[We reproduce below the title and abstract of a paper that appeared in the Bulletin of the Geological Society of Finland, v 78, 2006, pp 71-105, for the benefit of our readers – Editor]

EVOLUTION OF MIGMATITIC GRANULITE COMPLEXES: IMPLICATIONS FROM LAPLAND GRANULITE BELT, PART I: METAMORPHIC GEOLOGY

PEKKA TUISKU[1], PERTTU MIKKOLA[2] and HANNU HUHMA[3]
[1]Department of Geoscience, University of Oulu, P O Box 3000 FI-90014, Finland
[2]Geological Survey of Finland, P O Box 1237, FI - 70211, KUOPIO
[3]Geological Survey of Finland, P O Box, FI - 02151, Espoo, Finland
Email: pekka tuisku@oulu fi

Abstract: The palaeoproterozoic Lapland granulite belt was juxtaposed between Archaean and Proterozoic terrains in the NE part of the Fennoscandian Shield concurrently with the accretion of Svecofennian arc complexes at ~1 9 Ga The belt consists of aluminous migmatitic metagreywackes. Abundant noritic to enderbitic magmas were intruded concordantly into the metasediments and were probably an important heat source for metamorphism, which took place during the crystallization of the magmas This is supported by a structural and contact relations of metasediments and igneous rocks, and by the lack progressive metamorphic reaction textures in the igneous rock series The peak of metamorphism took place above the dehydration melting temperature of the biotite-sillimanite-plagioclase-quartz assemblage at 750-850°C and 5-8 5 kbar which lead to formation of a restitic palaeosome and peraluminous granitic melt in metapelites Subsequently, the rocks were decompressed and cooled below the wet melting temperature of pelitic rocks (650°C) under the stability field of andalusite coexisting with potassium feldspar (2-3 kbar) Cooling was accompanied by the crystallization of the neosomes, often carrying aluminium-rich phases Post-metamorphic duplexing of the LGB is clearly seen in the distribution of calculated PT conditions