

Terminal 5 Sediment Risk Screening⁽¹⁾

4/6/2011

	Chemical	MDC	average ⁽²⁾	Primary SLV		2ndary SLV	
				SLV	Source ⁽³⁾	SLV	Source ⁽³⁾
Metals (ppm)	Arsenic	11	5	10	Level II SLV (bird x 1) ^(4,5)	7	background ⁽⁸⁾
	Cadmium	2.2	0.9	6	Level II SLV (bird x 1) ^(4,5)	1	background ⁽⁸⁾
	Chromium	30.3	23.9	42	background ⁽⁸⁾	4	Level II SLV (bird x 1) ^(4,5)
	Copper	40.6	29.5	190	Level II SLV (bird x 1) ^(4,5)	36	background ⁽⁸⁾
	Lead	37	16.3	17	background ⁽⁸⁾	16	Level II SLV (bird x 1) ^(4,5)
	Mercury	0.23	0.1	0.5	Level II SLV (invert x 5) ^(4,6)	1.5	Level II SLV (bird x 1) ^(4,5)
	Nickel	25	20.9	150	Level II SLV (plant x 5) ^(4,7)	320	Level II SLV (bird x 1) ^(4,5)
	Silver	ND					
	Zinc	268	139	86	background ⁽⁸⁾	60	Level II SLV (bird x 1) ^(4,5)
Pesticides (ppb)	4,4'-DDE	4.7	2.7	10	Level II SLV (bird x 1) ^(4,5)		
	4,4'-DDD	6.9	3.1	10	Level II SLV (bird x 1) ^(4,5)		
	4,4'-DDT	5.4	1.6	10	Level II SLV (bird x 1) ^(4,5)		
	Total DDx	9.6	4.7	10	Level II SLV (bird x 1) ^(4,5)		
PCB (ppb)	Total PCBs	410	71.5	700	Level II SLV (bird x 1) ^(4,9)	980	RBC occupational ⁽¹⁰⁾
cPAHs (ppb)	Naphthalene	37	14.1	23,000	RBC occupational ⁽¹⁰⁾	4,600	RBC residential ⁽¹¹⁾
	B(a)A	130	63.7	2,700	RBC occupational ⁽¹⁰⁾	150	RBC residential ⁽¹¹⁾
	B(b)F	150	90.7	2,700	RBC occupational ⁽¹⁰⁾	150	RBC residential ⁽¹¹⁾
	B(k)F	130	62.9	27,000	RBC occupational ⁽¹⁰⁾	1,500	RBC residential ⁽¹¹⁾
	Chrysene	190	93.6	270,000	RBC occupational ⁽¹⁰⁾	15,000	RBC residential ⁽¹¹⁾
	B(a)P	180	94.6	270	RBC occupational ⁽¹⁰⁾	15	RBC residential ⁽¹¹⁾
	Dib(a,h)A	21	9.5	270	RBC occupational ⁽¹⁰⁾	15	RBC residential ⁽¹¹⁾
Ind(1,2,3-cd)P	120	56.5	2,700	RBC occupational ⁽¹⁰⁾	150	RBC residential ⁽¹¹⁾	
Phthalates (ppb)	BEHP	200	58.1	4,500	Level II SLV (bird x 1) ^(4,5)	150,000	RBC occupational ⁽¹⁰⁾
Phenols (ppb)	Phenol	93	27.7	150,000	Level II SLV (invert x 5) ^(4,6)		
	PCP	ND					

Notes

- (1) Risk screening compares chemical concentration to SLV. Exceedance of SLV noted by:
- (2) Arithmetic average based on 7 samples
- (3) Literature source of SLV (e.g., DEQ Eco Risk Assessment Guidance)
- (4) SLVs are multiplied by 5 for non-T&E species, & are multiplied by 1 for T&E species.
The SLV chosen was the lower value of either the bird SLVx1 or the plant, invertebrate, or mammal SLVx5.
- (5) "Level II SLV (bird x 1)" is SLV protective of T&E species birds
- (6) "Level II SLV (invert x 5)" is SLV protective of non-T&E invertebrates
- (7) "Level II SLV (plant x 5)" is SLV protective of non-T&E plants
- (8) Background refers to the concentration of naturally occurring inorganics (i.e., metals) found in soil or sediment in the area which are not influenced by site activities or releases.
- (9) "Level II SLV (bird x 1)" is SLV protective of T&E species birds based on the lowest Aroclor SLV. In other words, assuming total PCBs are composed of only Aroclor 1254.
- (10) "RBC occupational" refers to risk-based concentration protective of humans in an occupational exposure scenario.
- (11) "RBC residential" refers to risk-based concentration protective of humans in a residential exposure scenario.

Acronyms

- MDC- maximum detected concentration
- SLV- screening level value
- ppm- parts per million (mg/kg)
- ppb- parts per billion (ug/kg)
- PCBs- polychlorinated biphenyls
- cPAHs- carcinogenic polynuclear aromatic hydrocarbons
- B(a)A- benz(a)anthracene
- B(b)F- benzo(b)fluoranthene
- B(k)F- benzo(k)fluoranthene
- B(a)P- benzo(p)pyrene
- Dib(a,h)A- dibenz(a,h)anthracene
- Ind(cd)P- indeno(1,2,3-cd)pyrene
- RBC- risk-based concentration
- BEHP- bis(2-ethylhexyl)phthalate
- PCP- pentachlorophenol
- T&E- threatened or endangered
- ND- not detected