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The right data in the right places: *New Frontiers five year strategic plan 2020-2025*

John Greenfield, Director Geoscience Acquisition and Synthesis

The major goal of the New Frontiers Initiative (NFI) is to reduce risk and minimise timelines to mineral and petroleum discovery, thereby maximising return to the state.

Developed in consultation with industry through the New Frontiers Industry Liaison Committee, the *New Frontiers five year strategic plan 2020-2025* outlines the main programs and deliverables of the NFI over the next five years. The focus for precompetitive geoscience data acquisition will leverage major collaborative programs including the MinEx CRC National Drilling Initiative and Geoscience Australia's Exploring for the Future program, which are targeted on the eastern Lachlan Orogen, Greater Cobar Basin and western NSW. Improvements to statewide compilations of geological mapping, geophysical data and 3D modelling, as well as a number of smaller collaborative projects will add further value to these programs. GSNSW will also continue to improve the accessibility and quality of our data and their delivery through online systems such as MinView and DiGS.

Integrating new geological mapping with geophysics: a revealing profile across east Riverina

Bob Musgrave, Senior Research Geophysicist

The east Riverina cross-section was constructed through joint magnetic and gravity modelling of a candidate geological section derived from the mapped geology, including significant new data from the recently completed East-Riverina Mapping Project. The resulting profile, incorporating the entire crust and extending west to the Tabberabbera Zone and east to the Tumut Trough, suggests significant tectonic and magmatic elements which were not detected by surface mapping. These include: a much larger extent of granite undercover in the Wagga Belt than was inferred from outcrop; the presence of substantial mafic intrusive systems in the middle crust; and likely links between these mid-crustal intrusions, shallow crustal S-type granites and a suite of strongly magnetic, poorly outcropping features within major shear zones, which are interpreted as mafic intrusions.

Mining old data for exploration success

Trisha Moriarty, Director Geoscience Information

The value of public geological information, including historical exploration data, to the minerals industry is well known. The curation and delivery of this information is a key role of geological survey organisations around the world.

The Geological Survey of NSW has undertaken a significant program of work to extend and improve the quality of its exploration database over the last five years under the banner of the Sunset Clause project. This presentation will provide an overview of the challenges and outputs from this project, including results from the recent data mining program conducted for the northern and southern Cobar Basin and central Lachlan Orogen.

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