

APPENDIX 8

EPMA analyses of garnets and calculated cation numbers

Sample no.	Garnet-bearing migmatites (N31)								Garnet-bearing hornfels (A5)				
SiO ₂	37.79	37.72	37.83	38.10	37.91	38.22	37.70	37.80	37.25	37.19	36.89	37.48	37.25
TiO ₂	0.09	0.05	0.07	0.09	0.013	0.00	0.07	0.04	0.00	0.01	0.07	0.06	0.04
Al ₂ O ₃	21.21	21.00	20.97	21.09	20.77	21.11	21.00	21.00	21.09	20.85	20.78	20.93	20.62
FeO	34.81	35.71	35.27	34.86	34.69	34.54	34.62	35.10	27.87	30.56	28.00	27.03	28.07
MnO	1.73	1.50	1.71	1.92	2.12	1.72	1.36	1.74	10.43	7.95	12.02	10.45	9.95
MgO	3.66	3.50	3.58	3.50	3.37	3.50	3.58	3.63	1.92	2.70	2.00	1.78	1.91
CaO	1.08	1.06	1.06	1.10	1.08	1.07	1.06	1.13	1.16	1.15	1.21	1.08	1.25
Na ₂ O	0.02	0.04	0.00	0.03	0.00	0.00	0.00	0.04	0.00	0.04	0.01	0.00	0.01
K ₂ O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02
Total	100.39	100.58	100.49	100.69	100.07	100.16	99.40	100.48	99.75	100.54	100.98	98.83	99.12
Number of cations on the basis of 12 oxygens													
Si	3.015	3.014	3.021	3.031	3.038	3.048	3.032	3.018	3.019	2.996	2.981	3.052	3.038
Ti	0.005	0.003	0.004	0.005	0.008	0.000	0.004	0.002	0.000	0.006	0.004	0.004	0.002
Al	1.994	1.978	1.974	1.970	1.962	1.984	1.991	1.977	2.015	1.980	1.979	2.009	1.982
Fe	2.332	2.386	2.355	2.319	2.325	2.303	2.328	2.344	1.889	2.058	1.892	1.841	1.914
Mn	0.117	0.102	0.116	0.129	0.144	0.116	0.093	0.118	0.716	0.542	0.823	0.721	0.681
Mg	0.435	0.417	0.426	0.415	0.403	0.416	0.429	0.432	0.232	0.324	0.241	0.216	0.232
Ca	0.092	0.091	0.091	0.094	0.093	0.091	0.091	0.097	0.101	0.099	0.105	0.094	0.109
Na	0.003	0.006	0.000	0.005	0.000	0.000	0.000	0.006	0.000	0.006	0.002	0.000	0.002
K	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
Total	7.984	7.997	7.987	7.999	7.973	7.960	7.969	7.994	7.972	8.012	8.026	7.937	7.970
Alm%	78.3	79.7	78.8	78.4	78.4	78.7	79.2	78.4	64.3	68.1	61.8	64.1	65.0
Prp%	14.7	13.9	14.3	14.0	13.6	14.2	14.6	14.4	7.9	10.7	7.9	7.5	7.9
Sps%	3.9	3.4	3.9	4.4	4.9	4.0	3.1	3.9	24.4	17.9	26.9	25.1	23.4
GAU%	3.1	3.0	3.0	3.0	3.2	3.1	3.1	3.2	3.4	3.3	3.4	3.3	3.7

Alm – almandine, Prp – pyrope, Sps – spessartine, GAU – sum of grossular, andradite and uvarrovite