

Accessory publication

Table A1. Summary of major and trace element geochemistry of the 2004 Flood, 2003 Flood events, Crescent Lagoon core, major Fitzroy River Basin soil types, Comet/McKenzie weir and Dawson River weir samples, and the Fitzroy River EstuaryTN, Total Nitrogen; TN:TP molar ratio TP recalculated from P₂O₅; n/a, not analysed

Element	2004 Flood	2003 Floods	Crescent core	Thomson FB	Bowen Basin	Surat Basin	N England FB	Tertiary Basalt	Comet/McK R	Dawson R	Fitzroy Estuary
n	12	3	27	6	28	10	21	16	13	5	53
SiO ₂	51.3 ± 0.6	44.2 ± 4.1	49.9 ± 2.9	55.2 ± 4.4	56.9 ± 8.6	51.8 ± 3.5	54.4 ± 9.0	48.2 ± 3.4	51.6 ± 3.0	52.8 ± 3.5	55.8 ± 1.7
Al ₂ O ₃	21.9 ± 1.3	16.9 ± 1.4	18.5 ± 0.8	16.6 ± 3.3	17.8 ± 4.2	20.0 ± 2.9	16.9 ± 3.4	17.8 ± 1.6	19.5 ± 1.0	21.1 ± 0.9	20.4 ± 0.7
Fe ₂ O ₃	9.8 ± 0.8	10.3 ± 0.7	7.1 ± 0.7	6.0 ± 1.2	6.3 ± 2.1	5.1 ± 1.1	6.4 ± 3.2	12.3 ± 1.8	8.3 ± 0.7	7.1 ± 1.3	8.4 ± 0.5
MnO	0.1 ± 0.0	0.1 ± 0.0	0.1 ± 0.0	0.1 ± 0.0	0.2 ± 0.1	0.2 ± 0.2	0.2 ± 0.1	0.2 ± 0.1	0.1 ± 0.0	0.1 ± 0.0	0.1 ± 0.0
MgO	2.3 ± 0.4	2.6 ± 0.2	1.3 ± 0.2	1.8 ± 0.7	1.0 ± 0.4	1.1 ± 0.4	1.4 ± 0.6	2.4 ± 0.6	1.9 ± 0.3	1.5 ± 0.5	2.2 ± 0.22
CaO	1.3 ± 0.3	2.6 ± 0.7	0.7 ± 0.1	2.3 ± 2.2	1.4 ± 1.1	1.9 ± 1.0	1.5 ± 0.7	2.3 ± 0.5	1.3 ± 0.4	1.3 ± 0.4	0.9 ± 0.4
Na ₂ O	0.2 ± 0.0	1.3 ± 1.4	0.3 ± 0.1	0.5 ± 0.3	0.4 ± 0.3	0.4 ± 0.1	0.8 ± 0.4	0.6 ± 0.0	0.6 ± 0.3	0.5 ± 0.1	0.7 ± 0.1
K ₂ O	1.5 ± 0.3	0.9 ± 0.2	1.3 ± 0.1	3.0 ± 1.4	1.4 ± 1.0	2.1 ± 1.0	2.2 ± 0.8	0.8 ± 0.7	1.8 ± 0.5	1.6 ± 0.1	1.9 ± 0.1
TiO ₂	1.0 ± 0.0	1.2 ± 0.1	1.0 ± 0.1	0.9 ± 0.3	1.3 ± 0.5	0.9 ± 0.2	1.2 ± 0.4	2.0 ± 0.5	1.0 ± 0.2	0.9 ± 0.1	1.1 ± 0.0
P ₂ O ₅	0.2 ± 0.0	0.2 ± 0.0	0.3 ± 0.1	0.2 ± 0.1	0.2 ± 0.2	0.3 ± 0.2	0.3 ± 0.1	0.2 ± 0.1	0.2 ± 0.0	0.2 ± 0.0	0.2 ± 0.0
As	7 ± 2	4 ± 1	6 ± 2	8 ± 6	7 ± 4	6 ± 2	6 ± 9	2 ± 2	7 ± 2	7 ± 2	11 ± 2
Ba	285 ± 87	244 ± 38	267 ± 100	478 ± 157	396 ± 186	562 ± 257	494 ± 152	232 ± 105	346 ± 94	511 ± 67	273 ± 19
Ce	63 ± 8	47 ± 5	62 ± 6	70 ± 16	71 ± 24	67 ± 27	70 ± 42	57 ± 35	67 ± 8	63 ± 8	60 ± 7
Co	22 ± 4	24 ± 5	24 ± 4	13 ± 3	21 ± 13	21 ± 10	21 ± 12	54 ± 43	23 ± 6	17 ± 2	22 ± 3
Cr	137 ± 18	151 ± 17	103 ± 11	69 ± 18	96 ± 51	56 ± 17	51 ± 61	244 ± 98	107 ± 25	50 ± 6	131 ± 15
Cs	6 ± 1	2 ± 1	6 ± 1	11 ± 4	5 ± 3	7 ± 2	6 ± 4	0 ± 1	8 ± 2	8 ± 1	7 ± 1
Cu	34 ± 7	47 ± 3	54 ± 10	109 ± 136	101 ± 92	75 ± 50	83 ± 58	73 ± 60	85 ± 36	81 ± 46	73 ± 61
Eu	1.3 ± 0.2	1.9 ± 0.1	1.6 ± 0.2	1.1 ± 0.3	1.6 ± 0.8	1.1 ± 0.7	1.6 ± 1.2	2.8 ± 2.8	1.7 ± 0.3	1.5 ± 0.3	1.5 ± 0.2
Ga	36 ± 8	24 ± 2	23 ± 2	25 ± 4	24 ± 5	25 ± 3	23 ± 6	27 ± 5	27 ± 3	27 ± 1	27 ± 2
Hf	4 ± 0	5 ± 1	5 ± 0	5 ± 1	5 ± 1	5 ± 1	4 ± 1	6 ± 5	5 ± 1	5 ± 1	5 ± 0
La	31 ± 6	29 ± 3	31 ± 3	44 ± 8	41 ± 12	37 ± 12	43 ± 23	32 ± 20	37 ± 5	34 ± 3	29 ± 2
Lu	0.4 ± 0.0	0.3 ± 0.0	0.4 ± 0.0	0.4 ± 0.1	0.4 ± 0.1	0.4 ± 0.1	0.5 ± 0.3	0.6 ± 0.7	0.4 ± 0.0	0.4 ± 0.0	0.4 ± 0.0
Nd	29 ± 2	24 ± 2	30 ± 3	32 ± 8	36 ± 13	32 ± 14	35 ± 23	48 ± 32	32 ± 5	31 ± 5	31 ± 2
Ni	90 ± 17	106 ± 13	51 ± 8	24 ± 10	37 ± 26	22 ± 9	21 ± 36	158 ± 100	60 ± 16	20 ± 2	77 ± 15

Table A1 (Continued)

Element	2004 Flood	2003 Floods	Crescent core	Thomson FB	Bowen Basin	Surat Basin	N England FB	Tertiary Basalt	Comet/McK R	Dawson R	Fitzroy Estuary
n	12	3	27	6	28	10	21	16	13	5	53
Pb	16 ± 6	22 ± 2	23 ± 4	43 ± 10	32 ± 8	36 ± 8	32 ± 8	16 ± 6	29 ± 4	32 ± 5	28 ± 3
Rb	85 ± 19	42 ± 5	93 ± 12	162 ± 69	88 ± 45	99 ± 38	119 ± 48	15 ± 16	105 ± 32	97 ± 13	109 ± 4
S	177 ± 106	1610 ± 1100	1309 ± 632	1021 ± 701	642 ± 542	689 ± 480	898 ± 396	325 ± 399	463 ± 340	428 ± 278	462 ± 295
Sc	22 ± 1	21 ± 2	22 ± 1	15 ± 3	17 ± 4	16 ± 3	19 ± 9	25 ± 11	21 ± 2	21 ± 2	21 ± 1
Sm	6 ± 0	6 ± 1	6 ± 1	6 ± 1	7 ± 3	6 ± 3	7 ± 5	9 ± 7	7 ± 1	6 ± 1	7 ± 0
Sr	154 ± 14	194 ± 33	111 ± 10	171 ± 139	148 ± 80	210 ± 113	181 ± 80	140 ± 63	134 ± 24	194 ± 45	123 ± 10
Tb	0.9 ± 0.1	1.0 ± 0.1	0.8 ± 0.7	0.9 ± 0.2	1.1 ± 0.4	0.8 ± 0.6	1.1 ± 0.8	1.6 ± 1.4	1.1 ± 0.1	1.0 ± 0.1	11 ± 0.1
Th	9 ± 1	7 ± 1	10 ± 1	18 ± 3	13 ± 5	14 ± 3	13 ± 7	3 ± 1	13 ± 3	13 ± 2	11 ± 1
U	9 ± 17	1 ± 0	1 ± 1	3 ± 1	2 ± 1	1 ± 1	2 ± 2	1 ± 0	1 ± 2	2 ± 2	1 ± 0
V	149 ± 13	121 ± 11	130 ± 8	99 ± 19	129 ± 41	99 ± 18	119 ± 56	158 ± 83	126 ± 11	131 ± 18	130 ± 7
Y	38 ± 11	27 ± 3	31 ± 3	42 ± 6	41 ± 13	37 ± 10	49 ± 24	58 ± 54	36 ± 7	33 ± 7	40 ± 2
Yb	2.4 ± 0.2	2.1 ± 0.1	2.9 ± 0.2	3.0 ± 0.5	2.9 ± 0.8	2.6 ± 0.7	3.4 ± 1.8	4.4 ± 4.8	2.8 ± 0.3	2.9 ± 0.4	2.9 ± 0.2
Zn	114 ± 13	154 ± 18	211 ± 234	103 ± 36	84 ± 38	135 ± 86	171 ± 349	138 ± 67	125 ± 21	143 ± 54	117 ± 27
Zr	186 ± 68	175 ± 21	169 ± 13	208 ± 24	231 ± 47	211 ± 42	185 ± 59	262 ± 221	180 ± 25	172 ± 27	194 ± 11
TN	858 ± 124	n/a	3659 ± 1459	2665 ± 1351	2719 ± 1420	3509 ± 1034	3109 ± 1083	1586 ± 884	n/a	n/a	n/a
Ratio											
TN:TP	2.8	n/a	7.6	8.2	7.3	9.1	8.1	5.0	n/a	n/a	n/a
Rb/Sr	0.54	0.22	0.84	1.66	0.66	0.56	0.75	0.15	0.84	0.52	0.90
Sm/Nd	0.21	0.25	0.20	0.19	0.20	0.18	0.20	0.27	0.21	0.20	0.21
Zr/Hf	46	35	36	44	44	42	45	43	38	34	42
La/Th	3.3	4.4	3.1	2.4	3.1	2.6	3.4	9.7	3.0	2.7	2.7