



ontheoutcrop

ISSUE 2, 2007

ontheoutcrop is a Geological Survey of New South Wales e-newsletter intended to alert and notify clients of specific events, products and services that may be useful to them in their work.

More information about newsletter items is available through the Geological Survey of New South Wales (GSNSW) web page, 'Geological Survey News': <http://www.dpi.nsw.gov.au/minerals/geological>

CONTENTS

1. [Recent Events](#)
2. [Upcoming events](#)
3. [New products and services](#)
4. [Project highlights](#)
5. [Take note!](#)
6. [Staff movements](#)
7. [Products and enquiries](#)
8. [Subscriptions](#)

RECENT EVENTS

Mining 2007, Brisbane, 31 October to 2 November

Director of the Geological Survey of NSW, Lindsay Gilligan, and Assistant Director, John Watkins, attended the Mining 2007 conference in Brisbane focusing on the promotion of the Geological Survey's *New Frontiers* work. John Watkins presented a talk on the Thomson Orogen and the similarities with the Macquarie Arc in NSW. The possibility that the two are analogues opens up a huge and very promising exploration terrane in Australia.

NSW government promotes mineral exploration in Australia to China

Alan Coutts, Deputy Director-General, NSW DPI, Mineral Resources, travelled to Beijing to give presentations at the Australia–China Investment Seminar on 12th November and at the China Mining Conference on 13th November. The subject of his presentations was 'Mineral Exploration and Investment Opportunities in New South Wales, Australia'.

Lindsay Gilligan, Director, GSNSW, met with other Australian agencies such as Austrade (Australian Trade Commission) and Invest Australia, in Beijing prior to the China Mining 2007 conference (13–15 November). He then joined other state and federal geoscience representatives at the conference to promote mineral exploration by Chinese companies in Australia. Post conference, he visited the renowned tin mining region of Gejiu, Yunnan Province, where he spoke to tin-mining groups.

Mines & Wines 2007, Orange, 20–21 September

The event, covering Mineral Exploration in the Tasmanides, was an outstanding success, with a rich technical program which was very well received by the 300 delegates. Four GSNSW staff gave presentations and Phil Gilmore won the Best Paper award from Macquarie Bank for his presentation of the Koonenberry mapping team's paper.



In his address to the conference, Michael Leggo, chairman of the organising committee, encouraged the exploration industry to re-dress the effects of the ageing of our geoscientific community and the concomitant loss of entry, training and retention of young people in the profession.

A feature of the event was a presentation by Ian Macdonald, Minister for Mineral Resources, to Ian Plimer of CBH Resources, of a framed facsimile of the original Mining Lease 10 document granted to Charles Rasp over the Broken Hill Line of Lode.

The conference Power Point presentations are available through <http://www.smedg.org.au/M&WProg.htm>

Questioning the anthropogenic cause of the 1989 Newcastle earthquake

A discussion paper, co-authored by Cameron Quinn (GSNSW), Dick Glen (GSNSW & GEMOC) and Claus Diessel (University of Newcastle), has been submitted for publication in Earth and Planetary Science Letters (Vol.256; pp. 547–553). The paper questions the assertion by C.D. Klose (Columbia University) that the 1989 M5.6 Newcastle earthquake was the result of 200 years of coal mining in the region.

UPCOMING EVENTS

ASEG–PESA ‘Exploration & Beyond’, Perth 18–22 November

Dave Robson will head a team of six people who will give presentations and poster displays at the conference organised by the Australian Society of Exploration Geoscientists and the Petroleum Exploration Society of Australia. The presentations will cover the results and products of the team’s work in the ‘frontier’ regions of NSW. A simple ‘*Geophysical Products*’ booklet has been prepared as a handout.

NEW PRODUCTS AND SERVICES

Statewide grids of geophysical data

Merged [statewide grids of geophysical data](#) are now available as a set of four DVDs at \$110 per set. The set includes 50m and 250m grids of airborne magnetic data, 100m grids of airborne radioelement data, a 500m grid of gravity data and a 80m grid of the Shuttle Radar Topography Mission (SRTM) DEM data totalling 14.5Gb. Overview images as ECW and TIFF files are included.

For information contact: David Robson, Team Leader — Exploration Geoscience:
david.robson@dpi.nsw.gov.au, 02 4931 6717

Industrial mineral opportunities publication

Bulletin 33: Industrial Mineral Opportunities in New South Wales, is out now (priced \$44). [More](#)

PROJECT HIGHLIGHTS

Mineral Systems of New South Wales (MinSysNSW)

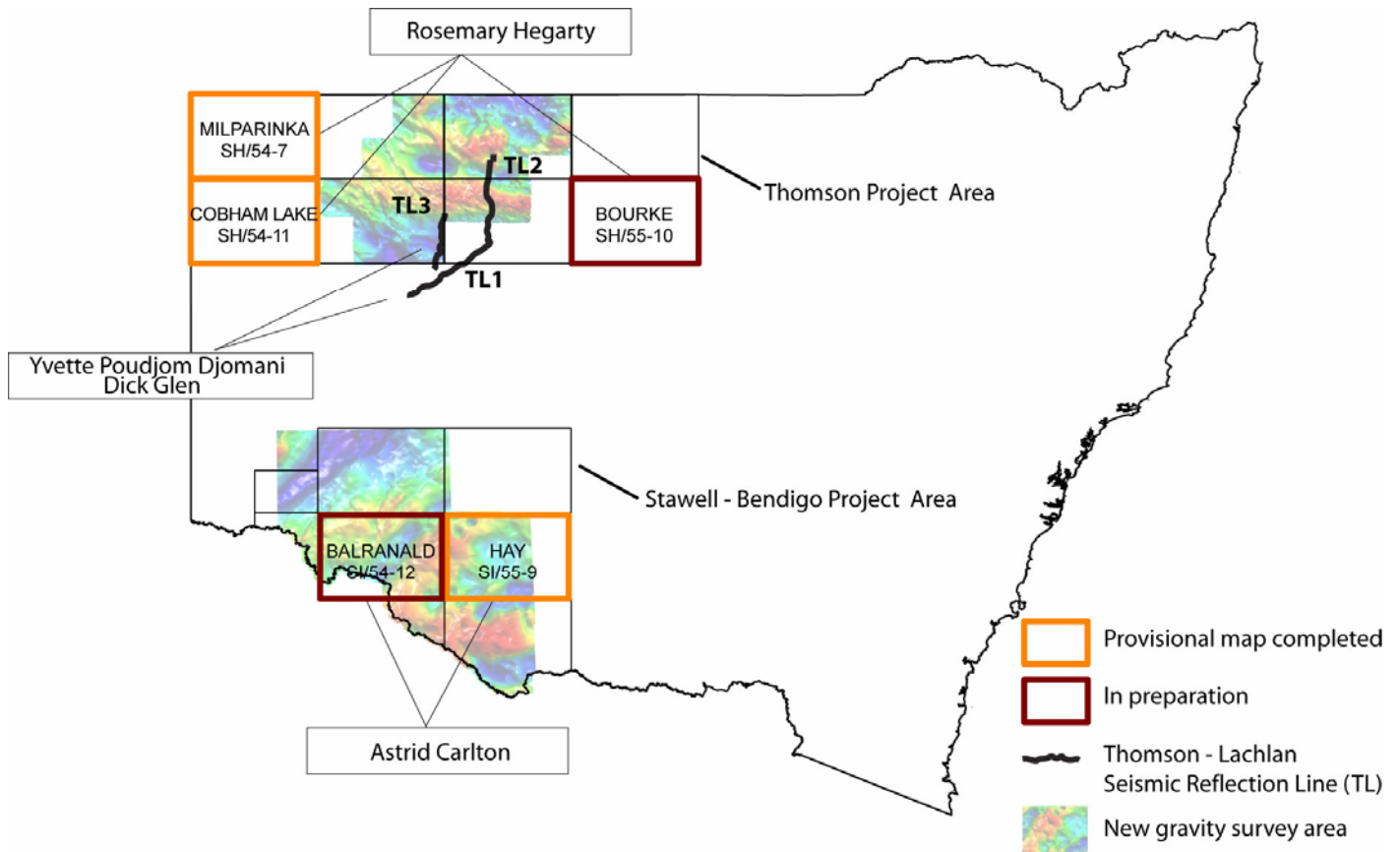
MinSysNSW is a new project that will focus on the statewide synthesis of information, systematic classification of deposits and the recognition of large mineral systems at a regional scale. The project will cover all mineral commodities except for coal and will identify knowledge gaps and new mineral opportunities. It will utilise 30 years of metallogenic mapping information and the MetIndEx database which covers both metallic and industrial mineral deposits and exploration discoveries. Special project areas will include New England, Lachlan, Broken Hill and the Murray Basin regions.

Phil Blevin is the project leader reporting to Rob Barnes, Chief Geoscientist — Minerals. Key contributors will include Peter Lewis (Team Leader — Minerals), Peter Downes, Senior Geologist (Lachlan), John Whitehouse (Murray Basin and industrial minerals), Dave Forster (alteration mapping) and Bill Reid, Senior Geologist (Broken Hill studies).

Contact: Rob Barnes, Chief Geoscientist — Minerals: rob.barnes@dpi.nsw.gov.au, 02 4931 6697

Geophysics

The *New Frontiers* exploration initiative is currently focused on the Thomson Orogen in the northwest of NSW and extensions of the Stawell and Bendigo zones in the southwest. In geophysics, work has recently commenced on a new series of geophysical–geological interpretation maps. Interpretative work on the Thomson/Lachlan deep crustal seismic line is on-going and new gravity surveys were completed for the West Thomson and Stawell–Bendigo areas.



Cobham Lake and Milparinka geophysical–geological interpretation maps

Features of the new maps for Cobham Lake and Milparinka include: the northward extension of Broken Hill region Proterozoic units (Paragon Group and Adelaidean sequences) beneath 100–300m of cover in the west of the Cobham Lake map sheet area, and clusters of Permian diatremes.

The work has shown that the Koonenberry Belt is a complex structural zone and has defined the contact zone between the Koonenberry Belt and the western extent of the Thomson Orogen. Thick Cambrian to Devonian sequences (Bancannia Trough) and Cretaceous sedimentary rocks (Quinyambie Trough) form a northwesterly wedge between the Koonenberry Belt and the Curnamona Province.

Contact: Rosemary Hegarty, Senior Geoscientist: rosemary.hegarty@dpi.nsw.gov.au, 4931 6597

Hay and Balranald geophysical–geological interpretation maps

Features of the Hay and Balranald maps are: numerous Silurian–Devonian S-type and I-type granites; a population of SSE–NNW trending magnetic dykes (evidence of basement extension) and numerous igneous intrusions. A class of the igneous intrusions exist as a swath of small circular magnetic anomalies thought to be either volcanic plugs or diatremes. Modelling on these anomalies is underway.

Contact: Astrid Carlton, Geophysicist: astrid.carlton@dpi.nsw.gov.au, 02 4931 6732

Thomson–Lachlan Seismic Reflection Survey

This is a collaborative project with Geoscience Australia and Predictive Mineral Discovery Cooperative Research Centre. Results to date suggest that the boundary between the Thomson and the Lachlan orogens is a major north-dipping thrust fault that cuts through the entire crust. Gravity modelling along the three seismic lines suggests that the major gravity high, north of the boundary, reflects denser rocks in the lower

and middle crust of the Thomson Orogen, and that the Mt Jack gravity high is due to lenses of dense mafic material within the rift basins in the upper crust. The seismic data also suggest that the Nelyambo Trough is a structural basin bounded by thrusts on each side. It contains up to 6–7km of mid–Late Devonian fluvial sedimentary rocks of the Mulga Downs Group and 4km of Early Devonian rift sequences.

Economic implications include hydrocarbon potential in the Nelyambo Trough, and Cobar style and Mississippi Valley type mineralisation along the margin of the Mt Jack High.

Contact: Yvette Poudjom Djomani, Geophysicist: yvette.poudjom.djomani@dpi.nsw.gov.au, 02 4931 6723 or Dick Glen, Principal Research Scientist: dick.glen@dpi.nsw.gov.au, 02 4931 6722

New gravity data

Two new gravity surveys were recently completed for the Thomson Orogen (5280 new stations) and Stawell–Bendigo zones (3600 new stations) as part of the *New Frontiers* initiative. The surveys were completed on a 4x4 km grid and provide additional information that enhances the understanding of the 3D architecture and mineral potential of these areas.

For information on geophysical projects contact: David Robson, Team Leader — Exploration Geoscience: david.robson@dpi.nsw.gov.au, 02 4931 6717

TAKE NOTE!

Cobar audit and gaps analysis

The Cobar audit and gaps analysis aims to assess the available geological/geophysical data and information for the Cobar area to better focus future activities of the GSNSW to assist the exploration industry.

A range of industry geologists received a questionnaire which asked what commodities are being sought in the area; the styles of mineralisation which are regarded as being prospective; how companies go about exploring in the Cobar area; what they perceive to be the main data and knowledge gaps that limit effective mineral exploration and; what sort of work they feel the GSNSW should be doing to assist companies in finding ore bodies.

Geologists working in the Cobar region are invited to have input into the survey by completing a questionnaire.

Contact: Gary Burton, Senior Geologist: gary.burton@dpi.nsw.gov.au, 02 6360 5330

Quick alias addresses

A new set of quick alias web addresses will give clients quick and easy access to the information page for DIGS, MinView and Tasmapi. The full addresses still apply but will change following the imminent release of the new version of MinView.

<http://www.dpi.nsw.gov.au/digs>

<http://www.dpi.nsw.gov.au/minview>

<http://www.dpi.nsw.gov.au/tasmapi>

Statewide Resource Audit

Draft S117 reports have been completed in some local government areas notably Balranald, Wentworth and Cessnock, as part of a program to advise local councils and state government planners where significant and potential resources are located. This information will be used in their strategic assessments to determine factors affecting land use at present and in the future.

If you wish to contribute information to the audit, contact: Iain Paterson, Acting Team Leader — Land Use: iain.paterson@dpi.nsw.gov.au, 02 4931 6704.

For more detail, see page 16, Minfo article No 84, <http://www.dpi.nsw.gov.au/aboutus/resources/periodicals/minfo> and click the 'View Minfo in DIGS' bar.

STAFF MOVEMENTS

Iain Paterson is acting in the position of Team Leader, Land Use and **Cressida Gilmore** is acting in the position of Senior Geologist, Land Use following the transfer of **Cameron Ricketts** to the Environmental Sustainability Branch for a six month period.

Phil Blevin was recently appointed Research Scientist and is now leading the Mineral Systems of NSW group. His current land use work, including liaison with LGAs over rezoning plans, will be carried out by **Bob Brown** and **Gary Burton**. Gary will be the main point of contact with the western and southern councils.

Bob Brown is acting in the position of Senior Geologist, Armidale while **Jim Stroud**, is on extended leave.

Colin Wood is presently acting Principal Geologist in MEA.

PRODUCTS AND ENQUIRIES

Internet product purchase

Some NSW DPI, Minerals Resources publications and data packages are now available for purchase over the internet on <http://www.shop.nsw.gov.au/index.jsp>.

Enquiries about purchasing products

Send enquiries about purchasing products to the following:

Maps and data packages: geoscience.products@dpi.nsw.gov.au: Tel: 02 4931 6589

Geophysical images and data to geophysics.products@dpi.nsw.gov.au: Tel: 02 4931 6717

Counter sales to mineralpublication.orders@dpi.nsw.gov.au Freecall: 1300 736 122
Tel: 02 4931 6666

General enquiries about products and services

michael.hallett@dpi.nsw.gov.au: Tel: 02 4931 6724

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Editor:

Team Leader

Knowledge Management

Geological Survey of NSW

NSW Department of Primary Industries

PO Box 344

Hunter Region Mail Centre NSW 2310

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joan.henley@dpi.nsw.gov.au

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 2007). However, because of advances in knowledge, users are reminded of the need to ensure that information upon

which they rely is up to date and to check currency of the information with the appropriate officer of NSW Department of Primary Industries or the user's independent adviser.

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