

Peter Momme · Christian Tegner · C. Kent Brooks
Reid R. Keays

Two melting regimes during Paleogene flood basalt generation in East Greenland: combined REE and PGE modelling

Published online: 25 March 2006
© Springer-Verlag 2006

Contrib Mineral Petrol (2006) 151:88–100.
DOI: 10.1007/s00410-005-0047-2

Unfortunately, Fig. 7 was printed incorrectly in the original article. The figure is shown here correctly. The online version of this article was already correct.

The online version of the original article can be found at <http://dx.doi.org/10.1007/s00410-005-0047-2>

P. Momme (✉) · C. Tegner
Geologisk Institut, Aarhus Universitet,
8000 Arhus C, Denmark
E-mail: peter@plan.aau.dk
Tel.: +45-9635-8384

C. Kent Brooks
Geologisk Institut, Københavns Universitet,
Øster Voldgade 10, 1350 København K, Denmark

R. R. Keays
Victorian Institute of Earth and Planetary Sciences,
School of Geosciences, Monash University,
P.O. Box 28E, 3800 Victoria, Australia

Present address: P. Momme
Department of Development and Planning,
Aalborg University, Fibigerstraede 13,
9220 Aalborg OE, Denmark

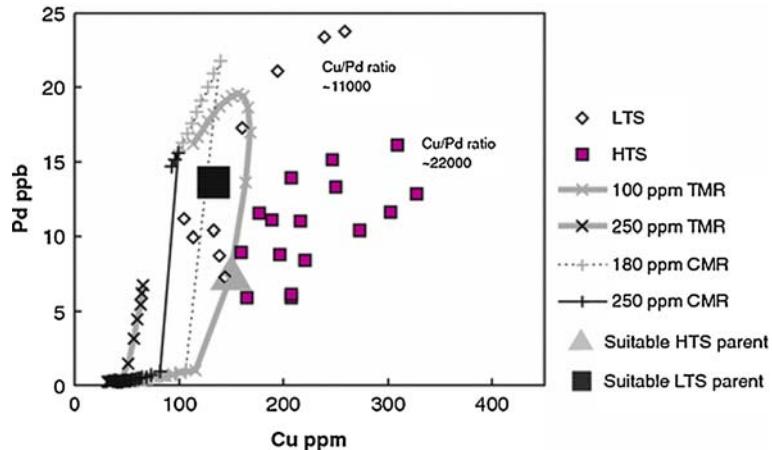


Fig. 7 A diagram showing Pd against Cu for the high-Ti suite and low-Ti suite samples. *CMR* columnar melting regime, *TMR* triangular melting regime. The suitable high-Ti suite (*HTS*) parent can be approximated by 6% melting of a source with 100 ppm S using a S-capacity of 1,000 ppm. If a normal S-content of the mantle is used, it is not possible to generate a suitable primary high-Ti suite magma (grey triangle). At the appropriate Cu/Pd ratio (~22,000) the concentrations would be far too low (~50 ppm Cu and 2 ppb Pd) and require much more than the allowed 15% olivine fractionation (see text) before reaching the compositions of the

most primitive (Cu and Pd-poor) high-Ti suite samples; in addition the required degrees of melting would be much higher ~16%. A suitable low-Ti suite (*LTS*) parent (black square) is compositionally similar to the least evolved low-Ti suite samples and can be approximated by 19–20% melting of a 180 ppm S source. A ‘normal’ 250 ppm S source would require higher degrees of melting ~25% to generate the suitable Cu/Pd ratio ~11,000 at which stage the Cu and Pd concentrations would be to low (80 ppm Cu and 7 ppb Pd) compared to the primary magma estimate (Table 2)