contents around 7.0 per double formula unit, but rim compositions are clearly lower in Si and also show significant Fe^{3+} (Table 1). The same compositional feature is also typical for metapelites.

First attempts were made to apply thermodynamic mineral data for the calculation of the metamorphic P-T conditions with the PTAX software package using the variable mineral compositions (cf. Massonne, 1995). Metamorphic temperatures were in the range 300° to 400°C. Maximum pressures were around 8 kbar. During the metamorphic evolution, a significant pressure decrease occurred.

Table 1: Representative analyses of minerals from a metapelite of the Mehuin area (sample CM9) and from blueschists from Pichilemu (samples MIL3404 and MIL3409). Structural formulae were calculated on the basis of (1) 42 Val. + Na + K + Ba/2 and a maximum of 4.1 octahedral cations for phengites and (2) 15 + A cations, O = 23 for amphiboles

	Metapelite		**Metabasites**			
	Phengites				**Amphiboles**	
	core	**rim**	**core**	**rim**	**core**	**rim**
	10666/64	10666/62	10078/96	10078/99	10112/10	10112/5
Si	6.981	6.541	6.982	6.782	7.950	7.710
$Al^{[4]}$	1.019	1.459	1.018	0.218	0.050	0.290
$Al^{[6]}$	2.930	2.869	2.717	2.534	1.350	0.049
Cr	0.013	0	0.004	0.004	0.002	0
Ti	0.018	0.020	0	0.003	0.006	0.005
Fe^{3+}	0	0.351	0.097	0.473	0.678	0.382
Fe^{2+}	0.452	0.172	0.423	0.114	1.155	1.623
Mn	0.009	0.013	0.006	0.006	0.018	0.039
Mg	0.600	0.675	0.853	0.965	1.792	2.902
Ca	0	0	0	0	0.065	1.721
Na	0.124	0.115	0.029	0.029	1.877	0.378
K	1.596	1.672	1.988	1.870	0.002	0.030
F	0.090	0.089	0	0	0	0

CONCLUSIONS

Generalizing our new petrological results, the Palaeozoic metamorphic rocks of the Chilean Coastal Range had experienced very similar peak metamorphic conditions at high pressures and low temperatures. However, the rocks are strongly overprinted at greenschist facies conditions. High Si phengite compositions witness the high-pressure event even in clearly retrogressed metapelites. Relics of blue amphibole prove this in metabasites. Under these circumstances, the idea that the thick clastic sequence of the Western Series is part of an accretionary prism must strongly be considered.

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