**Supplement 5**

*Ledneva G.V., Bazylev B.A., Layer P., Kuzmin D.V., Kononkova N.N.* **“**Mesozoic island-arc massif of cumulative dunite-wehrlite-olivine clinopyroxenite- gabbro, Eastern Chukotka”

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**Table 5.** Calculated contents of incompatible elements in equilibrium trapped melts (ppm, water-free based) and values of mineral-liquid partition coefficients used.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sample | LU9-26 | LU9-28 | LU9-24 | LU9-39 | Values of mineral-liquid partition coefficients |
| φtm | 0.01 | 0.01 | 0.02 | 0.02 |
| Di | Calculated contents of elements in trapped melts | Ol-liq | Cpx-liq | Opx-liq | Hbl-liq | Cpx-liq | Hbl-liq | Pl-liq |
| Rock | Cpx-te | Cpx-te | Cpx-te, gb | Cpx-te | gb | gb | gb |
| Parameter of interpolation |  |  |  | o1050 C, Mg#Hbl85 |  |  | 1000oC, xAn80 |
| Experiment | compilation | R77 | 1101-12-06 |  | R79 | RN8 |  |
| Reference | [2] | [27] | [48] | [86] | [27] | [70] | [36] |
| Rb Ba Th U Nb Та La Ce Pb Pr Nd Sr Sm Zr | 13 11 228 9483 185 503 6260.53 0.31 0.51 0.330.57 0.36 0.17 0.201.0 1.0 1.2 0.73- - 0.15 0.0684.6 4.0 10 8.79.4 8.6 24 2135 40 5.5 6.51.4 1.1 3.0 2.66.8 5.9 13 11100 183 506 5611.6 1.5 3.4 2.913 11 45 35 | 0.0000380.0000090.0000360.0000610.000069-0.0000310.0000360.00070.0000650.000140.0000730.000480.0007 | 0.00140.00110.0070.0070.00350.0110.0470.0830.011*0.14*0.190.1010.350.11 | 0.000180.0000430.00100.00170.00230.0070.000810.00360.0044*0.0070*0.01030.00370.0230.030 | 0.0910.280.0130.0110.190.200.140.250.061*0.40*0.550.540.810.32 | 0.000080.000150.0070.0060.0050.0210.0700.120.008*0.195*0.270.1120.420.20 | 0.0950.200.0170.0110.300.320.110.210.066*0.38*0.560.430.990.35 | 0.0120.1820.0310.0140.017*0.035*0.0740.0550.460*0.056*0.0571.9910.0360.0016 |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Hf | 0.33 | 0.38 | 1.1 | 1.0 | 0.001 | 0.25 | 0.050 | 0.55 | 0.42 | 0.67 | 0.008 |
| Eu | 0.53 | 0.56 | 0.64 | 0.48 | 0.00062 | *0.40* | *0.038* | 0.86 | *0.47* | 1.11 | 0.544 |
| Ti | 4594 | 5273 | 4066 | 2900 | 0.0064 | 0.28 | 0.18 | 1.65 | 0.46 | 2.58 | 0.051 |
| Gd | 1.8 | 1.5 | 2.8 | 2.6 | 0.0008 | *0.46* | *0.053* | 0.98 | *0.51* | 1.41 | *0.031* |
| Tb | 0.33 | 0.25 | 0.47 | 0.45 | 0.0023 | 0.51 | *0.067* | *0.97* | 0.56 | 1.51 | 0.023 |
| Dy | 1.8 | 1.5 | 3.2 | 2.7 | 0.004 | *0.54* | *0.082* | 0.97 | *0.56* | 1.63 | 0.010 |
| Ho | 0.35 | 0.26 | 0.70 | 0.48 | 0.0066 | 0.56 | *0.10* | *0.93* | 0.55 | 1.61 | *0.010* |
| Y | 9.0 | 7.2 | 16 | 11 | 0.0065 | 0.53 | 0.10 | 0.90 | 0.51 | 1.45 | 0.013 |
| Er | 1.1 | 0.85 | 2.0 | 1.5 | 0.0086 | *0.54* | *0.12* | 0.83 | *0.52* | 1.57 | *0.010* |
| Tm | 0.14 | 0.10 | 0.23 | 0.20 | 0.0127 | 0.54 | *0.14* | *0.76* | 0.48 | 1.48 | *0.009* |
| Yb | 1.1 | 0.68 | 1.5 | 1.5 | 0.018 | *0.52* | 0.16 | 0.68 | 0.47 | 1.30 | 0.008 |
| Lu | - | - | 0.31 | 0.20 | 0.02 | 0.49 | 0.17 | - | 0.43 | 1.20 | 0.005 |

Note. A content of an element in a trapped melt was calculated in accordance with [35] as

Ciliq = Cirock/(φOl\*DiOl-liq + φOpx\*DiOpx-liq +φCpx\*DiCpx-liq +φHbl\*DiHbl-liq+φPl\*DiPl-liq+ φtm),

Where C*i* is an element content in a rock (or a mineral), φ is a modal contents of a mineral/trapped melt in a rock, and Di is a mineral-liquid (liq)

partition coefficient of an element. Di values for hornblendes of clinopyroxenites were interpolated using experimental data assuming a temperature of

1050oС and Mg#85. Di values for plagioclase were calculated using equations [35] assuming a temperature of 1000оС and хAn80. DEu values for plagioclase were calculated assuming QFM+1.5 at 6 kb. " - " – not calculated. Interpolated values are shown in italic.

Ol – olivine, Opx – orthopyroxene, Cpx – clinopyroxene, Hbl – hornblende, Pl – plagioclase, tm – trapped melt, Cpx-te – clinopyroxenite, gb – gabbro.