

THERMOCHRONOLOGICAL EVOLUTION OF THE MCARTHUR BASIN & SURROUNDING BASEMENT AREAS

MINEX CRC PROGRAM 3

National Drilling Initiative

PHD PROJECT

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RESEARCH PROJECT

The greater McArthur Basin is a vast sedimentary system that spans from Queensland to Western Australia and covers much of northern Australia. The separate sedimentary packages within the basin contain vast Palaeoproterozoic sedimentary-hosted mineralisation and both Palaeoproterozoic and Mesoproterozoic hydrocarbon deposits. The present architecture of the basin is being worked out using geophysical techniques, and the past depositional systems are being revealed with new research into provenance analysis through the basins. Yet, the thermal and burial history of the basin and, in particular, the surrounding basement provinces (Murphy inlier, Pine Creek Orogen, Tanami, Arunta Province) is largely unknown.

This project seeks to understand the thermal history of the greater McArthur Basin and its surrounding basement to understand the time-component in the development of the structural architecture of this vast expanse of northern Australia.