

Future Resources Program Industry Priorities Initiative – Round 1

October 2014

Over the next three years the Geological Survey of Queensland (GSQ) will be implementing a number of significant geoscientific projects funded by a Queensland Government program aimed at stimulating exploration interest in the state.

The *Industry Priorities Initiative* is one of seven initiatives comprising the Queensland Government's \$30 million Future Resources Program, funded over three years from July 2013 to June 2016. The initiative will run for the duration of the program with \$2.5 million allocated annually to industry-identified projects designed to maximise exploration success.

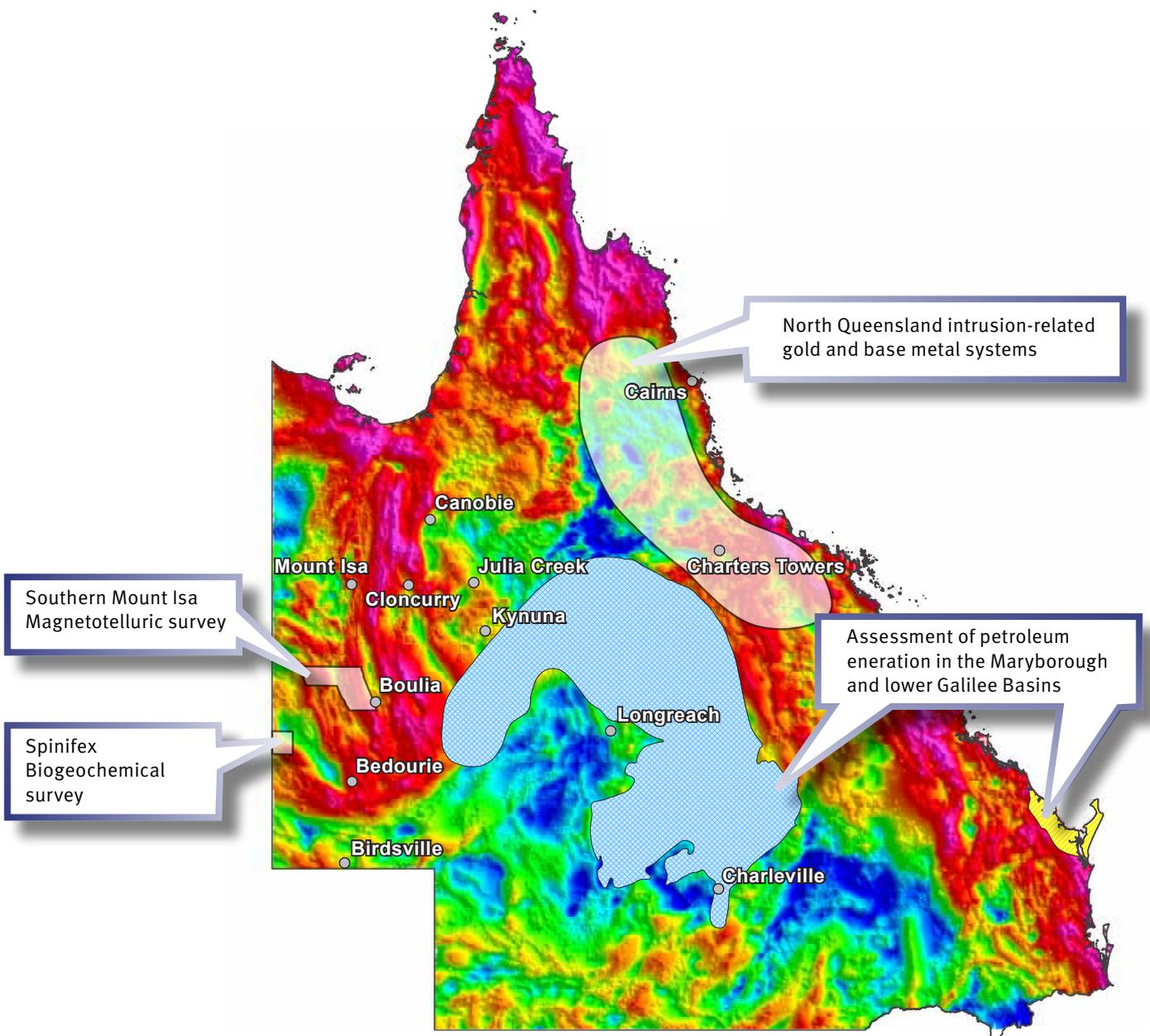


Figure 1: Industry Priorities Initiative projects Round 1

North Queensland intrusion-related gold and base-metal systems (2013–16)

The evaluation of the prospectivity of the widespread intrusion-related hydrothermal gold and base metal systems of North Queensland aims to shed light on where major new deposits similar to the recently opened Mount Carlton mine, are likely to be found.

The project aims to:

- assess the Permo-Carboniferous Kennedy Igneous Association and older igneous-related systems such as those responsible for the historically very rich Charters Towers gold deposits
- crystallise years of fragmented research and major current advancements in the understanding of North Queensland's mineral systems, to form a landmark foundation for significant new exploration successes in the region
- produce a comprehensive analysis of mineralisation timing, distribution and discovery potential
- dramatically improve exploration success rates in the north Queensland region.

Southern Mount Isa Magnetotelluric survey (2013–14)

The Southern Mount Isa Magnetotelluric survey will shift attention back to the “greenfields” possibilities where previous geophysical surveys suggested that base metal-rich black shale basins and other conductive ore bodies may lie concealed beneath thin layers of cover south of Dajarra.

These rocks will be explored using a process that measures the electrical conductivity of the earth, called magnetotellurics (MT).

This exploration technique is an extremely cost-effective way of viewing large areas of the subsurface to reveal geologically favourable sites for mineral explorers, as well as revealing the thickness of the Cambrian cover sequences overlying mineralised basement in the region.

This survey is planned for implementation under a technical collaboration agreement with Geoscience Australia.

Spinifex Biogeochemical survey (2013–14)

The Spinifex Biogeochemical survey uses a promising new exploration method based on chemical analysis of the spiny leaves of the spinifex plants which are widespread across many areas of north-west Queensland.

The project focuses initially on the soil-covered plains of the Boulia-Birdsville region, where traces of mineralisation from the buried Tennant Creek and Mount Isa-style basement rock are potentially brought to the surface by the deep plant root systems penetrating to depths of up to 25 metres.

The survey will initially be focused on an area with known soil geochemistry to enable reliability calibration before being extended elsewhere.

Assessment of petroleum generation in the Maryborough and lower Galilee Basins (2013–14)

The assessment of petroleum generation in the Maryborough and lower Galilee Basins aims to provide a better understanding of the origin and timing of generation of the hydrocarbons found in the Lake Galilee Sandstone in the Galilee Basin and the Gregory Sandstone Member in the Maryborough Basin.

The project involves chemical analysis and other scientific studies of drill core from the lowermost strata of the Galilee and Maryborough basins.

The results will enable a better understanding of which hydrocarbons were potentially produced and when, in relation to the burial history of the rocks.

This information will provide a better understanding of the petroleum systems present in these basins and enable better targeting of future exploration.

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