

Post Office Bar Sediment Risk Screening⁽¹⁾
4/6/2011

				Primary SLV		2ndary SLV	
	Chemical	MDC	average ⁽²⁾	SLV	Source ⁽³⁾	SLV	Source ⁽³⁾
Metals (ppm)	Arsenic	3.2	3.1	10	Level II SLV (bird x 1) ^(4,5)	7	background ⁽⁸⁾
	Cadmium	0.26	0.23	6	Level II SLV (bird x 1) ^(4,5)	1	background ⁽⁸⁾
	Chromium	24.7	24.1	42	background ⁽⁸⁾	4	Level II SLV (bird x 1) ^(4,5)
	Copper	37	35	190	Level II SLV (bird x 1) ^(4,5)	36	background ⁽⁸⁾
	Lead	14.5	12.4	17	background ⁽⁸⁾	16	Level II SLV (bird x 1) ^(4,5)
	Mercury	0.075	0.06	0.5	Level II SLV (invert x 5) ^(4,6)	1.5	Level II SLV (bird x 1) ^(4,5)
	Nickel	21.8	21.3	150	Level II SLV (plant x 5) ^(4,7)	320	Level II SLV (bird x 1) ^(4,5)
	Silver	0.23	0.2	10	Level II SLV (plant x 5) ^(4,7)	1	background ⁽⁸⁾
	Zinc	89	84.4	86	background ⁽⁸⁾	60	Level II SLV (bird x 1) ^(4,5)
Pesticides (ppb)	4,4'-DDE	4.4	3.1	10	Level II SLV (bird x 1) ^(4,5)		
	4,4'-DDD	2.3	1.9	10	Level II SLV (bird x 1) ^(4,5)		
	4,4'-DDT	4	2.4	10	Level II SLV (bird x 1) ^(4,5)		
	Total DDx	9.4	7.4	10	Level II SLV (bird x 1) ^(4,5)		
TPH (ppm)	TPH-D	58	51.5	500	Level II UST Matrix ⁽⁹⁾		
	TPH-R	270	190	500	Level II UST Matrix ⁽⁹⁾		
PCB (ppb)	Total PCBs	56	27.6	700	Level II SLV (bird x 1) ^(4,10)	980	RBC occupational ⁽¹¹⁾
cPAHs (ppb)	Naphthalene	28	18.3	23,000	RBC occupational ⁽¹¹⁾	4,600	RBC residential ⁽¹²⁾
	B(a)A	83	70	2,700	RBC occupational ⁽¹¹⁾	150	RBC residential ⁽¹²⁾
	B(b)F	130	110.7	2,700	RBC occupational ⁽¹¹⁾	150	RBC residential ⁽¹²⁾
	B(k)F	43	34.7	27,000	RBC occupational ⁽¹¹⁾	1,500	RBC residential ⁽¹²⁾
	Chrysene	100	84.3	270,000	RBC occupational ⁽¹¹⁾	15,00	RBC residential ⁽¹²⁾
	B(a)P	130	113	270	RBC occupational ⁽¹¹⁾	15	RBC residential ⁽¹²⁾
	Dib(a,h)A	22	17.7	270	RBC occupational ⁽¹¹⁾	15	RBC residential ⁽¹²⁾
	Ind(cd)P	110	96.7	2,700	RBC occupational ⁽¹¹⁾	150	RBC residential ⁽¹²⁾
Phthalates (ppb)	BEHP	47	30	4,500	Level II SLV (bird x 1) ^(4,5)	150,000	RBC occupational ⁽¹¹⁾
Phenols (ppb)	Phenol	7.7	4.8	150,000	Level II SLV (invert x 5) ^(4,6)		
	4-methylphenol	19	10.3	250,000	Level II SLV (plant x 5) ^(4,7)		
	PCP	ND					

Notes

- (1)

Risk screening compares chemical concentration to SLV. Exceedance of SLV noted by:
- (2)

Arithmetic average based on 3 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 UST Matrix" refers to a cleanup-level criteria appropriate for West Hayden Island
- (10)

"Level II SLV (bird x 1)" is SLV protective of T&E species birds based on the lowest Aroclor SLV. In orther words, assuming total PCBs are composed of only Aroclor 1254.
- (11)

"RBC occupational" refers to risk-based concentration protective of humans in an occupational exposure scenario.
- (12)

"RBC residential" refers to risk-based concentration protective of humans in an residential exposure scenario.

Acronyms

- MDC- maximum detected concentration
- SLV- screening level value
- ppm- parts per million (mg/kg)
- ppb- parts per billion (ug/kg)
- TPH- total petroleum hydrocarbons
- TPH-D- total petroleum hydrocarbons- diesel range
- TPH-R- total petroleum hydrocarbons- residual range (oil)
- UST- underground storage tank
- 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