

INTEGRATED FRAMEWORK FOR THE MAGMATIC EVOLUTION OF THE GREATER DELAMERIAN OROGEN

MINEX CRC PROGRAM 3

National Drilling Initiative

PHD PROJECT

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RESEARCH PROJECT

The aim of this project is to characterise the timing, igneous petrogenesis, geological setting and metal fertility of magmatism associated with the c. 514-490 Ma Delamerian Orogeny, which formed along the active plate margin of eastern Gondwana.

A combination of CA-TIMS and LA-ICPMS geochronology, and structural mapping will be utilised to precisely constrain the timing of magmatism and relate magmatism to deformation. Whole rock and isotopic geochemistry will be utilised to determine melting source regions and constrain the setting of magmatism within the plate margin (e.g. arc, back-arc, continental margin).

Finally the metal fertility of Delamerian magmas will be assessed, and implications for the potential for porphyry and VMS mineral systems. This project forms a part of the Delamerian NDI project.