

# Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

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SCG065-07

Room:301B

Time:May 23 15:45-16:15

## Arc-generated blocks with crustal sections in the West Greenland: Crustal growth in the Archean with modern analogues

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The ca. 700 km long, Archean craton of West Greenland consists of six Meso-Neoproterozoic (ca. 3000 - 2720 Ma) shear zone - bounded crustal blocks that display similar cross-sections; from south to north Ivittuut, Kvanefjord, Bjornesund, Sermilik, Fiskefjord, Maniitsoq. Each block has a southerly upper and a northerly lower zone, thus each faces upwards to the south. Upper zones have prograde amphibolite facies mineralogy and have never been in the granulite facies, whereas lower zones reached granulite facies and were partly retrogressed to amphibolite facies. Upper and lower zones consist predominantly of tonalite - trondhjemite - granodiorite (TTG) orthogneisses; geochemistry suggests generation by slab melting in subduction settings of island arcs and active continental margins. These crustal blocks provide an exceptional example of how continents evolved in the Meso - Neoproterozoic. Comparable Archean examples in Kapuskasing and Pikwitonei (Canada) and modern analogues in Fiordland (New Zealand), Kohistan (Himalayas), Southern California batholith, Peruvian Andes, and Hidaka (Japan) demonstrate that processes of continental growth from island arc to continental arc magmatism (and by implication to continental collision) were broadly similar throughout most of Earth history.

Keywords: crustal block, amphibolite, anorthosite, TTG, island arc, Archean