Appendix V6-5J

Concentrations of Contaminants of Potential Concern in Bay Mussel Tissue Samples Collected during the Baseline Monitoring Program

TMAC RESOURCES

Appendix V6-5J. Concentrations of Contaminants of Potential Concern in Bay Mussel Tissue Samples Collected during the Baseline Monitoring Program

Species	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.
Sample ID	RBW#2	RBW#4	RBW#5	RBW#6	RBW#7	RBW#8	RBW#11	RBW#12	RBE#1	RBE#2	RBE#4	RBE#5	RBE#6	RBE#9	RBE#13	RBE#14	REF1	REF2
Date Sampled	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	24-Aug-10	24-Aug-10
ALS Sample ID	L930021-41	L930021-42	L930021-43	L930021-44	L930021-45	L930021-46	L930021-47	L930021-48	L930021-49	L930021-50	L930021-51	L930021-52	L930021-53	L930021-54	L930021-55	L930021-56	L965618-1	L965618-2
% Moisture	88.5	88.5	88.5	86.3	89.5	87.6	87.3	89.1	87.9	87.0	83.2	85.9	88.0	88.2	92.5	84.6	93.4	91.4
Metals (mg/kg wet weight)																		
Aluminum	4.61	4.06	11.1	11.0	5.18	5.94	16.8	16.1	12.3	4.69	3.25	4.12	4.09	4.88	16.1	20.0	82.9	43.4
Antimony	0.0033	0.0036	0.0032	0.0028	0.0024	0.0021	0.0033	0.0027	<0.0040	<0.0040	0.0031	<0.0040	<0.0040	<0.0040	<0.0060	<0.0040	0.0045	0.0027
Arsenic	2.67	2.14	1.92	2.79	2.38	1.74	1.99	2.64	2.37	2.53	2.28	2.43	2.25	2.03	2.53	2.88	1.54	1.63
Barium	2.10	2.67	1.51	3.98	8.07	1.80	3.96	0.422	1.00	6.90	1.61	1.07	9.11	13.3	4.49	15.1	8.74	5.28
Beryllium	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0040	<0.0040	<0.0020	<0.0040	<0.0040	<0.0040	<0.0060	<0.0040	0.0034	<0.0020
Bismuth	0.0041	0.0049	0.0037	0.0036	0.0037	0.0029	0.0044	0.0056	<0.0040	0.0043	0.0029	<0.0040	<0.0040	0.0043	<0.0060	0.0049	0.0106	0.0097
Boron	2.84	2.94	3.05	3.04	2.77	2.94	2.87	2.83	2.62	2.92	2.59	2.76	2.75	2.80	2.72	2.76	2.17	2.29
Cadmium	0.485	0.399	0.270	0.304	0.417	0.277	0.341	0.440	0.311	0.756	0.304	0.269	0.200	0.457	0.256	0.427	0.679	0.752
Calcium	274	253	185	630	225	217	191	197	288	233	236	223	194	227	211	225	384	411
Cesium	0.0021	0.0019	0.0023	0.0028	0.0020	0.0027	0.0027	0.0025	0.0023	0.0023	0.0024	0.0022	0.0023	0.0020	0.0032	0.0029	0.0072	0.0036
Chromium	1.14	0.773	1.44	2.15	1.64	0.835	3.44	1.53	2.48	0.436	1.42	0.635	0.359	0.635	1.43	2.86	11.7	6.33
Cobalt	0.142	0.139	0.124	0.131	0.150	0.0909	0.200	0.136	0.215	0.240	0.124	0.129	0.148	0.120	0.161	0.147	0.173	0.128
Copper	1.10	1.11	1.26	1.49	1.30	0.913	1.42	1.30	1.32	1.28	1.25	1.18	0.956	1.03	1.14	1.23	1.26	1.03
Gallium	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0056	0.0052	<0.0080	<0.0080	<0.0040	<0.0080	<0.0080	<0.0080	<0.012	<0.0080	0.0330	0.0152
Iron	43.0	37.7	42.2	49.6	45.2	31.4	63.8	87.5	74.7	48.6	39.7	41.4	40.1	48.9	60.0	108	240	150
Lead	0.0539	0.0304	0.0278	0.0349	0.0451	0.0295	0.0421	0.0543	0.0587	0.0688	0.0449	0.0343	0.0365	0.0404	0.037	0.0704	0.198	0.147
Lithium	0.055	0.056	0.063	0.061	0.054	0.055	0.065	0.068	0.068	0.052	0.041	0.050	0.046	0.057	<0.060	0.065	0.179	0.097
Magnesium	463	481	475	495	457	467	477	513	542	524	428	484	488	527	428	507	472	482
Manganese	0.752	0.763	0.901	1.54	0.837	0.765	1.50	1.40	1.43	0.920	0.840	0.932	0.830	0.854	1.33	1.63	2.29	1.27
Mercury	0.0195	0.0197	0.0178	0.0176	0.0182	0.0138	0.0162	0.0221	0.0157	0.0188	0.0041	0.0036	0.0038	0.0168	0.0123	0.0171	0.0165	0.0172
Molybdenum	0.0965	0.101	0.114	0.128	0.118	0.0903	0.179	0.113	0.153	0.115	0.101	0.102	0.0798	0.101	0.101	0.148	0.583	0.369
Nickel	1.19	1.03	1.24	1.57	1.46	0.865	2.47	1.40	2.58	1.72	1.45	1.30	1.18	1.06	1.74	2.20	6.35	3.53
Phosphorus	1270	1110	1150	1560	1240	1650	1220	1160	1270	1320	1300	1240	1440	1020	1570	1550	520	542
Potassium	1560	1570	1590	1910	1550	1780	1700	1540	1840	1910	1800	1820	1770	1610	2000	1760	429	444
Rhenium	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0040	<0.0040	<0.0020	<0.0040	<0.0040	<0.0040	<0.0060	<0.0040	<0.0020	<0.0020
Rubidium	0.735	0.719	0.766	0.922	0.732	0.823	0.885	0.731	0.800	0.822	0.807	0.796	0.784	0.677	0.870	0.766	0.370	0.278
Selenium	0.815	0.752	0.781	0.896	0.732	0.808	0.779	0.778	0.801	0.983	0.817	0.785	0.855	0.795	0.868	0.944	0.305	0.368
Sodium	3050	3200	3130	3010	2990	2940	2840	3220	3660	3430	2770	3280	3270	3790	2720	3270	2740	2880
Strontium	4.16	3.66	3.11	5.76	3.96	3.07	3.26	3.25	3.44	3.83	3.56	3.41	3.49	4.20	3.25	3.86	5.17	5.62
Tellurium	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0080	<0.0080	<0.0040	<0.0080	<0.0080	<0.0080	<0.012	<0.0080	<0.0040	<0.0040
Thallium	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.00080	<0.00080	0.00072	<0.00080	<0.00080	<0.00080	<0.0012	<0.00080	0.00161	0.00096
Thorium	0.0125	0.0095	0.0072	0.0083	0.0109	0.0091	0.0294	0.0107	0.0114	0.0110	0.0073	0.0069	0.0095	0.0058	0.0140	0.0176	0.0451	0.0307
Tin	0.0041	<0.0040	0.0044	0.0047	<0.0040	0.0056	0.0077	<0.0040	<0.0080	<0.0080	<0.0040	<0.0080	<0.0080	<0.0080	<0.012	<0.0080	0.510	0.630
Titanium	0.185	0.159	0.464	0.517	0.199	0.269	0.800	0.734	0.651	0.215	0.177	0.218	0.226	0.210	0.872	1.27	5.39	2.26
Uranium	0.0234	0.0204	0.0187	0.0200	0.0306	0.0187	0.0202	0.0269	0.0193	0.0211	0.0131	0.0132	0.0176	0.0234	0.0168	0.0351	0.0634	0.0644
Vanadium	0.0667	0.0670	0.0686	0.0771	0.0749	0.0684	0.119	0.102	0.140	0.138	0.0614	0.0714	0.0791	0.0643	0.102	0.155	0.361	0.196
Yttrium	0.0234	0.0218	0.0198	0.0232	0.0200	0.0188	0.0239	0.0297	0.0178	0.0302	0.0121	0.0184	0.0210	0.0359	0.0155	0.0695	0.0878	0.0495
Zinc	8.41	8.13	8.50	13.7	8.55	8.42	11.0	8.73	9.20	13.5	11.2	8.62	8.66	7.30	7.78	8.74	10.5	20.4
Zirconium	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.080	<0.080	<0.040	<0.080	<0.080	<0.080	<0.12	<0.080	0.045	<0.040
Polycyclic Aromatic Hydrocarbons																		
Acenaphthene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-c,d)pyrene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: (-) = not available

Appendix V6-5J. Concentrations of Contaminants of Potential Concern in Bay Mussel Tissue Samples Collected during the Baseline Monitoring Program

Species	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.	Mytilus t.
Sample ID	REF3	REF4	REF5	REF COMP1	REF COMP2	REF COMP3	RBE COMP1	RBE COMP2	RBW COMP1	RBW COMP2
Date Sampled	24-Aug-10	24-Aug-10	24-Aug-10	24-Aug-10	24-Aug-10	24-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10	22-Aug-10
ALS Sample ID	L965618-3	L965618-4	L965618-5	L965618-46	L965618-47	L965618-48	L965618-51	L965618-52	L965618-56	L965618-57
% Moisture	87.6	88.0	88.4	87.5	89.4	89.7	86.1	85.5	84.7	86.2
Metals (mg/kg wet weight)										
Aluminum	85.2	68.5	452	87.3	106	114	-	-	-	-
Antimony	0.0044	0.0029	0.0098	0.0025	0.0022	0.0021	-	-	-	-
Arsenic	1.53	1.04	1.70	1.51	1.39	1.34	-	-	-	-
Barium	2.07	1.50	6.51	6.43	3.96	4.12	-	-	-	-
Beryllium	0.0035	0.0027	0.0166	0.0032	0.0039	0.0041	-	-	-	-
Bismuth	0.0024	0.0037	0.0126	0.0085	0.0095	0.0083	-	-	-	-
Boron	2.39	1.81	3.60	2.17	2.03	2.10	-	-	-	-
Cadmium	0.567	0.471	0.569	0.438	0.486	0.418	-	-	-	-
Calcium	424	232	830	379	315	305	-	-	-	-
Cesium	0.0073	0.0057	0.0418	0.0075	0.0092	0.0095	-	-	-	-
Chromium	20.8	12.3	85.3	0.668	1.56	0.691	-	-	-	-
Cobalt	0.230	0.172	0.774	0.114	0.145	0.135	-	-	-	-
Copper	1.57	1.30	4.11	1.58	1.50	1.34	-	-	-	-
Gallium	0.0342	0.0242	0.191	0.0328	0.0389	0.0418	-	-	-	-
Iron	258	196	991	193	225	225	-	-	-	-
Lead	0.0965	0.0813	0.313	0.119	0.146	0.154	-	-	-	-
Lithium	0.163	0.120	0.804	0.160	0.189	0.202	-	-	-	-
Magnesium	542	382	746	485	468	442	-	-	-	-
Manganese	3.57	2.60	14.3	1.79	2.08	2.19	-	-	-	-
Mercury	0.0168	0.0208	0.0172	0.0157	0.0167	0.0170	-	-	-	-
Molybdenum	0.711	0.764	4.02	0.169	0.252	0.128	-	-	-	-
Nickel	11.0	7.48	47.5	0.603	1.18	0.619	-	-	-	-
Phosphorus	1260	653	839	1070	938	821	-	-	-	-
Potassium	607	463	656	457	479	430	-	-	-	-
Rhenium	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-	-	-	-
Rubidium	0.438	0.348	1.33	0.402	0.447	0.448	-	-	-	-
Selenium	0.488	0.366	0.496	0.456	0.433	0.428	-	-	-	-
Sodium	2690	1890	2610	2230	2130	1910	-	-	-	-
Strontium	4.72	3.41	7.39	5.15	4.40	4.28	-	-	-	-
Tellurium	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	-	-	-	-
Thallium	0.00174	0.00135	0.00614	0.00174	0.00222	0.00232	-	-	-	-
Thorium	0.0532	0.0573	0.254	0.0387	0.0567	0.0771	-	-	-	-
Tin	0.986	0.834	1.09	0.118	0.191	0.139	-	-	-	-
Titanium	5.23	3.84	32.7	4.25	5.88	6.94	-	-	-	-
Uranium	0.0433	0.0303	0.0733	0.0485	0.0450	0.0478	-	-	-	-
Vanadium	0.413	0.347	1.83	0.387	0.418	0.451	-	-	-	-
Yttrium	0.0699	0.0516	0.266	0.0587	0.0667	0.0763	-	-	-	-
Zinc	16.9	11.5	25.2	20.2	14.0	13.5	-	-	-	-
Zirconium	0.070	0.052	0.189	<0.040	<0.040	0.058	-	-	-	-
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	-	-	-	<0.010	<0.025	<0.010	<0.010	<0.010	<0.010	<0.010
Acenaphthylene	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.015	<0.010	<0.010
Anthracene	-	-	-	0.056	<0.025	<0.020	<0.015	<0.010	<0.015	<0.015
Benz(a)anthracene	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b)fluoranthene	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(g,h,i)perylene	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(k)fluoranthene	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chrysene	-	-	-	<0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dibenz(a,h)anthracene	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Fluoranthene	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Fluorene	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.030	<0.030
Indeno(1,2,3-c,d)pyrene	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Naphthalene	-	-	-	<0.015	<0.015	<0.010	<0.010	<0.010	<0.010	<0.015
Phenanthrene	-	-	-	<0.015	<0.010	<0.015	<0.010	<0.010	<0.010	<0.010
Pyrene	-	-	-	<0.010	<0.015	<0.015	<0.010	<0.010	<0.010	<0.010

Note: (-) = not available