

**Electronic Supplementary Table 1** Electron microprobe set-up for analysis of serpentine

	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	Cr <sub>2</sub> O <sub>3</sub>	NiO
Crystal	TAP	PET	TAP	LLIF	LPET	TAP	PET	LLIF	LLIF
Calibration Standard	Anorthite	Rutile	Anorthite	Fayalite	Rhodonite	Forsterite	Anorthite	MgCr <sub>2</sub> O <sub>4</sub>	Ni-doped diopside
Peak time (s)	20	20	20	20	30	20	20	20	20
Correction slope (a)	1.0045					1.0776			
Correction intercept (b)	-0.0491					0.1333			
<i>Measured wt% in antigorite standard BM66586</i>									
Average	44.45	0.02	0.22	0.35	0.01	41.79	0.02	0.02	N.A.
Std. dev.	0.42	0.02	0.03	0.04	0.01	0.24	0.02	0.02	

HV = 15kV

Beam current = 10 nA

Beam diameter = 10µm

SiO<sub>2</sub> and MgO corrected by regressing measurements made with Anorthite and Forsterite as reference standards to measurements made with a Bowenite reference standard. Corrected values take the form of  $X_{\text{corrected}} = a * X_{\text{raw}} + b$ , with slope (a) and intercept (b) reported above.