

Appendix A - § 35-APX-A4

Recommended Sediment Quality Guidelines for the Protection of Aquatic Biota in Freshwater Ecosystems*			
Analyte	TEC	PEC	Notes
Metals (in mg/kg - ppm DW)			
Arsenic	9.79	33	1,2
Cadmium	0.99	4.98	1,2
Chromium	43.4	111	1,2
Copper	31.6	149	1,2
Lead	35.8	128	1,2
Mercury	0.18	1.06	1,2,4
Nickel	22.7	48.6	1,2
Zinc	121	459	1,2
Polycyclic Aromatic Hydrocarbons (in µg/kg - ppb DW)			
Anthracene	57.2	845	1,3
Fluorene	77.4	536	1,3
Naphthalene	176	561	1,3
Phenanthrene	204	1,170	1,3
Benz(a)anthracene	108	1,050	1,3
Benzo(a)pyrene	150	1,450	1,3,4
Chrysene	166	1,290	1,3
Dibenz(a,h)anthracene	33	1,3	
Fluoranthene	423	2,230	1,3
Pyrene	195	1,520	1,3
Total PAHs	1,610	22,800	1,3
Polychlorinated Biphenyls (in µg/kg - ppb DW)			
Total PCBs	59.8	676	1,3,4
Organochlorine Pesticides (in µg/kg - ppb DW)			
Chlordane	3.24	17.6	1,3,4
Dieldrin	1.9	61.8	1,3,4
Sum DDD	4.88	28	1,3,4
Sum DDE	3.16	31.3	1,3,4
Sum DDT	4.16	62.9	1,3,4
Total DDTs	5.28	572	1,3,4
Endrin	2.22	207	1,3
Heptachlor Epoxide	2.47	16	1,3
Lindane (gamma-BHC)	2.37	4.99	1,3

Notes: **TEC** = Threshold Effect Concentration, **PEC** = Probable Effects Concentration, **DW** = dry weight

*An exceedance of the TEC or PEC does not necessarily indicate a release to the environment has occurred.

1. Consensus-Based Sediment Quality Guidelines (SQGs) from: MacDonald D.D., Ingersoll C.G. and Berger T.A. 2000. Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems. Archives of Environmental Contamination and Toxicology 39(1). 20-31.

2. SQGs for metals are based on bulk (unsorted) sediment concentrations. Concentrations of metals in sediments can be normalized on percent fines for the purpose of inter-site comparisons but not for comparisons to these SQGs.

3. The SQGs for organics are derived from samples normalized to 1 percent total organic carbon (TOC) in the sediment. The SQGs presented here are based on an assumed TOC of 1 percent. If site specific data show organic carbon content to be significantly different from 1 percent, concentrations should be normalized to 1 percent TOC (divide the site concentration by the percent TOC) prior to comparison with the SQGs in this table. If non site-specific TOC data are available, assume 1 percent TOC.

4. Included on USEPA's list of important persistent, bioaccumulative, toxic compounds (PBTs).