

Chlorite analyses by electron microprobe

Analysis	MV-5-xl5 Wt.%	MV-5-xl5 9 / 5 .	MV-5-xl5 9 / 6 .	MV-5-xl5 10 / 1 .	MV-5-xl5 10 / 2 .	MV-5-xl5 10 / 3 .	MV-5-tm2- 2x_xl2chlorite.		SupA-A2- xl1 11 / 3 .	SupA-A2-xl1 11 / 6 .
							2	7 / 1 .		
SiO ₂	27.46	28.09	28.66	28.18	28.04	30.49	27.67		21.13	
TiO ₂	0.01	0.02	0.02	0.03	0.01	0.06	0.35		0.74	
Al ₂ O ₃	19.88	19.48	20.06	21.17	20.72	18.24	20.81		16.00	
FeO	21.97	21.33	15.16	15.52	16.41	20.11	18.72		36.73	
MnO	1.21	1.18	1.14	1.22	1.16	1.36	1.11		0.73	
MgO	17.37	17.55	22.70	21.38	21.35	15.87	17.97		13.73	
CaO	0.03	0.08	0.03	0.06	0.04	0.32	0.01		0.07	
Na ₂ O	0.05	0.11	0.03	0.07	0.06	0.42	0.01		0.05	
K ₂ O	0.02	0.06	0.02	0.03	0.03	0.27	0.02		0.05	
F	0.13	0.17	0.25	0.11	0.19	0.01	0.16		0.06	
Cl	0.01	0.03	0.04	0.04	0.04	0.12	0.03		0.03	
<i>Total</i>	88.14	88.08	88.11	87.80	88.07	88.06	86.85		89.32	
-O=F, Cl	0.06	0.08	0.11	0.05	0.09	0.03	0.07		0.03	
H ₂ O _{calc}	11.57	11.60	11.97	11.95	11.90	11.62	11.62		10.57	
*Total	99.66	99.61	99.97	99.70	99.87	99.65	98.39		99.85	
Atoms pfu										
Si	5.657	5.764	5.683	5.625	5.606	6.274	5.672		4.777	
Ti	0.002	0.003	0.003	0.005	0.002	0.009	0.054		0.126	
Al	4.827	4.711	4.687	4.981	4.882	4.422	5.025		4.263	
Fe ²⁺	3.786	3.660	2.514	2.591	2.743	3.460	3.208		6.943	
Mn	0.211	0.204	0.191	0.207	0.196	0.238	0.192		0.139	
Mg	5.336	5.370	6.710	6.362	6.364	4.869	5.490		4.626	
Ca	0.006	0.017	0.007	0.012	0.008	0.070	0.002		0.018	
Na	0.018	0.042	0.012	0.026	0.025	0.168	0.003		0.023	
K	0.006	0.016	0.006	0.007	0.008	0.072	0.005		0.014	
Total Cations	19.850	19.787	19.813	19.815	19.834	19.581	19.651		20.927	
F	0.086	0.108	0.154	0.069	0.121	0.004	0.105		0.045	
Cl	0.003	0.011	0.013	0.013	0.012	0.041	0.009		0.013	
OH _(calc)	15.911	15.881	15.833	15.918	15.866	15.956	15.886		15.943	
Total Anions	16.000	16.000	16.000	16.000	16.000	16.000	16.000		16.000	

Analysis	SupA-A2-xl1		SupA-A2-xl3		SupA-A2-xl3		SupA-A2-xl4							
	Wt.%	11 / 7 .	SupA-A2-xl1	13 / 1 .	SupA-A2-xl3	13 / 2 .	xl3	13 / 3 .	SupA-A2-xl4	14 / 1 .	SupA-A2-xl4	14 / 2 .	SupA-A2-xl4	14 / 3 .
SiO ₂	27.70	27.64	28.29	27.37	27.58	28.47	27.94	28.59						
TiO ₂	0.08	0.04	0.04	0.04	0.05	0.04	0.05	0.05						
Al ₂ O ₃	21.11	21.07	20.62	19.96	20.11	20.26	20.20	20.48						
FeO	19.50	19.27	17.79	17.72	17.51	17.86	18.28	17.17						
MnO	1.13	1.17	1.32	1.41	1.28	1.11	1.09	1.07						
MgO	18.70	18.60	20.06	19.48	19.52	20.11	20.32	20.29						
CaO	0.02	0.01	0.02	0.02	0.03	0.02	0.01	0.03						
Na ₂ O	0.04	0.02	0.03	0.03	0.04	0.01	0.01	0.03						
K ₂ O	0.01	0.02	0.01	0.03	0.02	0.03	0.02	0.15						
F	0.04	0.17	0.07	0.07	0.07	0.06	0.08	0.12						
Cl	0.02	0.03	0.04	0.02	0.04	0.01	0.01	0.03						
<i>Total</i>	88.34	88.04	88.30	86.14	86.26	87.98	88.03	88.01						
-O=F, Cl	0.02	0.08	0.04	0.03	0.04	0.03	0.04	0.06						
H ₂ O _{calc}	11.81	11.74	11.89	11.56	11.60	11.87	11.82	11.89						
*Total	100.13	99.70	100.15	97.67	97.82	99.82	99.81	99.84						
Atoms pfu														
Si	5.612	5.605	5.684	5.657	5.678	5.738	5.649	5.736						
Ti	0.011	0.006	0.007	0.007	0.007	0.006	0.008	0.008						
Al	5.040	5.036	4.883	4.863	4.879	4.812	4.813	4.843						
Fe ²⁺	3.304	3.269	2.990	3.062	3.015	3.010	3.090	2.880						
Mn	0.193	0.202	0.225	0.246	0.224	0.189	0.186	0.181						
Mg	5.647	5.624	6.009	6.002	5.993	6.042	6.124	6.070						
Ca	0.005	0.003	0.004	0.004	0.007	0.005	0.003	0.007						
Na	0.015	0.008	0.012	0.011	0.017	0.005	0.006	0.012						
K	0.004	0.005	0.003	0.008	0.006	0.008	0.006	0.037						
Total Cations	19.831	19.758	19.818	19.861	19.826	19.815	19.884	19.775						
F	0.029	0.109	0.042	0.045	0.046	0.037	0.053	0.075						
Cl	0.006	0.010	0.014	0.008	0.015	0.005	0.005	0.009						
OH _(calc)	15.965	15.881	15.944	15.947	15.939	15.958	15.942	15.916						
Total Anions	16.000	16.000	16.000	16.000	16.000	16.000	16.000	16.000						

Analysis	SupA-A2-xl4	SupA-A2-xl4	SupA-A2-xl5	SupA-A2-xl5	ENG1-2-xl2	ENG1-2-xl2	ENG1-2-xl2
Wt.%	14 / 5 .	14 / 6 .	15 / 1 .	15 / 3 .	17 / 1 .	17 / 2 .	17 / 3 .
SiO ₂	27.58	28.09	29.12	28.50	27.40	29.31	28.79
TiO ₂	0.05	0.04	0.04	0.03	0.09	0.09	0.03
Al ₂ O ₃	19.57	20.04	19.79	19.57	18.73	21.00	21.78
FeO	17.65	17.36	18.16	17.80	8.13	8.84	17.96
MnO	1.18	1.05	0.80	0.80	0.11	0.17	0.46
MgO	19.67	20.37	20.67	20.68	25.49	27.63	19.91
CaO	0.02	0.03	0.02	0.03	ND	0.00	0.01
Na ₂ O	0.02	0.03	0.03	0.02	0.00	0.00	0.02
K ₂ O	0.03	0.02	0.02	0.02	0.00	0.00	ND
F	0.05	0.15	0.11	0.12	0.00	0.03	0.03
Cl	0.02	0.03	0.04	0.04	0.02	0.01	0.00
<i>Total</i>	85.84	87.21	88.80	87.62	79.98	87.09	88.99
-O= F, Cl	0.02	0.07	0.05	0.06	0.00	0.01	0.01
H ₂ O _{calc}	11.55	11.74	11.97	11.80	11.38	12.38	12.09
*Total	97.37	98.89	100.71	99.36	91.36	99.45	101.07
Atoms pfu							
Si	5.714	5.698	5.806	5.759	5.771	5.670	5.703
Ti	0.007	0.006	0.006	0.005	0.014	0.013	0.004
Al	4.777	4.790	4.651	4.661	4.649	4.789	5.086
Fe ²⁺	3.058	2.944	3.028	3.008	1.431	1.431	2.975
Mn	0.208	0.180	0.135	0.137	0.020	0.028	0.077
Mg	6.076	6.160	6.144	6.231	8.005	7.970	5.881
Ca	0.005	0.006	0.004	0.006	ND	0.001	0.003
Na	0.009	0.014	0.010	0.009	ND	0.002	0.009
K	0.008	0.004	0.005	0.006	0.000	0.000	ND
Total Cations	19.861	19.803	19.789	19.823	19.886	19.903	19.735
F	0.030	0.098	0.069	0.078	ND	0.017	0.018
Cl	0.008	0.010	0.013	0.012	0.007	0.004	0.001
OH _(calc)	15.962	15.892	15.918	15.910	15.996	15.979	15.981
Total Anions	16.000	16.000	16.000	16.000	16.000	16.000	16.000

*Total includes correction for fluorine contents and calculated H₂O following methods in Deer et. al (1966). Molar calculations are based on 28 oxygen equivalents.

Tourmaline analyses by electron microprobe

Analysis (Wt.%)	MC-19b_xl3	MC-19b_xl3	MC-19b_xl3	MC-19b_xl3	MC-19b_xl3
SiO ₂	36.08	37.72	36.98	36.88	37.68
TiO ₂	0.35	0.49	0.32	0.50	0.24
B ₂ O ₃	8.15	6.61	6.84	7.33	9.65
Al ₂ O ₃	35.25	33.06	32.23	32.85	34.25
FeO	7.06	7.57	8.73	8.21	7.19
MnO	ND	0.00	0.01	ND	0.02
MgO	6.30	6.81	6.78	6.80	6.88
CaO	0.28	0.37	0.27	0.40	0.37
Na ₂ O	2.09	2.05	1.99	2.14	2.27
K ₂ O	0.05	0.02	0.03	0.01	0.02
Cu ₂ O	0.03	ND	0.01	ND	0.04
SO ₂	0.01	0.01	0.01	0.00	0.02
F	0.00	0.00	0.00	0.01	0.00
Cl	0.02	0.00	0.01	0.05	0.01
*Total	99.30	98.27	97.76	98.74	102.38
Si	6.016	6.408	6.349	6.244	6.062
Ti	0.044	0.063	0.042	0.063	0.029
B	2.347	1.939	2.028	2.142	2.681
Al	6.928	6.619	6.520	6.556	6.493
Fe ²⁺	0.984	1.075	1.254	1.163	0.968
Mn	ND	0.000	0.002	ND	0.003
Mg	1.566	1.724	1.734	1.716	1.650
Ca	0.050	0.067	0.049	0.072	0.063
Na	0.675	0.677	0.662	0.702	0.707
K	0.010	0.004	0.006	0.003	0.003
Cu ¹⁺	0.003	ND	0.001	ND	0.004
S	0.002	0.001	0.002	0.000	0.003
Total Cations	18.631	18.582	18.655	18.668	18.669
F	ND	0.001	ND	0.005	0.000
Cl	0.004	0.001	0.002	0.014	0.002
OH _(calc)	3.998	3.998	3.999	3.981	3.998
Total Anions	4.000	4.000	4.000	4.000	4.000

*Total includes correction for fluorine contents and calculated H₂O following methods in Deer et. al (1966). Molar calculations are based on 29 oxygen equivalents.