

MULTI-SCALE 3D GEOLOGICAL MODELLING OF THE YALGOO-SINGLETON GREENSTONE BELT USING THE LOOP PLATFORM

MINEX CRC PROGRAM 2

Data from Drilling

PHD PROJECT

University of Western Australia

PREREQUISITES AND INTERESTS

Good programming skills and a strong background in a natural science, preferably geoscience

PRIMARY SUPERVISOR

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PARTICIPATING ORGANISATIONS



Geological Survey of
Western Australia

RESEARCH PROJECT

Currently, 3D geological models are built at a predetermined scale which is appropriate for the original purpose. However, this original scale is not always optimal for other purposes, which are often sought once the model is finalised with applications at smaller scales (such as resource evaluations) or larger, such as greenfields exploration. This project aims to develop technique that allows multiscale 3D models to be constructed in order to reveal features at scales of observation optimal to the required purpose.

The location for this research will be the highly mineralised and largely heterogeneous deformed Yalgoo-Singleton greenstone belt, western Youanmi Terrane, Yilgarn Craton. The region is well-represented by 1:100k digital mapping conducted by the Geological Survey of Western Australia. The model aims to accurately update the existing stratigraphic and structural framework and enhanced datasets for geochronology and geochemistry. This output should provide information for multiple purposes and take advantage of the full value of the data available.

This research will pioneer multi-scale geological modelling in the mineral industry, changing the 3D geological modelling standards in the industry and combine to developing the next generation of 3D geological modelling tools.

This research links to MinEx CRC's Automated 3D modelling project from under the Data to Drilling program initiative.

