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## **Contaminating melt flow in magmatic peridotites from the lower continental crust (Rocca d'Argimonia sequence, Ivrea–Verbano Zone)**

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Sample	BI4/3	BI4/1	BI10/3	BI10/1	BI5/1	BI2/1	BI2/7	BI6/2	BI30/5	BI2/5	BI10/3	BI8/1	BI50/3
Rock type	Dunites					Harzburgites		Lherzolites		Gabbroonorite dykes			
<b>SiO<sub>2</sub></b>	39.6	40.0	40.3	39.9	38.9	40.0	41.4	44.3	45.8	48.2	48.9	49.6	48.1
<b>TiO<sub>2</sub></b>	0.06	0.06	0.06	0.05	0.09	0.11	0.06	0.17	0.17	0.36	0.48	0.40	0.38
<b>Al<sub>2</sub>O<sub>3</sub></b>	1.45	1.48	1.58	1.37	2.90	2.34	1.82	3.35	4.47	22.2	13.1	18.7	19.6
<b>Cr<sub>2</sub>O<sub>3</sub></b>	0.70	0.68	0.49	0.55	1.31	0.89	0.87	0.49	0.67	0.00	0.11	0.02	0.03
<b>FeO (tot)</b>	9.80	9.79	11.2	11.7	11.5	12.1	11.9	11.4	12.0	3.22	5.98	6.26	6.90
<b>MnO</b>	0.15	0.14	0.18	0.15	0.16	0.17	0.18	0.19	0.19	0.08	0.13	0.14	0.14
<b>NiO</b>	0.32	0.33	0.27	0.25	0.32	0.26	0.22	0.14	0.18	0.00	0.03	0.02	0.03
<b>MgO</b>	46.9	46.5	45.1	45.1	43.4	42.9	42.9	36.3	34.7	10.4	14.8	9.91	10.0
<b>CaO</b>	0.95	0.94	0.78	0.83	1.38	1.17	0.68	3.48	1.69	13.9	15.6	13.1	13.2
<b>Na<sub>2</sub>O</b>	0.06	0.06	0.05	0.05	0.09	0.08	0.05	0.14	0.12	1.65	0.82	1.75	1.61
<b>K<sub>2</sub>O</b>										0.04	0.02	0.05	0.04
<b>Total</b>	100	100	100	100	100	100	100	100	100	100	100	100	100

Table A1. Computed whole-rock chemical compositions of selected samples resulting from mass balance calculations, based on observed mineral compositions (Tables 2 to 7) and estimated mineral proportions (Table 9).

Sample	BI2/5		BI10/3	
	Orthopyroxenite	Websterite	Orthopyroxenite	Websterite
<b>SiO<sub>2</sub></b>	50.0	46.0	48.7	43.8
<b>TiO<sub>2</sub></b>	0.1	0.4	0.1	0.4
<b>Al<sub>2</sub>O<sub>3</sub></b>	8.4	13.3	9.9	15.8
<b>Cr<sub>2</sub>O<sub>3</sub></b>	0.6	0.2	1.0	0.3
<b>FeO (tot)</b>	9.5	8.0	9.0	8.0
<b>MnO</b>	0.2	0.1	0.2	0.1
<b>NiO</b>	0.1	0.1	0.1	0.1
<b>MgO</b>	30.7	25.6	30.6	24.9
<b>CaO</b>	0.4	5.6	0.4	6.0
<b>Na<sub>2</sub>O</b>	0.0	0.7	0.0	0.5
<b>K<sub>2</sub>O</b>	0.0	0.1	0.0	0.0
<b>Total</b>	100	100	100	100
<b>Mg#</b>	85.2	85.0	85.8	84.8

Table A2. Computed whole-rock compositions of orthopyroxenite and websterite micro-layers occurring along the contact between peridotites and crosscutting gabbro-dykes BI2/5 and BI10/3. Calculations were carried out based on mineral (Tables 3 to 6) and modal compositions (Table 10). Volume mineral proportions were converted to weight mineral proportions based on the following densities: orthopyroxene = 3.3 g/cm<sup>3</sup>, clinopyroxene = 3.3 g/cm<sup>3</sup>, amphibole = 3.2 g/cm<sup>3</sup>, spinel = 4.4 g/cm<sup>3</sup>. Obtained weight mineral proportions are: (i) 91.8 orthopyroxene and 8.2 spinel for orthopyroxenite BI2/5, (ii) 88.9 orthopyroxene and 11.1 spinel for orthopyroxenite BI10/3, (iii) 56.8 orthopyroxene, 11.8 clinopyroxene, 20.9 amphibole and 10.6 spinel for websterite BI2/5, (iv) 52.4 orthopyroxene, 15.6 clinopyroxene, 16.8 amphibole and 15.2 spinel for websterite BI10/3.