

SHANKS WASTE MANAGEMENT LTD, PONTYPOOL HTI FACILITY

**Appendix 9: Hazard Index (HI) - Water
Comparison of measured concentrations (PEC) with Predicted no effect concentrations (PNEC)**

Parameters	Background (Nearby Pontypool Concentration Range)	PEC							PNEC				HI																							
		GS11	GS11	GS11-DUP	GS12	GS12	GS13	GS13	Toxicological Benchmarks Based on the Lowest Chronic Values (µg/L)				PEC/PNEC (Aquatic Plant)						PEC/PNEC (Daphnids)						PEC/PNEC (Fish)											
		01.10.05	01.04.06	01.04.06	01.10.05	01.04.06	01.10.05	01.04.06	Aquatic Plant	Daphnids	Fish	Source	Background	GS11	GS11-DUP	GS12	GS12	GS13	GS13	Background	GS11	GS11-DUP	GS12	GS12	GS13	GS13	Background	GS11	GS11-DUP	GS12	GS12	GS13	GS13			
Chromium Dissolved	14	<1	<1	4	<1	36	<1	397	44	68.6	Suter 1996	0.04	0.00	0.00	0.01	0.00	0.09	0.00	0.32	0.02	0.02	0.09	0.02	0.82	0.02	0.20	0.01	0.01	0.06	0.01	0.52	0.01				
Copper Dissolved	2	1	2	3	1	25	<1	1.0	0.23	3.8	Suter 1996	2.00	1.00	2.00	3.00	1.00	25.00	1.00	8.70	4.35	6.70	13.04	4.35	108.70	4.35	0.63	0.26	0.53	0.79	0.26	6.89	0.26				
Lithium Dissolved	4.5-24	23	13	13	22	10	26	11	14.0	14.0	Suter and Tao 1996 (*)	0.32-1.71	1.64	0.93	0.93	1.57	0.71	1.86	0.79	1.64	0.93	0.93	1.57	0.71	1.86	0.79	0.32-1.71	1.64	0.93	0.93	1.57	0.71	1.86	0.79		
Selenium Dissolved		7	2	<1	5	1	4	<1	100.0	91.65	88.32	Suter 1996	0.07	0.02	0.01	0.05	0.01	0.04	0.01	0.08	0.02	0.01	0.05	0.01	0.04	0.01	0.08	0.02	0.01	0.06	0.01	0.05	0.01			
Zinc Dissolved	5-20	29	17	26	15	20	136	16	30.0	46.73	36.41	Suter 1996	0.17-0.67	0.97	0.57	0.87	0.50	0.67	4.53	0.53	0.14-0.55	0.62	0.36	0.56	0.32	0.43	2.91	0.34	0.11-0.43	0.80	0.47	0.71	0.41	0.55	3.74	0.44
Sodium Dissolved		11.4	9.0	9.0	11.4	9.0	11.4	9.0	na	680000	na	Suter 1996							0.00	0.00	0.00	0.00	0.00	0.00	0.00											

Notes:
na PNEC not available
PNEC/PNEC not calculated (PNEC not available)
* Tier II: Secondary Chronic Values
PEC/PNEC > 1 in bold
PEC/PNEC > 10 in bold
Where 0.00 is stated, this reflects a HI <0.004