

Supplementary table 1: Representative electron microprobe analyses of amphibole of the Pedra Branca suite.

Classification	Tonalite													
Sample	AMR – 121 A (5)													
Analyses	C1_1	C1_2	C1_3	C2_6	C3_7	C3_8	C4_9	C4_10	C4_11	C5_12	C5_13	C6_14	C6_15	C6_16
SiO ₂	39.38	39.89	39.34	39.32	40.36	39.95	39.33	40.77	40.49	39.92	40.42	39.89	39.32	40.51
TiO ₂	0.81	0.55	0.81	0.98	1.18	0.68	0.52	1.41	1.46	1.42	1.48	1.23	0.78	1.39
Al ₂ O ₃	11.55	11.75	11.33	11.10	10.84	11.25	11.62	10.42	10.33	10.29	10.19	10.80	11.27	10.48
Fe ₂ O ₃	6.58	5.43	6.37	4.90	6.15	6.41	6.33	3.86	4.02	4.70	6.28	5.29	6.62	4.28
FeO	17.23	17.44	16.93	18.97	16.15	16.42	16.65	17.68	17.76	17.31	16.64	16.60	15.90	17.43
MnO	0.24	0.24	0.28	0.16	0.41	0.20	0.24	0.21	0.33	0.12	0.26	0.29	0.33	0.21
MgO	6.72	7.01	7.19	6.66	7.86	7.49	7.25	8.01	7.95	7.69	7.84	7.60	7.49	7.61
CaO	11.25	11.49	11.45	11.55	11.50	11.55	11.34	11.58	11.71	11.26	11.32	11.27	11.28	11.28
Na ₂ O	1.31	1.41	1.47	1.60	1.49	1.20	1.53	1.63	1.64	1.75	1.60	1.50	1.47	1.51
K ₂ O	2.19	1.99	2.06	1.99	1.74	1.98	2.03	1.74	1.67	1.65	1.64	1.82	1.91	1.74
Cl	1.66	1.48	1.54	1.65	1.33	1.42	1.48	1.06	1.27	1.15	1.13	1.30	1.37	1.28
H ₂ O	1.50	1.55	1.53	1.49	1.61	1.57	1.54	1.67	1.61	1.62	1.65	1.59	1.56	1.60
Subtotal	100.41	100.22	100.36	100.42	100.74	100.14	99.98	100.09	100.44	98.92	100.55	99.31	99.32	99.36
O=Cl	0.37	0.33	0.35	0.37	0.30	0.32	0.33	0.24	0.29	0.26	0.26	0.29	0.31	0.29
Total	100.04	99.89	100.01	100.04	100.44	99.82	99.65	99.85	100.16	98.66	100.29	99.02	99.01	99.07

Number of cations per formula unit based on twenty three oxygen atoms

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Analyses	C1_1	C1_2	C1_3	C2_6	C3_7	C3_8	C4_9	C4_10	C4_11	C5_12	C5_13	C6_14	C6_15	C6_16
Si	6.155	6.212	6.143	6.176	6.224	6.212	6.151	6.315	6.279	6.272	6.249	6.244	6.165	6.327
Al ^{IV}	1.845	1.788	1.857	1.824	1.776	1.788	1.849	1.685	1.721	1.728	1.751	1.756	1.835	1.673
Al ^{VI}	0.282	0.370	0.228	0.231	0.194	0.273	0.292	0.219	0.167	0.179	0.105	0.236	0.248	0.255
Ti	0.095	0.064	0.095	0.116	0.136	0.080	0.062	0.164	0.170	0.168	0.172	0.145	0.091	0.163
Fe ⁺³	0.774	0.636	0.748	0.579	0.714	0.750	0.744	0.450	0.469	0.556	0.730	0.623	0.782	0.503
Fe ⁺²	2.252	2.272	2.211	2.491	2.083	2.135	2.178	2.290	2.302	2.275	2.152	2.172	2.085	2.277
Mn	0.031	0.031	0.037	0.021	0.053	0.027	0.032	0.027	0.043	0.016	0.034	0.039	0.043	0.028
Mg	1.566	1.627	1.673	1.559	1.807	1.735	1.691	1.850	1.837	1.802	1.806	1.773	1.750	1.772
Ca	1.883	1.917	1.916	1.944	1.900	1.924	1.900	1.921	1.945	1.896	1.875	1.890	1.895	1.888
Na	0.398	0.425	0.445	0.488	0.446	0.362	0.463	0.489	0.494	0.533	0.481	0.454	0.447	0.456
K	0.436	0.394	0.410	0.399	0.343	0.392	0.405	0.343	0.331	0.330	0.323	0.363	0.383	0.346
Cl	0.439	0.391	0.409	0.439	0.349	0.374	0.393	0.277	0.335	0.306	0.297	0.345	0.365	0.338
OH	1.561	1.609	1.591	1.561	1.651	1.626	1.607	1.723	1.665	1.694	1.703	1.655	1.635	1.662
Al total	2.127	2.157	2.084	2.055	1.970	2.062	2.142	1.903	1.888	1.906	1.856	1.992	2.083	1.929
Fe/(Fe+Mg)*	0.598	0.591	0.579	0.620	0.549	0.559	0.571	0.560	0.567	0.562	0.552	0.560	0.555	0.569

*Fe = Fe + Mn

Fe²⁺ and Fe³⁺ was calculated using excel spreadsheets based on structural formula using 13 CNK (see section 3.3.1)