



Onshore Energy Security Program takes off

Search for new energy sources is underway

James Johnson

The Australian Government's Onshore Energy Security Program (OESP) was announced by the Prime Minister in August last year (see *AusGeo News* 84) as part of a broader package of energy exploration initiatives. The \$59 million, five-year program will deliver pre-competitive data packages and fresh, scientifically based assessments of the potential for onshore energy resources such as oil, gas, uranium, thorium and geothermal energy.

An OESP working plan has been developed in consultation with state and Northern Territory geological surveys and peak minerals and petroleum industry bodies, including the Australian Petroleum Production and Exploration Association and the Association of Mining and Exploration Companies. The proposed program has also been presented at several industry conferences to obtain feedback directly from industry.

As the major program to be undertaken by Geoscience Australia's Onshore Energy and Minerals Division over the next five years, the OESP is expected to significantly boost investment in exploration for onshore energy resources. It will complement Geoscience Australia's

major energy program to encourage offshore exploration for hydrocarbons in frontier regions, also funded under the Energy Security Program.

New national and regional projects

Three new national onshore projects focused on energy commodities have begun—geothermal, hydrocarbon and uranium. Data acquisition for these projects is underway, including a continent-wide radiometric survey that commenced in March (see *AusGeo News* 84) and the National Geochemical Survey of Australia (see below).

National-scale projects will be supported by targeted regional projects over two or three years to assess the potential for energy resources in specific regions. The projects will involve seismic, airborne electromagnetic (AEM), magnetotelluric and other geophysical surveys, as well as multidisciplinary research through the acquisition of new geochronological, geological and geochemical data. Important early phases of these projects (to be undertaken in collaboration with state and Northern

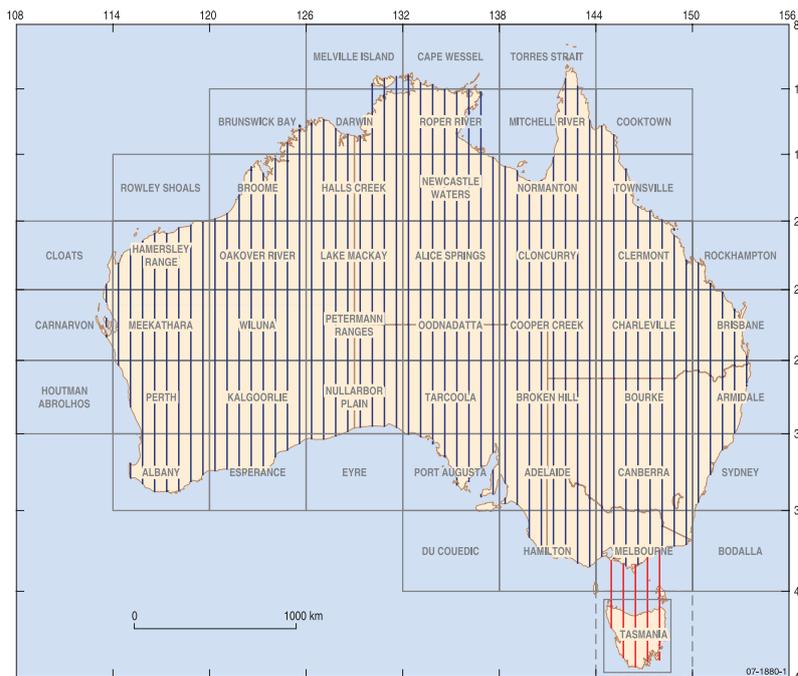


Figure 1. Proposed flight-line pattern for the AWAGS 2 magnetics and radiometrics survey to back-calibrate the National Radiometric Database.

Territory geological surveys) will include the compilation of available information and the definition of specific scientific problems to guide new data acquisition, interpretation, synthesis and delivery phases.

So far, four main regional projects have been identified:

- Mt Isa–Georgetown–Charters Towers region of Queensland
- Gawler–Curnamona–Mt Painter region of South Australia
- Pine Creek–Tanami–McArthur–Arunta–Amadeus region of the Northern Territory
- northern Western Australia.

Some of these projects are further advanced than others, with some geophysical surveys either already begun or about to begin. As these regional projects are completed, new projects will be developed.

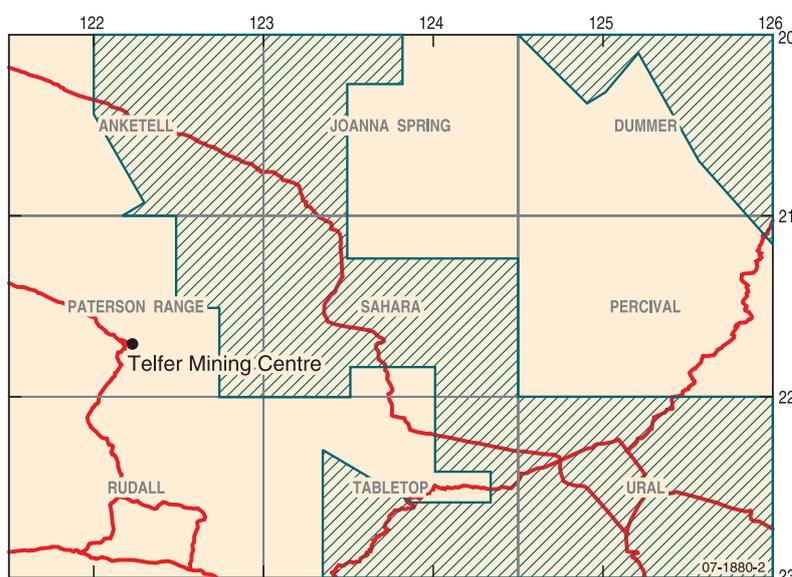


Figure 2. Area of aeromagnetic data acquisition in the Canning Basin, Western Australia. Data acquisition began in April 2007.

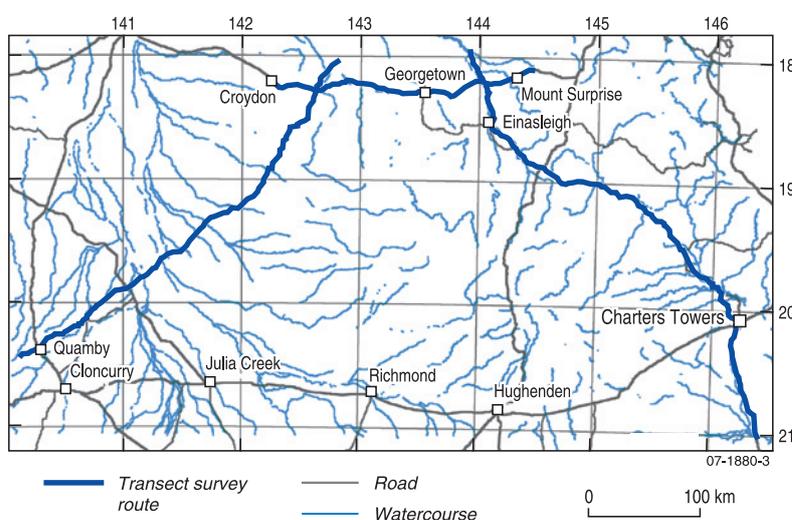


Figure 3. Transect route for deep seismic reflection survey in Cloncurry–Georgetown–Charters Towers regions, Queensland.

Data acquisition

Continent-wide acquisition of new airborne radiometric data began in March 2007 and is due to be completed within 12 months (figure 1). The tie-line survey data (75 kilometres nominal line spacing) will provide a national radiometrics datum to adjust existing radiometric data to a common datum. This will assist the assessment of the uranium and thorium potential of the Australian continent. The survey will also provide an important dataset for a wide range of other uses, including land and environmental management.

The National Geochemical Survey of Australia will sample transported regolith at surface and at 60 to 80 centimetres depth from approximately 1400 large catchments across most of the continent. This will be the first dataset of its kind for Australia, and will deliver new national-scale geochemical data on uranium, thorium and a wide range of other elements related to energy and other mineral commodities. In a second geochemical initiative under the OESP, a regional program of geochemical re-analysis of calcrete samples from the Gawler Craton of South Australia for uranium, thorium and other elements is underway, in collaboration with Primary Industries and Resources South Australia.

Acquisition of aeromagnetic data in the Canning Basin of northern Western Australia began

in April 2007 (figure 2) to aid the planning of a future seismic survey. Both datasets will be used to reassess the petroleum and gas potential of the onshore part of the basin. In addition, seismic data tapes from surveys of the Canning Basin in the 1980s are being remastered to modern digital formats in collaboration with the Geological Survey of Western Australia.

A program of deep seismic data acquisition in the Mt Isa region of Queensland was completed in December 2006 in collaboration with the Geological Survey of Queensland. A further major seismic survey in the Cloncurry–Georgetown–Charters Towers regions of northwest and north Queensland commenced in May 2007 (figure 3). Both these surveys will greatly assist the assessment of the potential of northwest Queensland for new uranium and geothermal energy resources.

A major AEM survey of the Paterson Province of northern Western Australia is due to begin in July 2007 (figure 4). The results will be used to assess the region's potential for uranium resources. The undeveloped Kintyre uranium deposit, discovered in 1985, and the operating Telfer gold mine are close to or within the region of the new survey. This survey is the first of several AEM surveys being

scoped across the continent to target uranium and thorium mineral systems. The AEM data may also be used for a variety of other purposes, such as land and water management.

Parts of the Cooper Basin in southwest Queensland will be covered by a new gravity survey that began in May 2007 (figure 5). The survey is gathering new data to aid the assessment of the geothermal and hydrocarbon potential of the southwest Queensland section of the basin. Seismic surveys are also being scoped in New South Wales, Queensland, South Australia, the Northern Territory, and northern Western Australia. Included in these is a proposal to acquire seismic data in the southeastern Darling Basin in western New South Wales to define the nature of the sedimentary fill and basement structure, and test the hydrocarbon potential of a poorly explored part of the basin.

Updates on the OESP will be included in forthcoming issues of *AusGeo News*, in Geoscience Australia's monthly *Minerals Alert*, and on a dedicated new website that is being developed.

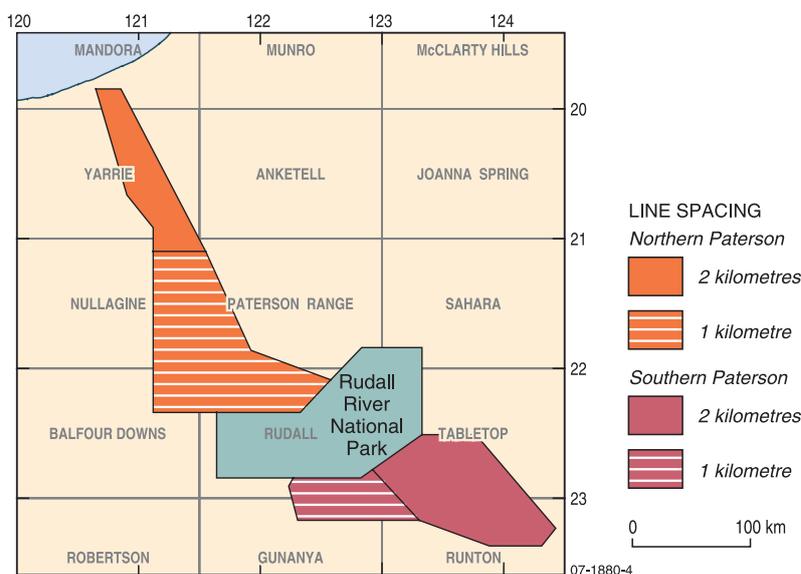


Figure 4. Proposed airborne electromagnetic survey area, Paterson Province, Western Australia.

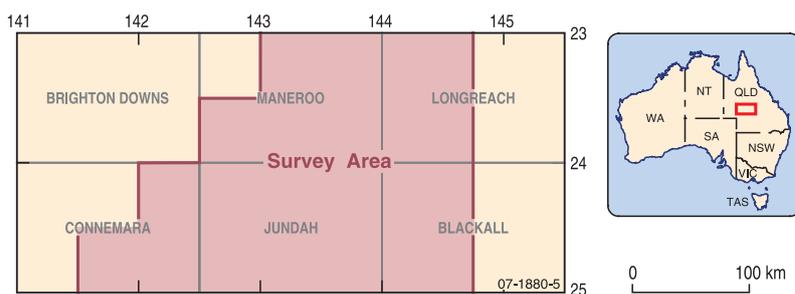


Figure 5. Cooper Basin North gravity survey area, Queensland.

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Related websites/articles

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