,3-cd)pyrene (OC)	---	34	88	1.2 U	1.0 U		1.1 J		0.30 U		0.25 U		0.36 U		0.18 U		0.84 U		0.62 U		0.32 U
Pyrene (dry)	2,600	---	---	7.7 U	7.7 U		10 J		17 J		61		7.7 U		7.7 U		33		7.6 U		7.7 U
Pyrene (OC)	---	1,000	1,400	1.0 U	0.88 U		0.71 J		0.61 J		1.8		0.33 U		0.16 U		3.3		0.56 U		0.29 U
Total HPAHs (dry) [c]	12,000	---	---	20 U	20 U		37 J		45 J		160		20 U		20 U		151		20 U		20 U
Total HPAHs (OC) [c]	---	960	5,300	2.7 U	2.3 U		2.6 J		1.6 J		4.6		0.85 U		0.43 U		15		1.5 U		0.74 U

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor	Oakland Bay																	
				SH-30-WC-12	OB-01-SS-00	OB-01-SC-12 [d]	OB-02-SS-00	OB-02-SC-12	OB-03-SS-00	OB-03-SC-12	OB-04-SS-00	OB-04-SC-12	OB-05-SS-00	OB-05-SC-12	OB-06-SS-00 [d]	OB-06-SC-12	OB-07-SS-00	OB-07-SC-12	OB-08-SS-00	OB-08-SC-12	OB-09-SS-00
	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm
Chlorinated Benzenes (ug/kg dry weight or mg/kg OC)																					
1,2,4-Trichlorobenzene (dry)	31	---	---	9.0 U	9.0 U		8.9 U		8.9 U		9.0 U		9.0 U		9.0 U		8.9 U		8.9 U		9.0 U
1,2,4-Trichlorobenzene (OC)	---	0.81	1.8	1.2 U	1.0 U		0.64 U		0.32 U		0.26 U		0.38 U		0.19 U		0.89 U		0.65 U		0.33 U
1,2-Dichlorobenzene (dry)	35	---	---	7.8 U	7.8 U		7.7 U		7.8 U		7.8 U		7.8 U		7.8 U		7.7 U		7.7 U		7.8 U
1,2-Dichlorobenzene (OC)	---	2.3	2.3	1.1 U	0.89 U		0.55 U		0.28 U		0.23 U		0.33 U		0.17 U		0.77 U		0.57 U		0.29 U
1,4-Dichlorobenzene (dry)	110	---	---	7.3 U	7.3 U		7.2 U		7.3 U		7.3 U		7.3 U		7.3 U		7.2 U		7.2 U		7.3 U
1,4-Dichlorobenzene (OC)	---	3.1	9	1.0 U	0.83 U		0.51 U		0.26 U		0.21 U		0.31 U		0.16 U		0.72 U		0.53 U		0.27 U
Phthalates (ug/kg dry weight or mg/kg OC)																					
bis(2-Ethylhexyl)phthalate (dry)	1,300	---	---	**13 J**	11 U		**16 J**		**18 J**		11 U		11 U		11 U		11 U		11 U		11 U
bis(2-Ethylhexyl)phthalate (OC)	---	47	78	**1.8 J**	1.3 U		**1.1 J**		**0.6 J**		0.32 U		0.47 U		0.24 U		1.1 U		0.81 U		0.41 U
Butylbenzylphthalate (dry)	63	---	---	11 U	11 U		11 U		11 U		11 U		11 U		11 U		11 U		11 U		11 U
Butylbenzylphthalate (OC)	---	4.9	64	1.5 U	1.3 U		0.79 U		0.39 U		0.32 U		0.47 U		0.24 U		1.1 U		0.81 U		0.41 U
Di-n-Butylphthalate (dry)	1400	---	---	12 U	12 U		12 U		12 U		12 U		12 U		12 U		12 U		12 U		12 U
Di-n-Butylphthalate (OC)	---	220	1,700	1.6 U	1.4 U		0.86 U		0.43 U		0.35 U		0.51 U		0.26 U		1.2 U		0.88 U		0.45 U
Di-n-Octyl phthalate (dry)	6200	---	---	8.2 U	8.3 U		8.2 U		8.2 U		8.3 U		8.3 U		8.2 U		8.2 U		8.2 U		8.3 U
Di-n-Octyl phthalate (OC)	---	58	4,500	1.1 U	0.95 U		0.59 U		0.29 U		0.24 U		0.35 U		0.18 U		0.82 U		0.60 U		0.31 U
Diethylphthalate (dry)	200	---	---	16 U	16 U		16 U		16 U		16 U		16 U		16 U		16 U		16 U		16 U
Diethylphthalate (OC)	---	61	110	2.2 U	1.8 U		1.1 U		0.57 U		0.46 U		0.68 U		0.34 U		1.6 U		1.2 U		0.59 U
Dimethylphthalate (dry)	71	---	---	7.7 U	7.7 U		7.6 U		7.6 U		7.70 U		7.7 U		7.7 U		7.6 U		7.6 U		7.7 U
Dimethylphthalate (OC)	---	53	53	1.0 U	0.88 U		0.54 U		0.27 U		0.22 U		0.33 U		0.16 U		0.76 U		0.56 U		0.29 U
Ionizable Organic Compounds (ug/kg dry weight)																					
2,4-Dimethylphenol	29	29	29	15 U	15 U		15 U		15 U		15 U		15 U		15 U		14 U		14 U		15 U
Benzoic Acid	650	650	650	110 U	110 U		110 U		110 U		110 U		110 U		110 U		110 U		110 U		110 U
Benzyl Alcohol	57	57	73	14 U	14 U		14 U		14 U		14 U		14 U		14 U		14 U		14 U		14 U
Pentachlorophenol	360	360	690	47 U	47 U		47 U		47 U		47 U		47 U		47 U		47 U		47 U		47 U
Phenol	420	420	1,200	14 U	**150**		13 U		**23**		14 U		14 U		14 U		**63**		13 U		14 U
Miscellaneous Extractables (ug/kg dry weight or mg/kg OC)																					
Dibenzofuran (dry)	540	---	---	7.5 U	7.5 U		7.4 U		7.4 U		7.5 U		7.5 U		7.5 U		7.4 U		7.4 U		7.5 U
Dibenzofuran (OC)	---	15	58	1.0 U	0.85 U		0.53 U		0.27 U		0.22 U		0.32 U		0.16 U		0.74 U		0.54 U		0.28 U
Hexachlorobenzene (dry)	22	---	---	7.9 U	7.9 U		7.9 U		7.9 U		8 U		7.9 U		7.9 U		7.8 U		7.8 U		7.9 U
Hexachlorobenzene (OC)	---	0.38	2.3	1.1 U	0.90 U		0.56 U		0.28 U		0.23 U		0.34 U		0.17 U		0.78 U		0.57 U		0.29 U
Hexachlorobutadiene (dry)	11	---	---	8.0 U	8.0 U		8.0 U		8.0 U		8.0 U		8.0 U		8.0 U		7.9 U		7.9 U		8.0 U
Hexachlorobutadiene (OC)	---	3.9	6.2	1.1 U	0.91 U		0.57 U		0.29 U		0.23 U		0.34 U		0.17 U		0.79 U		0.58 U		0.30 U
N-Nitrosodiphenylamine (dry)	28	---	---	8.6 U	8.6 U		8.5 U		8.6 U		8.6 U		8.6 U		8.6 U		8.5 U		8.5 U		8.6 U
N-Nitrosodiphenylamine (OC)	---	11	11	1.2 U	1.0 U		0.61 U		0.31 U		0.25 U		0.37 U		0.18 U		0.85 U		0.63 U		0.32 U
2-Methylphenol	---	63	63	14 U	14 U		14 U		14 U		14 U		14 U		14 U		14 U		14 U		14 U
4-Methylphenol	---	670	670	13 U	13 U		13 U		**43**		13 U		13 U		13 U		13 U		13 U		13 U
Polychlorinated Biphenyls (ug/kg dry weight or mg/kg OC)																					
Total PCBs (OC) [c]	---	12	65	0.54 UJ	0.44 UJ		0.28 UJ		0.14 UJ		0.11 UJ		0.17 UJ		0.085 UJ		0.36 UJ		0.29 UJ		0.17 UJ
Total PCBs (dry) [c]	130	---	---	4 UJ	3.9 UJ		3.9 UJ		4.0 UJ		3.9 UJ		4.0 UJ		4.0 UJ		3.6 UJ		3.9 UJ		4.6 UJ
Aroclor 1016	---	---	---	1.6 UJ	1.5 UJ		1.5 UJ		1.6 UJ		1.6 UJ		1.6 UJ		1.6 UJ		1.5 UJ		1.6 UJ		1.8 UJ
Aroclor 1221	---	---	---	4 UJ	3.9 UJ		3.9 UJ		4.0 UJ		3.9 UJ		4.0 UJ		4.0 UJ		3.6 UJ		3.9 UJ		4.6 UJ
Aroclor 1232	---	---	---	3.5 UJ	3.4 UJ		3.4 UJ		3.5 UJ		3.5 UJ		3.5 UJ		3.5 UJ		3.2 UJ		3.5 UJ		4.0 UJ
Aroclor 1242	---	---	---	1.1 UJ	1.0 UJ		1.0 UJ		1.0 UJ		1.0 UJ		1.1 UJ		1.0 UJ		0.96 UJ		1.0 UJ		1.2 UJ
Aroclor 1248	---	---	---	0.65 UJ	0.63 UJ		0.63 UJ		0.64 UJ		0.64 UJ		0.66 UJ		0.65 UJ		0.59 UJ		0.64 UJ		0.75 UJ
Aroclor 1254	---	---	---	1.1 UJ	1.0 UJ		1.0 UJ		1.0 UJ		1.0 UJ		1.1 UJ		1.0 UJ		0.96 UJ		1.0 UJ		1.2 UJ
Aroclor 1260	---	---	---	1.5 UJ	1.5 UJ		1.4 UJ		1.5 UJ		1.5 UJ		1.5 UJ		1.5 UJ		1.4 UJ		1.5 UJ		1.7 UJ
Chlorinated Pesticides (ug/kg dry weight)																					
4,4'-DDD	16	---	---	**0.68 J**	0.14 U		**0.36 J**		0.14 U		0.14 U		**0.31 J**		0.15 U		0.14 U		0.14 U		0.17 U
4,4'-DDE	9	---	---	**0.71 J**	**0.63 J**		**3.1 J**		0.14 U		0.14 U		0.14 U		0.14 U		0.13 U		0.14 U		0.16 U
4,4'-DDT	34	---	---	**1.6 J**	**3.3 J**		0.14 U		0.15 U		**5.6**		**0.31 J**		0.15 U		**3.3**		0.15 U		0.17 U
Aldrin	---	---	---	**0.74 J**	0.22 U		0.21 U		0.22 U		0.22 U		0.22 U		0.22 U		0.21 U		0.22 U		0.25 U
alpha-Chlordane	---	---	---	**0.9 J**	0.13 U		0.13 U		0.13 U		0.13 U		0.98 U		0.13 U		0.13 U		0.13 U		0.15 U
Dieldrin	---	---	---	0.12 U	0.12 U		0.11 U		0.12 U		0.12 U		0.12 U		0.12 U		**0.12 J**		0.12 U		0.13 U
gamma-BHC	---	---	---	**0.31 J**	0.077 U		0.073 U		0.077 U		0.076 U		**1.4 J**		0.078 U		0.074 U		0.077 U		0.089 U
Heptachlor	---	---	---	0.45 U	0.46 U		0.44 U		0.46 U		0.45 U		0.46 U		0.46 U		0.44 U		0.46 U		**1.1 J**
Petroleum Hydrocarbons (mg/kg dry weight)																					
Gasoline	---	---	---		30 UJG																
Diesel Range	---	---	---		76 UJG																
Motor Oil	---	---	---		150 UJG																
Dioxins/Furans (ng/kg dry weight)																					
DX TOTAL (TEQ ND=1/2 DL)	---	---	---		**4.44**		**16.6**		**29**	**82**	**27.2**		**27.6**		**43.3**	**180**	**8.72**		**37**		**38.5**
1,2,3,4,6,7,8-HPCDD	---	---	---		**97.4 B**		**345 B**		**664 B**	**1,910 B**	**467 B**		**634 B**		**965 B**	**4,470 B**	**181 B**		**856 B**		**849 B**
1,2,3,4,6,7,8-HPCDF	---	---	---		**36.8 B**		**133 B**		**256 B**	**921**	**186 B**		**246 B**		**405 B**	**2170**	**68.6 B**		**269 B**		**333 B**
1,2,3,4,7,8,9-HPCDF	---	---	---		**2.21**		**7.99**		**13.9**	**48.3 B**	**10.1**		**12.9**		**21.3**	**109 B**	**3.94**		**16.5**		**18.3**
1,2,3,4,7,8-HXCDD	---	---	---		**1.37**		**5.09**		**8.23**	**20.5**	**7.09**		**8.06**		**13.4**	**39.1**	**2.91**		**14**		**12.5**
1,2,3,4,7,8-HXCDF	---	---	---		**3.54**		**14.7**		**22.9**	**83.1**	**22.8**		**24.1**		**34.2**	**181**	**6.31**		**25.8**		**32**
1,2,3,6,7,8-HXCDD	---	---	---		**5.67**		**20.3**		**37.3**	**106**	**38.8**		**34**		**55.4**	**232**	**12.1**		**45.3**		**48.2**
1,2,3,6,7,8-HXCDF	---	---	---		**1.17**		**4.59**		**8.04**	**24.1**	**7.07**		**7.95**		**12**	**51.1**	**2.36**		**10.5**		**10.9**
1,2,3,7,8,9-HXCDD	---	---	---		**3.92**		**14.6**		**24.6**	**55.2**	**21.5**		**22.7**		**38.6**	**115**	**8.69**		**40**		**35.3**
1,2,3,7,8,9-HXCDF	---	---	---		**0.12 J**		**0.408 J**		**0.689**	**2.14**	**0.514**		**0.596**		**0.964**	**5.89**	**0.229 J**		**0.763**		**0.925**
1,2,3,7,8-PECDD	---	---	---		**0.749**		**2.8**		**4.41**	**10.7**	**5.44**		**4.26**		**6.83**	**20.8**	**1.58**		**6.84**		**6.2**
1,2,3,7,8-PECDF	---	---	---		**0.445 J**		**2.16**		**2.88**	**7.8**	**3.37**		**2.58**		**4.23**	**14.3**	**0.914**		**3.5**		**3.55**
2,3,4,6,7,8-HXCDF	---	---	---		**1.14**		**4.29**		**7.56**	**17.7**	**7.06**		**7.27**		**11.3**	**39.4**	**2.2**		**9.71**		**10.4**
2,3,4,7,8-PECDF	---	---	---		**0.566**		**2.84**		**3.95**	**12.6 B**	**5.99**		**3.76**		**5.62**	**23.7 B**	**1.15 B**		**4.5 B**		**4.83**
2,3,7,8-TCDD	---	---	---		**0.125**		**0.567**		**0.828**	**1.34 B**	**1.19**		**0.734**		**1.1**	**2.62 B**	**0.233**		**0.756**		**0.982**
2,3,7,8-TCDF	---	---	---		**0.387**		**2.19**		**2.41**	**6.67**	**3.87**		**2.25**		**3.06**	**11.8**	**0.692**		**2.8**		**2.85**
OCDD	---	---	---		**833 B**		**2,570 B**		**5,830 B**	**16,400 B**	**3,480 B**		**5,240 B**		**8,080 B**	**40,800 B**	**1,410 B**		**4,860 B**		**7,230 B**
OCDF	---	---	---		**112 B**		**350 B**		**783 B**	**2,320 B**	**488 B**		**759 B**		**1,230 B**	**6,010 B**	**171 B**		**529 B**		**938 B**

	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Shelton Harbor	Oakland Bay																
				SH-30-WC-12	OB-01-SS-00	OB-01-SC-12 [d]	OB-02-SS-00	OB-02-SC-12	OB-03-SS-00	OB-03-SC-12	OB-04-SS-00	OB-04-SC-12	OB-05-SS-00	OB-05-SC-12	OB-06-SS-00 [d]	OB-06-SC-12	OB-07-SS-00	OB-07-SC-12	OB-08-SS-00	OB-08-SC-12	OB-09-SS-00
Parameter	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm
TOTAL HEPTA-DIOXINS	---	---	---		**233 B**		**923 B**		**1,640 B**	**4,390**	**1,340 B**		**1,550 B**		**2,230 B**	**10,300**	**471 B**		**2,550 B**		**2,020 B**
TOTAL HEPTA-FURANS	---	---	---		**127 B**		**518**		**932 B**	**3,960**	**700 B**		**864 B**		**1,520 B**	**8,880**	**228**		**886**		**1,140 B**
TOTAL HEXA-DIOXINS	---	---	---		**89.8**		**357**		**594**	**1,800**	**597**		**555**		**956**	**3760**	**194**		**949**		**818**
TOTAL HEXA-FURANS	---	---	---		**51**		**222**		**359**	**1,290**	**394**		**342**		**558**	**2850**	**95.9**		**400**		**460**
TOTAL PENTA-DIOXINS	---	---	---		**33.4**		**112**		**192**	**624**	**206**		**184**		**387**	**1170**	**69.5**		**326**		**303**
TOTAL PENTA-FURANS	---	---	---		**15**		**78.6**		**108**	**344**	**187**		**104**		**149**	**677**	**32.8**		**135**		**131**
TOTAL TETRA-DIOXINS	---	---	---		**23.9**		**82.7**		**146**	**487**	**228**		**149**		**277**	**832**	**42.5**		**233**		**212**
TOTAL TETRA-FURANS	---	---	---		**7.83**		**55.1**		**60.1**	**198**	**123**		**55.6**		**81.6**	**326**	**17.2**		**72.7**		**67.3**
Guaicols and Resin Acids (ug/kg dry weight)																					
12-Chlorodehydroabietic Acid	---	---	---	98 U			100 U						99 U		99 U						
14-Chlorodehydroabietic Acid	---	---	---	98 U			100 U						99 U		99 U						
3,4,5-Trichloroguaiacol	---	---	---	20 U																	
3,4,6-Trichloroguaiacol	---	---	---	20 U																	
3,4-Dichloroguaiacol	---	---	---	20 U																	
4,5,6-Trichloroguaiacol	---	---	---	20 U																	
4,5-Dichloroguaiacol	---	---	---	20 U																	
4,6-Dichloroguaiacol	---	---	---	20 U																	
4-Chloroguaiacol	---	---	---	20 U																	
9,10-Dichlorostearic Acid	---	---	---	98 U			100 U						99 U		99 U						
Abietic Acid	---	---	---	98 U			**770**						**130**		**120**						
Dehydroabietic Acid	---	---	---	**110**			**580**						99 U		99 U						
Dichlorodehydroabietic Acid	---	---	---	98 U			100 U						99 U		99 U						
Guaiacol	---	---	---	20 U																	
Isopimaric Acid	---	---	---	98 U			100 U						99 U		99 U						
Linolenic Acid	---	---	---	98 U			**100**						99 U		99 U						
Neoabietic Acid	---	---	---	98 UJ			100 U						99 U		99 U						
Oleic Acid	---	---	---	98 U			**1,800**						**870**		**1,100**						
Palustric Acid	---	---	---	98 U			100 U						99 U		99 U						
Pimaric Acid	---	---	---	98 U			100 U						99 U		99 U						
Retene	---	---	---	**19**																	
Sandaracopimaric Acid	---	---	---	98 U			100 U						99 U		99 U						
Tetrachloroguaiacol	---	---	---	20 U																	
Total resin acids [c]	---	---	---	**130**			**3,200**						**1,000**		**1,200**						

[a] Lowest and second lowest apparent effects thresholds for freshwater sediments in Washington State 2003).

[b] Washington State Marine Sediment Management Standards, Sediment Quality Standards (SQS) and Cleanup Screening Level (CSL) (WAC Chapter 173-204).

[c] Totals only include detected and estimated values

[d] Sample has organic carbon content less than 0.5 percent or greater than 4.0 percent and should be compared to LAET criteria rather than organic-carbon normalized SMS criteria.

ng/kg	nanograms per kilogram
µg/kg	micrograms per kilogram.
mg/kg	milligrams per kilogram.
PCBs	polychlorinated biphenyls.

Bold type indicates the sample result is greater than the laboratory detection limit.

Underlined	value indicates the sample result or detection limit is greater than the LAET or SQS value.
Shaded	value indicates the sample result or detection limit is greater than the CSL value.
U	The material was analyzed for, but was not detected. The associated numerical value is the detection limit. For petroleum hydrocarbons, guaiacols and resin acids, the associated numerical value is the reporting limit.
J	The associated numerical value is considered an estimated concentration.
G	Bias is high.
B	Specifyied compound was detected in the associated method blank.

LPAH represents the sum of the following "low molecular weight polynuclear aromatic hydrocarbon" compounds: naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene. 2-Methylnaphthalene is not included in the LPAH sum.

HPAH represents the sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds: fluoranthene, pyrene, benzo(a)anthracene, chrysene, total benzofluoranthenes, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Total benzofluoranthenes represents the sum of the concentrations of the "b" and "k" isomers.

Total PAHs (carcinogenic) represents the sum of the following PAH compounds: benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene.

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Oakland Bay																		Hammersley Inlet	
				OB-09-SC-12	OB-10-SS-00	OB-10-SC-12	OB-11-SS-00	OB-11-SC-12	OB-12-SS-00	OB-12-SC-12	OB-13-SS-00	OB-13-SC-12	OB-14-SS-00	OB-14-SC-12	OB-17-WS-00	OB-17-WC-12	OB-18-WS-00	OB-18-WC-12 [d]	OB-19-WS-00	OB-19-WC-12 [d]	HI-01-SC-12 [d]	HI-02-SS-00
	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	1 to 2 ft	0 to 10 cm
Conventional Parameters																						
Particle/Grain Size, Fines (Silt/Clay)	---	---	---	83.7	84.2	82.9	44.1	13.9	91.6	85.6	66.2	59.7	24.5	18.1	21.2	32.5	82.6	72.3	92	88.7	38.4	6
Particle/Grain Size, Phi Scale <-1	---	---	---	0.8	3.1	0.5	30.2	51.9	0.1	1.2	20.9	3.9	35.4	30.4	1.3	1.9	0.1	7.1	0.1	2.4	49.7	8.1
Particle/Grain Size, Phi Scale >10	---	---	---	15.8	11.6	14.8	7.4	2.9	9.4	12.9	11.1	11.6	2.7	2.8	3.4	7.2	14.5	12.9	18.1	18.1	2.1	1.5
Particle/Grain Size, Phi Scale 0 to 1	---	---	---	1.4	1.8	3.3	3.7	10.3	1.3	1.8	1.4	1.6	7.3	8.1	1.6	1.9	3	2.3	1.5	1.5	2.1	11.8
Particle/Grain Size, Phi Scale -1 to 0	---	---	---	3.1	4.5	2.7	4.9	11	2.2	1.8	2.7	2.7	6.1	8.1	1.6	1.9	3.8	3.6	2.5	2	4.4	6.6
Particle/Grain Size, Phi Scale 1 to 2	---	---	---	1.2	1.4	2	8.3	7.6	0.8	2	1.4	2.3	14.3	22.2	2.2	2.8	1.7	2.5	0.9	1.2	2.9	33.5
Particle/Grain Size, Phi Scale 2 to 3	---	---	---	1.7	1.6	2	5.3	2.9	1.1	2.6	2	7.4	8.8	10.3	38.4	29.4	1.8	3.1	0.6	1.1	1.7	28.5
Particle/Grain Size, Phi Scale 3 to 4	---	---	---	8.1	3.4	6.6	3.5	2.4	2.7	4.9	5.3	22.5	3.6	2.8	33.7	29.5	7.1	9	2.4	3.2	0.8	5.5
Particle/Grain Size, Phi Scale 4 to 5	---	---	---	11.9	6.7	9.6	2.5	1	16.7	9.4	5.7	9.7	3.9	4.6	3.7	5.1	8.2	10.2	8.8	7.5	3.6	0.3
Particle/Grain Size, Phi Scale 5 to 6	---	---	---	12.7	23.4	12.8	7.8	1.2	22.3	12.3	11.9	7.4	5.9	2.5	2.9	3.8	13.5	10.8	14.1	14	6	0.8
Particle/Grain Size, Phi Scale 6 to 7	---	---	---	13	18.9	14	8.9	2	18.2	17.4	10.9	9.5	4.5	2.8	3.2	4.3	19.2	11	15.7	14.7	15	0.9
Particle/Grain Size, Phi Scale 7 to 8	---	---	---	11.3	9.9	13	6.6	2.7	11.6	14.1	11.6	8.5	3.6	2.2	3.1	4.3	12	9.7	16	12.5	7.7	0.9
Particle/Grain Size, Phi Scale 8 to 9	---	---	---	10.3	7	10.3	5.5	2.3	7.3	7.4	7.4	7.3	2.1	1.7	2.5	4.3	7	8.6	9.1	11.7	2.7	0.7
Particle/Grain Size, Phi Scale 9 to 10	---	---	---	8.8	6.8	8.5	5.4	1.8	6.1	12	7.6	5.6	1.7	1.4	2.5	3.6	8.2	9	10.3	10.2	1.3	0.8
Total Volatile Solids %	---	---	---												4.41	6.15	9.35	13.6	9.25	12.42		
Ammonia (mg/kg)	---	---	---	75.5	8.26	19.2	10.3	1.48	10.1	62.9	10.4	44.6	4.28	10.4	4.72	26.7	22.4	49.3	6.83	1.02	1.35	6.75
Sulfide	---	---	---	201	955	468	685	36.3	908	54.7	255	54.8	204	255	363	129 J	1,110	311	823	28.6	0.01 UJ	4.18
Total organic carbon (%)	---	---	---	2.47	2.62	2.87	2.32	0.659	2.26	2.96	3.53	3.12	1.71	3.53	2.39	1.75	2.86	4.74	2.6	0.045	0.232	0.571
Total solids (%)	---	---	---	44.8	31.4	39.6	39.6	58.8	36.7	43.4	32.3	48.8	62.6	76.5	61	59.8	32.2	39.2	35.6	39.9	82.5	76.1
Metals (mg/kg dry weight)																						
Antimony	150	---	---		0.26 J		0.25 J		0.26 J		0.25 J		0.12 J		0.21 J	0.19 J	0.35 J	0.39 J	0.27 J	0.43 J		0.12 J
Arsenic	57	57	93		5.3		5.3		7.1		5.3		3.3		5	4.2	6.9	7.3	5.9	9		3.9
Cadmium	5.1	5.1	6.7		0.53		0.39 J		0.56		0.48 J		0.24 J		0.49	0.46	0.85	0.77	0.74	1		0.11 U
Chromium	260	260	270		36		34		45		41		34		24	28	48	45	36	50		28
Copper	390	390	390		31		26		34		33		21		19	22	46	50	34	50		12
Lead	450	450	530		10		9.2		13		12		5.1		5.5	4.9	13	17	11	20		2.9
Mercury	0.41	0.41	0.59		0.06		0.021 J		0.086		0.085		0.024 J		0.037	0.125 U	0.037 J	0.087	0.043	0.16		0.0075 U
Nickel	140	---	---		29		26		34		31		25		26	29	44	40	32	42		35
Silver	6.1	6.1	6.1		0.14 J		0.13 J		0.16 J		0.13 J		0.062 J		0.074 J	0.07 J	0.18 J	0.19 J	0.16 J	0.28 J		0.026 J
Zinc	410	410	960		70		57		79		75		43		50	41	99	74	73	87		28
Butyltins (ug/kg dry weight)																						
Butyltin Ion	---	---	---																			
Dibutyltin Ion	---	---	---																			
Tributyltin Ion	---	---	---																			
Aromatic Hydrocarbons (ug/kg dry weight or mg/kg OC)																						
LPAHs																						
2-Methylnaphthalene (dry)	670	---	---		8.2 U		8.1 U		8.1 U		8.1 U		8.0 U		7.9 U	8.0 U	8.1 U	8.2 U	8.1 U	8.1 U		8.1 U
2-Methylnaphthalene (OC)	---	38	64		0.31 U		0.35 U		0.36 U		0.23 U		0.47 U		0.33 U	0.46 U	0.28 U	0.17 U	0.31 U	18 U		1.4 U
Acenaphthene (dry)	500	---	---		8.2 U		8.1 U		8.1 U		8.1 U		8.0 U		7.9 U	8.0 U	8.1 U	8.2 U	8.1 U	8.1 U		8.1 U
Acenaphthene (OC)	---	16	57		0.31 U		0.35 U		0.36 U		0.23 U		0.47 U		0.33 U	0.46 U	0.28 U	0.17 U	0.31 U	18 U		1.4 U
Acenaphthylene (dry)	560	---	---		8.6 U		8.5 U		8.6 U		8.6 U		8.4 U		8.3 U	8.5 U	8.6 U	8.6 U	8.6 U	8.6 U		8.5 U
Acenaphthylene (OC)	---	66	66		0.33 U		0.37 U		0.38 U		0.24 U		0.49 U		0.35 U	0.49 U	0.30 U	0.18 U	0.33 U	19 U		1.5 U
Anthracene (dry)	960	---	---		7.7 U		7.6 U		7.7 U		7.7 U		7.5 U		7.5 U	7.6 U	7.7 U	7.7 U	7.6 U	7.7 U		7.6 U
Anthracene (OC)	---	220	1,200		0.29 U		0.33 U		0.34 U		0.22 U		0.44 U		0.31 U	0.43 U	0.27 U	0.16 U	0.29 U	17 U		1.3 U
Fluorene (dry)	540	---	---		8.9 U		8.8 U		8.9 U		8.9 U		8.7 U		8.6 U	8.8 U	8.9 U	8.9 U	8.8 U	8.9 U		8.8 U
Fluorene (OC)	---	23	79		0.34 U		0.38 U		0.39 U		0.25 U		0.51 U		0.36 U	0.50 U	0.31 U	0.19 U	0.34 U	20 U		1.5 U
Naphthalene (dry)	2,100	---	---		8.7 U		8.6 U		8.6 U		8.6 U		8.5 U		8.4 U	8.5 U	8.6 U	8.6 U	8.6 U	8.6 U		8.5 U
Naphthalene (OC)	---	99	170		0.33 U		0.37 U		0.38 U		0.24 U		0.50 U		0.35 U	0.49 U	0.30 U	0.18 U	0.33 U	19 U		1.5 U
Phenanthrene (dry)	1500	---	---		8.4 U		8.3 U		8.3 U		8.3 U		8.2 U		8.1 U	8.2 U	8.3 U	8.4 U	8.3 U	8.3 U		8.3 U
Phenanthrene (OC)	---	100	480		0.32 U		0.36 U		0.37 U		0.24 U		0.48 U		0.34 U	0.47 U	0.29 U	0.18 U	0.32 U	18 U		1.5 U
Total LPAHs (dry) [c]	5200	---	---		20 U		20 U		20 U		20 U		20 U		19 U	20 U	20 U	20 U	20 U	20 U		20 U
Total LPAHs (OC) [c]	---	370	780		0.76 U		0.86 U		0.88 U		0.57 U		1.2 U		0.79 U	1.1 U	0.70 U	0.42 U	0.77 U	44 U		3.5 U
HPAHs																						
Benzo(a)anthracene (dry)	1,300	---	---		5.9 U		5.8 U		5.9 U		5.9 U		5.8 U		5.7 U	5.8 U	5.9 U	5.9 U	5.8 U	5.9 U		5.8 U
Benzo(a)anthracene (OC)	---	110	270		0.23 U		0.25 U		0.26 U		0.17 U		0.34 U		0.24 U	0.33 U	0.21 U	0.12 U	0.22 U	13 U		1.0 U
Benzo(a)pyrene (dry)	1,600	---	---		8.1 U		8 U		8.1 U		8.1 U		8.0 U		7.9 U	8.0 U	8.1 U	8.1 U	8.1 U	21		8.0 U
Benzo(a)pyrene (OC)	---	99	210		0.31 U		0.34 U		0.36 U		0.23 U		0.47 U		0.33 U	0.46 U	0.28 U	0.17 U	0.31 U	47		1.4 U
Benzo(b)fluoranthene (dry)	---	---	---		9.5 U		9.4 U		9.4 U		9.4 U		9.3 U		9.2 U	9.3 U	9.4 U	9.5 U	9.4 U	9.4 U		9.4 U
Benzo(b)fluoranthene (OC)	---	---	---		0.36 U		0.41 U		0.42 U		0.27 U		0.54 U		0.38 U	0.53 U	0.33 U	0.20 U	0.36 U	21 U		1.6 U
Benzo(g,h,i)perylene (dry)	670	---	---		6.7 U		6.7 U		6.7 U		6.7 U		6.6 U		6.5 U	6.6 U	6.7 U	6.7 U	6.7 U	23		6.6 U
Benzo(g,h,i)perylene (OC)	---	31	78		0.26 U		0.29 U		0.30 U		0.19 U		0.39 U		0.27 U	0.38 U	0.23 U	0.14 U	0.26 U	51		1.2 U
Benzo(k)fluoranthene (dry)	---	---	---		9.2 U		9.1 U		9.2 U		9.2 U		9.0 U		8.9 U	9.1 U	9.2 U	9.2 U	9.1 U	9.2 U		9.1 U
Benzo(k)fluoranthene (OC)	---	---	---		0.35 U		0.39 U		0.41 U		0.26 U		0.53 U		0.37 U	0.52 U	0.32 U	0.19 U	0.35 U	20 U		1.6 U
Benzofluoranthenes, Total (b+k+j) (dry)	3,200	---	---		20 U		20 U		20 U		20 U		20 U		19 U	20 U	20 U	20 U	20 U	20 U		20 U
Benzofluoranthenes, Total (b+k+j) (OC)	---	230	450		0.76 U		0.86 U		0.88 U		0.57 U		1.17 U		0.79 U	1.1 U	0.70 U	0.42 U	0.77 U	44 U		3.5 U
Chrysene (dry)	1,400	---	---		6.6 U		6.5 U		11 J		6.6 U		6.5 U		6.4 U	6.5 U	6.6 U	6.6 U	6.6 U	6.6 U		6.5 U
Chrysene (OC)	---	110	460		0.25 U		0.28 U		0.5 J		0.19 U		0.38 U		0.27 U	0.37 U	0.23 U	0.14 U	0.25 U	15 U		1.1 U
Dibenz(a,h)anthracene (dry)	230	---	---		8.5 U		8.4 U		8.5 U		8.5 U		8.3 U		8.2 U	8.4 U	8.5 U	8.5 U	8.5 U	8.5 U		8.4 U
Dibenz(a,h)anthracene (OC)	---	12	33		0.32 U		0.36 U		0.38 U		0.24 U		0.49 U		0.34 U	0.48 U	0.30 U	0.18 U	0.33 U	19 U		1.5 U
Fluoranthene (dry)	1,700	---	---		7.9 U		7.8 U		7.8 U		11 J		7.7 U		7.6 U	7.8 U	7.8 U	11 J	7.8 U	7.8 U		7.8 U
Fluoranthene (OC)	---	160	1,200		0.30 U		0.34 U		0.35 U		0.31 J		0.45 U		0.32 U	0.45 U	0.27 U	0.23 J	0.30 U	17 U		1.4 U
Indeno(1,2,3-cd)pyrene (dry)	600	---	---		8.6 U		8.5 U		8.5 U		8.5 U		8.4 U		8.3 U	8.4 U	8.5 U	8.6 U	8.5 U	8.5 U		8.5 U
Indeno(1,2,3-cd)pyrene (OC)	---	34	88		0.33 U		0.37 U		0.38 U		0.24 U		0.49 U		0.35 U	0.48 U	0.30 U	0.18 U	0.33 U	19 U		1.5 U
Pyrene (dry)	2,600	---	---		7.7 U		7.6 U		7.7 U		7.7 U		7.6 U		19	7.6 U	7.7 U	13 J	7.7 U	7.7 U		7.6 U
Pyrene (OC)	---	1,000	1,400		0.29 U		0.33 U		0.34 U		0.22 U		0.44 U		0.79	0.43 U	0.27 U	0.27 J	0.30 U	17 U		1.3 U
Total HPAHs (dry) [c]	12,000	---	---		20 U		20 U		11 J		11 J		20 U		19	20 U	20 U	24 J	20 U	44		20 U
Total HPAHs (OC) [c]	---	960	5,300		0.76 U		0.86 U		0.49 J		0.31 J		1.17 U		0.79	1.1 U	0.70 U	0.51 J	0.77 U	98		3.5 U

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Oakland Bay																		Hammersley Inlet	
				OB-09-SC-12	OB-10-SS-00	OB-10-SC-12	OB-11-SS-00	OB-11-SC-12	OB-12-SS-00	OB-12-SC-12	OB-13-SS-00	OB-13-SC-12	OB-14-SS-00	OB-14-SC-12	OB-17-WS-00	OB-17-WC-12	OB-18-WS-00	OB-18-WC-12 [d]	OB-19-WS-00	OB-19-WC-12 [d]	HI-01-SC-12 [d]	HI-02-SS-00
	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	1 to 2 ft	0 to 10 cm
Chlorinated Benzenes (ug/kg dry weight or mg/kg OC)																						
1,2,4-Trichlorobenzene (dry)	31	---	---		9.1 U		8.9 U		9.0 U		9.0 U		8.8 U		8.7 U	8.9 U	9.0 U	9.0 U	9.0 U	9.0 U		8.9 U
1,2,4-Trichlorobenzene (OC)	---	0.81	1.8		0.35 U		0.38 U		0.40 U		0.25 U		0.51 U		0.36 U	0.51 U	0.31 U	0.19 U	0.35 U	20 U		1.6 U
1,2-Dichlorobenzene (dry)	35	---	---		7.9 U		7.8 U		7.8 U		7.8 U		7.7 U		7.6 U	7.7 U	7.8 U	7.8 U	7.8 U	7.8 U		7.7 U
1,2-Dichlorobenzene (OC)	---	2.3	2.3		0.30 U		0.34 U		0.35 U		0.22 U		0.45 U		0.32 U	0.44 U	0.27 U	0.16 U	0.30 U	17 U		1.3 U
1,4-Dichlorobenzene (dry)	110	---	---		7.3 U		7.3 U		7.3 U		7.3 U		7.2 U		7.1 U	7.2 U	7.3 U	7.3 U	7.3 U	7.3 U		7.2 U
1,4-Dichlorobenzene (OC)	---	3.1	9		0.28 U		0.31 U		0.32 U		0.21 U		0.42 U		0.30 U	0.41 U	0.26 U	0.15 U	0.28 U	16 U		1.3 U
Phthalates (ug/kg dry weight or mg/kg OC)																						
bis(2-Ethylhexyl)phthalate (dry)	1,300	---	---		11 U		11 U		11 U		11 U		11 U		11 U	11 U	11 U	11 U	**44**	11 U		11 U
bis(2-Ethylhexyl)phthalate (OC)	---	47	78		0.42 U		0.47 U		0.49 U		0.31 U		0.64 U		0.46 U	0.63 U	0.38 U	0.23 U	**1.7**	24 U		1.9 U
Butylbenzylphthalate (dry)	63	---	---		11 U		11 U		11 U		11 U		11 U		11 U	11 U	11 U	11 U	11 U	11 U		11 U
Butylbenzylphthalate (OC)	---	4.9	64		0.42 U		0.47 U		0.49 U		0.31 U		0.64 U		0.46 U	0.63 U	0.38 U	0.23 U	0.42 U	24 U		1.9 U
Di-n-Butylphthalate (dry)	1400	---	---		12 U		12 U		12 U		12 U		12 U		12 U	12 U	12 U	12 U	12 U	12 U		12 U
Di-n-Butylphthalate (OC)	---	220	1,700		0.46 U		0.52 U		0.53 U		0.34 U		0.70 U		0.50 U	0.69 U	0.42 U	0.25 U	0.46 U	27 U		2.1 U
Di-n-Octyl phthalate (dry)	6200	---	---		8.3 U		8.2 U		8.3 U		8.2 U		8.1 U		8.0 U	8.2 U	8.3 U	8.3 U	8.2 U	8.3 U		8.2 U
Di-n-Octyl phthalate (OC)	---	58	4,500		0.32 U		0.35 U		0.37 U		0.23 U		0.47 U		0.33 U	0.47 U	0.29 U	0.18 U	0.32 U	18 U		1.4 U
Diethylphthalate (dry)	200	---	---		16 U		16 U		16 U		16 U		16 U		16 U	16 U	16 U	16 U	16 U	16 U		16 U
Diethylphthalate (OC)	---	61	110		0.61 U		0.69 U		0.71 U		0.45 U		0.94 U		0.67 U	0.91 U	0.56 U	0.34 U	0.62 U	36 U		2.8 U
Dimethylphthalate (dry)	71	---	---		7.7 U		7.6 U		7.7 U		7.7 U		7.6 U		7.5 U	7.6 U	7.7 U	7.7 U	7.7 U	7.7 U		7.6 U
Dimethylphthalate (OC)	---	53	53		0.29 U		0.33 U		0.34 U		0.22 U		0.44 U		0.31 U	0.43 U	0.27 U	0.16 U	0.30 U	17 U		1.3 U
Ionizable Organic Compounds (ug/kg dry weight)																						
2,4-Dimethylphenol	29	29	29		15 U		15 U		15 U		15 U		14 U		14 U	14 U	15 U	15 U	15 U	15 U		15 U
Benzoic Acid	650	650	650		110 U		110 U		110 U		110 U		110 U		110 U	110 U	110 U	110 U	110 U	110 U		110 U
Benzyl Alcohol	57	57	73		14 U		14 U		14 U		14 U		14 U		14 U	14 U	14 U	14 U	14 U	14 U		14 U
Pentachlorophenol	360	360	690		47 U		47 U		47 U		47 U		46 U		46 U	47 U	47 U	47 U	47 U	47 U		47 U
Phenol	420	420	1,200		**27**		14 U		14 U		14 U		13 U		13 U	13 U	14 U	14 U	14 U	**21**		**290**
Miscellaneous Extractables (ug/kg dry weight or mg/kg OC)																						
Dibenzofuran (dry)	540	---	---		7.5 U		7.4 U		7.5 U		7.5 U		7.4 U		7.3 U	7.4 U	7.5 U	7.5 U	7.5 U	7.5 U		7.4 U
Dibenzofuran (OC)	---	15	58		0.29 U		0.32 U		0.33 U		0.21 U		0.43 U		0.31 U	0.42 U	0.26 U	0.16 U	0.29 U	16.7 U		1.3 U
Hexachlorobenzene (dry)	22	---	---		8.0 U		7.9 U		7.9 U		7.9 U		7.8 U		7.7 U	7.9 U	7.9 U	8 U	7.9 U	7.9 U		7.9 U
Hexachlorobenzene (OC)	---	0.38	2.3		0.31 U		0.34 U		0.35 U		0.22 U		0.46 U		0.32 U	0.45 U	0.28 U	0.17 U	0.30 U	17.6 U		1.4 U
Hexachlorobutadiene (dry)	11	---	---		8.1 U		8.0 U		8.0 U		8.0 U		7.9 U		7.8 U	8.0 U	8.0 U	8.1 U	8.0 U	8.0 U		8.0 U
Hexachlorobutadiene (OC)	---	3.9	6.2		0.31 U		0.34 U		0.35 U		0.23 U		0.46 U		0.33 U	0.46 U	0.28 U	0.17 U	0.31 U	17.8 U		1.4 U
N-Nitrosodiphenylamine (dry)	28	---	---		8.7 U		8.6 U		8.6 U		8.6 U		8.5 U		8.4 U	8.5 U	8.6 U	8.6 U	8.6 U	8.6 U		8.5 U
N-Nitrosodiphenylamine (OC)	---	11	11		0.33 U		0.37 U		0.38 U		0.24 U		0.50 U		0.35 U	0.49 U	0.30 U	0.18 U	0.33 U	19.1 U		1.5 U
2-Methylphenol	---	63	63		14 U		14 U		14 U		14 U		14 U		14 U	14 U	14 U	14 U	14 U	14 U		14 U
4-Methylphenol	---	670	670		**53**		13 U		13 U		13 U		12 U		12 U	13 U	13 U	13 U	13 U	13 U		13 U
Polychlorinated Biphenyls (ug/kg dry weight or mg/kg OC)																						
Total PCBs (OC) [c]	---	12	65		0.15 UJ		0.16 UJ		0.18 UJ		0.11 UJ		0.23 UJ		0.16 UJ	0.23 U	0.14 UJ	0.084 UJ	0.15 UJ	9.11 UJ		0.61 UJ
Total PCBs (dry) [c]	130	---	---		3.9 UJ		3.8 UJ		4.0 UJ		3.9 UJ		3.9 UJ		3.8 UJ	4.0 U	4.0 UJ	4.0 UJ	3.9 UJ	4.1 UJ		3.5 UJ
Aroclor 1016	---	---	---		1.6 UJ		1.5 UJ		1.6 UJ		1.5 UJ		1.6 UJ		1.5 UJ	1.6 U	1.6 UJ	1.6 UJ	1.6 UJ	1.6 UJ		1.4 UJ
Aroclor 1221	---	---	---		3.9 UJ		3.8 UJ		4.0 UJ		3.9 UJ		3.9 UJ		3.8 UJ	4.0 U	4.0 UJ	4.0 UJ	3.9 UJ	4.1 UJ		3.5 UJ
Aroclor 1232	---	---	---		3.4 UJ		3.3 UJ		3.5 UJ		3.4 UJ		3.4 UJ		3.3 UJ	3.5 U	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ		3.1 UJ
Aroclor 1242	---	---	---		1 UJ		0.99 UJ		1.0 UJ		1.0 UJ		1.0 UJ		1.0 UJ	1.0 U	1.1 UJ	1.1 UJ	1.0 UJ	1.1 UJ		0.93 UJ
Aroclor 1248	---	---	---		0.63 UJ		0.61 UJ		0.64 UJ		0.63 UJ		0.63 UJ		0.62 UJ	0.65 U	0.65 UJ	0.65 UJ	0.64 UJ	0.66 UJ		0.57 UJ
Aroclor 1254	---	---	---		1 UJ		0.99 UJ		1.0 UJ		1.0 UJ		1.0 UJ		1.0 UJ	1.0 U	1.1 UJ	1.1 UJ	1.0 UJ	1.1 UJ		0.93 UJ
Aroclor 1260	---	---	---		1.5 UJ		1.4 UJ		1.5 UJ		1.4 UJ		1.5 UJ		1.4 UJ	1.5 U	1.5 UJ	1.5 UJ	1.5 UJ	1.5 UJ		1.3 UJ
Chlorinated Pesticides (ug/kg dry weight)																						
4,4'-DDD	16	---	---		0.14 U		0.14 U		0.14 U		0.14 U		0.14 U		0.14 U	0.14 U	0.15 U	**1.0 J**	0.15 U	0.15 UJ		0.13 U
4,4'-DDE	9	---	---		0.14 U		0.14 U		0.14 U		0.14 U		0.14 U		0.13 U	**0.3 J**	0.14 U	0.14 U	0.14 U	**0.33 J**		0.13 U
4,4'-DDT	34	---	---		0.15 U		0.15 U		**0.54 J**		0.15 U		**0.29 J**		0.14 U	0.15 U	0.15 U	0.15 U	0.15 U	**1.6 J**		**0.96 J**
Aldrin	---	---	---		0.22 U		0.21 U		0.22 U		0.22 U		0.22 U		0.21 U	0.22 U	0.22 U	0.23 U	0.22 U	0.22 UJ		0.2 U
alpha-Chlordane	---	---	---		0.13 U		0.13 U		0.13 U		0.28 U		0.26 U		0.13 U	0.13 U	0.13 U	0.14 U	0.13 U	**0.28 J**		0.12 U
Dieldrin	---	---	---		0.12 U		0.11 U		0.12 U		0.11 U		0.11 U		0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ		0.11 U
gamma-BHC	---	---	---		0.077 U		0.075 U		0.077 U		**0.11 J**		0.076 U		0.073 U	**0.34 J**	0.078 U	0.079 U	0.078 U	0.078 UJ		0.071 U
Heptachlor	---	---	---		0.46 U		0.45 U		0.46 U		0.45 U		0.45 U		0.44 U	0.46 U	0.47 U	0.47 U	0.46 U	0.46 UJ		0.42 U
Petroleum Hydrocarbons (mg/kg dry weight)																						
Gasoline	---	---	---						51 U		54 UJ											
Diesel Range	---	---	---						130 U		140 UJ											
Motor Oil	---	---	---						260 U		270 UJ											
Dioxins/Furans (ng/kg dry weight)																						
DX TOTAL (TEQ ND=1/2 DL)	---	---	---	**52.4**	**53.6**	**104**	**43.8**		**54.4**	**70.8**	**48.3**		**21.9**		**13.4**		**33**		**45.5**			**3.19**
1,2,3,4,6,7,8-HPCDD	---	---	---	**1,410 B**	**1,250 B**	**2,730 B**	**982 B**		**1,210 B**	**1,840 B**	**1070 B**		**478 B**		**280 B**		**768 B**		**1,040 B**			**72.1 B**
1,2,3,4,6,7,8-HPCDF	---	---	---	**644**	**455 B**	**1270**	**397 B**		**502 B**	**803**	**427 B**		**182 B**		**95.6 B**		**290 B**		**379 B**			**24.2 B**
1,2,3,4,7,8,9-HPCDF	---	---	---	**30.1 B**	**26.3**	**70.1 B**	**21.9**		**28.2**	**39.1 B**	**28.1**		**11**		**5.36**		**15.7**		**21.6**			**1.53**
1,2,3,4,7,8-HXCDD	---	---	---	**10.2**	**17**	**22.3**	**13.8**		**18.1**	**15.7**	**15.5**		**6.69**		**3.96**		**9.86**		**13.6**			**0.954**
1,2,3,4,7,8-HXCDF	---	---	---	**52.9**	**43.5**	**99.4**	**35.9**		**41.9**	**85.7**	**41.6**		**18.1**		**10.9**		**24.8**		**34.4**			**2.39**
1,2,3,6,7,8-HXCDD	---	---	---	**66.2**	**64**	**132**	**55.8**		**68**	**91.5**	**57.3**		**27.5**		**17.5**		**42.9**		**60.7**			**4.29**
1,2,3,6,7,8-HXCDF	---	---	---	**15.2**	**15.3**	**31**	**13.7**		**16.8**	**22.2**	**14.6**		**6.7**		**3.48**		**8.82**		**12.4**			**0.789**
1,2,3,7,8,9-HXCDD	---	---	---	**32.5**	**47.5**	**65.4**	**40.5**		**53.8**	**44.9**	**48.8**		**19.8**		**11.8**		**28.7**		**40.6**			**2.87**
1,2,3,7,8,9-HXCDF	---	---	---	**1.18**	**1.28**	**2.91**	**1.07**		**1.47**	**1.11**	**1.06**		**0.645**		**0.34 J**		**0.72**		**1.09**			**0.079 J**
1,2,3,7,8-PECDD	---	---	---	**5.48**	**8.66**	**11.4**	**7.03**		**8.44**	**7.57**	**8.01**		**3.75**		**2.48**		**5.21**		**7.3**			**0.574**
1,2,3,7,8-PECDF	---	---	---	**4.15**	**5.23**	**8.34**	**4.22**		**5.24**	**4.52**	**4.58**		**2.07**		**1.61**		**3.12**		**4.22**			**0.304 J**
2,3,4,6,7,8-HXCDF	---	---	---	**12.1**	**13.5**	**22.1**	**11.9**		**15.2**	**18.7**	**13.9**		**5.93**		**3.15**		**8.46**		**10.8**			**0.728**
2,3,4,7,8-PECDF	---	---	---	**6.94 B**	**6.75 B**	**12.9 B**	**5.27**		**6.81 B**	**9.46 B**	**5.47**		**2.95 B**		**2.37**		**4.16**		**5.78 B**			**0.477 B**
2,3,7,8-TCDD	---	---	---	**0.707 B**	**1.07**	**1.25 B**	**0.84**		**1.21**	**0.818 B**	**1.16**		**0.473**		**0.519**		**0.793**		**0.984**			**0.085 J**
2,3,7,8-TCDF	---	---	---	**3.2**	**3.6**	**5.41**	**2.64**		**3.68**	**2.42**	**3.18**		**1.59**		**1.57**		**2.68**		**3.49**			**0.301 J**
OCDD	---	---	---	**11,100 B**	**11,600 B**	**23,500 B**	**7,890 B**		**9,710 B**	**13,000 B**	**7,220 B**		**4,060 B**		**1,580 B**		**6,490 B**		**9,640 B**			**629 B**
OCDF	---	---	---	**1,760 B**	**1,180 B**	**4,020 B**	**1,060 B**		**1,180 B**	**1,740 B**	**1,220 B**		**412 B**		**268 B**		**867 B**		**1130 B**			**66.9 B**

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Oakland Bay																		Hammersley Inlet	
				OB-09-SC-12	OB-10-SS-00	OB-10-SC-12	OB-11-SS-00	OB-11-SC-12	OB-12-SS-00	OB-12-SC-12	OB-13-SS-00	OB-13-SC-12	OB-14-SS-00	OB-14-SC-12	OB-17-WS-00	OB-17-WC-12	OB-18-WS-00	OB-18-WC-12 [d]	OB-19-WS-00	OB-19-WC-12 [d]	HI-01-SC-12 [d]	HI-02-SS-00
	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	1 to 2 ft	0 to 10 cm
TOTAL HEPTA-DIOXINS	---	---	---	**3,230**	**3,110 B**	**6,040**	**2,350 B**		**3,150 B**	**4,430**	**2,570 B**		**1,220 B**		**677 B**		**1,900 B**		**2,680 B**			**194 B**
TOTAL HEPTA-FURANS	---	---	---	**2,570**	**1,610**	**5,640**	**1,350 B**		**1,820**	**2,590**	**1,510**		**596**		**322 B**		**1,040 B**		**1,490**			**93.2**
TOTAL HEXA-DIOXINS	---	---	---	**1,010**	**1,190**	**2,060**	**970**		**1240**	**774**	**953**		**460**		**287**		**666**		**1,030**			**61.4**
TOTAL HEXA-FURANS	---	---	---	**829**	**658**	**1640**	**556**		**711**	**1,060**	**577**		**271**		**154**		**382**		**546**			**35.1**
TOTAL PENTA-DIOXINS	---	---	---	**254**	**341**	**581**	**293**		**430**	**116**	**318**		**155**		**120**		**225**		**409**			**18.3**
TOTAL PENTA-FURANS	---	---	---	**203**	**188**	**376**	**160**		**208**	**272**	**171**		**86.6**		**56.3**		**110**		**147**			**11.3**
TOTAL TETRA-DIOXINS	---	---	---	**202**	**273**	**378**	**191**		**318**	**62.7**	**204**		**117**		**97.8**		**163**		**317**			**13.1**
TOTAL TETRA-FURANS	---	---	---	**91.6**	**89.9**	**176**	**70.7**		**99.5**	**87.4**	**78.2**		**41.8**		**38.2**		**58.5**		**83.8**			**5.77**
Guaicols and Resin Acids (ug/kg dry weight)																						
12-Chlorodehydroabietic Acid	---	---	---		100 U				99 U		99 U				97 U	97 U	300 U	99 U	300 U	300 U		98 U
14-Chlorodehydroabietic Acid	---	---	---		100 U				99 U		99 U				97 U	97 U	300 U	99 U	300 U	300 U		98 U
3,4,5-Trichloroguaiacol	---	---	---												19 U	20 U	20 U	20 U	20 U	20 U		
3,4,6-Trichloroguaiacol	---	---	---												19 U	20 U	20 U	20 U	20 U	20 U		
3,4-Dichloroguaiacol	---	---	---												19 U	20 U	20 U	20 U	20 U	20 U		
4,5,6-Trichloroguaiacol	---	---	---												19 U	20 U	20 U	20 U	20 U	20 U		
4,5-Dichloroguaiacol	---	---	---												19 U	20 U	20 U	20 U	20 U	20 U		
4,6-Dichloroguaiacol	---	---	---												19 U	20 U	20 U	20 U	20 U	20 U		
4-Chloroguaiacol	---	---	---												19 U	20 U	20 U	20 U	20 U	20 U		
9,10-Dichlorostearic Acid	---	---	---		100 U				99 U		99 U				97 U	97 U	300 U	99 U	300 U	300 U		98 U
Abietic Acid	---	---	---		100 U				**130**		99 U				**920**	**610**	**450**	**1,700**	**560**	**5,900**		98 U
Dehydroabietic Acid	---	---	---		100 U				**170**		99 U				**710**	**530**	**290 J**	**1,000**	**300**	**2,000**		98 U
Dichlorodehydroabietic Acid	---	---	---		100 U				99 U		99 U				97 U	97 U	300 U	99 U	300 U	300 U		98 U
Guaiacol	---	---	---												19 U	20 U	20 U	20 U	20 U	20 U		
Isopimaric Acid	---	---	---		100 U				99 U		99 U				**170**	**110**	300 U	**290**	300 U	**870**		98 U
Linolenic Acid	---	---	---		100 U				99 U		99 U				97 U	97 U	300 U	99 U	300 U	300 U		**130**
Neoabietic Acid	---	---	---		100 U				99 U		99 U				97 UJ	97 UJ	300 UJ	99 UJ	300 UJ	300 UJ		98 U
Oleic Acid	---	---	---		**920**				**1,500**		**1,100**				97 U	97 U	300 U	99 U	**610**	300 U		**1,300**
Palustric Acid	---	---	---		100 U				99 U		99 U				97 U	97 U	300 U	99 U	300 U	300 U		98 U
Pimaric Acid	---	---	---		100 U				99 U		99 U				**99**	97 U	300 U	99 U	300 U	300 U		98 U
Retene	---	---	---												19 U	**430**	20 U	**48**	20 U	**160**		
Sandaracopimaric Acid	---	---	---		100 U				99 U		99 U				97 U	97 U	300 U	99 U	300 U	300 U		110 U
Tetrachloroguaiacol	---	---	---												19 U	20 U	20 U	20 U	20 U	20 U		
Total resin acids [c]	---	---	---		**920**				**1,800**		**1,100**				**1,900**	**1,700**	**740**	**3,000**	**1,500**	**8,900**		**1,400**

[a] Lowest and second lowest apparent effects thresholds for freshwater sediments in Washington State 2003).

[b] Washington State Marine Sediment Management Standards, Sediment Quality Standards (SQS) and Cleanup Screening Level (CSL) (WAC Chapter 173-204).

[c] Totals only include detected and estimated values

[d] Sample has organic carbon content less than 0.5 percent or greater than 4.0 percent and should be compared to LAET criteria rather than organic-carbon normalized SMS criteria.

ng/kg	nanograms per kilogram
µg/kg	micrograms per kilogram.
mg/kg	milligrams per kilogram.
PCBs	polychlorinated biphenyls.

Bold type indicates the sample result is greater than the laboratory detection limit.

Underlined	value indicates the sample result or detection limit is greater than the LAET or SQS value.
Shaded	value indicates the sample result or detection limit is greater than the CSL value.
U	The material was analyzed for, but was not detected. The associated numerical value is the detection limit. For petroleum hydrocarbons, guaiacols and resin acids, the associated numerical value is the reporting limit.
J	The associated numerical value is considered an estimated concentration.
G	Bias is high.
B	Specifyied compound was detected in the associated method blank.

LPAH represents the sum of the following "low molecular weight polynuclear aromatic hydrocarbon" compounds: naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene. 2-Methylnaphthalene is not included in the LPAH sum.

HPAH represents the sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds: fluoranthene, pyrene, benzo(a)anthracene, chrysene, total benzofluoranthenes, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Total benzofluoranthenes represents the sum of the concentrations of the "b" and "k" isomers.

Total PAHs (carcinogenic) represents the sum of the following PAH compounds: benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene.

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Hammersley Inlet										Reference		
				HI-02-SC-12	HI-03-SS-00	HI-03-SC-12 [d]	HI-04-SS-00	HI-04-SC-12	HI-05-SS-00	HI-06-SS-00	HI-06-SC-12	HI-07-SS-00	HI-07-SC-12 [d]	RF-01-SS-00	RF-02-SS-00	RF-03-SS-00 [d]
	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	0 to 10 cm	0 to 10 cm
Conventional Parameters																
Particle/Grain Size, Fines (Silt/Clay)	---	---	---	23.9	13.7	62.9	4.3	7.8	6.9	16.7	4.3	6.8	7.4	81.2	51.5	13.1
Particle/Grain Size, Phi Scale <-1	---	---	---	14.4	0.1	33.8	0.1	0.8	1.6	3.6	70.3	4.8	2.9	0.1	0.1	0.1
Particle/Grain Size, Phi Scale >10	---	---	---	2.2	3.1	2.8	1.4	1.5	1.8	2.3	0.4	1.4	1.3	4.5	3.6	1.9
Particle/Grain Size, Phi Scale 0 to 1	---	---	---	11.1	1.8	0.2	0.9	0.4	8.9	7.4	3.7	4.2	2	0.4	0.6	4.6
Particle/Grain Size, Phi Scale -1 to 0	---	---	---	9.7	0.7	0.2	0.2	0.3	3.7	3.6	4	3.1	1.8	0.1	0.1	0.3
Particle/Grain Size, Phi Scale 1 to 2	---	---	---	23.5	6.5	0.6	40.8	16.3	31.8	20.4	7.7	44.6	25.1	0.7	1.4	14.6
Particle/Grain Size, Phi Scale 2 to 3	---	---	---	14.7	36.9	1	52.5	69.4	44.5	35.7	7.1	34.6	57	1.1	6.8	40.7
Particle/Grain Size, Phi Scale 3 to 4	---	---	---	2.6	40.2	1.2	1.2	5.1	2.6	12.6	2.7	1.9	3.8	16.4	39.5	26.6
Particle/Grain Size, Phi Scale 4 to 5	---	---	---	3.5	2.9	6.6	0.6	2.1	0.6	3.3	0.2	2.2	1.1	43.1	27.8	6.7
Particle/Grain Size, Phi Scale 5 to 6	---	---	---	5	2	21.3	0.3	0.6	0.6	5.1	1.1	0.5	0.8	20.6	10.5	1.8
Particle/Grain Size, Phi Scale 6 to 7	---	---	---	5.6	1.8	19.1	0.5	0.8	0.8	2.1	1.2	0.6	1.1	7.4	4.2	0.8
Particle/Grain Size, Phi Scale 7 to 8	---	---	---	4	1.2	8.2	0.5	0.9	1.2	1.3	0.5	0.7	1.3	2.1	1.7	0.5
Particle/Grain Size, Phi Scale 8 to 9	---	---	---	2.2	1.4	3.1	0.6	0.9	1	1.2	0.6	0.7	0.9	1.8	1.7	0.6
Particle/Grain Size, Phi Scale 9 to 10	---	---	---	1.5	1.4	1.8	0.6	0.9	1	1.3	0.4	0.7	0.9	1.7	2	0.7
Total Volatile Solids %	---	---	---											2.6	2.26	1.13
Ammonia (mg/kg)	---	---	---	1.07	6.55	7.75	10.1	0.77	7.82	5.68	0.99	5.83	3.24	11.9	9.95	14.4
Sulfide	---	---	---	3.41	203	5.19	17.7	0.01 U	9.65	258	179	1.3	4.49	320	166	16.7
Total organic carbon (%)	---	---	---	0.829	1.45	0.206	0.625	0.622	0.799	2.43	0.657	0.68	0.456	0.639	0.589	0.273
Total solids (%)	---	---	---	80.1	68.2	70.6	72.7	73.5	74.2	67.5	84.8	74.1	77.4	60	65.3	72.2
Metals (mg/kg dry weight)																
Antimony	150	---	---		0.16 J		0.074 J		0.14 J	0.15 J		0.13 J		0.16 J	0.16 J	0.1 J
Arsenic	57	57	93		5.1		2.2		3.2	6.3		2.4		3.1	3.2	1.5
Cadmium	5.1	5.1	6.7		0.63		0.12 J		0.14 J	0.43		0.16 J		0.41	0.42	0.098 J
Chromium	260	260	270		29		17		25	24		21		26	23	12
Copper	390	390	390		18		9.9		15	16		14		16	14	4.3
Lead	450	450	530		14		2.2		3.2	4		2.6		4.6	4.5	2.6
Mercury	0.41	0.41	0.59		0.037		0.0075 J		0.02 J	0.02 J		0.01 J		0.012 J	0.016 J	0.0081 J
Nickel	140	---	---		29		20		24	23		24		28	25	11
Silver	6.1	6.1	6.1		0.06 J		0.022 J		0.024 J	0.054 J		0.024 J		0.075 J	0.064 J	0.023 J
Zinc	410	410	960		55		28		36	42		32		36	32	14
Butyltins (ug/kg dry weight)																
Butyltin Ion	---	---	---											3.6 U	3.5 U	3.4 U
Dibutyltin Ion	---	---	---											2.8 U	2.7 U	2.6 U
Tributyltin Ion	---	---	---											1.6 U	1.5 U	1.5 U
Aromatic Hydrocarbons (ug/kg dry weight or mg/kg OC)																
LPAHs																
2-Methylnaphthalene (dry)	670	---	---		7.9 U		8.0 U		8.0 U	7.9 U		7.9 U		8.1 U	8.0 U	8.0 U
2-Methylnaphthalene (OC)	---	38	64		0.54 U		1.3 U		1.0 U	0.33 U		1.2 U		1.3 U	1.4 U	2.9 U
Acenaphthene (dry)	500	---	---		7.9 U		8.0 U		8.0 U	7.9 U		8.0 U		8.1 U	8.0 U	8.0 U
Acenaphthene (OC)	---	16	57		0.54 U		1.3 U		1.0 U	0.33 U		1.2 U		1.3 U	1.4 U	2.9 U
Acenaphthylene (dry)	560	---	---		8.4 U		8.4 U		8.5 U	8.4 U		8.4 U		8.6 U	8.4 U	8.4 U
Acenaphthylene (OC)	---	66	66		0.58 U		1.3 U		1.1 U	0.35 U		1.2 U		1.3 U	1.4 U	3.1 U
Anthracene (dry)	960	---	---		7.5 U		7.5 U		7.6 U	7.5 U		7.5 U		7.7 U	7.5 U	7.5 U
Anthracene (OC)	---	220	1,200		0.52 U		1.2 U		1.0 U	0.31 U		1.1 U		1.2 U	1.3 U	2.7 U
Fluorene (dry)	540	---	---		8.7 U		8.7 U		8.7 U	8.7 U		8.7 U		8.9 U	8.7 U	8.7 U
Fluorene (OC)	---	23	79		0.60 U		1.4 U		1.1 U	0.36 U		1.3 U		1.4 U	1.5 U	3.2 U
Naphthalene (dry)	2,100	---	---		8.4 U		8.5 U		8.5 U	8.4 U		8.4 U		8.6 U	8.5 U	8.5 U
Naphthalene (OC)	---	99	170		0.58 U		1.4 U		1.1 U	0.35 U		1.2 U		1.3 U	1.4 U	3.1 U
Phenanthrene (dry)	1500	---	---		8.1 U		8.2 U		8.2 U	8.1 U		8.1 U		8.3 U	8.2 U	8.2 U
Phenanthrene (OC)	---	100	480		0.56 U		1.3 U		1.0 U	0.33 U		1.2 U		1.3 U	1.4 U	3.0 U
Total LPAHs (dry) [c]	5200	---	---		19 U		20 U		20 U	19 U		19 U		20 U	20 U	20 U
Total LPAHs (OC) [c]	---	370	780		1.3 U		3.2 U		2.5 U	0.78 U		2.8 U		3.1 U	3.4 U	7.3 U
HPAHs																
Benzo(a)anthracene (dry)	1,300	---	---		5.7 U		5.8 U		5.8 U	5.7 U		5.7 U		5.9 U	5.8 U	5.8 U
Benzo(a)anthracene (OC)	---	110	270		0.4 U		0.93 U		0.73 U	0.23 U		0.84 U		0.92 U	1.0 U	2.1 U
Benzo(a)pyrene (dry)	1,600	---	---		7.9 U		8.0 U		8.0 U	7.9 U		7.9 U		8.1 U	7.9 U	7.9 U
Benzo(a)pyrene (OC)	---	99	210		0.5 U		1.3 U		1.0 U	0.33 U		1.2 U		1.3 U	1.3 U	2.9 U
Benzo(b)fluoranthene (dry)	---	---	---		9.2 U		9.3 U		9.3 U	9.2 U		9.2 U		9.4 U	9.3 U	9.3 U
Benzo(b)fluoranthene (OC)	---	---	---		0.6 U		1.5 U		1.2 U	0.38 U		1.4 U		1.5 U	1.6 U	3.4 U
Benzo(g,h,i)perylene (dry)	670	---	---		6.5 U		6.6 U		6.6 U	6.5 U		6.5 U		6.7 U	6.6 U	6.6 U
Benzo(g,h,i)perylene (OC)	---	31	78		0.4 U		1.1 U		0.83 U	0.27 U		1.0 U		1.0 U	1.1 U	2.4 U
Benzo(k)fluoranthene (dry)	---	---	---		9 U		9.0 U		9.0 U	8.9 U		9.0 U		9.2 U	9.0 U	9.0 U
Benzo(k)fluoranthene (OC)	---	---	---		0.6 U		1.4 U		1.1 U	0.37 U		1.3 U		1.4 U	1.5 U	3.3 U
Benzofluoranthenes, Total (b+k+j) (dry)	3,200	---	---		19 U		20 U		20 U	19 U		19 U		20 U	20 U	20 U
Benzofluoranthenes, Total (b+k+j) (OC)	---	230	450		1.3 U		3.2 U		2.5 U	0.78 U		2.8 U		3.1 U	3.4 U	7.3 U
Chrysene (dry)	**1,400**	**---**	**---**		**12 J**		6.5 U		6.5 U	6.4 U		6.4 U		6.6 U	6.5 U	6.5 U
Chrysene (OC)	---	110	460		**0.8 J**		1.0 U		0.81 U	0.26 U		0.94 U		1.0 U	1.1 U	2.4 U
Dibenz(a,h)anthracene (dry)	230	---	---		8.3 U		8.3 U		8.4 U	8.3 U		8.3 U		8.5 U	8.3 U	8.3 U
Dibenz(a,h)anthracene (OC)	---	12	33		0.6 U		1.3 U		1.1 U	0.34 U		1.2 U		1.3 U	1.4 U	3.0 U
Fluoranthene (dry)	1,700	---	---		**16 J**		7.7 U		7.7 U	7.6 U		7.7 U		7.8 U	7.7 U	7.7 U
Fluoranthene (OC)	---	160	1,200		**1.1 J**		1.2 U		1.0 U	0.31 U		1.1 U		1.2 U	1.3 U	2.8 U
Indeno(1,2,3-cd)pyrene (dry)	600	---	---		8.3 U		8.4 U		8.4 U	8.3 U		8.3 U		8.5 U	8.4 U	8.4 U
Indeno(1,2,3-cd)pyrene (OC)	---	34	88		0.6 U		1.3 U		1.1 U	0.3 U		1.2 U		1.3 U	1.4 U	3.1 U
Pyrene (dry)	2,600	---	---		**16 J**		7.6 U		7.6 U	7.5 U		7.5 U		7.7 U	7.6 U	7.6 U
Pyrene (OC)	---	1,000	1,400		**1.1 J**		1.2 U		1.0 U	0.31 U		1.1 U		1.2 U	1.3 U	2.8 U
Total HPAHs (dry) [c]	12,000	---	---		**44 J**		20 U		20 U	19 U		19 U		20 U	20 U	20 U
Total HPAHs (OC) [c]	---	960	5,300		**3 J**		3.2 U		2.5 U	0.78 U		2.8 U		3.1 U	3.4 U	7.3 U

Parameter	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Hammersley Inlet										Reference		
				HI-02-SC-12	HI-03-SS-00	HI-03-SC-12 [d]	HI-04-SS-00	HI-04-SC-12	HI-05-SS-00	HI-06-SS-00	HI-06-SC-12	HI-07-SS-00	HI-07-SC-12 [d]	RF-01-SS-00	RF-02-SS-00	RF-03-SS-00 [d]
	LAET	SQS	CSL	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	0 to 10 cm	1 to 2 ft	0 to 10 cm	1 to 2 ft	0 to 10 cm	0 to 10 cm	0 to 10 cm
Chlorinated Benzenes (ug/kg dry weight or mg/kg OC)																
1,2,4-Trichlorobenzene (dry)	31	---	---		8.8 U		8.8 U		8.9 U	8.8 U		8.8 U		9 U	8.8 U	8.8 U
1,2,4-Trichlorobenzene (OC)	---	0.81	1.8		0.61 U		1.4 U		1.1 U	0.36 U		1.3 U		1.4 U	1.5 U	3.2 U
1,2-Dichlorobenzene (dry)	35	---	---		7.6 U		7.7 U		7.7 U	7.6 U		7.6 U		7.8 U	7.7 U	7.7 U
1,2-Dichlorobenzene (OC)	---	2.3	2.3		0.52 U		1.2 U		1.0 U	0.31 U		1.1 U		1.2 U	1.3 U	2.8 U
1,4-Dichlorobenzene (dry)	110	---	---		7.1 U		7.2 U		7.2 U	7.1 U		7.1 U		7.3 U	7.2 U	7.2 U
1,4-Dichlorobenzene (OC)	---	3.1	9		0.49 U		1.2 U		0.90 U	0.29 U		1.0 U		1.1 U	1.2 U	2.6 U
Phthalates (ug/kg dry weight or mg/kg OC)																
bis(2-Ethylhexyl)phthalate (dry)	1,300	---	---		11 U		11 U		11 U	11 U		11 U		**25**	11 U	11 U
bis(2-Ethylhexyl)phthalate (OC)	---	47	78		0.76 U		1.8 U		1.4 U	0.45 U		1.6 U		**3.9**	1.9 U	4.0 U
Butylbenzylphthalate (dry)	63	---	---		11 U		11 U		11 U	11 U		11 U		11 U	11 U	11 U
Butylbenzylphthalate (OC)	---	4.9	64		0.76 U		1.8 U		1.4 U	0.45 U		1.6 U		1.7 U	1.9 U	4.0 U
Di-n-Butylphthalate (dry)	1400	---	---		12 U		12 U		12 U	12 U		12 U		12 U	12 U	12 U
Di-n-Butylphthalate (OC)	---	220	1,700		0.83 U		1.9 U		1.5 U	0.49 U		1.8 U		1.9 U	2.0 U	4.4 U
Di-n-Octyl phthalate (dry)	6200	---	---		8.1 U		8.1 U		8.1 U	8.1 U		8.1 U		8.3 U	8.1 U	8.1 U
Di-n-Octyl phthalate (OC)	---	58	4,500		0.6 U		1.3 U		1.0 U	0.33 U		1.2 U		1.3 U	1.4 U	3.0 U
Diethylphthalate (dry)	200	---	---		16 U		16 U		16 U	16 U		16 U		16 U	16 U	16 U
Diethylphthalate (OC)	---	61	110		1.1 U		2.6 U		2.0 U	0.66 U		2.4 U		2.5 U	2.7 U	5.9 U
Dimethylphthalate (dry)	71	---	---		7.5 U		7.6 U		7.6 U	7.5 U		7.5 U		7.7 U	7.6 U	7.6 U
Dimethylphthalate (OC)	---	53	53		0.52 U		1.2 U		1.0 U	0.31 U		1.1 U		1.2 U	1.3 U	2.8 U
Ionizable Organic Compounds (ug/kg dry weight)																
2,4-Dimethylphenol	29	29	29		14 U		14 U		14 U	14 U		14 U		15 U	14 U	14 U
Benzoic Acid	650	650	650		110 U		110 U		110 U	110 U		110 U		110 U	110 U	110 U
Benzyl Alcohol	57	57	73		14 U		14 U		14 U	14 U		14 U		14 U	14 U	14 U
Pentachlorophenol	360	360	690		46 U		46 U		46 U	46 U		46 U		47 U	46 U	46 U
Phenol	420	420	1,200		13 U		**200**		13 U	**30**		13 U		14 U	13 U	**140**
Miscellaneous Extractables (ug/kg dry weight or mg/kg OC)																
Dibenzofuran (dry)	540	---	---		7.3 U		7.4 U		7.4 U	7.3 U		7.3 U		7.5 U	7.4 U	7.4 U
Dibenzofuran (OC)	---	15	58		0.50 U		1.2 U		0.93 U	0.30 U		1.1 U		1.2 U	1.3 U	2.7 U
Hexachlorobenzene (dry)	22	---	---		7.8 U		7.8 U		7.8 U	7.7 U		7.8 U		7.9 U	7.8 U	7.8 U
Hexachlorobenzene (OC)	---	0.38	2.3		0.54 U		1.2 U		1.0 U	0.32 U		1.1 U		1.2 U	1.3 U	2.9 U
Hexachlorobutadiene (dry)	11	---	---		7.9 U		7.9 U		7.9 U	7.8 U		7.9 U		8.0 U	7.9 U	7.9 U
Hexachlorobutadiene (OC)	---	3.9	6.2		0.54 U		1.3 U		1.0 U	0.32 U		1.2 U		1.3 U	1.3 U	2.9 U
N-Nitrosodiphenylamine (dry)	28	---	---		8.4 U		8.5 U		8.5 U	8.4 U		8.4 U		8.6 U	8.5 U	8.5 U
N-Nitrosodiphenylamine (OC)	---	11	11		0.58 U		1.4 U		1.1 U	0.35 U		1.2 U		1.3 U	1.4 U	3.1 U
2-Methylphenol	---	63	63		14 U		14 U		14 U	14 U		14 U		14 U	14 U	14 U
4-Methylphenol	---	670	670		12 U		12 U		12 U	**140**		12 U		13 U	12 U	12 U
Polychlorinated Biphenyls (ug/kg dry weight or mg/kg OC)																
Total PCBs (OC) [c]	---	12	65		0.27 UJ		0.56 UJ		0.5 U	**2.5 J**		0.57 U		0.59 U	0.68 U	1.4 U
Total PCBs (dry) [c]	130	---	---		3.9 UJ		3.5 UJ		4.0 U	**60 J**		3.9 U		3.8 U	4.0 U	3.8 U
Aroclor 1016	---	---	---		1.6 UJ		1.6 UJ		1.6 U	**50 J**		1.5 U		1.5 U	1.6 U	1.5 U
Aroclor 1221	---	---	---		3.9 UJ		4.0 UJ		4.0 U	4.0 UJ		3.9 U		3.8 U	4.0 U	3.8 U
Aroclor 1232	---	---	---		3.4 UJ		3.5 UJ		3.5 U	3.5 UJ		3.4 U		3.3 U	3.5 U	3.3 U
Aroclor 1242	---	---	---		1.0 UJ		1.0 UJ		1.0 U	1.1 UJ		1.0 U		1.0 U	1.1 U	0.99 U
Aroclor 1248	---	---	---		0.63 UJ		0.64 UJ		0.65 U	0.65 UJ		0.63 U		0.62 U	0.65 U	0.61 U
Aroclor 1254	---	---	---		1.0 UJ		1.0 UJ		1.0 U	1.1 UJ		1.0 U		1.0 U	1.1 U	0.99 U
Aroclor 1260	---	---	---		1.5 UJ		1.5 UJ		1.5 U	**9.9 J**		1.4 U		1.4 U	1.5 U	1.4 U
Chlorinated Pesticides (ug/kg dry weight)																
4,4'-DDD	16	---	---		0.14 U		**0.19 J**		0.15 U	0.14 U		**0.33 J**		0.14 U	**0.15 J**	0.13 U
4,4'-DDE	9	---	---		0.14 U		0.14 U		0.14 U	0.14 U		**1.2 J**		0.14 U	0.14 U	0.13 U
4,4'-DDT	34	---	---		0.15 U		**4.5**		0.15 U	0.15 U		0.15 U		**0.57 J**	0.15 U	0.14 U
Aldrin	---	---	---		0.22 U		0.22 U		0.22 U	0.22 U		0.21 U		0.22 U	0.22 U	0.2 U
alpha-Chlordane	---	---	---		0.13 U		0.13 U		0.13 U	0.13 U		0.13 U		**0.49 J**	0.13 U	**0.19 J**
Dieldrin	---	---	---		0.12 U		0.12 U		0.12 U	0.12 U		**0.13 J**		0.12 U	0.12 U	0.11 U
gamma-BHC	---	---	---		0.077 U		0.077 U		0.077 U	0.077 U		**0.25 J**		0.076 U	0.077 U	0.072 U
Heptachlor	---	---	---		0.46 U		0.46 U		0.46 U	0.46 U		0.45 U		0.45 U	0.46 U	0.43 U
Petroleum Hydrocarbons (mg/kg dry weight)																
Gasoline	---	---	---											31 UJ	29 UJ	25 U
Diesel Range	---	---	---											76 UJ	72 UJ	63 U
Motor Oil	---	---	---											150 UJ	140 UJ	130 U
Dioxins/Furans (ng/kg dry weight)																
DX TOTAL (TEQ ND=1/2 DL)	---	---	---		**13**		**1.77**		**2.09**	**9.74**		**2.71**		**0.692**	**0.508**	**0.245**
1,2,3,4,6,7,8-HPCDD	---	---	---		**224 B**		**40 B**		**48.8 B**	**184 B**		**64.2 B**		**15.9 B**	**10.3 B**	**4.17 B**
1,2,3,4,6,7,8-HPCDF	---	---	---		**71.7 B**		**14.2 B**		**18.3 B**	**64.1 B**		**24.7 B**		**3.36 B**	**2.4 B**	**0.96 B**
1,2,3,4,7,8,9-HPCDF	---	---	---		**4.96**		**0.911**		**1.15**	**3.98**		**1.59**		**0.23 J**	**0.148 J**	**0.071 J**
1,2,3,4,7,8-HXCDD	---	---	---		**3.51**		**0.538**		**0.684**	**2.85**		**0.708**		**0.31 J**	**0.225 J**	**0.081 J**
1,2,3,4,7,8-HXCDF	---	---	---		**9.8**		**1.37**		**1.64**	**7.96**		**2.31**		**0.412 J**	**0.352 J**	**0.145 J**
1,2,3,6,7,8-HXCDD	---	---	---		**18.5**		**2.41**		**2.63**	**13.4**		**3.44**		**1.11**	**0.841**	**0.289 J**
1,2,3,6,7,8-HXCDF	---	---	---		**3.27**		**0.457**		**0.523**	**2.59**		**0.717**		**0.174 J**	**0.137 J**	**0.043 J**
1,2,3,7,8,9-HXCDD	---	---	---		**12.4**		**1.59**		**1.8**	**9.59**		**2.22**		**1**	**0.683**	**0.229 J**
1,2,3,7,8,9-HXCDF	---	---	---		**0.318 J**		**0.048 J**		**0.048 J**	**0.229 J**		**0.078 J**		0.0256 U	0.0243 U	0.0244 U
1,2,3,7,8-PECDD	---	---	---		**2.65**		**0.305 J**		**0.34 J**	**1.86**		**0.377 J**		**0.261 J**	**0.165 J**	**0.078 J**
1,2,3,7,8-PECDF	---	---	---		**1.79**		**0.183 J**		**0.213 J**	**1.12**		**0.23 J**		**0.173 J**	**0.123 J**	**0.057 J**
2,3,4,6,7,8-HXCDF	---	---	---		**2.9**		**0.442 J**		**0.55**	**2.24**		**0.684**		**0.19 J**	**0.134 J**	**0.054 J**
2,3,4,7,8-PECDF	---	---	---		**3.22 B**		**0.279 BJ**		**0.358 J**	**1.96**		**0.369 J**		**0.225 BJ**	**0.193 BJ**	**0.080 BJ**
2,3,7,8-TCDD	---	---	---		**0.515**		**0.068 J**		**0.068 J**	**0.277**		**0.082 J**		**0.091 J**	**0.052 J**	**0.033 J**
2,3,7,8-TCDF	---	---	---		**1.86**		**0.19**		**0.199**	**1.2**		**0.197**		**0.366**	**0.342**	**0.161**
OCDD	---	---	---		**1,790 B**		**330 B**		**420 B**	**1370 B**		**577 B**		**129 B**	**74.1 B**	**28.9 B**
OCDF	---	---	---		**193 B**		**41.4 B**		**53.1 B**	**152 B**		**73.8 B**		**8.07 B**	**5.63 B**	**1.98 B**

	Freshwater Sediment Apparent Effects Threshold[a]	Marine Sediment Management Standard[b]		Hammersley Inlet										Reference		
				HI-02-SC-12	HI-03-SS-00	HI-03-SC-12 [d]	HI-04-SS-00	HI-04-SC-12	HI-05-SS-00	HI-06-SS-00	HI-06-SC-12	HI-07-SS-00	HI-07-SC-12 [d]	RF-01-SS-00	RF-02-SS-00	RF-03-SS-00 [d]
Parameter	**LAET**	**SQS**	**CSL**	**1 to 2 ft**	**0 to 10 cm**	**1 to 2 ft**	**0 to 10 cm**	**1 to 2 ft**	**0 to 10 cm**	**0 to 10 cm**	**1 to 2 ft**	**0 to 10 cm**	**1 to 2 ft**	**0 to 10 cm**	**0 to 10 cm**	**0 to 10 cm**
TOTAL HEPTA-DIOXINS	---	---	---		**787 B**		**95.5 B**		**123 B**	**529 B**		**150 B**		**46.6 B**	**29.2 B**	**10.5 B**
TOTAL HEPTA-FURANS	---	---	---		**285**		**45.7**		**68.2 B**	**278 B**		**88.7 B**		**11.2**	**7.68**	**2.41**
TOTAL HEXA-DIOXINS	---	---	---		**322**		**35.6**		**43.5**	**227**		**53.7**		**12.5**	**8.92**	**3.27**
TOTAL HEXA-FURANS	---	---	---		**162**		**20.4**		**24.1**	**112**		**35.1**		**4.84**	**3.71**	**1.04**
TOTAL PENTA-DIOXINS	---	---	---		**101**		**10.5**		**15.5**	**83.8**		**16.9**		**2.33**	**1.9**	**0.41**
TOTAL PENTA-FURANS	---	---	---		**81.9**		**6**		**7.32**	**49.3**		**9.71**		**3.52**	**2.49**	**0.5**
TOTAL TETRA-DIOXINS	---	---	---		**91.3**		**6.51**		**10.2**	**65.5**		**10.5**		**2.26**	**1.53**	**0.359**
TOTAL TETRA-FURANS	---	---	---		**55.5**		**3.4**		**4.22**	**35.6**		**4.22**		**4.33**	**3.38**	**0.591**
Guaicols and Resin Acids (ug/kg dry weight)																
12-Chlorodehydroabietic Acid	---	---	---				98 U							99 U	98 U	98 U
14-Chlorodehydroabietic Acid	---	---	---				98 U							99 U	98 U	98 U
3,4,5-Trichloroguaiacol	---	---	---											20 U	20 U	20 U
3,4,6-Trichloroguaiacol	---	---	---											20 U	20 U	20 U
3,4-Dichloroguaiacol	---	---	---											20 U	20 U	20 U
4,5,6-Trichloroguaiacol	---	---	---											20 U	20 U	20 U
4,5-Dichloroguaiacol	---	---	---											20 U	20 U	20 U
4,6-Dichloroguaiacol	---	---	---											20 U	20 U	20 U
4-Chloroguaiacol	---	---	---											20 U	20 U	20 U
9,10-Dichlorostearic Acid	---	---	---				98 U							99 U	98 U	98 U
Abietic Acid	---	---	---				98 U							99 U	**730 J**	98 U
Dehydroabietic Acid	---	---	---				98 U							99 U	98 U	98 U
Dichlorodehydroabietic Acid	---	---	---				98 U							99 U	98 U	98 U
Guaiacol	---	---	---											20 U	20 U	20 U
Isopimaric Acid	---	---	---				98 U							99 U	98 U	98 U
Linolenic Acid	---	---	---				**290**							99 U	98 U	98 U
Neoabietic Acid	---	---	---				98 U							99 UJ	98 UJ	98 UJ
Oleic Acid	---	---	---				**2,500**							**120**	98 U	98 U
Palustric Acid	---	---	---				98 U							99 U	98 U	98 U
Pimaric Acid	---	---	---				98 U							99 U	98 U	98 U
Retene	---	---	---											20 U	20 U	20 U
Sandaracopimaric Acid	---	---	---				160 U							99 U	98 U	98 U
Tetrachloroguaiacol	---	---	---											20 U	20 U	20 U
Total resin acids [c]	---	---	---				**2,800**							**120**	**730 J**	98 U

[a] Lowest and second lowest apparent effects thresholds for freshwater sediments in Washington State 2003).

[b] Washington State Marine Sediment Management Standards, Sediment Quality Standards (SQS) and Cleanup Screening Level (CSL) (WAC Chapter 173-204).

[c] Totals only include detected and estimated values

[d] Sample has organic carbon content less than 0.5 percent or greater than 4.0 percent and should be compared to LAET criteria rather than organic-carbon normalized SMS criteria.

ng/kg	nanograms per kilogram
µg/kg	micrograms per kilogram.
mg/kg	milligrams per kilogram.
PCBs	polychlorinated biphenyls.

Bold type indicates the sample result is greater than the laboratory detection limit.

Underlined	value indicates the sample result or detection limit is greater than the LAET or SQS value.
Shaded	value indicates the sample result or detection limit is greater than the CSL value.
U	The material was analyzed for, but was not detected. The associated numerical value is the detection limit. For petroleum hydrocarbons, guaiacols and resin acids, the associated numerical value is the reporting limit.
J	The associated numerical value is considered an estimated concentration.
G	Bias is high.
B	Specifyied compound was detected in the associated method blank.

LPAH represents the sum of the following "low molecular weight polynuclear aromatic hydrocarbon" compounds: naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene. 2-Methylnaphthalene is not included in the LPAH sum.

HPAH represents the sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds: fluoranthene, pyrene, benzo(a)anthracene, chrysene, total benzofluoranthenes, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Total benzofluoranthenes represents the sum of the concentrations of the "b" and "k" isomers.

Total PAHs (carcinogenic) represents the sum of the following PAH compounds: benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene.