

**Supplementary Table 1.** Mineral assemblages of the rocks from the Kochumdek contact aureole (XRD and SEM-EDS data).

Rock type	Temperature regime; Distance from contact	Mineral assemblages			
		Mineral	Mineral content in bulk sample (wt%, XRD data)		
			Average	Min	Max
Marly limestones (n=13)	≤ 450 °C 3.0 – 6.0 m	calcite	<b>75</b>	58	84
		clinopyroxene (En <sub>36-42</sub> Fs <sub>8-12</sub> Wo <sub>49-52</sub> )	12	6	14
		K-feldspar (Ort <sub>80-98</sub> )	9	5	14
		plagioclase (An <sub>72-89</sub> )	6	4	8
		amphibole	4	1	7
± muscovite (up to 4 wt%), chlorite (up to 1 wt%), grossular					
Wollastonite marbles (n=7)	≥ 725 °C 1.5 – 3.0 m	calcite	<b>67</b>	57	87
		melilite (Gh <sub>&lt;45</sub> )	12	5	21
		wollastonite	13	4	20
		± grossular (up to 5 wt%), tilleyite (up to 4 wt%), kalsilite (up to 3 wt%)			
Spurrite-monticellite marbles (n=4)	≥ 875 °C 1.0 – 1.5 m	calcite	<b>55</b>	46	61
		spurrite	25	21	31
		melilite (Gh <sub>50-65</sub> )	14	8	19
		monticellite	6	4	8
		± merwinite (relicts), cuspidine			
Spurrite-merwinite marbles (n=10)	≥ 925 °C 0.2 – 0.5 m	calcite	<b>54</b>	43	67
		spurrite	22	6	32
		melilite (Gh <sub>65-80</sub> )	15	8	18
		merwinite	6	1	17
		monticellite	3	0	8
		± rankinite, bredigite, cuspidine			
Garnet marbles (skarn?) (n=2)	≤ 0.05 m	calcite	76	73	80
		melilite	10	10	10
		clinopyroxene	8	7	9
		grossular	5	2	8
Scapolite rock (n=3)	–	scapolite (meionite)	44	41	49
		clinopyroxene	31	26	38
		chabazite	11	7	14
		calcite	8	0	13
		analcime	6	5	8
		amphibole	2	0	3

*Note:* n, number of samples; Min, minimum value; Max, maximum value. Ca silicates: rankinite, Ca<sub>3</sub>Si<sub>2</sub>O<sub>7</sub>; wollastonite, Ca<sub>3</sub>Si<sub>3</sub>O<sub>9</sub>; Ca silicates with additional anionic groups: cuspidine, Ca<sub>4</sub>Si<sub>2</sub>O<sub>7</sub>(F,OH)<sub>2</sub>; scapolite (meionite), Ca<sub>4</sub>Al<sub>6</sub>Si<sub>6</sub>O<sub>24</sub>(CO<sub>3</sub>); spurrite, Ca<sub>5</sub>[SiO<sub>4</sub>]<sub>2</sub>(CO<sub>3</sub>); tilleyite, Ca<sub>5</sub>[Si<sub>2</sub>O<sub>7</sub>](CO<sub>3</sub>)<sub>2</sub>; Ca and Mg silicates: bredigite, Ca<sub>7</sub>Mg[SiO<sub>4</sub>]<sub>4</sub>; merwinite, Ca<sub>3</sub>Mg[Si<sub>2</sub>O<sub>8</sub>]; monticellite, CaMg[SiO<sub>4</sub>]; aluminosilicates: melilite, (Ca,Na)<sub>2</sub>(Al,Mg,Fe)[(Si,Al)<sub>2</sub>O<sub>7</sub>]. An, anorthite; En, enstatite; Fs, ferrosilite; Gh, gehlenite; Ort, orthoclase; Wo, wollastonite.