

TABLE DR1. MINERAL COMPOSITIONS OF GARNET IN ECLOGITE SAMPLES

Rock Type	Lws Ec			Zoi Ec		
Sample	GR-1			MR-7	MR-4	
Texture	core	rim	reaction rim	core	rim	reaction rim
SiO ₂	39.40	39.27	40.82	38.93	38.74	40.43
TiO ₂	0.12	0.00	0.04	0.11	0.00	0.07
Al ₂ O ₃	20.63	21.50	22.40	20.06	20.51	22.39
Cr ₂ O ₃	0.04	0.01	0.10	0.02	0.00	0.10
FeO ^a	26.91	27.28	19.74	29.36	29.70	18.55
MnO	1.25	0.81	0.40	1.15	0.66	0.54
MgO	5.30	5.45	12.09	3.26	3.24	10.47
CaO	6.26	5.60	4.20	7.00	7.07	7.29
Na ₂ O	0.09	0.04	0.19	0.07	0.04	0.00
K ₂ O	0.01	0.00	0.02	0.00	0.00	0.01
NiO	0.00	0.03	0.00	0.00	0.00	0.15
Total	100.01	99.99	100.00	99.95	99.97	100.00
O.N.	12	12	12	12	12	12
Si	3.075	3.055	3.043	3.084	3.066	3.029
Ti	0.007	0.000	0.002	0.007	0.000	0.004
Al	1.898	1.971	1.968	1.874	1.914	1.977
Cr	0.002	0.001	0.006	0.001	0.000	0.006
Fe ²⁺	1.756	1.775	1.231	1.945	1.967	1.162
Mn	0.083	0.053	0.025	0.077	0.044	0.034
Mg	0.617	0.632	1.343	0.384	0.383	1.169
Ca	0.523	0.467	0.335	0.594	0.600	0.585
Na	0.014	0.006	0.027	0.011	0.006	0.000
K	0.001	0.000	0.002	0.000	0.000	0.001
Ni	0.000	0.002	0.000	0.000	0.000	0.009
cation sum	7.975	7.962	7.983	7.977	7.979	7.976
XFe/Mg	2.848	2.808	0.916	5.060	5.137	0.994
Alm/Fe	0.590	0.606	0.419	0.648	0.657	0.394
Sps/Mn	0.028	0.018	0.009	0.026	0.015	0.012
Alm+Sps	0.617	0.625	0.428	0.674	0.672	0.405
Pyr/Mg	0.207	0.216	0.458	0.128	0.128	0.396
Grs/Ca	0.176	0.159	0.114	0.198	0.200	0.198

Note: ^aTotal Fe as FeO

TABLE DR2. MINERAL COMPOSITIONS OF CLINOPYROXENE IN ECLOGITE SAMPLES

Rock Type	Lws Ec		Zoi Ec		
Sample	GR-1		MR-7	MR-3B	
Texture	matrix	inclusion	matrix	inclusion	impure jadeite
SiO ₂	56.77	57.01	55.98	53.96	58.15
TiO ₂	0.05	0.03	0.18	0.05	0.06
Al ₂ O ₃	10.23	8.83	11.89	11.75	15.45
Cr ₂ O ₃	0.07	0.14	0.15	0.05	0.03
FeO ^a	3.99	5.96	6.14	9.37	5.31
MnO	0.05	0.06	0.06	0.07	0.10
MgO	9.10	8.61	5.86	5.67	3.92
CaO	13.01	13.08	11.86	11.72	5.39
Na ₂ O	6.86	7.17	7.67	7.32	11.74
K ₂ O	0.00	0.00	0.10	0.01	0.00
NiO	0.00	0.00	0.11	0.02	0.00
Total	100.13	100.88	100.00	99.99	100.14
O.N.	6	6	6	6	6
Si	2.008	2.012	2.002	1.945	2.017
Ti	0.001	0.001	0.005	0.001	0.002
Al(IV)	0.000	0.000	0.000	0.055	0.000
Al(VI)	0.426	0.367	0.501	0.444	0.631
Cr	0.002	0.004	0.004	0.001	0.001
Fe*	0.118	0.176	0.184	0.282	0.154
Mn	0.002	0.002	0.002	0.002	0.003
Mg	0.480	0.453	0.312	0.305	0.203
Ca	0.493	0.494	0.454	0.453	0.200
Na	0.470	0.490	0.532	0.511	0.789
K	0.000	0.000	0.005	0.000	0.000
Ni	0.000	0.000	0.003	0.001	0.000
total	4.000	4.000	4.003	4.001	4.000
Fe ³⁺	0.024	0.093	0.012	0.118	0.121
Fe ²⁺	0.094	0.083	0.172	0.164	0.033
Fe ²⁺ /Mg	0.195	0.184	0.550	0.538	0.165
XCats	0.000	0.000	0.000	0.058	0.000
XJd	0.452	0.385	0.518	0.405	0.663
XAu	0.522	0.518	0.470	0.414	0.210
XAc	0.026	0.097	0.012	0.123	0.127

Note: ^aTotal Fe as FeO

TABLE DR3. MINERAL COMPOSITIONS OF OTHER CONSTITUENT MINERALS IN ECLOGITE SAMPLES

Mineral	Lawsonite		Zoisite		Phengite		Apatite		
Rock type	Lws Ec		Lws Ec	Zo Ec	Lws Ec		Zo Ec	Zo Ec	
Sample	GR-1		GR-1	MR-7	GR-1		MR-3B	MR-7	
Texture	matrix	inclusion	fibrous	fibrous	matrix	matrix		euhedral	
SiO ₂	38.57	39.01	40.18	39.66	SiO ₂	58.07	57.09	SiO ₂	0.23
TiO ₂	0.12	0.14	0.14	0.26	TiO ₂	0.16	0.13	TiO ₂	0.03
Al ₂ O ₃	29.66	31.31	32.29	32.60	Al ₂ O ₃	19.55	20.36	Al ₂ O ₃	0.01
Cr ₂ O ₃	0.13	0.06	0.19	0.04	Cr ₂ O ₃	0.06	0.09	Cr ₂ O ₃	0.14
Fe ₂ O ₃ ^a	0.90	1.47	0.96	1.86	FeO ^b	1.68	1.86	FeO*	0.00
MnO	0.00	0.05	0.00	0.00	MnO	0.00	0.02	MnO	0.33
MgO	0.03	0.02	0.30	0.12	MgO	7.16	6.67	MgO	0.14
CaO	16.45	16.70	23.58	23.98	CaO	0.01	0.00	CaO	54.88
Na ₂ O	0.01	0.00	0.03	0.00	Na ₂ O	0.04	0.03	Na ₂ O	0.00
K ₂ O	0.00	0.00	0.00	0.04	K ₂ O	10.71	10.82	K ₂ O	0.01
NiO	0.00	0.00	0.00	0.09	NiO	0.00	0.00	P ₂ O ₅	44.86
Total	85.88	88.75	97.66	98.64	Total	97.44	97.06	Total	100.63
O.N.	8	8	12	12	O.N.	22	22	O.N.	24
Si	2.076	2.036	2.927	2.876	Si	7.516	7.436	Si	0.035
Ti	0.005	0.006	0.008	0.014	Ti	0.015	0.012	Ti	0.003
Al	1.882	1.926	2.773	2.787	Al	2.983	3.125	Al	0.001
Cr	0.006	0.002	0.011	0.002	Cr	0.006	0.009	Cr	0.017
Fe ³⁺	0.036	0.058	0.052	0.101	Fe ²⁺	0.182	0.202	Fe ²⁺	0.000
Mn	0.000	0.002	0.000	0.000	Mn	0.000	0.002	Mn	0.043
Mg	0.002	0.002	0.032	0.013	Mg	1.382	1.296	Mg	0.032
Ca	0.949	0.934	1.841	1.863	Ca	0.001	0.000	Ca	8.930
Na	0.001	0.000	0.004	0.000	Na	0.009	0.008	Na	0.000
K	0.000	0.000	0.000	0.004	K	1.769	1.798	K	0.002
Ni	0.000	0.000	0.000	0.005	Ni	0.000	0.000	P	5.956
Total	4.958	4.965	7.649	7.661	Total	13.86	13.89	Total	15.020
					Mg/(Mg+Fe)	0.884	0.865		
					Na/(Na+K)	0.005	0.004		

Note: ^aTotal Fe as Fe₂O₃, ^bTotal Fe as FeO.

TABLE DR4. CALCULATED WHOLE-ROCK COMPOSITIONS AND MODAL COMPOSITIONS OF ECLOGITE SAMPLES

Rock Type	Lws Ec	Zo Ec		
Sample	GR-1	MR-7	MR-4	MR-15
(wt%)				
SiO ₂	48.98	48.32	44.26	50.58
TiO ₂	1.65	1.10	0.98	0.76
Al ₂ O ₃	15.82	17.90	21.59	15.68
Cr ₂ O ₃	0.07	0.10	0.12	0.10
FeO ^a	9.26	9.61	9.60	6.69
MnO	0.23	0.16	0.22	0.12
MgO	6.81	4.02	5.15	6.96
CaO	11.94	13.61	14.93	14.18
Na ₂ O	4.06	4.42	2.12	4.52
K ₂ O	0.01	0.07	0.01	0.01
NiO	0.01	0.08	0.01	0.00
H ₂ O ^b	1.16	0.57	1.00	0.40
Total	98.84	99.43	99.00	99.60
(vol. %)				
Grt	24.8	19.2	25.8	11.6
Cpx	59.0	57.5	30.4	66.0
Lw	6.6	0.0	0.0	0.0
Zo	7.6	21.8	39.7	20.2
Rutile	1.6	0.9	0.9	0.7
Phen	0.1	0.0	0.0	0.0
Pyrite	0.0	0.0	1.7	1.1
Ap	0.0	0.4	0.0	0.0
Total points	8249	4572	2000	2535
<i>Note:</i> ^a Totale Fe as FeO. ^b H ₂ O content (wt. %) is obtained by subtracting total from 100.				