

## References

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## **Appendix**

**Table A1** Current predicted composition (mg/L) of river water mixed at various dilutions with 8% acid drainage neutralised to pH 6.5

Dilution series: 8% AD neutralised	pH	Ca	Mg	Na	K	Cl	F	SO4	Fe	Mn	Al	Cu	Zn	DOM
30%	3.12	39.94	101.50	4.60	0.95	12.00	6.946	895.30	75.541	33.607	39.900	28.664	3.600	7.00
15.7%	3.20	21.38	53.60	4.31	0.74	12.00	3.635	476.22	35.600	17.592	22.745	15.003	1.884	8.43
10%	3.26	13.98	34.50	4.20	0.65	12.00	2.315	304.41	20.950	11.209	14.515	9.558	1.200	9.00
3%	3.56	4.89	11.05	4.06	0.55	12.00	0.695	93.42	4.860	3.370	4.407	2.871	0.360	9.70
1%	3.96	2.30	4.35	4.02	0.52	12.00	0.232	33.14	1.450	1.130	1.519	0.960	0.120	9.90
0.3%	4.40	1.39	2.01	4.01	0.50	12.00	0.069	12.04	0.435	0.346	0.508	0.292	0.036	9.97
0.1%	4.77	1.13	1.34	4.00	0.50	12.00	0.023	6.01	0.175	0.122	0.219	0.101	0.012	9.99
Median flow in King River, power station on	4.47	1.30	1.77	4.00	0.50	12.00	0.053	9.96	0.366	0.268	0.357	0.225	0.028	9.98

**Table A2** Predicted composition (mg/L) of river water mixed at various dilutions with 65, 80 and 99% acid drainage neutralised to pH 6.5

<b>Dilution series: 65% AD neutralised</b>														
	pH	Ca	Mg	Na	K	Cl	F	SO <sub>4</sub>	Fe	Mn	Al	Cu	Zn	DOM
30%	3.31	79.75	101.50	4.60	0.95	12.00	2.997	709.64	24.388	33.607	16.555	11.144	3.600	7.00
15.7%	3.41	42.21	53.60	4.31	0.74	12.00	1.569	372.81	11.220	17.592	8.699	5.834	1.884	8.43
10%	3.52	27.25	34.50	4.20	0.65	12.00	0.999	238.55	6.467	11.209	5.568	3.718	1.200	9.00
3%	3.92	8.88	11.05	4.06	0.55	12.00	0.300	73.66	1.654	3.370	1.723	1.119	0.360	9.70
1%	4.32	3.63	4.35	4.02	0.52	12.00	0.100	26.55	0.542	1.130	0.624	0.376	0.120	9.90
0.3%	4.73	1.79	2.01	4.01	0.50	12.00	0.030	10.07	0.317	0.346	0.240	0.116	0.036	9.97
0.1%	5.00	1.26	1.34	4.00	0.50	12.00	0.010	5.36	0.126	0.122	0.130	0.042	0.012	9.99
Median flow in King River, power station on														
	5.01	1.61	1.77	4.00	0.50	12.00	0.023	8.44	0.133	0.268	0.150	0.091	0.028	9.98
<b>Dilution series: 80% AD neutralised</b>														
30%	3.43	90.23	101.50	4.60	0.95	12.00	1.958	657.64	12.432	33.607	9.492	6.534	3.600	7.00
15.7%	3.57	47.70	53.60	4.31	0.74	12.00	1.025	345.59	5.646	17.592	5.003	3.422	1.884	8.43
10%	3.71	30.74	34.50	4.20	0.65	12.00	0.653	221.21	3.323	11.209	3.214	2.181	1.200	9.00
3%	4.13	9.92	11.05	4.06	0.55	12.00	0.196	68.46	0.917	3.370	1.017	0.658	0.360	9.70
1%	4.53	3.97	4.35	4.02	0.52	12.00	0.065	24.82	0.321	1.130	0.389	0.223	0.120	9.90
0.3%	4.89	1.89	2.01	4.01	0.50	12.00	0.020	9.55	0.194	0.346	0.169	0.070	0.036	9.97
0.1%	5.09	1.30	1.34	4.00	0.50	12.00	0.007	5.18	0.085	0.122	0.106	0.027	0.012	9.99
Median flow in King River, power station on														
	5.21	1.69	1.77	4.00	0.50	12.00	0.015	8.04	0.076	0.268	0.096	0.055	0.028	9.98
<b>Dilution series: 99% AD neutralised</b>														
30%	4.49	103.50	101.50	4.60	0.95	12.00	0.642	591.77	0.386	33.607	0.545	0.694	3.600	7.00
15.7%	4.69	54.64	53.60	4.31	0.74	12.00	0.336	311.12	0.224	17.592	0.321	0.366	1.884	8.43
10%	4.83	35.17	34.50	4.20	0.65	12.00	0.214	199.26	0.159	11.209	0.232	0.235	1.200	9.00
3%	5.07	11.25	11.05	4.06	0.55	12.00	0.064	61.88	0.086	3.370	0.122	0.074	0.360	9.70
1%	5.16	4.42	4.35	4.02	0.52	12.00	0.021	22.63	0.057	1.130	0.091	0.028	0.120	9.90
0.3%	5.22	2.03	2.01	4.01	0.50	12.00	0.006	8.89	0.038	0.346	0.080	0.012	0.036	9.97
0.1%	5.22	1.34	1.34	4.00	0.50	12.00	0.002	4.96	0.033	0.122	0.077	0.007	0.012	9.99
Median flow in King River, power station on														
	5.91	1.79	1.77	4.00	0.50	12.00	0.005	7.53	0.012	0.268	0.027	0.010	0.028	9.98

**Table A3 Predicted composition (mg/L) of river water mixed at various dilutions with 65, 80 and 99% acid drainage neutralised to pH 5.5**

Dilution series: 65% AD neutralised	pH	Ca	Mg	Na	K	Cl	F	SO <sub>4</sub>	Fe	Mn	Al	Cu	Zn	DOM
30%	3.31	79.17	101.50	4.60	0.95	12.00	7.500	719.78	24.478	33.607	19.196	17.107	3.600	7.00
15.7%	3.42	41.91	53.60	4.31	0.74	12.00	3.925	378.11	11.264	17.592	10.082	8.955	1.884	8.43
10%	3.52	27.06	34.50	4.20	0.65	12.00	2.500	241.93	6.52	11.209	6.449	5.706	1.200	9.00
3%	3.92	8.82	11.05	4.06	0.55	12.00	0.750	74.68	1.65	3.370	1.987	1.715	0.360	9.70
1%	4.33	3.61	4.35	4.02	0.52	12.00	0.250	26.89	0.53	1.130	0.712	0.575	0.120	9.90
0.3%	4.74	1.78	2.01	4.01	0.50	12.00	0.075	10.17	0.18	0.346	0.266	0.176	0.036	9.97
0.1%	5.00	1.26	1.34	4.00	0.50	12.00	0.025	5.39	0.09	0.122	0.139	0.062	0.012	9.99
Median flow in King River; power station on	5.01	1.60	1.77	4.00	0.50	12.00	0.058	8.51	0.13	0.268	0.170	0.137	0.028	9.98
<b>Dilution series: 80% AD neutralised</b>														
30%	3.44	89.51	101.50	4.60	0.95	12.00	7.500	670.12	12.493	33.607	12.742	13.873	3.600	7.00
15.7%	3.58	47.32	53.60	4.31	0.74	12.00	3.925	352.12	5.67	17.592	6.704	7.262	1.884	8.43
10%	3.71	30.50	34.50	4.20	0.65	12.00	2.500	225.37	3.33	11.209	4.297	4.628	1.200	9.00
3%	4.14	9.85	11.05	4.06	0.55	12.00	0.750	69.71	0.91	3.370	1.342	1.392	0.360	9.70
1%	4.54	3.95	4.35	4.02	0.52	12.00	0.250	25.24	0.31	1.130	0.497	0.467	0.120	9.90
0.3%	4.90	1.89	2.01	4.01	0.50	12.00	0.075	9.67	0.12	0.346	0.202	0.144	0.036	9.97
0.1%	5.09	1.30	1.34	4.00	0.50	12.00	0.025	5.22	0.08	0.122	0.117	0.051	0.012	9.99
Median flow in King River; power station on	5.21	1.68	1.77	4.00	0.50	12.00	0.058	8.13	0.07	0.268	0.121	0.112	0.028	9.98
<b>Dilution series: 99% AD neutralised</b>														
30%	4.48	102.61	101.50	4.60	0.95	12.00	7.500	607.21	0.39	33.607	4.568	9.776	3.600	7.00
15.7%	4.68	54.18	53.60	4.31	0.74	12.00	3.925	319.20	0.22	17.592	2.426	5.118	1.884	8.43
10%	4.81	34.87	34.50	4.20	0.65	12.00	2.500	204.40	0.16	11.209	1.573	3.262	1.200	9.00
3%	5.08	11.16	11.05	4.06	0.55	12.00	0.750	63.42	0.08	3.370	0.524	0.982	0.360	9.70
1%	5.20	4.39	4.35	4.02	0.52	12.00	0.250	23.14	0.05	1.130	0.225	0.331	0.120	9.90
0.3%	5.22	2.02	2.01	4.01	0.50	12.00	0.075	9.04	0.03	0.346	0.120	0.103	0.036	9.97
0.1%	5.22	1.34	1.34	4.00	0.50	12.00	0.025	5.01	0.03	0.122	0.090	0.038	0.012	9.99
Median flow in King River; power station on	5.92	1.78	1.77	4.00	0.50	12.00	0.058	7.65	0.01	0.268	0.058	0.080	0.028	9.98

**Table A4 Predicted composition (mg/L) of river water mixed at various dilutions with 65, 80 and 99% acid drainage neutralised to pH 5.5 and with SX/EW**

<b>Dilution series: 65% AD neutralised</b>																										
	pH	Ca	Mg	Na	K	Cl	F	SO <sub>4</sub>	Fe	Mn	Al	Cu	Zn	DOM												
30%	3.31	81.23	101.50	4.60	0.95	12.00	7.500	719.78	24.478	33.607	19.196	13.820	3.600	7												
15.7%	3.42	42.99	53.60	4.31	0.74	12.00	3.925	378.11	11.264	17.592	10.082	7.235	1.884	8.43												
10%	3.52	27.74	34.50	4.20	0.65	12.00	2.500	241.93	6.523	11.209	6.449	4.610	1.200	9												
3%	3.92	9.02	11.05	4.06	0.55	12.00	0.750	74.68	1.659	3.370	1.987	1.387	0.360	9.7												
1%	4.33	3.67	4.35	4.02	0.52	12.00	0.250	26.89	0.539	1.130	0.712	0.466	0.120	9.9												
0.3%	4.74	1.80	2.01	4.01	0.50	12.00	0.075	10.17	0.189	0.346	0.266	0.143	0.036	9.97												
0.1%	5.00	1.27	1.34	4.00	0.50	12.00	0.025	5.39	0.099	0.122	0.139	0.051	0.012	9.99												
Median flow in King River; power station on													5.01	1.62	1.77	4.00	0.50	12.00	0.058	8.51	0.133	0.268	0.170	0.111	0.028	9.98
<b>Dilution series: 80% AD neutralised</b>																										
30%	3.44	92.05	101.50	4.60	0.95	12.00	7.500	670.12	12.493	33.607	12.742	9.827	3.600	7												
15.7%	3.58	48.65	53.60	4.31	0.74	12.00	3.925	352.12	5.674	17.592	6.704	5.145	1.884	8.43												
10%	3.71	31.35	34.50	4.20	0.65	12.00	2.500	225.37	3.332	11.209	4.297	3.279	1.200	9												
3%	4.14	10.11	11.05	4.06	0.55	12.00	0.750	69.71	0.914	3.370	1.342	0.987	0.360	9.7												
1%	4.54	4.04	4.35	4.02	0.52	12.00	0.250	25.24	0.317	1.130	0.497	0.332	0.120	9.9												
0.3%	4.90	1.91	2.01	4.01	0.50	12.00	0.075	9.67	0.127	0.346	0.202	0.103	0.036	9.97												
0.1%	5.09	1.30	1.34	4.00	0.50	12.00	0.025	5.22	0.080	0.122	0.117	0.038	0.012	9.99												
Median flow in King River; power station on													5.21	1.70	1.77	4.00	0.50	12.00	0.058	8.13	0.076	0.268	0.121	0.081	0.028	9.98
<b>Dilution series: 99% AD neutralised</b>																										
30%	4.48	105.76	101.50	4.60	0.95	12.00	7.500	607.21	0.396	33.607	4.568	4.770	3.600	7												
15.7%	4.68	55.82	53.60	4.31	0.74	12.00	3.925	319.20	0.228	17.592	2.426	2.499	1.884	8.43												
10%	4.81	35.92	34.50	4.20	0.65	12.00	2.500	204.40	0.163	11.209	1.573	1.593	1.200	9												
3%	5.08	11.48	11.05	4.06	0.55	12.00	0.750	63.42	0.083	3.370	0.524	0.481	0.360	9.7												
1%	5.20	4.49	4.35	4.02	0.52	12.00	0.250	23.14	0.057	1.130	0.225	0.164	0.120	9.9												
0.3%	5.22	2.05	2.01	4.01	0.50	12.00	0.075	9.04	0.038	0.346	0.120	0.053	0.036	9.97												
0.1%	5.22	1.35	1.34	4.00	0.50	12.00	0.025	5.01	0.033	0.122	0.090	0.021	0.012	9.99												
Median flow in King River; power station on													5.92	1.81	1.77	4.00	0.50	12.00	0.058	7.65	0.012	0.268	0.058	0.042	0.028	9.98