

APPENDIX 4

Results of the electron microprobe analyses of clinopyroxene, retrogressive low-Na pyroxene rim and amphibole in symplectitic clinopyroxene or rim

Analysis	Comment	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	Fe ₂ O ₃	MgO	CaO	MnO	FeO	NiO	Na ₂ O	K ₂ O	Total	Si	Ti	Al	Cr	Fe ³⁺	Mg	Ca	Mn	Fe ²⁺	Ni	Na	K	Total	XNa	XFe
Intermediate granulite, Gr-pb															Cations calculated on the basis of 6 oxygen atoms														
Cpx1–1	matrix	52.71	0.41	7.71	0.06	0.00	9.28	17.37	0.04	8.05	0.03	3.76	–	99.38	1.945	0.011	0.335	0.002	0.000	0.510	0.687	0.001	0.248	0.001	0.269	0.000	4.009	28.1	32.7
Cpx1–2	matrix	52.24	0.49	8.83	–	0.00	8.77	16.91	–	7.48	–	3.84	–	98.56	1.935	0.014	0.385	0.000	0.000	0.484	0.671	0.000	0.232	0.000	0.276	0.000	3.997	29.1	32.4
Cpx1–3	matrix	52.21	0.57	10.02	0.01	0.00	8.32	16.04	0.01	7.24	0.03	4.11	–	98.52	1.926	0.016	0.436	0.000	0.000	0.457	0.634	0.000	0.223	0.001	0.294	0.000	3.987	31.7	32.8
Cpx1–6	matrix	52.69	0.44	8.57	–	0.00	8.80	16.95	–	7.66	0.02	3.77	0.01	98.88	1.945	0.012	0.373	0.000	0.000	0.484	0.670	0.000	0.237	0.001	0.270	0.000	3.991	28.7	32.8
Cpx1–7	matrix	52.42	0.55	7.18	–	0.00	9.47	18.34	0.05	7.51	–	3.18	–	98.70	1.947	0.015	0.314	0.000	0.000	0.524	0.730	0.002	0.233	0.000	0.229	0.000	3.995	23.9	30.8
Cpx1–8	matrix	53.09	0.48	9.07	0.06	0.00	8.53	16.27	0.02	7.71	0.02	4.33	–	99.55	1.945	0.013	0.391	0.002	0.000	0.466	0.638	0.001	0.236	0.001	0.307	0.000	3.999	32.5	33.6
Cpx1–9	matrix	52.70	0.50	8.55	–	0.00	8.86	16.92	0.03	7.97	0.01	3.84	–	99.37	1.940	0.014	0.371	0.000	0.000	0.486	0.667	0.001	0.245	0.000	0.274	0.000	3.998	29.1	33.5
Cpx1–10	matrix	53.23	0.52	9.23	0.06	0.00	8.36	16.13	0.06	7.24	0.03	4.35	–	99.17	1.951	0.014	0.399	0.002	0.000	0.457	0.633	0.002	0.222	0.001	0.309	0.000	3.989	32.8	32.7
Cpx1–11	matrix	52.97	0.49	9.48	0.02	0.00	8.31	16.18	–	7.43	–	4.32	0.02	99.22	1.943	0.013	0.410	0.001	0.000	0.455	0.636	0.000	0.228	0.000	0.307	0.001	3.993	32.6	33.4
Cpx2–1	matrix	52.94	0.54	10.10	0.02	0.00	8.25	15.92	–	7.31	0.02	4.55	–	99.62	1.932	0.015	0.434	0.001	0.000	0.449	0.622	0.000	0.223	0.001	0.322	0.000	3.997	34.1	33.2
Cpx2–2	matrix	53.06	0.51	11.58	–	0.00	7.50	15.19	0.06	6.94	–	4.99	–	99.83	1.924	0.014	0.495	0.000	0.000	0.405	0.590	0.002	0.210	0.000	0.351	0.000	3.990	37.3	34.2
Cpx2–3	matrix	52.95	0.54	10.85	–	0.00	8.00	15.74	0.06	7.23	–	4.61	–	99.99	1.923	0.015	0.464	0.000	0.000	0.433	0.612	0.002	0.219	0.000	0.325	0.000	3.993	34.7	33.6
Cpx2–4	matrix	53.26	0.53	10.86	–	0.00	7.67	15.19	0.05	7.10	–	4.90	–	99.55	1.938	0.015	0.466	0.000	0.000	0.416	0.592	0.002	0.216	0.000	0.345	0.000	3.988	36.9	34.2
Cpx2–5	matrix	53.40	0.49	10.94	0.03	0.00	7.78	15.55	0.02	7.18	–	4.82	–	100.22	1.932	0.013	0.466	0.001	0.000	0.420	0.603	0.001	0.217	0.000	0.338	0.000	3.990	35.9	34.1
Cpx2–6	matrix	53.12	0.51	9.69	0.01	0.00	8.51	16.29	0.01	6.95	–	4.10	–	99.20	1.942	0.014	0.417	0.000	0.000	0.464	0.638	0.000	0.212	0.000	0.291	0.000	3.980	31.3	31.4
Cpx2–7	matrix altered rim	53.31	0.13	2.57	–	0.00	11.51	21.37	0.07	9.66	–	1.28	–	99.91	1.989	0.004	0.113	0.000	0.000	0.640	0.854	0.002	0.301	0.000	0.093	0.000	3.997	9.8	32.0
Cpx2–8	matrix altered rim	52.87	0.13	0.47	–	0.00	11.42	21.42	0.05	11.03	–	0.80	0.02	98.22	2.023	0.004	0.021	0.000	0.000	0.652	0.878	0.002	0.353	0.000	0.060	0.001	3.993	6.4	35.1
Cpx3–1	inclusion in Grt	55.20	0.59	14.22	0.05	0.00	6.08	12.06	0.05	6.03	–	6.81	0.01	101.08	1.947	0.016	0.591	0.001	0.000	0.319	0.456	0.001	0.178	0.000	0.465	0.000	3.975	50.5	35.8
Cpx3–2	inclusion in Grt	54.96	0.60	13.71	0.02	0.00	6.28	12.37	0.01	6.07	–	6.53	–	100.55	1.950	0.016	0.573	0.001	0.000	0.332	0.470	0.000	0.180	0.000	0.449	0.000	3.972	48.9	35.2
Cpx3–3	inclusion in Grt	54.56	0.60	13.77	0.02	0.00	6.22	12.09	0.05	6.11	0.01	6.55	–	99.97	1.947	0.016	0.579	0.001	0.000	0.331	0.462	0.001	0.182	0.000	0.453	0.000	3.973	49.5	35.5
															Cations calculated on the basis of 23 oxygen atoms														
Amph1–4	altered matrix Cpx	42.27	0.70	12.17	0.03	0.00	9.95	11.86	0.09	16.37	0.04	1.50	1.31	96.24	6.450	0.080	2.189	0.004	0.000	2.262	1.940	0.011	2.088	0.001	0.445	0.255	15.725		
Amph1–5	altered matrix Cpx	40.15	0.58	14.66	0.03	0.00	8.72	11.45	0.07	16.60	0.04	1.58	1.52	95.33	6.206	0.067	2.670	0.003	0.000	2.008	1.896	0.009	2.145	0.001	0.474	0.299	15.778		
Mafic granulite, GS55–1															Cations calculated on the basis of 6 oxygen atoms														
Cpx1–1	matrix	52.41	0.45	8.90	0.03	0.00	8.01	15.94	0.08	8.89	0.02	4.36	–	99.11	1.940	0.013	0.388	0.001	0.000	0.442	0.632	0.002	0.275	0.001	0.313	0.000	4.008	33.1	38.4
Cpx1–2	matrix	52.07	0.51	9.53	0.01	0.00	7.62	15.49	0.06	8.92	–	4.43	–	98.63	1.934	0.014	0.417	0.000	0.000	0.422	0.617	0.002	0.277	0.000	0.319	0.000	4.002	34.1	39.6
Cpx1–3	matrix	52.41	0.50	9.24	–	0.00	7.64	15.87	0.03	9.13	0.01	4.41	–	99.23	1.938	0.014	0.403	0.000	0.000	0.421	0.629	0.001	0.282	0.000	0.316	0.000	4.005	33.5	40.2
Cpx1–4	matrix	52.89	0.46	9.04	–	0.00	7.86	15.99	0.05	8.81	–	4.38	–	99.48	1.948	0.013	0.392	0.000	0.000	0.431	0.631	0.002	0.271	0.000	0.313	0.000	4.000	33.1	38.6
Cpx1–5	matrix	53.19	0.45	8.55	0.04	0.00	8.09	16.20	0.06	9.07	–	4.27	–	99.91	1.953	0.012	0.370	0.001	0.000	0.443	0.637	0.002	0.279	0.000	0.304	0.000	4.001	32.3	38.6
Cpx1–6	matrix	52.44	0.42	7.73	–	0.00	8.44	17.29	0.08	9.11	0.03	3.66	–	99.19	1.948	0.012	0.338	0.000	0.000	0.467	0.688	0.003	0.283	0.001	0.263	0.000	4.002	27.7	37.7
Cpx1–7	matrix	52.84	0.45	7.71	–	0.00	8.33	17.03	0.04	9.11	–	3.78	–	99.29	1.958	0.012	0.337	0.000	0.000	0.460	0.676	0.001	0.282	0.000	0.271	0.000	3.997	28.6	38.0
Cpx1–8	matrix	53.68	0.44	7.27	–	0.00	8.36	17.77	0.06	9.49	0.03	3.57	–	100.67	1.966	0.012	0.314	0.000	0.000	0.456	0.697	0.002	0.290	0.001	0.253	0.000	3.991	26.6	38.9
Cpx1–9	matrix	52.69	0.47	8.14	0.01	0.00	8.28	17.00	0.03	9.26	–	3.72	–	99.60	1.946	0.013	0.354	0.000	0.000	0.456	0.673	0.001	0.286	0.000	0.267	0.000	3.997	28.4	38.5
Cpx1–10	matrix	53.00	0.45	9.03	–	0.00	7.78	16.12	–	8.91	0.02	4.40	–	99.71	1.948	0.012	0.391	0.000	0.000	0.426	0.635	0.000	0.274	0.001	0.314	0.000	4.000	33.1	39.1
Cpx2–1	matrix	52.45	0.51	9.34	–																								