

Table 2. Selected Chemical Compositions of Chlorites in Metasomatic Rocks at the South Wall of the Atlantis Massif^a

Sample Analysis Mineralogy	D4-4	3647-1359	3863-1236		3646-1205		D4-9			
	1	1 talc-chl	1 clinochl	2 clinochl	1 clinochl	2 talc-chl	1 penn	2 talc-chl	3 talc-chl	4 talc-chl
SiO ₂	28.71	38.21	29.60	30.25	31.33	40.29	34.64	41.50	40.64	41.13
TiO ₂	<d.l.	0.01	0.04	0.04	0.03	0.02	0.07	<d.l.	0.03	0.04
Cr ₂ O ₃	2.56	0.16	0.04	<d.l.	0.14	1.36	0.03	0.06	0.02	<d.l.
Al ₂ O ₃	17.13	10.07	20.55	18.40	15.55	7.81	12.10	6.38	2.74	2.32
FeO	14.62	7.70	6.77	7.85	9.76	9.28	4.60	4.73	4.87	4.67
MnO	<d.l.	0.10	0.02	0.04	0.14	0.22	0.04	0.11	0.18	0.14
NiO	0.43	0.17	0.14	0.16	0.14	0.22	0.14	0.08	0.06	0.07
MgO	24.06	30.22	30.21	29.62	29.89	27.85	35.71	34.67	38.23	38.83
CaO	0.08	0.17	0.01	0.05	0.02	0.14	<d.l.	0.01	0.04	0.02
Na ₂ O	0.07	0.05	0.03	0.02	<d.l.	0.01	0.04	0.07	<d.l.	<d.l.
K ₂ O	<d.l.	0.02	0.01	0.01	0.01	0.03	0.12	0.04	<d.l.	<d.l.
Cl	0.02	0.01	0.01	<d.l.	<d.l.	0.02	<d.l.	<d.l.	0.03	0.03
F	<d.l.	0.01	<d.l.	<d.l.	<d.l.	0.04	<d.l.	<d.l.	0.06	0.03
Total	87.65	86.87	87.42	86.45	87.01	87.22	87.49	87.63	86.80	87.22
Si	5.764	7.247	5.650	5.88	6.103	7.627	6.515	7.672	7.697	7.747
Al ^{IV}	2.236	0.753	2.350	2.12	1.897	0.373	1.485	0.328	0.303	0.253
Al ^{VI}	1.817	1.498	2.273	2.09	1.674	1.369	1.197	1.062	0.309	0.262
Ti		0.001	0.006	0.01	0.004	0.003	0.010		0.004	0.005
Cr	0.406	0.024	0.006		0.021	0.204	0.004	0.008	0.003	
Fe ³⁺		0.445				0.720		0.419	0.041	0.034
Fe ²⁺	2.464	0.776	1.106	1.29	1.666	0.749	0.839	0.312	0.730	0.702
Mn	0.000	0.017	0.004	0.01	0.023	0.035	0.007	0.017	0.029	0.023
Mg	7.200	8.544	8.595	8.58	8.680	7.859	10.011	9.554	10.794	10.903
Ni	0.069	0.025	0.021	0.03	0.023	0.033	0.021	0.011	0.009	0.011
Ca	0.017	0.034	0.002	0.01	0.003	0.028		0.001	0.007	0.005
Na	0.054	0.035	0.022	0.02		0.007	0.028	0.050	0.001	
K		0.009	0.005		0.005	0.013	0.059	0.017	0.002	
Cl	0.011	0.005	0.006			0.010			0.017	0.019
F		0.008	0.000			0.047			0.069	0.041
Total	36.03	35.41	36.04	36.02	36.10	35.02	36.18	35.45	35.93	35.94
OH	15.99	15.99	15.99	16.00	16.00	15.94	16.00	16.00	15.91	15.94
Fe/Fe+Mg	0.25	0.13	0.11	0.13	0.16	0.16	0.08	0.07	0.07	0.06

^aNotes: <d.l., below detection limit; structural formulas are based on 36 (O, OH) [Bailey, 1980]. Clinochl, clinochlore; Penn, penninite (Al-rich clinochlore); Talc-chl, talc-chlorite. Chlorite commonly occurs as sub-millimeter sized intergrowths with talc (denoted as talc-chlorite analyses).