

North Queensland energy potential revealed

An assessment of possible new energy resources in north Queensland has recently been released by Geoscience Australia. The potential for both uranium deposits and geothermal energy sources in the region are examined in *An assessment of the uranium and geothermal potential of north Queensland* (Geoscience Australia Record 2010/14).

The research was undertaken, using a geosystems approach, as part of Geoscience Australia's Onshore Energy Security Program. It utilised data and interpretations developed as part of seismic surveys conducted in the Mt Isa region in 2006 and the Isa-Georgetown-Charters Towers region in 2007 (see *AusGeo News* 96).

The study assessed five types of uranium mineral systems (unconformity-related, metasomatic deposits, uranium-bearing iron-oxide copper-gold deposits, magmatic-hydrothermal and sandstone-hosted deposits). Several regions outside of known uranium mineralised areas were identified as having significant uranium potential. Among the areas in the Eromanga and Carpentaria basins identified as having significant potential for sandstone-hosted deposits were:

- within the Eromanga Basin east of Cloncurry
- centred approximately 90 kilometres north of Hughenden
- around the township of Richmond.

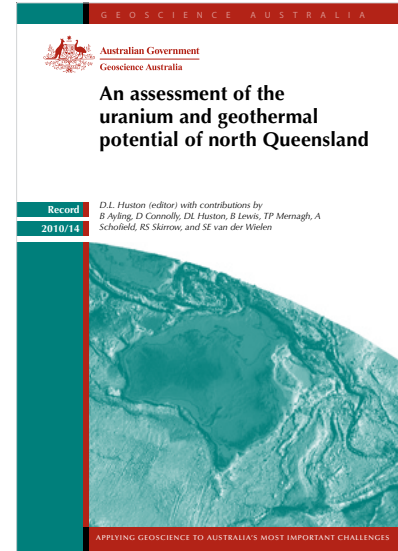
Other areas identified as having potential for other deposit types were:

- extensions of the Mount Isa uranium field to the north and south along bounding faults to the Leichhardt River Fault Trough
- extensions of the Cloncurry iron-oxide copper-gold district undercover to the south and, particularly, to the north along the inferred eastern boundary of the Mount Isa Province
- a northwest trending belt southwest of Cairns which is 50 kilometres wide by 200 kilometres long.

Two types of geothermal systems (hot rock and hot sedimentary aquifer) were assessed. Areas identified as having high potential for geothermal energy systems included the:

- Millungera Basin (a newly identified concealed basin)
- Eromanga Basin
- northwestern part of the Carpentaria Basin, near Burketown
- north-central Drummond Basin
- Galilee Basin.

The main objective of these studies is to provide background data that can be used by industry for exploration. However the data



also provide new information that can be used in assessing the potential of north Queensland for uranium and geothermal resources using geosystems (that is, mineral and geothermal systems) methodologies in a GIS environment.

For more information or to download a copy visit

www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=69711

Related articles/websites

AusGeo News 96: Expanding our knowledge of North Queensland

www.ga.gov.au/ausgeonews/ausgeonews200912/northqld.jsp



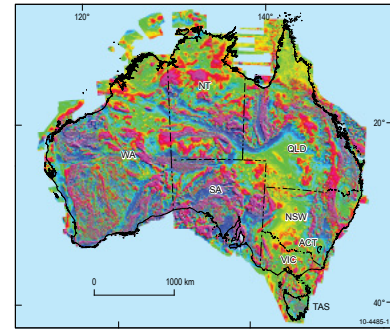
New Magnetic Anomaly Map of Australia

A new printed version of the Magnetic Anomaly Map of Australia at 1:5 million scale was released by Geoscience Australia in September 2010. The new edition contains an additional 115 survey grids acquired since the release of the fourth edition in 2004.

A new method has been used for matching the individual survey grids. A total of 795 individual grids have been matched and merged into the continent-wide grid. These grids include data from many new surveys with most acquired by the state and Northern Territory geological surveys. It is estimated that 27 million line-kilometres of survey data were acquired to produce this map which is eight million line-kilometres more than for the previous edition.

The accuracy of intermediate wavelengths has been increased using new independent airborne total-field magnetic data acquired in 2007 during the Australia-wide Airborne Geophysical Survey (AWAGS). The AWAGS survey was part of Geoscience Australia's Onshore Energy Security Program which is designed to reduce risk in exploration and support development of Australia's onshore energy resources.

The map and associated database provides insight into the distribution of magnetically susceptible minerals within the Earth's crust. Mineral explorers and researchers of the solid earth will find the new map of great value as it highlights the structures of the crust



buried beneath surficial cover (regolith) which can mask the underlying crystalline basement rocks. The magnetic expression of the basement is significant information for mineral explorers by providing important information to support interpretation of the nature and depth of the basement.

For more information

www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=70282

Southern Delamerian Seismic & MT Workshop 2011

Melbourne
4 March 2011

NEW RESULTS TO BE RELEASED

This workshop will present the results of new seismic and magnetotelluric data collected along the three transects (Glenelg and Grampians–Stavelly Zones of Delamerian Orogen and Stawell Zone of western Lachlan Orogen) in Victoria and South Australia. This workshop will be held in conjunction with GeoScience Victoria, AuScope and the Department of Primary Industries and Resources South Australia (PIRSA).

When: Friday 4 March 2011
Where: Department of Primary Industries, Melbourne
Costs: Free – but registration is required
Contact: Leonie Jones p: (02) 6249 9540 or e: leonie.jones@ga.gov.au

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