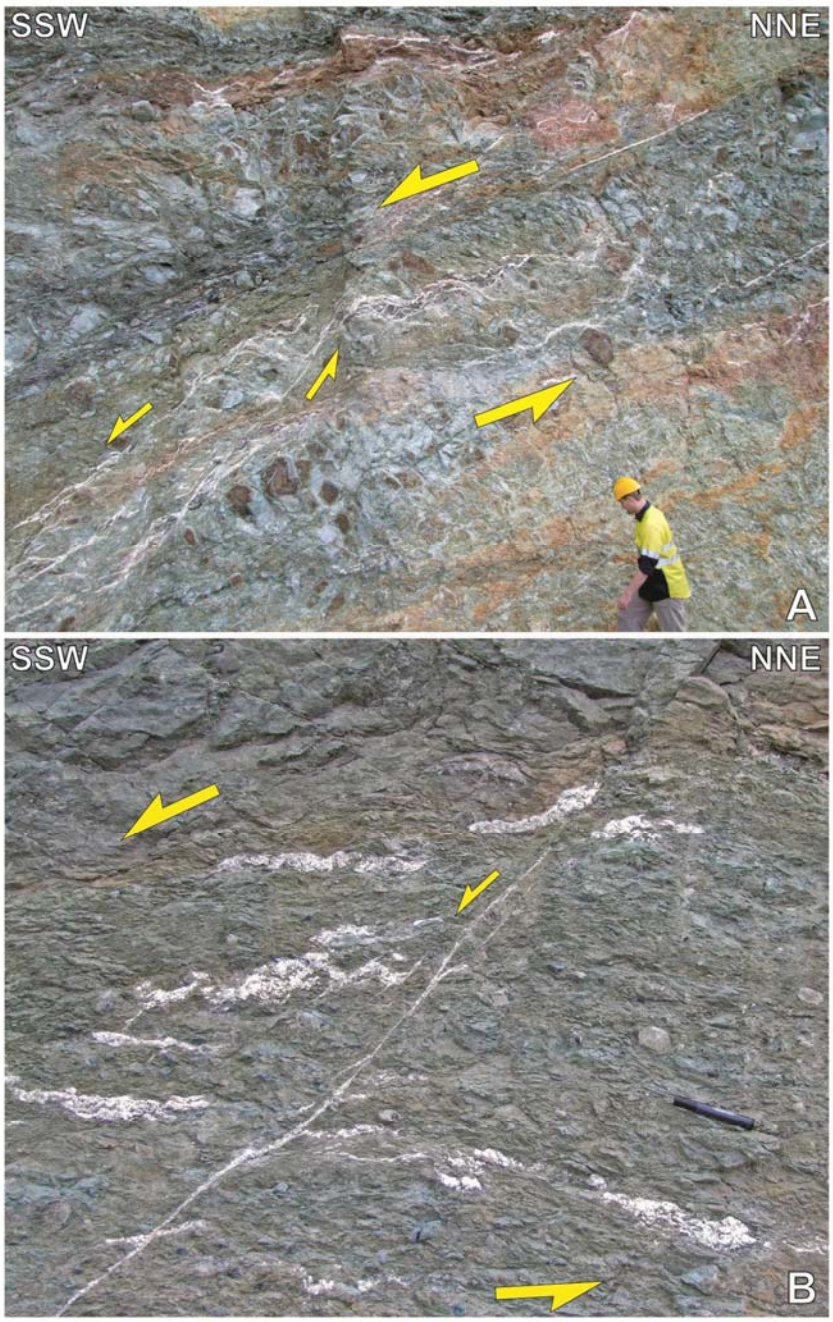

Figure DR1. Additional field views in the serpentine sole of the Koniambo Massif. A, a low-dipping shear zone and associated 'type 1' magnesite veins. In this exemple, three subtypes of vein may be distinguished: (i) a planar vein running along, and parallel to, the roof of the shear zone, (ii) subplanar veins inside, and oblique to, the shear zone, representing Riedel- or C'-type shear planes, (iii) a folded composite vein inside, and broadly parallel to, the shear zone. Folding seems to result from both buckling and drag folding along the shear planes. B, a mylonite zone hosting 'type 1' magnesite veins. A first subtype consists of sheared veins paralleling the schistosity. A second subtype consists of thinner veins along Riedel- or C'-type shear planes.

Magnesite				
Sample	**Localization**	**Host rock**	**$\delta^{18}O$**	**$\delta^{13}C$**
BMS Gio 1	Koniambo	serpentine	27,9	-13,0
BMS Gio 2	Koniambo	serpentine	29,1	-15,0
BMS Gio 3	Koniambo	serpentine	28,8	-13,8
BMS Gio 4	Koniambo	serpentine	27,9	-16,1
BMS Gio 5	Koniambo	serpentine	28,2	-14,5
BMS Gio 6	Koniambo	serpentine	28,6	-16,7
BMS Gio 7	Koniambo	serpentine	28,2	-13,9
BMS Gio 8	Koniambo	serpentine	28,7	-14,3
BMS Gio 9	Koniambo	serpentine	28,6	-14,3
BMS Gio 10	Koniambo	serpentine	28,2	-14,0
BMS Gio 12	Koniambo	serpentine	27,8	-15,2
BMS Gio 15	Koniambo	serpentine	29,1	-13,8
VAV 1 GIO 1	Koniambo	serpentine	28,6	-8,5
VAV 1 GIO 2	Koniambo	serpentine	28,9	-8,8
VAV 1 GIO 3	Koniambo	serpentine	27,9	-9,4
VAV 1 GIO 4	Koniambo	serpentine	28,9	-13,3
VAV 1 GIO 6	Koniambo	laterite	28,1	-15,5
VAV 1 GIO 7	Koniambo	serpentine	27,4	-14,8
VAV 1 GIO 8	Koniambo	serpentine	28,4	-14,7
VAV 1 GIO 9	Koniambo	serpentine	27,8	-14,4
CONV GIO 1	Koniambo	serpentine	28,8	-12,3
CONV GIO 2	Koniambo	serpentine	28,8	-13,5
NEP A1 Gio	Népoui	serpentine	28,2	-13,9
NEP A3 Gio	Népoui	serpentine	28,9	-10,9
NEP B1 Gio	Népoui	serpentine	28,5	-12,2
GAIACS 1	Gaiacs plain	serpentine	28,4	-8,6
GAIACS 2	Gaiacs plain	serpentine	29,7	-8,5

Table DR1. O and C isotope compositions of magnesite samples from this study. The results are given in ‰ versus SMOW for δ18O and ‰ versus PDB for δ13C.