

TABLE 7. Talc, clinocllore, and spinel analyses.

OXIDES	TALC				CLINOCHLORE				SPINEL		
	83-LL-139	88-CM-4c	90-DM-11	90-DM-12	81-LL-14	91-KL-3	90-DM-12	89-DM-1	81-LL-14	91-KL-2	91-KL-3
SiO ₂	61.38	61.38	62.93	61.70	30.45	30.17	30.91	32.12	<0.05	<0.05	<0.05
TiO ₂	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	0.09	0.10	<0.05	<0.05	<0.05
Al ₂ O ₃	0.57	0.72	0.27	1.28	19.30	21.08	19.97	18.31	68.92	69.49	69.81
Fe ₂ O ₃ *	0.78	0.37	0.45	0.50	0.59	0.73	1.10	1.66	0.41	0.23	0.36
Cr ₂ O ₃	na**	na	na	na	na	na	na	na	<0.05	<0.05	<0.05
FeO*	0.12	0.00	0.10	0.00	1.06	0.00	0.00	0.00	4.81	2.56	1.76
MgO	30.43	31.47	31.31	31.31	33.87	33.97	34.33	34.45	24.67	26.10	26.71
CaO	0.13	0.14	0.06	0.06	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MnO	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
ZnO	na	na	na	na	na	na	na	na	<0.05	0.07	0.06
Na ₂ O	0.07	0.32	0.08	0.07	<0.05	<0.05	<0.05	<0.05	0.51	<0.05	0.06
K ₂ O	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	na	na	na
H ₂ O	4.49	4.12	4.65	4.64	12.52	12.41	12.75	12.72	na	na	na
F	0.31	1.03	0.17	0.14	0.16	0.74	0.09	0.16	na	na	na
Cl	<0.05	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	na	na	na
total	98.28	99.66	100.01	99.70	98.10	99.16	99.23	99.44	99.37	98.45	98.76
O=F+Cl	-0.13	-0.46	-0.07	-0.06	-0.07	-0.31	-0.04	-0.07	na	na	na
total	98.15	99.20	99.94	99.64	98.02	98.85	99.19	99.37	99.37	98.45	98.76
Formulae normalized to: 7 cations											
Si	3.963	3.900	3.986	3.910	2.894	2.840	2.900	3.020	<0.001	<0.001	<0.001
Al ^{IV}	0.037	0.054	0.016	0.091	1.106	1.160	1.100	0.980	—	—	—
Al ^{VI}	0.006	0.000	0.004	0.005	1.057	1.178	1.108	1.048	—	—	—
Al	—	—	—	—	—	—	—	—	1.985	1.994	1.991
Ti	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	0.007	0.008	<0.001	<0.001	<0.001
Fe ³⁺	0.038	0.018	0.021	0.024	0.042	0.000	0.000	0.000	0.007	0.004	0.006
Cr	na	na	na	na	na	na	na	na	<0.001	<0.001	<0.001
Fe ²⁺	0.006	0.000	0.005	0.000	0.085	0.052	0.078	0.117	0.098	0.052	0.036
Mn	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.001	0.001
Mg	2.930	2.979	2.954	2.957	4.801	4.768	4.805	4.827	0.899	0.949	0.965
Zn	na	na	na	na	na	na	na	na	0.009	<0.001	0.001
Na	0.009	0.040	0.010	0.009	<0.005	<0.005	<0.005	<0.005	na	na	na
Ca	0.009	0.009	0.004	0.004	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
K	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	na	na	na
OH	1.934	1.777	1.966	1.970	7.949	7.779	7.972	7.951	na	na	na
F	0.063	0.211	0.034	0.029	0.048	0.220	0.027	0.047	na	na	na
Cl	<0.005	0.012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	na	na	na
X _{Mg} ***	0.977	0.978	0.985	0.986	0.960	0.952	0.960	0.964	0.893	0.947	0.962

*FeO and Fe₂O₃ are recalculated from total FeO based on charge balance and stoichiometry (see text).

**na=not analyzed

***For talc, $X_{Mg} = Mg / (Al^{VI} + Fe^{3+} + Fe^{2+} + Mg + Na + Ca + Ti + K)$; for clinocllore, $X_{Mg} = Mg / [(Al^{VI} - 1) + Fe^{3+} + Fe^{2+} + Mg + Na + Ca + Ti + K]$; and for spinel, $X_{Mg} = Mg / (Mg + Fe^{2+} + Mn + Zn)$.