The Dahongshan iron oxide – copper deposit: evidence for
Neoproterozoic mineralisation in south west China

1Greentree MR, 2Li XH, 3Barley ME and 1Li ZX

1 Tectonics Special Research Centre, School of Earth and Geographical Sciences, The University of Western Australia, Crawley, WA 6009, Australia
2Key Laboratory of Isotope Geochronology and Geochemistry, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou 510640, China
3Centre for Exploration Targeting, The University of Western Australia, Crawley, WA 6009, Australia

Proterozoic rocks exposed along the western margin of the South China Block host at least 43 individual iron oxide and copper (gold) mineral occurrences. Most major deposits such as those at Dongchuan and Yimen are hosted in late Mesoproterozoic to earliest Neoproterozoic sedimentary rocks. The Dahongshan deposit differs as it is hosted in Paleoproterozoic (ca 1675 Ma) meta-volcanosedimentary rocks. The metabasalts are intensely altered with unusual enrichment of elements usually thought of as immobile (e.g. Nb, Ta, Zr, Hf, P2O5 and TiO2). 40Ar/39Ar dating of rocks from these deposits suggests mineralisation occurred at between ca. 780 - 800 Ma during a period of plume related magmatism on the South China Block.