

Table 5. Metals Concentration (ppm) in Laurel Fork Sediment

Site Name	Arsenic		Cadmium		Chromium		Copper		Lead		Silver		Zinc	
	Average	SD	Average	SD	Average	SD	Average	SD	Average	SD	Average	SD	Average	SD
50m Upstream	3.1755	0.6499	0.9662	0.0226	14.6164	0.5599	10.6301	0.7908	12.0992	5.0053	1.0895	0.2263	107.058	1.3241
Vulcan Effluent	4.6458	0.9635	1.0698	0.0048	19.8722	1.9153	20.5173	0.7342	14.0472	0.401	0.9298	0.1974	219.5057	NA
20m Downstream	5.0657	0.8717	1.2291	0.0407	24.1197	1.8388	24.7434	0.889	16.7677	0.2618	0.5804	0.1515	198.4723	6.9242
50m Downstream	4.6403	0.3373	1.1607	0.0231	24.2953	3.2892	23.2184	1.4133	15.9519	1.2164	0.8567	0.2834	191.3096	11.0529
100m Downstream (Wet)	4.0375	0.258	0.9921	0.0305	17.697	0.4085	15.1499	1.9463	12.5954	1.3999	1.0222	0.2107	124.6549	6.1692
100m Downstream (Dry)	3.7984	0.8429	1.0458	0.0177	17.6368	0.7281	17.0115	1.4263	14.2611	3.8734	0.845	0.2407	132.2002	8.4499
150m Downstream	4.6632	0.1188	1.1608	0.0346	21.9528	1.9936	20.8109	0.018	16.859	2.3151	0.7748	0.1508	171.9284	3.909
State Levels; Maximum Limit	57		5.1		260		390		450		6.1		410	

Table 6. Metals Concentration (ppb) in Laurel Fork Surface Water

Site	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Silver
01LF Above Vulcan	0.00047	0.04813	0.03095	0.02406	0.0097	0.01	0.27778
02Vulcan Drainage Pipe	0.00044	0.04608	0.0356	0.06091	0.00523	0.01459	0.29006
03LF-Vulcan Confluence	BDL	0.04766	0.01953	0.04567	0.00421	0.01106	0.29749
04Downstream Vulcan	0.00028	0.04638	0.01907	0.0548	0.00319	0.01302	0.28164
05Apartment Upstream	BDL	0.00406	0.01494	0.01666	0.00215	0.00786	0.26915
06Apartment Effluent	0.0007	0.00375	0.01202	0.09254	0.00307	0.00987	0.29438
07Apartment Downstream	0.00042	0.00351	0.01836	0.01881	BDL	0.0114	0.29203
08RV Park	0.00082	0.00324	0.01564	0.01304	0.00392	0.01176	0.2849
09Upstream Bairds	0.00074	0.00403	0.01937	0.01367	0.00272	0.01398	0.30277
10Downstream Bairds	0.0007	0.00295	0.01573	0.01602	0.00199	0.00915	0.26666
11Old Danner Rd	0.00022	0.00309	0.01463	0.01613	0.00235	0.00884	0.31413
12HS: Confluence	0.00068	0.00305	0.01612	0.01034	0.00356	0.01063	0.28672
13HS: Upper Watauga	0.00071	0.00368	0.03633	0.01623	0.00204	0.01001	0.30967
State Levels; Maximum Limit	0.14¹	2	11	7	25	88	0.06
Trout Maximum Limit	50	0.4	50	7	25	88	0.17²

¹Standard set by Washington State for individuals who consume organisms from water bodies with arsenic²EPA study showed values of 0.17 and higher to cause premature hatching, increased death rates, and juvenile deformation in trout