

**TABLE 4-2**  
**SITE-SPECIFIC SEDIMENT PRGs AND BENCHMARK VALUES FOR COMPARISON**  
**FIREWORKS SITE**  
[Reported from the Phase II CSA Report]

Chemicals of Potential Concern	Sediment Preliminary Remediation Goals (PRGs)		Site-Specific Background Concentration <sup>8</sup>		MassDEP Freshwater Screening Benchmark <sup>9</sup>
	Human Health <sup>1</sup>	Environmental <sup>2</sup>	Mean (mg/Kg)	Maximum (mg/Kg)	
	(Accessible Surficial Sediment) (mg/Kg)	(Dry Wt.) (mg/Kg)			(mg/Kg)
1,1-Dichloroethene	--	0.4 NOEC <sup>3</sup>	NA	NA	--
Benzo(a)anthracene	0.67	--	0.54	1.7	110
Benzo(a)pyrene	0.65	--	0.65	1.8	150
Benzo(b)fluoranthene	0.73	--	0.73	2.1	--
Benzo(k)fluoranthene	6.7	--	0.71	1.8	--
Dibenzo(a,h)anthracene	0.34	--	0.18	0.58	33
Indeno(1,2,3-cd)pyrene	0.67	--	0.45	1.43	--
Trichloroethene	--	0.22 NOEC <sup>3</sup>	NA	NA	--
Vinyl Chloride	0.39	--	NA	NA	--
Antimony	48	9 LOAEL <sup>4</sup>	0.79	1.7	--
Arsenic	4.0	--	4.0	9.2	33
Beryllium	0.68	--	0.68	1.8	--
Lead	77	740 LOAEL <sup>5</sup>	66	204	130
Mercury	22.2	27 LOAEL <sup>6</sup>	0.16	0.62	0.18
Methyl Mercury	--	0.0011 LOAEL <sup>7</sup>	0.00064	0.0022	--
Selenium	--	3.5 LOAEL <sup>4</sup>	0.9	2.2	--
Thallium	--	0.5 LOAEL <sup>4</sup>	1.03	4.1	--
Zinc	--	337 NOEC <sup>3</sup>	135	440	460

**NOTES AND ABBREVIATIONS:**

- NA = Not Applicable                      NOEC = No Observable Effects Concentration                      LOAEL = Lowest Observable Adverse Effect Level
- <sup>1</sup> Site-specific sediment PRC is the maximum of the most stringent RBC, background, PQL, and policy criteria.
- <sup>2</sup> Unless otherwise noted, the sediment PRG listed is the lowest corresponding PRG for all of the assessment endpoints.
- <sup>3</sup> The sediment PRG listed is the No Effect Concentration (NOEC) for benthic communities.
- <sup>4</sup> The sediment PRG listed is the Lowest Observable Adverse Effects Level (LOAEL) for Herbivorous Mammals.
- <sup>5</sup> The sediment PRG listed is the LOAEL for Herbivorous Waterfowl/
- <sup>6</sup> The PRG listed for mercury (27mg/kg) is the LOAEL for Herbivorous Waterfowl and is the lowest corresponding PRG for all of the assessment endpoints above background [i.e., excluding the Piscivorous Birds and Piscivorous Mammals].
- <sup>7</sup> The PRG listed for methylmercury (0.0011mg/kg) is the LOAEL for Omnivorous Mammals and is the lowest corresponding PRG for all of the assessment endpoint above background [i.e., excluding the Piscivorous Birds and Piscivorous Mammals].
- <sup>8</sup> Data from surface sediment (0-0.5ft) collected from both the river and pond background locations were pooled to represent the site-specific background concentrations.
- <sup>9</sup> MassDEP, 2006. Revised Sediment Screening Benchmarks. Technical Update. January.