

Appendix 1A: Base line soil solution chemistry

	Detection Limit	Yokine	Whiteman	Banjup	Bedford	Baldavis	BibraLake	Wandi
S _{CR}	0.005	0.005	0.005	0.005	0.009	0.016	0.027	0.180
Al	0.01	less than 0.001	0.030	0.001	0.002	0.001	0.006	less than 0.001
As	0.001	32	14	3.1	59	6.9	60	38
Ca	0.1	less than 0.002						
Cd	0.001	less than 0.01	less than 0.01	0.02	less than 0.01	less than 0.01	0.01	less than 0.01
Cr	0.001	less than 0.01	0.01	less than 0.01				
Co	0.01	less than 0.01	less than 0.01	less than 0.01	0.01	less than 0.01	0.01	less than 0.01
Cu	0.001	0.01	0.18	0.16	0.09	0.04	0.01	0.10
Fe	0.01	6.0	4.6	3.2	12	5.0	3.8	8.4
K	0.1	13	9.3	3.6	9.8	5.4	6.9	25
Mg	0.1	less than 0.01	0.10	less than 0.01	0.03	0.13	0.01	0.12
Mn	0.01	105	54	54	130	63	47	120
Na	0.1	less than 0.01						
Ni	0.001	less than 0.01						
Pb	0.001	less than 0.001	less than 0.001	less than 0.001	less than 0.001	less than 0.001	less than 0.001	less than 0.001
U		1	1	1	1	1	1	1
		0.05	0.12	0.41	0.06	0.26	0.04	0.13
Zn	0.005	56	less than 5	less than 5	68	110	110	10
Alkalinity	5	56	less than 5	less than 5	68	110	110	10
Bicarbonate	5	less than 5	less than 5	less than 5	less than 5	less than 5	less than 5	less than 5
Carbonate	5	less than 5	less than 5	less than 5	less than 5	less than 5	less than 5	less than 5
Hydroxide	5	175	56	52	160	75	86	200
Chloride	5	92	78	17	130	16	21	140
Sulphate	3	47	43	854	117	608	22	138
DOC	0.2	less than 0.2	0.7	0.6	less than 0.2	0.3	less than 0.2	less than 0.2
Ammonia-N	0.2	1.4	less than 0.01	less than 0.01	less than 0.01	0.25	less than 0.01	0.01
NO _x -N	0.01	less than 0.01	less than 0.01	less than 0.01	less than 0.01	less than 0.01	less than 0.01	0.02
Reactive P	0.01	3.1	0.27	0.16	1.2	7.2	0.24	1.5

Appendix 1B: Leachate chemistry

March-2010	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	
Al	0.01	0.09	0.75	210	42	1.2	8.5	22	1.1
As	0.001	0.001	0.001	0.001	0.001	0.004	0.001	0.018	0.001
Ca	0.1	31	6.8	66	290	3.9	100	460	150
Cd	0.001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0002	0.0057	0.0001
Cr	0.001	0.002	0.005	0.007	0.027	0.003	0.001	0.12	0.006
Fe	0.01	0.34	0.37	140	240	0.34	120	340	33
K	0.1	3.8	3.7	7.5	4.6	1.1	3.1	11	11
Mg	0.1	8.2	2.9	60	34	5.2	8.9	61	40
Mn	0.01	0.15	0.02	0.16	1.6	0.03	0.31	5.6	0.17
Na	0.1	27	23	30	82	30	7.0	20	8.0
Ni	0.001	0.005	0.008	0.99	0.41	0.001	0.063	0.43	0.19
Se	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001
Zn	0.005	0.17	0.14	0.23	0.80	0.40	0.12	0.37	0.17
pH		4.7	5.2	2.2	2.2	3.5	2.3	2.0	2.3
Total Acidity		28	530	1800	1000	140	440	1700	260

June-2010									
Al	0.01	0.36	0.38	330	140	0.46	90	330	210
As	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Ca	0.1	39	38	22	100	9.9	110	220	190
Cd	0.001	0.001	0.001	0.001	0.001	0.001	0.014	0.051	0.005
Cr	0.001	0.002	0.004	0.006	0.11	0.003	0.076	2.3	0.075
Fe	0.01	2.2	0.46	7.7	61	1.7	410	1600	270
K	0.1	2.6	4.5	4.3	2.0	0.4	2.0	5.1	10
Mg	0.1	11	64	20	15	7.5	12	48	62
Mn	0.01	0.08	0.19	0.03	0.46	0.02	0.25	0.99	0.16
Na	0.1	26	51	17	52	9	13	14	16
Ni	0.001	0.002	0.001	0.19	0.32	0.002	0.16	0.57	0.36
Se	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Zn	0.005	0.006	0.012	0.047	0.38	0.006	0.16	0.50	0.16
pH	-	3.0	4.2	7.8	4.5	7.0	3.8	3.4	6.5
Conductivity	-	0.94	0.74	3.7	1.6	0.25	0.68	6.7	2.6
Alkalinity	5	5	12	5	5	12	5	5	5
Bicarbonate	5	5	12	5	5	12	5	5	5
Carbonate	5	5	5	5	5	5	5	5	5
Hydroxide	5	5	5	5	5	5	5	5	5
Total Acidity	5	27	*	1600	810	*	*	4400	2000
Chloride	5	29	29	18	66	14	9	15	14
Sulphate	3	190	400	2300	1500	58	2100	4900	2800
TDS	5	560	550	3200	2200	150	3000	11000	3900

September-2010									
Al	0.01	1.2	0.24	240	40	0.9	45	190	150
As	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.19	0.001
Ca	0.1	48	13	10	28	3.3	57	100	110
Cd	0.001	0.0001	0.0001	0.0002	0.0002	0.0001	0.0010	0.032	0.0018
Cr	0.001	0.003	0.002	0.013	0.15	0.004	0.084	2.4	0.19
Fe	0.01	0.71	0.34	5.6	46	0.34	110	710	130
K	0.1	3.0	4.0	3.1	0.8	0.3	1.2	1.0	1.7
Mg	0.1	13	29	14	4.0	4.4	5.1	25	29
Mn	0.01	0.27	0.15	0.02	0.20	0.02	0.16	0.71	0.12
Na	0.1	14	13	9.7	13	2.8	4.7	4.0	7.3
Ni	0.001	0.010	0.001	0.34	0.29	0.001	0.12	0.47	0.42
Se	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.001
Zn	0.005	0.028	0.028	0.071	0.19	0.012	0.13	0.37	0.14

pH	-	4.3	5.2	3.5	3.2	6.2	3.0	2.8	2.9
Total Acidity	-	180	37	1700	460	140	740	2700	1500
Alkalinity	5	5	5	5	5	13	5	5	5
Bicarbonate	5	5	5	5	5	13	5	5	5
Carbonate	5	5	5	5	5	5	5	5	5
Hydroxide	5	5	5	5	5	5	5	5	5

March-2011

Al	0.01	0.81	1.5	20	11	2.2	43	56	27
As	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.021	0.001
Ca	0.1	34	12	2.8	11	9.1	10	20	12
Cd	0.001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0004	0.0087	0.0002
Cr	0.001	0.001	0.002	0.005	0.09	0.001	0.080	0.24	0.030
Fe	0.01	0.55	0.36	3.7	26	0.81	24	41	11
K	0.1	33	2.1	0.5	0.4	0.2	0.3	0.4	0.2
Mg	0.1	5.0	14	0.8	1.2	3.0	1.1	4.6	2.4
Mn	0.01	0.31	0.12	0.01	0.07	0.08	0.04	0.20	0.02
Na	0.1	4.7	7.1	0.7	5.2	0.8	1.1	0.7	1.0
Ni	0.001	0.007	0.002	0.033	0.079	0.005	0.029	0.092	0.047
Se	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Zn	0.005	0.015	0.018	0.014	0.051	0.010	0.036	0.067	0.017
pH	-	3.5	4.5	3.2	2.7	4.1	2.8	2.8	2.9
Conductivity	-	0.40	0.25	0.50	1.0	0.15	1.1	1.3	0.88
Alkalinity	5	5	5	5	5	5	5	5	5
Bicarbonate	5	5	5	5	5	5	5	5	5
Carbonate	5	5	5	5	5	5	5	5	5
Hydroxide	5	5	5	5	5	5	5	5	5
Chloride	5	5	5	5	5	5	5	5	5
Sulphate	3	140	120	190	260	60	470	770	290
TDS	5	200	160	300	530	90	630	780	530
Total Acidity	5	31	*	220	320	24	490	670	320
Ammonia-N	0.2	0.2	0.2	0.2	1.3	0.2	0.2	0.2	0.2
NOx-N	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nitrate-N	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total N	0.2	0.2	1.0	0.2	1.8	0.2	0.2	0.3	0.2
Reactive P	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
Total P	0.01	0.01	0.01	0.01	0.22	0.01	0.01	0.12	0.01