

APPENDIX 9: Alum Creek Sediment Data

Contaminant	Effect Level		Sample Location										
			RM 42.8 Myers Rd. DSW	RM 26.3 Africa Rd. or Lewis Center Rd. DSW	RM 17.4 Upst Huber Ridge WWTP DSW	RM 17.2 Huber Ridge Mixing Zone DSW	just above RM 9.1 Cassady Park DERR	RM 9.1 Dnst Am. Ditch or Maryland Ave. DSW	RM 9.1 Dnst Am. Ditch or Maryland Ave. DERR	RM ? Jeffrey Park DERR	RM 6.6 Livingston Ave. DSW	RM ? Anchor Landfill DERR	RM 3.9 State Rt 104 DSW (2000)
Heavy Metals	LEL	SEL	Concentration in Sediment (mg/kg)										
Arsenic	6	33	34.7	1.25	8.58	21.4	12.6	15.3	11	8.6	7.69	55.3	11.2
Cadmium	0.6	10	1.21	0.13	0.42	0.59	ND	4.41	4.1	2.4	1.17	2.2	1.33
Chromium	26	110	30	44	18	24	12.9	31	14	9.5	18	15.8	28.2
Copper	16	110	21	23	10	23	30.5	34	31.2	22.8	19	35.2	32.1
Iron*			37500	43600	15000	24900		24000			13700		
Lead	31	250	27	32	27	26	38.8	50	48.9	33.6	65	131	76
Mercury	0.17	2	0.026	0.031	0.041	0.037	0.28	0.12	0.34	0.33	0.095	0.19	0.096
Nickel	16	75	48	43	24	33	28.1	31	31	19.6	23	21.6	26.2
Zinc	120	820	131	127	72	125	160	351	358	205	175	284	197
Semi-Volatile Organic Compounds	LEL	SEL	Concentration in Sediment (mg/kg)										
Anthracene	0.220	11.1	ND	ND	ND	ND	0.28J	0.9	13	4.1J	0.7	0.66	ND
Benzo(a)anthracene	0.320	44.4	ND	ND	0.8	1.6	1.2	3.9	37	12	2.8	2.1	3.3
Benzo(a)pyrene	0.370	34.2	ND	ND	0.8	1.8	1.4	4.2	33	10	2.9	2.1	3.2
Benzo(b)fluoranthene	N/A	N/A	ND	ND	1.0	2.2	1.4	5.2	34	12	3.4	2.4	4.4
Benzo(g,h,i)perylene	0.170	9.6	ND	ND	0.6	1.6	1.4	3.1	13	2.2J	2.2	0.7	2.7
Benzo(k)fluoranthene	0.240	40.2	ND	ND	0.7	1.9	1.2	4.5	33	10	2.5	2.0	2.8
Bis[2-ethylhexyl] phthalate*			ND	ND	1.3	0.7		2.1			1.2	2.5	
Chrysene	0.340	13.8	ND	ND	1.1	2.4	1.9	5.8	49	15	3.7	2.5	4.8
Dibenz(a,h)anthracene	0.060	3.9	ND	ND	ND	ND	ND	1.0	15	ND	0.8	0.36J	1.1
Fluoranthene	0.750	30.6	ND	ND	2.6	4.5	3.4	11.8	120	36	7.6	3.8	8.9
Indeno(1,2,3-cd)pyrene	0.200	9.6	ND	ND	0.7	1.6	1.3	3.2	20	6.2	2.4	0.88	3
Phenanthrene	0.560	28.5	ND	ND	1.5	ND	1.3	6.6	20	28	4.2	3.2	4.2

Pyrene	0.490	25.5	ND	ND	1.9	3.6	2.8	9.1	82	28	5.9	3.4	7.2
Pesticides and PCBs	LEL	SEL	Concentration in Sediment (ug/kg)										
Dieldrin	2	2730.0	ND	ND	ND	ND	ND	ND	ND	ND	13	9.9D	ND
Endosulfan I [^] ~	0.175						30P		540DP	190		ND	ND
Endosulfan II [^] ~	0.104						ND		72	42DP		7.3	ND
Methoxychlor [^]	3.59		ND	ND	ND	ND	ND	23	ND	ND	ND	46	ND
Endrin~	2.67	39000					ND		ND	ND		13	ND
4,4 DDD~	5.53	180					ND		ND	ND		ND	8.28
4,4 DDT~	1.19	360					ND		34P	ND		7.2P	ND
Chlordane~	4.5	180					ND		ND	ND		23	20.8
PCB-1260	5	720	ND	ND	ND	ND	ND	57	ND	ND	57	180	37.9

Upst: Upstream; Dnst: Downstream

SEL: Severe effect level (Persuad et al, 1993)

LEL: Lowest effect level (Persuad et al, 1993)

Bold underlined concentration value: Exceeds SEL

* Not evaluated by DERR

[^] These pesticides were not evaluated by Persuad, et al. The LEL given is the ecological data quality level (EDQL) from US EPA-Region 5

~ Results for these pesticides were not given by DSW

Data Qualifiers

J: Estimated value, usually detected below sample quantitation limit

D: Compound identified in an analysis at a secondary dilution

P: Greater than 25% difference between the two GC columns for the detected concentrations. The lower of the two results is reported.

(Source: Myers, 2002 and OEPA 1999)