

APPENDIX F

**CHEMICAL CONTAMINANT DATA,
CALCULATION OF TOXIC EQUIVALENT UNITS
AND RATINGS FOR ENVIRONMENTAL CONCERN
1998–2008**

Table 1. Concentrations of Metals and PAHs—Saanich Peninsula Annual Report, 1998 to 2008

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH
MSQG		57	5.1	260	390	450	0.41	6.1	410	5.2	12
CRD Discharge #	Sample Date	Concentration in Sediment (µg/g)									
405	98-03-02	1	0.1	39	14	3	0.01	0.1	35	0.1	0
405	08-06-19	13.5	1.0	30	20	9	0.04	0.2	75	0.1	0.2
407	99-02-09	9	0.1	34	19	10	0.03	0.1	50	0.1	0
407	05-07-11	7	0.2	20	13	6	0.02	0.1	30	0.1	0
409C	07-06-25	2.5	0.1	36	35	19	0.02	0.1	109	0.1	0.1
409C	08-06-25	1.7	0.1	38	28	16	0.01	0.1	80	0.0	0.1
410	01-07-13	4	0.4	41	69	29	0.05	0.1	284	0.3	2
410	02-06-20	3	0.9	33	63	690	0.31	0.3	281	0.1	1
410	03-06-12	2	0.1	22	21	13	0.02	0.1	77	0.1	0
410	04-09-13	3	0.2	17	20	5	0.02	0.1	60	0.1	1
411A	06-06-30	4	0.2	27	35	23	0.05	0.1	87	0.1	0
411A	08-06-25	4.3	0.4	39	43	23	0.07	0.1	191	0.0	0.1
412	98-02-03	1	0.1	20	11	4	0.01	0.1	56	0.1	0
412	00-07-04	1	0.1	28	17	4	0.01	0.1	66	0.1	0
412	05-07-12	1	0.2	12	10	5	0.01	0.1	48	0.0	0
412	06-06-29	1	0.2	12	6	3	0.01	0.1	40	0.1	0
412	07-06-20	2.4	0.1	21	29	12	0.01	0.1	58	0.1	0.1
412	07-09-25	4.8	0.1	20	26	5	0.02	0.1	52	0	0.1
412-2A	04-09-23	3	0.3	27	32	21	0.04	0.1	110	0.2	0
412-2A	06-06-29	5	0.4	47	51	26	0.06	0.1	255	0.2	1
412-2	05-07-12	5	0.4	40	55	83	0.04	0.1	219	0.1	0
412-2	07-06-20	6	2	97	199	220	0.26	0.4	531	0.3	2.1
412-1A	06-06-29	4	0.6	47	68	54	0.09	0.1	326	0.1	0
412-1A	07-06-20	9.6	2	72	125	116	0.24	0.3	756	0.3	1.7
412-3	07-06-25	7	0.5	75	70	21	0.11	0.2	392	0.1	0.2
412-4	07-09-25	3.9	0.1	22	35	3	0.01	0.1	87	0	0.1
412-5	07-09-25	4.8	0.2	28	34	11	0.04	0.3	173	0	0.1
412-6	07-09-25	3.7	0.1	21	35	4	0.03	0.1	46	0	0.1
416	99-02-09	4	0.1	34	32	8	0.02	0.1	101	0.1	0
416	00-07-04	2	0.1	29	43	10	0.02	0.1	118	0.1	0
416	02-07-26	3	0.1	23	59	13	0.02	0.1	155	0.1	0
441	98-02-03	5	1.0	56	37	12	0.06	0.2	161	0.3	0
441	99-02-09	5	3.4	60	37	25	0.07	0.2	176	0.1	0
441	02-06-19	1	0.6	17	12	6	0.02	0.1	44	0.2	1

continued

Table 1 continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH
MSQG		57	5.1	260	390	450	0.41	6.1	410	5.2	12
CRD Discharge #	Sample Date	Concentration in Sediment (µg/g)									
441	03-06-12	3	0.4	28	18	77	0.02	0.1	52	2.5	2
441	04-09-15	5	13.2	58	55	39	0.10	0.3	365	0.1	1
441	04-12-17	5	9.4	57	45	43	0.10	0.3	249	0.5	4
441	05-03-03	3	0.1	20	19	9	0.02	0.1	63	0.0	0
441	05-06-09	6	11.0	69	57	48	0.06	0.2	378	0.1	1
441	05-09-15	6	14.6	77	64	53	0.11	0.3	483	0.1	3
441	05-11-15	4	2.7	30	31	21	0.04	0.1	139	0.5	6
441	06-03-21	4	6.4	42	37	37	0.07	0.1	250	0.1	1
441	06-07-29	5	9.7	68	56	53	0.09	0.2	392	0.5	5
441	06-09-26	5	10.1	63	55	42	0.16	0.2	438	0.1	0
441	06-12-11	3	1.8	29	43	48	0.05	0.3	161	0.1	1
441	07-04-23	5.7	8.1	82	74	54	0.1	0.6	338	0.3	3.4
441	07-06-20	9	4.3	68	80	65	0.13	0.6	303	0.3	2.8
441	07-09-25	3.8	5	53	58	51	0.09	0.6	235	0.2	1.4
441	07-12-11	4.9	7.4	77	72	68	0.12	0.8	301	0.3	2.7
441	08-04-28	5.8	5.1	101	118	144	0.12	0.5	406	0.2	1.4
441	08-06-24	10.7	7.6	82	87	68	0.16	1.0	400	0.3	3.1
441	08-09-18	8.9	10.1	98	89	77	0.15	1.1	546	0.2	1.6
441	08-12-03	5.8	6.0	64	66	53	0.10	0.4	351	0.3	3.4
441-1A	02-06-20	5	5.7	54	31	22	0.06	0.4	149	0.1	1
441-1A	04-09-15	3	3.2	25	21	6	0.02	0.1	112	0.0	0
441-1A	04-12-17	5	17.1	79	29	27	0.08	0.1	117	0.1	0
441-1A	05-03-03	6	3.2	36	26	9	0.04	0.1	175	0.0	0
441-1A	05-06-09	5	4.4	36	31	13	0.02	0.1	192	0.0	0
441-1A	05-09-15	3	1.1	20	19	6	0.01	0.1	105	0.0	0
441-1A	05-11-15	3	1.4	18	14	4	0.02	0.1	90	0.0	0
441-1A	06-03-21	4	1.5	19	15	8	0.02	0.1	121	0.1	0
441-1A	06-07-29	3	1.8	24	14	7	0.01	0.1	133	0.1	0
441-1A	06-09-26	3	3.5	31	20	9	0.06	0.1	118	0.1	1
441-1A	06-12-11	3	2.1	30	19	8	0.02	0.1	119	0.1	0
441-1A	07-04-23	3	1.9	21	20	9	0.01	0.1	132	0.0	0
441-1A	07-06-20	4.1	2.4	23	22	8	0.02	0.1	142	0.1	0.1
441-1A	07-09-25	3.1	1.3	30	25	10	0.02	0.1	114	0.1	0.4
441-1A	07-12-05	2.5	1.2	22	43	5	0.14	0.1	85	0.1	0.2
441-1A	08-04-26	3.2	2.6	25	33	6	0.02	0.1	173	0.1	0.1

continued

Table 1 continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH
MSQG		57	5.1	260	390	450	0.41	6.1	410	5.2	12
CRD Discharge #	Sample Date	Concentration in Sediment (µg/g)									
441-1A	08-06-20	4.7	2.0	20	25	5	0.01	0.1	131	0.0	0.1
441-1A	08-09-18	5.2	1.8	27	27	7	0.01	0.1	189	1.2	4.5
441-1A	08-12-03	6	2.3	27	32	6	0.02	0.1	181	0.1	0.2
441-2	05-03-03	5	4.1	37	22	11	0.03	0.1	145	0.0	1
441-2	05-06-09	8	4.5	61	60	24	0.05	0.1	358	0.1	2
441-2	05-09-15	7	5.3	57	60	31	0.07	0.1	374	0.2	3
441-2	05-11-15	7	0.7	36	38	9	0.04	0.1	185	0.1	1
441-2	06-03-21	5	0.4	33	30	8	0.04	0.1	113	0.1	0
441-2	06-07-29	5	2.1	51	54	26	0.06	0.1	283	0.1	0
441-2	06-09-26	2	4.6	33	20	11	0.09	0.1	181	0.2	3
441-2	06-12-11	2	2.8	26	18	7	0.01	0.1	139	0.2	2
441-2	07-04-23	21.3	12.6	152	132	34	0.09	0.5	614	0.5	5.1
441-2	07-06-20	5.3	5.1	54	36	15	0.03	0.1	280	0.3	1.1
441-2	07-09-25	8.5	10.9	97	74	44	0.07	0.4	600	0.2	2.6
441-2	07-12-05	3	4.2	39	30	10	0.02	0.1	138	0.5	5.4
441-2	08-04-28	4.5	3.2	49	37	11	0.02	0.1	209	0.1	0.3
441-2	08-06-20	7.2	1.2	40	39	6	0.04	0.1	195	0.7	6.0
441-2	08-09-18	9.5	1.7	60	61	11	0.06	0.1	308	0.1	0.5
441-2	08-12-03	8.2	9.5	68	51	16	0.04	0.1	447	0.4	4
441-2A	07-06-20	7.9	0.2	55	51	9	0.06	0.1	145	0.2	0.7
445	02-06-19	2	0.1	20	27	7	0.02	0.1	196	0.2	1
445	03-06-12	2	0.1	29	44	11	0.02	0.1	513	0.1	1
445	06-06-29	1.9	0.2	20	46	10	0.02	0.1	390	0.2	1.2
445	07-06-25	2.6	0.1	21	43	8	0.02	0.1	360	0.1	0.6
445-1	99-02-11	4	0.2	34	52	24	0.03	0.1	1170	2.7	12
445-1	00-07-04	2	0.3	31	50	20	0.08	0.1	744	4.7	21
445-1	02-06-19	3	0.1	22	34	13	0.17	0.2	83	0.1	0
445-1	04-09-15	3	0.2	18	46	9	0.02	0.1	481	0.3	1
445-1	05-07-12	3	0.2	17	49	41	0.15	0.1	331	1.8	11
445-1	07-06-25	3.2	0.1	21	29	7	0.02	0.1	329	0.1	0.2
445-2	05-07-12	2	0.2	11	42	20	0.02	0.1	88	1.0	7
445-2	07-06-25	4	0.5	28	59	31	0.57	1.3	157	4.1	31.8
449	98-03-04	4	0.5	38	71	61	0.06	0.3	341	1.5	7
449	99-02-08	2	0.2	34	113	39	0.22	0.1	556	0.1	0
449-1	00-07-04	5	1.0	66	143	124	0.13	0.2	430	1.0	5

continued

Table 1 continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH
MSQG		57	5.1	260	390	450	0.41	6.1	410	5.2	12
CRD Discharge #	Sample Date	Concentration in Sediment (µg/g)									
449-1	01-07-10	4	1.0	64	103	115	0.23	0.3	349	1.0	5
449-2	00-07-04	3	1.0	63	78	174	0.08	0.1	546	0.6	3
449-2	01-07-10	4	0.7	69	91	219	0.09	0.1	726	1.0	4
449-2	02-06-19	6	1.0	88	126	331	0.15	0.3	1026	1.4	5
449-2	03-06-13	5	0.7	86	119	285	0.12	0.2	895	1.1	5
449-2A	02-06-19	19	0.5	83	89	54	0.09	0.3	417	0.1	0
449-2B	03-06-13	6	0.1	23	34	12	0.03	0.1	74	0.1	0
449-3	00-07-04	1	0.2	40	55	56	0.04	0.1	89	0.4	1
449-3	01-07-10	1	0.2	36	56	51	0.04	0.1	94	1.3	5
450	99-02-11	3	0.2	44	111	225	0.10	0.2	191	0.1	0
450	00-07-10	2	0.4	38	126	187	0.05	0.2	278	0.1	0
450	05-07-12	2	0.4	21	49	129	0.02	0.1	158	0.0	0
450	07-06-25	2.1	0.4	32	48	87	0.02	0.4	160	0.1	0.1
467	99-02-11	4	0.2	34	34	29	0.05	0.1	141	0.1	0
467	06-06-19	6	0.8	29	44	28	0.07	0.1	185	0.1	0
467	07-06-25	5.9	0.4	40	45	32	0.07	0.1	170	0.1	0.8
3005	98-02-02	2	0.1	25	24	28	0.02	0.1	92	0.3	2
3005-1	03-06-12	2	0.1	32	29	16	0.03	0.1	239	0.2	1
3005-1	04-09-15	2	0.3	18	23	14	0.03	0.1	142	0.1	1
3005-1	05-07-12	5	0.7	32	116	98	0.10	0.2	408	2.1	20
3005-1	06-06-19	6	1.4	44	131	108	0.16	0.3	625	9.4	21
3005-1	07-06-25	7	1.3	57	168	117	0.18	0.3	649	1.1	9.1
3005-1	08-09-18	7.3	1.4	71	240	118	0.21	0.1	765	1.8	18.4
3005-3	08-09-18	4.8	1.0	59	149	95	0.15	0.4	381	1.6	16.4
3006	01-07-11	1	0.1	13	16	13	0.01	0.1	51	0.1	0
3006	06-06-19	3	0.2	14	23	45	0.01	0.1	74	0.4	2
3016	98-02-03	1	0.2	31	50	25	0.01	0.1	98	0.1	0
3016	04-09-15	11	0.8	35	53	22	0.09	0.1	368	0.3	5
3016	05-07-12	15	2.8	36	298	64	0.10	0.1	1030	18.6	6
3016	06-06-19	5	0.6	37	105	26	0.08	0.1	391	0.1	0
3016	07-06-27	3.4	0.3	33	52	11	0.02	0.1	118	0.1	0.6
3016	08-07-09	11.4	3.1	44	192	39	0.10	0.1	638	0.2	1.6
3016-2	07-06-27	9.1	0.4	21	49	17	0.02	0.1	169	0.4	2.8
3021	98-03-02	3	0.4	26	26	27	0.09	0.1	137	0.1	0
3021	04-09-15	5	0.4	24	32	31	0.11	0.1	168	0.3	2

continued

Table 1 continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH
MSQG		57	5.1	260	390	450	0.41	6.1	410	5.2	12
CRD Discharge #	Sample Date	Concentration in Sediment (µg/g)									
3021	05-07-12	9	0.6	30	349	357	0.20	0.3	217	0.1	1
3021	06-06-19	9	0.3	28	37	36	0.12	0.1	165	0.1	0
3021	07-06-27	9.8	0.3	35	60	26	0.11	0.4	141	0.1	0.5
3043	99-02-09	43	2.6	84	204	227	0.37	3.0	1320	0.7	2
3043	00-07-04	32	2.0	89	214	169	0.24	2.8	1100	1.2	4
3043	04-11-29	3	0.4	18	40	21	0.03	0.2	258	0.6	1
3043-1	04-11-29	12	2.4	84	165	318	0.11	1.1	794	7.3	12
3077	01-07-11	4	0.1	19	29	4	0.01	0.1	48	0.1	0
3079	00-07-06	5	0.1	34	31	6	0.02	0.1	125	0.1	0
3079	08-06-19	4.7	0.1	28	37	5	0.03	0.1	166	0.0	0.1
3080A	01-07-12	4	0.1	22	23	6	0.03	0.1	200	0.1	0
3080A	05-07-08	2	0.2	15	20	6	0.02	0.1	292	0.0	0
3080A	06-06-30	7	0.6	41	103	30	0.09	0.2	1387	0.6	2
3080A	08-06-19	4.9	0.1	25	47	4	0.02	0.1	208	0.1	0.3
3090	05-07-08	6	0.2	35	37	10	0.04	0.1	161	0.1	0
3095	99-02-10	3	0.3	38	48	9	0.05	0.1	91	0.1	1
3095	00-07-06	5	0.1	34	23	5	0.02	0.1	88	0.1	0
3095	04-09-23	3	0.2	20	19	4	0.02	0.1	69	0.1	0
3104	98-02-02	6	0.7	64	53	22	0.09	0.3	406	0.3	1
3104	99-02-10	6	0.9	71	59	19	0.13	0.7	453	0.1	1
3104	03-06-13	2	0.1	28	25	20	0.04	0.1	86	0.1	0
3104	04-09-16	4	0.2	19	21	12	0.03	0.1	125	0.1	0
3104	05-07-11	3	0.2	18	18	9	0.03	0.1	76	0.1	0
3104-1	03-06-13	4	0.4	58	56	20	0.09	0.2	211	0.2	1
3107	99-02-10	9	0.3	39	123	41	0.13	0.1	221	0.1	0
3107-1	01-07-11	56	8.4	167	4990	491	4.32	3.0	1210	2.2	12
3107-1	02-06-19	14	6.1	301	2570	573	0.83	2.2	1360	1.7	6
3107-1	03-06-31	45	6.5	176	762	297	0.16	0.7	939	1.7	5
3107-1	06-08-03	27	3.5	156	955	277	0.73	0.9	521	0.7	3
3107-2	02-06-19	8	7.9	226	682	440	0.09	1.8	1400	3.6	7
3118	01-08-14	3	0.3	28	30	44	0.03	0.1	154	0.1	0
3118	05-07-11	4	0.2	38	36	5	0.05	0.1	75	0.0	0
3118	06-06-21	4	0.2	41	44	8	0.07	0.1	193	0.2	0
3118	08-06-19	4.8	0.2	50	48	8	0.07	0.1	195	0.1	0.9
3119	98-02-02	4	0.2	68	42	14	0.05	0.1	130	0.1	0

continued

Table 1 *continued*

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH
MSQG		57	5.1	260	390	450	0.41	6.1	410	5.2	12
CRD Discharge #	Sample Date	Concentration in Sediment (µg/g)									
3119	04-09-13	4	0.2	31	30	6	0.05	0.1	66	0.0	0
3120	99-02-08	7	0.1	39	27	8	0.03	0.1	77	0.1	0
3120	06-06-19	3	0.2	27	24	4	0.03	0.1	69	0.1	0
3122	00-07-10	5	0.1	52	33	8	0.03	0.1	81	0.1	0
3122	04-09-13	5	0.2	41	49	8	0.01	0.1	112	0.1	0
3124	01-07-12	1	0.1	20	16	12	0.02	0.1	62	0.1	0
3124	05-07-08	2	0.2	14	17	69	0.03	0.1	48	0.1	0
3133	98-02-03	0	0.1	29	15	4	0.01	0.1	51	0.1	0
3133	99-02-10	2	0.1	27	13	3	0.02	0.1	51	0.1	0
3133	03-06-16	3	0.1	23	16	10	0.02	0.1	55	0.0	0
3133	04-09-16	3	0.2	20	28	13	0.02	0.1	71	0.1	0
3133	08-06-24	4.3	0.1	18	21	5	0.01	0.1	51	0.0	0.1
3133A	99-02-10	3	0.1	30	19	7	0.03	0.1	64	0.1	0
3133B	99-02-10	5	0.4	55	59	22	0.02	0.1	125	0.1	0
3133-1A	01-07-12	8	0.7	51	76	28	0.07	0.1	265	0.1	0
3133-1A	03-06-16	12	1.3	75	127	49	0.15	0.3	381	0.3	2
3133-2	01-07-12	6	1.8	112	122	54	0.04	0.3	339	0.5	2
3133-3	08-10-03	2.7	0.2	121	69	250	0.01	0.1	115	0.1	0.5
3133-4	08-10-03	7.3	1.5	135	158	75	0.12	0.7	423	0.3	1.6
3135	02-06-20	7	2.3	48	150	496	0.80	2.2	597	0.2	1
3135	03-06-12	6	2.0	54	156	3100	0.61	0.5	851	0.6	1
3135	04-09-23	4	4.8	27	65	29	0.04	0.1	157	0.1	0
3135	05-07-08	6	0.7	28	43	16	0.03	0.1	90	0.1	0
3135	06-07-20	4	0.3	33	31	24	0.06	0.1	132	0.1	0
3135	07-06-21	3.5	0.4	27	39	27	0.03	0.1	94	0.1	0.1
3135-1	04-09-23	4	0.5	36	46	24	0.06	0.1	116	0.1	0
3135-1A	05-07-08	4	0.4	40	44	22	0.07	0.1	130	0.0	0
3135-1B	06-07-20	3.6	0.4	44	49	24	0.05	0.1	135	0.1	0
3136A	01-07-12	2	0.2	11	17	14	0.03	0.1	81	0.1	0
3136A	08-06-24	12.9	0.4	28	47	88	0.05	0.1	135	0.0	0.1
3136B	02-06-20	3	0.2	48	42	14	0.06	0.1	65	0.1	0
3136B	08-06-24	8.5	0.2	38	41	12	0.06	0.1	74	0.1	0.2
3138	99-02-08	14	0.1	67	61	7	0.06	0.1	346	0.1	0
3138	00-07-06	43	0.1	70	72	7	0.03	0.1	644	0.1	0

continued

Table 1, continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH
MSQG		57	5.1	260	390	450	0.41	6.1	410	5.2	12
CRD Discharge #	Sample Date	Concentration in Sediment (µg/g)									
3138	04-09-23	53	0.2	50	57	6	0.03	0.1	587	0.1	0
3138	05-07-08	46	0.2	43	41	5	0.03	0.1	447	0.1	0
3138	06-07-20	28	0.2	56	57	10	0.04	0.1	824	0.1	0
3138	07-06-27	12.5	0.1	49	63	7	0.05	0.1	334	0.1	0.1
3138	08-06-24	21.0	0.2	55	59	10	0.06	0.1	697	0.0	0.1
3138-1	04-09-23	4	0.2	33	49	34	0.04	0.1	639	0.1	0
3138-1A	05-07-08	3	0.2	19	33	18	0.02	0.1	93	0.0	0
3138-1B	06-07-20	5	0.2	47	50	47	0.04	0.1	251	0.1	0
3138-1C	07-06-27	4.6	0.1	56	57	11	0.06	0.1	234	0.1	0.1
3138-1D	08-06-25	6.2	0.1	43	57	16	0.03	0.1	156	0.0	0.1
3146	02-06-20	3	0.1	30	36	25	0.02	0.1	218	0.1	1
3146	03-06-12	3	0.1	30	40	21	0.02	0.1	241	0.1	1
3146	06-06-19	3	0.2	26	33	12	0.02	0.1	222	0.1	0
3146	07-06-21	2.3	0.1	21	37	7	0.01	0.1	136	0.1	0.3
3148	00-07-06	5	0.1	30	36	8	0.02	0.1	121	0.1	0
3148	05-07-08	4	0.2	31	38	10	0.05	0.1	109	0.1	0
3153	02-06-25	4	0.4	44	298	47	0.04	0.1	269	0.1	0
3153	03-06-13	11	0.3	48	164	25	0.06	0.2	192	0.2	1
3153	04-09-16	4	0.3	26	81	25	0.03	0.1	151	0.9	4
3153	07-06-27	8.1	1.4	80	552	103	0.13	0.2	876	0.3	0.9
3153	08-06-20	4.4	0.7	51	360	59	0.08	0.2	444	0.2	0.6
3153-1	08-06-20	1.6	0.1	30	45	14	0.02	0.1	201	0.1	0.2
3154	99-02-02	7	0.2	27	29	41	0.04	0.1	196	0.1	0
3154	00-07-06	11	0.6	61	92	40	0.09	0.2	301	0.1	0
3154	00-07-06	11	0.6	61	92	40	0.09	0.2	301	0.1	0
3154	05-07-11	8	0.2	22	26	28	0.03	0.1	123	0.0	0
3154	06-06-21	9	0.7	31	61	31	0.11	0.1	352	0.2	1
3154	06-07-20	10	0.3	21	34	33	0.02	0.1	188	0.1	0
3154	07-06-21	5.3	0.3	21	33	26	0.06	0.1	148	0.1	0.3
3154	08-06-20	6.7	0.4	25	37	17	0.05	0.1	189	0.2	0.4
3154-1	06-07-20	5	0.5	30	55	12	0.06	0.1	164	0.2	1
3154-1	07-06-21	15.8	0.4	53	71	14	0.09	0.2	142	0.4	0.2

MSQG = CRD Marine Sediment Quality Guidelines.

Shading indicates an exceedence or near exceedence of the MSQG (see Report Section 2.2)

441-1 was renamed 441-1A and 412-1 was renamed 412-2A to avoid confusion with the stormwater discharge location identifications

Table 2. Calculation of Contaminant Ratings for Metals and PAHs—Saanich Peninsula, 1998 to 2008

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH	TEU ¹	Contaminant Rating
CRD Discharge #	Sample Date (y/m/d)	Concentration / Guideline (MSQG)											
Shading indicates an exceedence or near exceedence of Marine Sediment Quality Guidelines													
405	98-03-02	0.01	0.01	0.15	0.04	0.01	0.01	0.02	0.08	0.01	0.01	0.35	Low
405	08-06-19	0.24	0.19	0.12	0.05	0.02	0.09	0.03	0.18	0.02	0.01	0.95	Low
407	99-02-09	0.16	0.02	0.13	0.05	0.02	0.07	0.02	0.12	0.01	0.01	0.60	Low
407	05-07-11	0.13	0.04	0.08	0.03	0.01	0.05	0.02	0.07	0.01	0.00	0.44	Low
409C	07-06-25	0.04	0.03	0.14	0.09	0.04	0.06	0.02	0.27	0.01	0.01	0.7	Low
409C	08-06-25	0.03	0.02	0.15	0.07	0.03	0.03	0.02	0.19	0.01	0.01	0.56	Low
410	01-07-13	0.08	0.08	0.16	0.18	0.06	0.13	0.02	0.69	0.06	0.15	1.61	Moderate
410	02-06-20	0.05	0.18	0.13	0.16	1.53	0.76	0.04	0.68	0.02	0.04	3.59	High
410	03-06-12	0.03	0.01	0.08	0.05	0.03	0.05	0.02	0.19	0.03	0.03	0.52	Low
410	04-09-13	0.04	0.04	0.06	0.05	0.01	0.05	0.02	0.15	0.02	0.05	0.49	Low
411A	06-06-30	0.06	0.04	0.10	0.09	0.05	0.12	0.02	0.21	0.01	0.01	0.72	Low
411A	08-06-25	0.08	0.07	0.15	0.11	0.05	0.17	0.02	0.46	0.01	0.01	1.13	Moderate
412	98-02-03	0.01	0.01	0.08	0.03	0.01	0.03	0.02	0.14	0.01	0.01	0.35	Low
412	00-07-04	0.01	0.01	0.11	0.04	0.01	0.03	0.02	0.16	0.01	0.01	0.41	Low
412	05-07-12	0.02	0.04	0.04	0.03	0.01	0.02	0.02	0.12	0.00	0.00	0.30	Low
412	06-06-29	0.02	0.04	0.05	0.02	0.01	0.02	0.02	0.10	0.01	0.01	0.28	Low
412	07-06-20	0.04	0.03	0.08	0.07	0.03	0.02	0.02	0.14	0.01	0.01	0.45	Low
412	07-09-25	0.08	0.02	0.08	0.07	0.01	0.04	0.02	0.13	0.01	0.01	0.46	Low
412-2A	04-07-23	0.06	0.06	0.11	0.08	0.05	0.10	0.02	0.27	0.03	0.03	0.81	Low
412-2A	06-06-29	0.09	0.08	0.18	0.13	0.06	0.15	0.02	0.62	0.03	0.06	1.41	Moderate
412-2	05-07-12	0.08	0.08	0.16	0.14	0.18	0.10	0.02	0.53	0.01	0.00	1.30	Moderate
412-2	07-06-20	0.1	0.38	0.37	0.51	0.49	0.62	0.07	1.3	0.06	0.18	4.08	High
412-1A	06-06-29	0.06	0.12	0.18	0.17	0.12	0.22	0.02	0.80	0.01	0.01	1.71	High
412-1A	07-06-20	0.17	0.39	0.28	0.32	0.26	0.59	0.05	1.84	0.05	0.14	4.09	High
412-3	07-06-20	0.12	0.09	0.29	0.18	0.05	0.26	0.04	0.96	0.01	0.02	2.01	High
412-4	07-09-25	0.07	0.02	0.08	0.09	0.01	0.02	0.02	0.21	0.01	0.01	0.54	Low
412-5	07-09-25	0.08	0.03	0.11	0.09	0.02	0.1	0.05	0.42	0.01	0.01	0.92	Low
412-6	07-09-25	0.06	0.02	0.08	0.09	0.01	0.06	0.02	0.11	0.01	0.01	0.47	Low
416	99-02-09	0.07	0.02	0.13	0.08	0.02	0.05	0.02	0.25	0.01	0.01	0.65	Low
416	00-07-04	0.03	0.01	0.11	0.11	0.02	0.05	0.02	0.29	0.01	0.01	0.66	Low
416	02-07-26	0.05	0.03	0.09	0.15	0.03	0.04	0.02	0.38	0.01	0.01	0.81	Low
441	98-02-03	0.08	0.19	0.22	0.09	0.03	0.15	0.03	0.39	0.06	0.04	1.28	Moderate
441	99-02-09	0.09	0.67	0.23	0.10	0.06	0.16	0.03	0.43	0.03	0.04	1.82	Moderate
441	02-06-19	0.02	0.12	0.07	0.03	0.01	0.04	0.02	0.11	0.03	0.09	0.54	Low
441	03-06-12	0.05	0.08	0.11	0.05	0.17	0.05	0.02	0.13	0.47	0.18	1.31	Moderate

continued

Table 2 continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH	TEU ¹	Contaminant Rating
CRD Discharge #	Sample Date (y/m/d)	Concentration / Guideline (MSQG)											
Shading indicates an exceedence or near exceedence of Marine Sediment Quality Guidelines													
441	04-09-15	0.08	2.59	0.22	0.14	0.09	0.24	0.05	0.89	0.02	0.07	4.39	High
441	04-12-17	0.09	1.84	0.22	0.12	0.10	0.24	0.05	0.61	0.10	0.33	3.70	High
441	05-03-03	0.05	0.04	0.08	0.05	0.02	0.05	0.02	0.15	0.00	0.00	0.46	Low
441	05-06-09	0.10	2.16	0.27	0.15	0.11	0.15	0.04	0.92	0.01	0.05	3.96	High
441	05-09-15	0.11	2.86	0.30	0.16	0.12	0.27	0.05	1.18	0.03	0.20	5.28	High
441	05-11-15	0.06	0.53	0.12	0.08	0.05	0.10	0.02	0.34	0.09	0.48	1.87	Moderate
441	06-03-21	0.07	1.25	0.16	0.10	0.08	0.17	0.02	0.61	0.02	0.06	2.54	High
441	06-07-29	0.09	1.91	0.26	0.14	0.12	0.22	0.03	0.96	0.10	0.38	4.20	High
441	06-09-26	0.08	1.98	0.24	0.14	0.09	0.39	0.03	1.07	0.01	0.04	4.07	High
441	06-12-11	0.05	0.35	0.11	0.11	0.11	0.12	0.05	0.39	0.02	0.06	1.37	Moderate
441	07-04-23	0.1	1.58	0.32	0.19	0.12	0.25	0.1	0.82	0.06	0.29	3.83	High
441	07-06-20	0.16	0.84	0.26	0.21	0.14	0.32	0.1	0.74	0.05	0.24	3.06	High
441	07-09-20	0.07	0.98	0.2	0.15	0.11	0.22	0.1	0.57	0.03	0.11	2.54	High
441	07-12-11	0.09	1.45	0.30	0.18	0.15	0.29	0.13	0.73	0.06	0.23	3.61	High
441	08-04-28	0.10	1.00	0.39	0.30	0.32	0.30	0.08	0.99	0.03	0.12	3.63	High
441	08-06-24	0.19	1.50	0.32	0.22	0.15	0.38	0.17	0.98	0.05	0.26	4.22	High
441	08-09-18	0.16	1.98	0.38	0.23	0.17	0.37	0.18	1.33	0.04	0.14	4.98	High
441	08-12-03	0.10	1.17	0.24	0.17	0.12	0.23	0.07	0.90	0.05	0.28	3.33	High
441-1A	02-06-20	0.08	1.12	0.21	0.08	0.05	0.15	0.07	0.36	0.02	0.05	2.19	High
441-1A	04-09-15	0.05	0.63	0.10	0.05	0.01	0.05	0.02	0.27	0.01	0.02	1.21	Moderate
441-1A	04-12-17	0.09	3.35	0.30	0.07	0.06	0.20	0.02	0.29	0.02	0.00	4.40	High
441-1A	05-03-03	0.10	0.63	0.12	0.07	0.02	0.10	0.02	0.43	0.00	0.01	1.50	Moderate
441-1A	05-06-09	0.08	0.86	0.14	0.08	0.03	0.05	0.02	0.47	0.01	0.02	1.76	High
441-1A	05-09-15	0.06	0.22	0.08	0.05	0.01	0.02	0.01	0.26	0.00	0.01	0.72	Low
441-1A	05-11-15	0.05	0.27	0.07	0.04	0.01	0.05	0.02	0.22	0.00	0.00	0.73	Low
441-1A	06-03-21	0.07	0.29	0.07	0.04	0.02	0.05	0.02	0.30	0.01	0.01	0.88	Low
441-1A	06-07-29	0.05	0.35	0.09	0.04	0.01	0.02	0.02	0.32	0.01	0.05	0.96	Low
441-1A	06-09-26	0.05	0.69	0.12	0.05	0.02	0.15	0.02	0.29	0.02	0.01	1.42	Moderate
441-1A	06-12-11	0.05	0.41	0.11	0.05	0.02	0.05	0.02	0.29	0.01	0.01	1.02	Moderate
441-1A	07-04-23	0.05	0.38	0.08	0.05	0.02	0.03	0.02	0.32	0.01	0.00	0.97	Low
441-1A	07-06-20	0.07	0.48	0.09	0.06	0.02	0.05	0.02	0.35	0.01	0.01	1.14	Moderate
441-1A	07-09-25	0.05	0.25	0.11	0.06	0.02	0.05	0.02	0.28	0.02	0.03	1.14	Low
441-1A	07-12-05	0.04	0.24	0.08	0.11	0.01	0.02	0.02	0.21	0.02	0.02	0.77	Low
441-1A	08-04-26	0.06	0.51	0.09	0.09	0.01	0.05	0.02	0.42	0.01	0.01	1.27	Moderate

continued

Table 2 continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH	TEU ¹	Contaminant Rating
CRD Discharge #	Sample Date (y/m/d)	Concentration / Guideline (MSQG)											
Shading indicates an exceedence or near exceedence of Marine Sediment Quality Guidelines													
441-1A	08-06-20	0.08	0.38	0.08	0.06	0.01	0.03	0.02	0.32	0.01	0.01	1.00	Moderate
441-1A	08-09-18	0.09	0.35	0.10	0.07	0.02	0.03	0.02	0.46	0.23	0.37	1.74	Moderate
441-1A	08-12-03	0.10	0.45	0.10	0.08	0.01	0.04	0.02	0.44	0.02	0.02	1.28	Moderate
441-2	05-03-03	0.08	0.80	0.13	0.06	0.02	0.07	0.02	0.35	0.01	0.04	1.58	High
441-2	05-06-09	0.14	0.88	0.23	0.15	0.05	0.12	0.02	0.87	0.02	0.13	2.61	High
441-2	05-09-15	0.11	1.04	0.22	0.15	0.07	0.17	0.01	0.91	0.03	0.22	2.93	High
441-2	05-11-15	0.13	0.14	0.14	0.10	0.02	0.09	0.02	0.45	0.02	0.09	1.20	Moderate
441-2	06-03-21	0.08	0.08	0.13	0.08	0.02	0.10	0.02	0.28	0.01	0.01	0.81	Low
441-2	06-07-29	0.09	0.41	0.19	0.14	0.06	0.15	0.02	0.69	0.01	0.01	1.77	Moderate
441-2	06-09-26	0.04	0.90	0.13	0.05	0.02	0.22	0.02	0.44	0.04	0.02	1.88	High
441-2	06-12-11	0.04	0.55	0.10	0.05	0.02	0.02	0.02	0.34	0.04	0.02	1.20	Moderate
441-2	07-04-23	0.37	2.47	0.58	0.34	0.08	0.21	0.08	1.5	0.1	0.43	6.15	High
441-2	07-06-20	0.09	1.0	0.21	0.09	0.03	0.07	0.02	0.68	0.05	0.09	2.34	High
441-2	07-09-20	0.15	2.14	0.37	0.19	0.1	0.16	0.06	1.46	0.05	0.21	4.9	High
441-2	07-12-05	0.05	0.82	0.15	0.08	0.02	0.05	0.02	0.34	0.10	0.45	2.07	High
441-2	08-04-28	0.08	0.63	0.19	0.10	0.02	0.06	0.02	0.51	0.01	0.02	1.64	Moderate
441-2	08-06-20	0.13	0.23	0.15	0.10	0.01	0.09	0.02	0.48	0.13	0.50	1.84	Moderate
441-2	08-09-18	0.17	0.34	0.23	0.16	0.02	0.14	0.02	0.75	0.01	0.04	1.88	High
441-2	08-12-03	0.14	1.86	0.26	0.13	0.04	0.10	0.02	1.09	0.08	0.32	4.03	High
441-2A	07-06-20	0.14	0.04	0.21	0.13	0.02	0.14	0.02	0.35	0.04	0.06	1.15	Moderate
445	02-06-19	0.04	0.02	0.08	0.07	0.02	0.05	0.02	0.48	0.03	0.10	0.91	Low
445	03-06-12	0.03	0.02	0.11	0.11	0.02	0.05	0.02	1.25	0.02	0.06	1.69	High
445	07-06-25	0.05	0.02	0.08	0.11	0.02	0.05	0.02	0.88	0.02	0.05	1.29	High
445-1	99-02-11	0.06	0.03	0.13	0.13	0.05	0.08	0.02	2.85	0.52	1.04	4.92	High
445-1	00-07-04	0.03	0.06	0.12	0.13	0.04	0.19	0.02	1.81	0.91	1.78	5.09	High
445-1	02-06-19	0.05	0.02	0.08	0.09	0.03	0.41	0.03	0.20	0.02	0.02	0.95	Low
445-1	04-09-15	0.05	0.04	0.07	0.12	0.02	0.06	0.02	1.17	0.05	0.10	1.70	High
445-1	05-07-12	0.05	0.04	0.06	0.13	0.09	0.37	0.02	0.81	0.34	0.93	2.84	High
445-1	06-06-29	0.05	0.04	0.07	0.14	0.03	0.05	0.02	1.29	0.27	0.57	2.52	High
445-1	07-06-25	0.06	0.02	0.08	0.07	0.02	0.05	0.02	0.80	0.02	0.02	1.15	High
445-2	05-07-12	0.04	0.04	0.04	0.11	0.04	0.05	0.02	0.21	0.19	0.61	1.35	Moderate
445-2	07-06-25	0.07	0.09	0.11	0.15	0.07	1.39	0.21	0.38	0.78	2.65	5.91	High
449	98-03-04	0.08	0.10	0.15	0.18	0.14	0.15	0.05	0.83	0.29	0.62	2.58	High
449	99-02-08	0.04	0.04	0.13	0.29	0.09	0.55	0.02	1.36	0.01	0.02	2.53	High
449-1	00-07-04	0.09	0.20	0.25	0.37	0.27	0.31	0.03	1.05	0.20	0.40	3.17	High

continued

Table 2 continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH	TEU ¹	Contaminant Rating
CRD Discharge #	Sample Date (y/m/d)	Concentration / Guideline (MSQG)											
Shading indicates an exceedence or near exceedence of Marine Sediment Quality Guidelines													
449-1	01-07-10	0.07	0.19	0.25	0.26	0.26	0.56	0.05	0.85	0.19	0.35	3.07	High
449-2	00-07-04	0.05	0.10	0.24	0.20	0.39	0.20	0.02	1.33	0.11	0.25	2.89	High
449-2	01-07-10	0.07	0.14	0.27	0.23	0.49	0.22	0.02	1.77	0.19	0.35	3.74	High
449-2	02-06-19	0.10	0.20	0.34	0.32	0.74	0.35	0.04	2.50	0.26	0.41	5.22	High
449-2	03-06-13	0.09	0.13	0.33	0.31	0.63	0.30	0.03	2.18	0.20	0.42	4.62	High
449-2A	02-06-19	0.33	0.09	0.32	0.23	0.12	0.22	0.04	1.02	0.02	0.03	2.42	High
449-2B	03-06-13	0.10	0.02	0.09	0.09	0.03	0.07	0.02	0.18	0.02	0.02	0.64	Low
449-3	00-07-04	0.02	0.04	0.15	0.14	0.12	0.09	0.02	0.22	0.08	0.12	1.00	Moderate
449-3	01-07-10	0.02	0.04	0.14	0.14	0.11	0.09	0.02	0.23	0.25	0.45	1.50	Moderate
450	99-02-11	0.05	0.04	0.17	0.28	0.50	0.24	0.03	0.47	0.01	0.01	1.80	Moderate
450	00-07-10	0.04	0.08	0.15	0.32	0.42	0.12	0.03	0.68	0.01	0.02	1.87	Moderate
450	05-07-12	0.03	0.08	0.08	0.13	0.29	0.05	0.02	0.39	0.00	0.00	1.07	Moderate
450	07-06-25	0.04	0.07	0.12	0.12	0.19	0.06	0.07	0.39	0.01	0.01	1.08	Moderate
467	99-02-11	0.08	0.04	0.13	0.09	0.06	0.11	0.02	0.34	0.02	0.01	0.90	Low
467	06-06-19	0.11	0.16	0.11	0.11	0.06	0.17	0.02	0.45	0.02	0.02	1.22	Moderate
467	07-06-25	0.1	0.07	0.15	0.12	0.07	0.17	0.02	0.41	0.02	0.07	1.22	Moderate
3005	98-02-02	0.04	0.03	0.10	0.06	0.06	0.05	0.02	0.22	0.06	0.14	0.78	Low
3005-1	03-06-12	0.04	0.02	0.12	0.07	0.04	0.06	0.02	0.58	0.04	0.11	1.10	Moderate
3005-1	04-09-15	0.04	0.06	0.07	0.06	0.03	0.07	0.02	0.35	0.02	0.05	0.77	Low
3005-1	05-07-12	0.08	0.14	0.12	0.30	0.22	0.24	0.03	1.00	0.40	1.67	4.20	High
3005-1	06-06-19	0.11	0.26	0.17	0.33	0.24	0.38	0.05	1.52	1.80	1.74	6.60	High
3005-1	07-06-25	0.12	0.26	0.22	0.43	0.26	0.44	0.06	1.58	0.22	0.76	4.35	High
3005-1	08-09-18	0.13	0.27	0.27	0.62	0.26	0.51	0.02	1.87	0.35	1.53	5.83	High
3005-3	08-09-18	0.08	0.19	0.23	0.38	0.21	0.36	0.06	0.93	0.31	1.37	4.12	High
3006	01-07-11	0.02	0.02	0.05	0.04	0.03	0.03	0.02	0.12	0.01	0.01	0.35	Low
3006	06-06-19	0.06	0.04	0.05	0.06	0.10	0.02	0.02	0.18	0.07	0.18	0.79	Low
3016	98-02-03	0.02	0.04	0.12	0.13	0.05	0.03	0.02	0.24	0.02	0.02	0.68	Low
3016	04-09-15	0.19	0.16	0.14	0.14	0.05	0.22	0.02	0.90	0.06	0.38	2.26	High
3016	05-07-12	0.26	0.55	0.14	0.76	0.14	0.24	0.02	2.51	3.58	0.50	8.70	High
3016	06-06-19	0.09	0.12	0.14	0.27	0.06	0.20	0.02	0.95	0.02	0.04	1.91	High
3016	07-06-27	0.06	0.05	0.13	0.13	0.02	0.05	0.02	0.29	0.02	0.05	0.81	Low
3016	08-07-09	0.20	0.61	0.17	0.49	0.09	0.25	0.02	1.56	0.03	0.13	3.55	High
3016-2	07-06-27	0.16	0.07	0.08	0.13	0.04	0.05	0.02	0.41	0.08	0.23	1.26	Moderate
3021	98-03-02	0.06	0.07	0.10	0.07	0.06	0.21	0.02	0.33	0.01	0.01	0.94	Low
3021	04-09-15	0.09	0.08	0.09	0.08	0.07	0.26	0.02	0.41	0.06	0.18	1.34	Moderate

continued

Table 2 continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH	TEU ¹	Contaminant Rating
CRD Discharge #	Sample Date (y/m/d)	Concentration / Guideline (MSQG)											
Shading indicates an exceedence or near exceedence of Marine Sediment Quality Guidelines													
3021	05-07-12	0.16	0.12	0.11	0.89	0.79	0.49	0.05	0.53	0.03	0.05	3.22	High
3021	06-06-19	0.16	0.06	0.11	0.09	0.08	0.29	0.02	0.40	0.02	0.01	1.23	Moderate
3021	07-06-27	0.17	0.06	0.13	0.15	0.06	0.27	0.07	0.34	0.02	0.04	1.32	Moderate
3043	99-02-09	0.75	0.51	0.32	0.52	0.50	0.90	0.49	3.22	0.14	0.20	7.57	High
3043	00-07-04	0.56	0.43	0.34	0.55	0.38	0.59	0.46	2.68	0.23	0.36	6.58	High
3043	04-11-29	0.05	0.08	0.07	0.10	0.05	0.07	0.03	0.63	0.06	0.08	1.22	Moderate
3043-1	04-11-29	0.21	0.47	0.32	0.42	0.71	0.27	0.18	1.94	1.54	1.58	7.64	High
3077	01-07-11	0.06	0.01	0.07	0.07	0.01	0.02	0.02	0.12	0.01	0.01	0.40	Low
3079	00-07-06	0.08	0.01	0.13	0.08	0.01	0.04	0.02	0.30	0.01	0.01	0.69	Low
3079	08-06-19	0.08	0.02	0.11	0.10	0.01	0.08	0.02	0.40	0.01	0.01	0.84	Low
3080A	01-07-12	0.06	0.01	0.08	0.06	0.01	0.06	0.02	0.49	0.02	0.03	0.84	Low
3080A	05-07-08	0.04	0.04	0.06	0.05	0.01	0.05	0.02	0.71	0.00	0.01	0.99	Low
3080A	06-06-30	0.12	0.12	0.16	0.26	0.07	0.23	0.03	3.38	0.11	0.13	4.62	High
3080A	08-06-19	0.09	0.02	0.10	0.12	0.01	0.05	0.02	0.51	0.01	0.03	0.96	Low
3090	01-07-13	0.12	0.02	0.17	0.10	0.03	0.09	0.02	0.29	0.01	0.01	0.86	Low
3090	05-07-08	0.11	0.04	0.13	0.09	0.02	0.10	0.02	0.39	0.01	0.00	0.91	Low
3095	99-02-10	0.06	0.06	0.15	0.12	0.02	0.11	0.02	0.22	0.03	0.07	0.85	Low
3095	00-07-06	0.08	0.02	0.13	0.06	0.01	0.05	0.02	0.21	0.01	0.01	0.60	Low
3095	04-09-23	0.06	0.04	0.08	0.05	0.01	0.05	0.02	0.17	0.01	0.01	0.50	Low
3104	98-02-02	0.11	0.14	0.25	0.13	0.05	0.21	0.05	0.99	0.06	0.04	2.03	High
3104	99-02-10	0.10	0.18	0.27	0.15	0.04	0.31	0.11	1.10	0.03	0.06	2.35	High
3104	03-06-13	0.04	0.01	0.11	0.06	0.05	0.09	0.02	0.21	0.01	0.02	0.62	Low
3104	04-09-16	0.07	0.04	0.07	0.05	0.03	0.07	0.02	0.30	0.01	0.02	0.68	Low
3104	05-07-11	0.05	0.04	0.07	0.05	0.02	0.07	0.02	0.19	0.01	0.00	0.52	Low
3104-1	03-06-13	0.07	0.08	0.22	0.14	0.04	0.22	0.04	0.51	0.04	0.12	1.48	Moderate
3107	99-02-10	0.16	0.06	0.15	0.32	0.09	0.32	0.02	0.54	0.01	0.01	1.67	Moderate
3107-1	01-07-11	0.98	1.65	0.64	12.79	1.09	10.54	0.49	2.95	0.42	1.05	32.57	High
3107-1	02-06-19	0.25	1.20	1.16	6.59	1.27	2.02	0.36	3.32	0.33	0.51	17.01	High
3107-1	03-07-31	0.21	1.28	0.68	1.95	0.66	0.38	0.11	2.29	0.33	0.45	8.92	High
3107-1	06-08-03	0.48	0.69	0.60	2.45	0.61	1.77	0.15	1.27	0.13	0.21	8.36	High
3107-2	02-06-19	0.14	1.55	0.87	1.75	0.98	0.23	0.30	3.41	0.69	0.54	10.46	High
3118	01-06-14	0.06	0.05	0.11	0.08	0.10	0.07	0.02	0.38	0.01	0.01	0.87	Low
3118	05-07-08	0.07	0.04	0.15	0.09	0.01	0.12	0.02	0.18	0.01	0.02	0.71	Low
3118	06-06-21	0.06	0.04	0.16	0.11	0.02	0.17	0.02	0.47	0.03	0.02	1.10	Moderate
3118	08-06-19	0.08	0.03	0.19	0.12	0.02	0.17	0.02	0.48	0.02	0.07	1.20	Moderate

continued

Table 2 continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH	TEU ¹	Contaminant Rating
CRD Discharge #	Sample Date (y/m/d)	Concentration / Guideline (MSQG)											
Shading indicates an exceedence or near exceedence of Marine Sediment Quality Guidelines													
3119	98-02-02	0.07	0.04	0.26	0.11	0.03	0.11	0.02	0.32	0.01	0.01	0.97	Low
3119	04-09-13	0.07	0.04	0.12	0.08	0.01	0.10	0.02	0.16	0.01	0.02	0.63	Low
3120	99-02-08	0.13	0.02	0.15	0.07	0.02	0.07	0.02	0.19	0.01	0.01	0.68	Low
3120	06-06-19	0.05	0.04	0.10	0.06	0.01	0.07	0.02	0.17	0.02	0.01	0.55	Low
3122	00-07-10	0.09	0.02	0.20	0.08	0.02	0.07	0.02	0.20	0.01	0.02	0.73	Low
3122	04-09-13	0.09	0.04	0.16	0.13	0.02	0.02	0.02	0.27	0.01	0.01	0.77	Low
3124	01-07-12	0.02	0.01	0.08	0.04	0.03	0.05	0.02	0.15	0.01	0.01	0.41	Low
3124	05-07-08	0.03	0.04	0.06	0.04	0.15	0.07	0.02	0.12	0.01	0.00	0.54	Low
3133	98-02-03	0.01	0.01	0.11	0.04	0.01	0.03	0.02	0.12	0.01	0.01	0.37	Low
3133	99-02-10	0.04	0.01	0.10	0.03	0.01	0.04	0.02	0.12	0.01	0.01	0.39	Low
3133	03-06-16	0.05	0.01	0.09	0.04	0.02	0.04	0.02	0.13	0.01	0.01	0.42	Low
3133	04-09-16	0.05	0.04	0.08	0.07	0.03	0.05	0.02	0.17	0.01	0.01	0.53	Low
3133	08-06-24	0.08	0.01	0.07	0.05	0.01	0.03	0.02	0.12	0.01	0.01	0.41	Low
3133A	99-02-10	0.05	0.03	0.12	0.05	0.02	0.07	0.02	0.16	0.02	0.02	0.53	Low
3133B	99-02-10	0.08	0.07	0.21	0.15	0.05	0.04	0.02	0.30	0.01	0.01	0.95	Low
3133-1A	01-07-12	0.14	0.14	0.20	0.20	0.06	0.17	0.02	0.65	0.01	0.02	1.60	Moderate
3133-1A	03-06-16	0.22	0.25	0.29	0.33	0.11	0.36	0.04	0.93	0.06	0.12	2.24	High
3133-2	01-07-12	0.11	0.35	0.43	0.31	0.12	0.10	0.05	0.83	0.09	0.18	2.58	High
3133-3	08-10-03	0.05	0.05	0.47	0.18	0.56	0.03	0.02	0.28	0.02	0.04	1.70	Moderate
3133-4	08-10-03	0.13	0.30	0.52	0.41	0.17	0.30	0.11	1.03	0.06	0.14	3.17	High
3135	02-06-20	0.12	0.45	0.18	0.38	1.10	1.96	0.36	1.46	0.03	0.05	6.09	High
3135	03-06-12	0.11	0.38	0.21	0.40	6.89	1.49	0.07	2.08	0.11	0.12	11.86	High
3135	04-09-23	0.06	0.94	0.10	0.17	0.06	0.10	0.02	0.38	0.01	0.01	1.85	High
3135	05-07-08	0.10	0.13	0.11	0.11	0.04	0.07	0.02	0.22	0.01	0.00	0.81	Low
3135	06-07-20	0.07	0.06	0.13	0.08	0.05	0.15	0.02	0.32	0.01	0.01	0.89	Low
3135-1A	05-07-08	0.06	0.08	0.15	0.11	0.05	0.17	0.02	0.32	0.00	0.00	0.96	Low
3135-1B	06-07-20	0.06	0.08	0.17	0.13	0.05	0.12	0.02	0.33	0.01	0.01	0.98	Low
3136A	01-07-12	0.03	0.03	0.04	0.04	0.03	0.08	0.02	0.20	0.02	0.01	0.50	Low
3136A	08-06-24	0.23	0.08	0.11	0.12	0.20	0.12	0.02	0.33	0.01	0.01	1.23	Moderate
3136B	02-06-20	0.05	0.03	0.18	0.11	0.03	0.16	0.02	0.16	0.01	0.01	0.76	Low
3136B	08-06-24	0.15	0.04	0.15	0.10	0.03	0.13	0.02	0.18	0.02	0.02	0.84	Low
3138	99-02-08	0.25	0.01	0.26	0.16	0.02	0.16	0.02	0.84	0.01	0.01	1.73	High
3138	00-07-06	0.75	0.02	0.27	0.18	0.02	0.08	0.02	1.57	0.01	0.01	2.93	High
3138	04-09-23	0.93	0.04	0.19	0.15	0.01	0.07	0.02	1.43	0.01	0.01	2.86	High
3138	05-07-08	0.80	0.04	0.16	0.10	0.01	0.07	0.02	1.09	0.01	0.00	2.30	High

continued

Table 2, continued

Contaminant		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc	LPAH	HPAH	TEU ¹	Contaminant Rating
CRD Discharge #	Sample Date (y/m/d)	Concentration / Guideline (MSQG)											
Shading indicates an exceedence or near exceedence of Marine Sediment Quality Guidelines													
3138	06-07-20	0.49	0.04	0.22	0.15	0.02	0.10	0.02	2.01	0.01	0.01	3.05	High
3138	07-06-27	0.22	0.02	0.19	0.16	0.02	0.13	0.02	0.81	0.01	0.01	1.58	High
3138	08-06-24	0.37	0.04	0.21	0.15	0.02	0.15	0.02	1.70	0.01	0.01	2.68	High
3138-1	04-09-23	0.06	0.04	0.13	0.12	0.08	0.10	0.02	1.56	0.01	0.01	2.13	High
3138-1A	05-07-08	0.04	0.04	0.07	0.09	0.04	0.05	0.02	0.23	0.01	0.00	0.59	Low
3138-1B	06-07-20	0.08	0.04	0.18	0.13	0.11	0.10	0.02	0.61	0.01	0.01	1.28	Moderate
3138-1C	07-06-27	0.08	0.03	0.21	0.15	0.02	0.14	0.02	0.57	0.01	0.01	1.24	Moderate
3138-1D	08-06-25	0.11	0.02	0.17	0.15	0.04	0.07	0.02	0.38	0.01	0.01	0.98	Low
3146	02-06-20	0.05	0.02	0.12	0.09	0.06	0.05	0.02	0.53	0.03	0.08	1.81	Moderate
3146	03-06-12	0.05	0.01	0.11	0.10	0.05	0.05	0.02	0.59	0.02	0.05	1.05	Moderate
3146	06-06-19	0.05	0.04	0.10	0.09	0.03	0.05	0.02	0.54	0.01	0.01	0.93	Low
3146	07-06-21	0.04	0.02	0.08	0.09	0.02	0.02	0.02	0.33	0.02	0.02	0.66	Low
3148	00-07-06	0.08	0.02	0.12	0.09	0.02	0.04	0.02	0.30	0.01	0.01	0.71	Low
3148	05-07-08	0.06	0.04	0.12	0.10	0.02	0.11	0.02	0.26	0.01	0.03	0.71	Low
3153	02-06-25	0.06	0.07	0.17	0.76	0.10	0.10	0.02	0.66	0.02	0.02	1.98	High
3153	03-06-13	0.18	0.06	0.19	0.42	0.06	0.14	0.03	0.47	0.04	0.09	1.68	Moderate
3153	04-09-16	0.07	0.06	0.10	0.21	0.05	0.06	0.02	0.37	0.17	0.36	1.47	Moderate
3153	07-06-27	0.14	0.27	0.31	1.42	0.23	0.32	0.03	2.14	0.05	0.07	4.98	High
3153	08-06-20	0.08	0.13	0.19	0.92	0.13	0.19	0.03	1.08	0.04	0.05	2.84	High
3153-1	08-06-20	0.03	0.03	0.11	0.12	0.03	0.06	0.02	0.49	0.02	0.02	0.93	Low
3154	99-02-02	0.12	0.05	0.10	0.08	0.09	0.09	0.02	0.48	0.02	0.01	1.05	Moderate
3154	00-07-06	0.20	0.12	0.23	0.23	0.09	0.23	0.03	0.73	0.02	0.01	1.89	Moderate
3154	05-07-11	0.13	0.04	0.08	0.07	0.06	0.07	0.02	0.30	0.01	0.00	0.75	Low
3154	06-06-21	0.16	0.14	0.12	0.16	0.07	0.27	0.02	0.86	0.04	0.05	1.88	High
3154	06-07-20	0.18	0.06	0.08	0.09	0.07	0.05	0.02	0.46	0.01	0.01	1.02	Moderate
3154	07-06-21	0.09	0.06	0.08	0.08	0.06	0.15	0.02	0.36	0.02	0.02	0.95	Low
3154	08-06-20	0.12	0.08	0.10	0.09	0.04	0.11	0.02	0.46	0.03	0.03	1.08	Moderate
3154-1	06-07-20	0.09	0.10	0.12	0.14	0.03	0.15	0.02	0.40	0.05	0.12	1.20	Moderate
3154-1	07-06-21	0.28	0.08	0.2	0.18	0.03	0.22	0.03	0.35	0.08	0.02	1.46	Moderate

¹TEU = Toxic Equivalent Unit – sum of ratios (contaminant concentration divided by marine sediment quality guideline) for all parameters
441-1 was renamed 441-1A and 412-1 was renamed 412-2A to avoid confusion with a fecal coliform stormwater discharge location

Table 3. Summary of Ratings for Environmental Concern—Saanich Peninsula, 2002 to 2008

Discharge # (Location)	Figure #	Jurisdiction	Contaminant Rating							2008 TEU	Comments and Recommendations
			2002	2003	2004	2005	2006	2007	2008		
405 (Island View Beach)	4	Central Saanich	-	-	-	-	-	-	Low	0.95	Rated low in 2008 and 1998. Resample in 2013 to confirm rating.
407 (Saanichton Bay)	7	Tsawout First Nation	-	-	-	Low	-	-	-	-	Rated low in 1999 and 2005. Resample as schedules and budgets allow.
409C (Saanichton Bay)	6	Tsawout First Nation	-	-	-	-	-	Low	Low	0.56	Rated low in 2008 and 2007. Resample in 2013 to confirm rating.
410 (Saanichton Bay)	6	Tsawout First Nation	High	Low	Low	-	-	-	-	-	Rated low in 2003 and 2004. Rated high in 2002 due to lead and mercury. Rated moderate in 2001 due mainly to zinc. Resample in 2009 to monitor for change.
411A (Saanichton Bay)	6	Tsawout First Nation	-	-	-	-	Low	-	Moderate	1.13	Rated moderate in 2008. Rated low in 1998 and 2006. Resample in 2009 to confirm rating.
412 (Sandhill Creek)	7	Tsawout First Nation	-	-	Low	Low	Low	Low	-	-	Point of discharge rated low in 2000, 2004, 2005, 2006 and 2007. Upstream: stations (412-1A, 412-2, 412-3), were rated high in 2007 due to zinc. Stations farther upstream (412-5 and 412-6) were rated low. Resample in 2010 to monitor for change.
416 (Foot of Ferguson Road)	8	Central Saanich	Low	-	-	-	-	-	-	-	Rated low in 2000 and 1999. Resample as schedules and budgets allow.
441 (Reay Creek)	12	North Saanich	Low	Moderate	High	High	High	High	High	4.98	Rated high at point of discharge and upstream in 2004, 2005, 2006, 2007 and 2008 due to cadmium and zinc. Refer to Table 7 in the main report body for details. Action Required (higher priority). Resample at point of discharge and upstream in 2009 as part of ongoing monitoring program.

continued

Table 3 continued

Discharge # (Location)	Figure #	Jurisdiction	Contaminant Rating							2008 TEU	Comments and Recommendations
			2002	2003	2004	2005	2006	2007	2008		
445 (Foot of Frost Ave.)	13	Sidney	Low	High	-	-	-	High	-	-	Rated high in 2002, 2003 and 2007 due primarily to zinc. In 2008 sample stations were renumbered to reflect their locations. Upstream: station 445-1 was rated high in 1999, 2000 and 2005 due to zinc and HPAH and in 2004, 2006 and 2007 due to zinc. Station 445-2 was rated moderate in 2005 and high in 2007 due to mercury, HPAH, LPAH. Action required (moderate priority). Resample in 2009 to continue source investigations.
449 (Tulista Park)	13	Sidney	-	-	-	-	-	-	-	-	Rated high from 1998 to 2001 due to zinc. Upstream: Rated high at stations 449-1, 449-2 and 449-2A due to zinc from 2000 to 2002; rated low at 449-2B. Rated moderate at station 449-3 in 2000. Action required (lower priority). Resample when action taken.
450 (Foot of Ocean Ave.)	14	Sidney	-	-	-	Moderate	-	Moderate	-	-	Rated moderate in 1999, 2000 and 2005 due to lead and zinc. Rated moderate in 2007 due to cumulative contaminant presence. Resample in 2012 to monitor for change.
467 (Foot of Shoreacres Rd.)	15	Sidney	-	-	-	-	Moderate	Moderate	-	-	Rated moderate in 2006 and 2007 due to cumulative contaminant presence. Rated low in 1999. Resample in 2012 to monitor for change.
3005 (Mermaid Canal)	16	Sidney	-	Moderate	Low	High	High	High	High	5.83	Rated high at upstream site (3005-1) in 2005, 2006, 2007 and 2008 due to zinc and PAH. Rated low in 1998 and 2004. The point of discharge can no longer be sampled due to tidal influence. Rated moderate in 2003 based on a slightly elevated zinc concentration. Action Required (higher priority). Resample in 2009 to continue with source investigation.
3006 (Roberts Bay)	16	Sidney	-	-	-	-	Low	-	-	-	Rated low in 2001 and 2006. Resample as schedules and budgets allow, to monitor for change.

Continued

Table 3 *continued*

Discharge # (Location)	Figure #	Jurisdiction	Contaminant Rating							2008 TEU	Comments and Recommendations
			2002	2003	2004	2005	2006	2007	2008		
3016 (All Bay)	17	Sidney	-	-	High	High	High	Low	High	3.55	Rated high in 2008, 2006 and 2004 due to zinc. Rated high in 2005 due to copper, zinc and LPAH. In 2007, rated low at point of discharge and moderate upstream (3016-2) due to zinc and HPAH. Action required (moderate priority). Resample in 2009 to continue source investigation.
3021 (Tsehum Harbour)	16	North Saanich	-	-	Moderate	High	Moderate	Moderate	-	-	Rated moderate in 2007 due to zinc and mercury and in 2006 and 2004 due to zinc. Rated high in 2005 due to copper and lead. Rated low in 1998. Resample in 2010 to monitor for change.
3077 (Deep Cove)	23	North Saanich	-	-	-	-	-	-	-	-	Rated low in 2001. Resample in 2009 to confirm rating.
3079 (Tatlow Creek.)	23	North Saanich	-	-	-	-	-	-	Low	0.84	Rated low in 2000 and 2008. Resample in 2013 to monitor for change.
3080A (Benes Creek)	24	North Saanich	-	-	-	Moderate	High	-	Low	0.96	Rated high in 2006 due to zinc. Rated moderate in 2005 due to slightly elevated zinc. Rated low in 2001 and 2008. Resample in 2009 to confirm rating.
3090 (Patricia Bay)	26	Tseycum First Nation	-	-	-	Low	-	-	-	-	Rated low in 2001 and 2005. Resample in 2010 to monitor for change.
3095 (Tseycum Creek)	27	Tseycum First Nation	-	-	Low	-	-	-	-	-	Rated low in 1999, 2000 and 2004. Resample as program schedule and budgets allow.
3104 (Tén Tén Creek)	28	North Saanich	-	Low	Low	Low	-	-	-	-	Rated low in 2003, 2004 and 2005. Upstream: rated moderate in 2003. Rated high in 1998 and 1999 based on zinc. Transport Canada has remediated gross contaminants in the catchment area. Resample in 2010 to monitor for change.

continued

Table 3 continued

Discharge # (Location)	Figure #	Jurisdiction	Contaminant Rating							2008 TEU	Comments and Recommendations
			2002	2003	2004	2005	2006	2007	2008		
3118 (Coles Bay)	36	North Saanich	-	-	-	Low	Moderate	-	Moderate	1.20	Rated moderate in 2006 and 2008 due to zinc. Rated low in 2001 and 2005. Resample in 2011 to confirm rating.
3119 (Coles Bay)	36	North Saanich	-	-	Low	-	-	-	-	-	Rated low in 1998 and 2004. Resample as schedule and budgets allow, to confirm rating.
3120 (Coles Bay)	36	North Saanich	-	-	-	-	Low	-	-	-	Rated low in 1999 and 2006. Resample as schedule and budgets allow, to confirm rating.
3122 (Coles Bay)	36	Pauquachin First Nation	-	-	Low	-	-	-	-	-	Rated low in 2000 and 2004. Resample as schedule and budgets allow, to confirm rating.
3124 (Coles Bay)	36	Pauquachin First Nation	-	-	-	Low	-	-	-	-	Rated low in 2001 and 2005. Resample as schedule and budgets allow, to confirm rating.
3133 (Hagan Creek)	40	Central Saanich	-	Low	Low	-	-	-	Low	0.41	Rated low in 1998, 1999, 2003, 2004 and 2008. Upstream: in 2008 station 3133-4 rated high due to zinc and station 3133-3 rated moderate; in 2001, station 3133-1A was rated moderate and in 2003 was rated high due to zinc. In 2001, station 3133-2 was rated high due to zinc. Resample in 2009 to continue upstream source investigations.
3135 (South of Hagan Bight.)	40	Tsartlip First Nation	High	High	High	Low	Low	Low	-	-	Rated low in 2005, 2006 and 2007. Rated high in 2004 due to cadmium and in 2002 and 2003 due to lead, mercury and zinc. Upstream: stations (3135-1, 3135-1A and 3135-B) were rated low. Resample in 2012 to monitor for change.
3136A (South of Hagan Bight)	40	Tsartlip First Nation	-	-	-	-	-	-	Moderate	1.23	Rated moderate in 2008. Rated low in 2001. Resample in 2009 to confirm rating.
3136B (North of Tsartlip boat launch)	40	Tsartlip First Nation	Low	-	-	-	-	-	Low	0.84	Rated low in 2002 and 2008. Resample as schedule and budgets allow to confirm rating.

continued

Table 3 continued

Discharge # (Location)	Figure #	Jurisdiction	Contaminant Rating							2008 TEU	Comments and Recommendations
			2002	2003	2004	2005	2006	2007	2008		
3138 (Brentwood Bay, north of boat ramp)	41	Tsartlip First Nation	-	-	High	High	High	High	High	2.68	Rated high in 1999, 2006, 2007 and 2008 due to zinc. Rated high in 1999, 2000, 2004 and 2005 due to arsenic and zinc. Upstream: in 2008 station 3138-1D was rated low; 3138-1C was rated moderate in 2007 due mainly to zinc. In 2004, station 3138-1 was rated high due to zinc. Station 3138-1B and 3138-1C were rated moderate in 2006 and 2007, respectively. 3138-1A was rated low in 2005. Action required (moderate priority). Resample in 2009 to continue source investigation.
3146 (Brentwood Drive near Marchant Road)	42	Central Saanich	Moderate	Moderate	-	-	Low	Low	-	-	Rated low in 2007 and 2006. Rated moderate in 2002 and 2003 based on slightly elevated zinc. Resample in 2012 to monitor for change.
3148 (Brentwood Bay)	42	Central Saanich	-	-	-	Low	-	-	-	-	Rated low in 2000 and 2005. Resample in 2010 to monitor for change.
3153 (Brentwood Bay)	42	Central Saanich	High	Moderate	Moderate	-	-	High	High	2.84	Rated high in 2007 and 2008 due to copper and zinc. Rated moderate in 2003 and 2004 due to slightly elevated copper and zinc. Rated high in 2002 based on copper and slightly elevated zinc. Upstream: in 2008 station 3153-1 rated low. Source of contaminants narrowed down. Action required (moderate priority). Resample in 2011 or when mitigative action taken.
3154 (Tod Creek)	43	Central Saanich	-	-	-	Low	High	Low	Moderate	1.08	Rated moderate in 1999, 2000 and 2008 due to zinc. Rated high in 2006 due to zinc. Rated low in 2005 and 2007. Upstream: in 2007 station 3154-1 rated moderate. Resample at point of discharge and upstream in 2009 to confirm rating.

Table 4. Habitat Ratings for Discharges

Jurisdiction	CRD Discharge Number	Habitat Sensitivity Rating (a)	Flow Rating (b)	Flushing Rating (c)	Habitat Rating (a+b+c)
Central Saanich	405	2	0.5	0.5	Lower
Tsawout First Nation	407	3	0.5	1	Moderate
Tsawout First Nation	409C	3	0.5	1	Moderate
Tsawout First Nation	410	3	0.5	1	Moderate
Tsawout First Nation	411A	3	0.5	1	Moderate
Tsawout First Nation	412	3	1	1.5	High
Central Saanich	416	2	1	1	Moderate
North Saanich	441	3	1.5	0.5	High
Sidney	445	3	0.5	1	Moderate
Sidney	449	1	0.5	0.5	Lower
Sidney	450	1	0.5	0.5	Lower
Sidney	467	2	0.5	1	Moderate
Sidney	3005	3	0.5	1.5	High
Sidney	3006	3	0.5	0.5	Moderate
Sidney	3016	3	0.5	1.5	High
Sidney	3021	3	0.5	1.5	High
North Saanich	3043	1	0.5	1	Lower
North Saanich	3077	3	0.5	1	Moderate
North Saanich	3079	3	1	1	High
North Saanich	3080A	3	0.5	1	Moderate
Tseycum First Nation	3090	3	0.5	1	Moderate
Tseycum First Nation	3095	3	1.5	1	High
North Saanich	3104	2	1.5	1.5	High
North Saanich	3107	2	0.5	1.5	Moderate
North Saanich	3118	3	0.5	1	Moderate
North Saanich	3119	3	1	1	High
North Saanich	3120	3	1	1	High
Pauquachin First Nation	3122	3	1	1	High
Pauquachin First Nation	3124	3	0.5	1	Moderate
Central Saanich	3133	3	1	1	High
Tsartlip First Nation	3135	3	1	1	Moderate
Tsartlip First Nation	3136A	3	0.5	1	Moderate
Tsartlip First Nation	3136B	3	0.5	1	Moderate
Tsartlip First Nation	3138	3	1	0.5	Moderate
Central Saanich	3146	1	0.5	1.5	Low
Central Saanich	3148	1	1	1.5	Moderate
Central Saanich	3153	2	0.5	1.5	Moderate
Central Saanich	3154	3	1	1.5	High