



ontheoutcrop

ISSUE 4, JUNE 2008

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>

The **MINERALS AND LAND USE ASSESSMENT PROGRAM** is highlighted in this issue

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RECENT EVENTS

State budget extends New Frontiers program

The 2008 state government budget announcement included \$52.9 million for the mining industry, \$16.5 million of which will be allocated to the New Frontiers exploration initiative. This will extend the program for 3 years until June, 2011. A vital part of the program will be investment in mineral and petroleum geoscience programs in the far west of the state. The New Frontiers program has substantially stimulated private exploration particularly in the under-explored regions of the far northwest and southwest of the state.

Director, GSNSW, is honoured in the Queen's Birthday Awards

Director GSNSW, Lindsay Gilligan, has been honoured in the 2008 Queen's Birthday Awards with a prestigious Public Service Medal. The award is recognition not only of his wide ranging and distinguished career but of his outstanding service to geoscience, mineral resource assessment and enhancing mineral exploration in this state. [More](#)

UPCOMING EVENTS

'Exploration in the House' GSNSW seminar, Parliament House Theatre, Sydney, 1 pm Wednesday, 2nd July, 2008

The seminar will comprise a series of presentations from the GSNSW staff and research partners on the results of geoscience projects of interest to the NSW mineral exploration industry. There will be a particular



focus on New Frontiers initiative results from the Thomson Orogen and Stawell–Bendigo Zones extensions in NSW. There is no charge but as numbers are limited please register to reserve a place.

NSW DPI *invitation*

information event for the exploration industry
Wednesday, July 2, 2008

new frontiers
new south wales
a NSW government initiative

Exploration In The House presenting the latest results of Geological Survey of NSW project activities.

exploration in the house

**Parliament House Theatrette,
Macquarie Street, Sydney 1pm - 6pm**

The Geological Survey of NSW is hosting an afternoon of technical talks in the theatrette at Parliament House. They will showcase new ideas and insights acquired through the Survey's previous 12 months of activities. The technical program will especially highlight results from the New Frontiers initiative.

PROGRAM

Session 1 **Chaired by Lindsay Gilligan, Director, Geological Survey of NSW**

1:00-1:10pm: Arrival and registration
1:10-1:15pm: *Lindsay Gilligan - Welcome*
1:15-1:30pm: *John Watkins - New Frontiers Stage II*
1:30-1:50pm: *Dick Glen - Ordovician Terranes of the Lachlan Orogen*
1:50-2:10pm: *Cameron Quinn - Updating the Macquarie Arc, eastern Lachlan Orogen*
2:10-2:25pm: *Phil Blevin - Understanding Mineral Systems in NSW*
2:25-2:40pm: *Ken McQueen (CRCLEME/ANU) - A Guide for Exploring Through the Regolith*
2:40-2:50pm: *Questions*
2:50-3:10pm: *Afternoon tea*

Session 2 **Chaired by John Watkins, Assistant Director, Regional Mapping & Exploration Geoscience**

3:10-3:25pm: *Joel Fitzherbet - Outcomes of Braidwood Mapping*
3:25-3:40pm: *Rosemary Hegarty - Lifting the Cover - Thomson Orogen/Murray Basin*
3:40-3:55pm: *Philip Gilmore - Metallogensis of the Koonenberry Belt, NSW*
3:55-4:10pm: *Nancy Vickery - Tantalising glimpses and new insights in the Louth & Bourke districts of northern NSW*
4:10-4:25pm: *Questions and Wrap Up*
4:25-6:00pm: *Poster viewing and refreshments*

**COMPLIMENTARY
REGISTRATION REQUIRED
(see over page)**



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**NSW DEPARTMENT OF
PRIMARY INDUSTRIES**

www.dpi.nsw.gov.au

Click here for [registration forms and program](#) or contact Diane Kemp, diane.kemp@dpi.nsw.gov.au, 02 4931 6445

NEW PRODUCTS AND SERVICES

Mineral Systems and Processes in NSW — Quarterly Notes 128

Quarterly Notes 128 outlines a new approach to the classification of mineral deposits and identification of mineral systems in NSW. The paper includes, as a centrespread, the new mineral deposit classification scheme that was developed by the DPI Mineral Systems (MinSys) project team, with the intention of creating vigorous discussion about mineralising processes that occur in NSW. The new scheme is based on the identification of mineralising processes, rather than descriptive mineral deposit models. Also included in the Quarterly Note are summary descriptions for two specific ore deposit models.

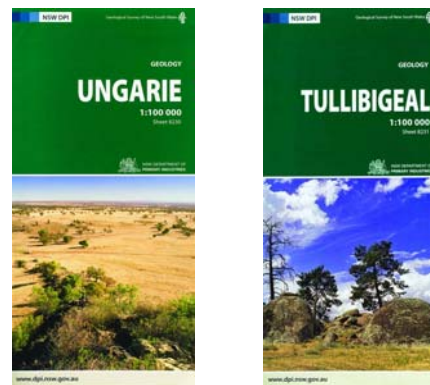
To subscribe to Quarterly Notes contact: Simone Meakin: simone.meakin@dpi.nsw.gov.au

Cargelligo 1:100K map series now available

A series of six 1:100 000 maps comprising Cargelligo, Ungarie, Tullibigeal, Rankins Springs, Hillston and Merriwagga are completed.

The maps are available for \$11 each. Contact: geoscience.products@dpi.nsw.gov.au:

Tel: 02 4931 6503



PROJECT HIGHLIGHTS

MINERALS AND LAND USE ASSESSMENT PROGRAM

The Minerals and Land Use Assessment program comprises three main areas of activity

- Mineral Exploration Assessment (MEA)
- Land Use Assessment, and
- Minerals Geoscience

Peter Lewis, Manager of Minerals and Land Use Assessment, is currently on leave leading up to retirement.

Cameron Ricketts, Team Leader — Land Use Assessment leads the Land Use Assessment team.
Contact: Cameron Ricketts, cameron.ricketts@dpi.nsw.gov.au, 02 4931 6703

Rob Barnes, Chief Geoscientist — Minerals, manages the MEA and Minerals Geoscience teams.
Contact: Rob Barnes, rob.barnes@dpi.nsw.gov.au, 02 4931 6697

Mineral Exploration Assessment

The Mineral Exploration Assessment team monitors and assesses exploration performance. Exploration expenditure in NSW now exceeds \$180m per annum, so the team is managing a mining boom. Exploration reports, provided by companies as a condition of their exploration licences, are reviewed and performance assessed. Advice is provided to internal committees on licence renewals and applications. The Mineral Exploration Assessment group is also responsible for monitoring overall exploration activity and twice yearly provides data for the exploration highlights maps available from the Department's web site. The team also compiles information on companies for conference presentations and for the yearly production of the Explorers Directory.

Colin Wood, Principal Geoscientist, and Harvey Henley, Senior Geoscientist, lead the MEA team.

Contact mineral.explorationassessment@dpi.nsw.gov.au

Land Use Assessment

The [Land Use Assessment](#) team provides advice on mineral resources and other geoscientific information to local councils and state government departments for land use planning and natural resource management purposes. Team members have a broad knowledge of the legislation covering land use planning decisions and other legislation affecting mineral resources. The team comprises Cameron Ricketts, (Chief Geoscientist), Ian Paterson and Cressida Gilmore, (Senior Geoscientists), Jeff Brownlow and Simon Francis, (Geoscientists). Assistance in updating the mineral, coal, petroleum and construction material information for the State Resource Audit is provided by Bob Brown (Acting Senior Geoscientist), Nancy Vickery (Geoscientist) and Phil Kennedy (Senior Technical Officer).

State Resource Audit

The State Resource Audit is a three-year project which commenced in 2007 in response to state government planning regulation reforms which required local councils to produce new Local Environment Plans by 2010. The audit plans to identify for local councils and state government planners, where significant and potential resources are located. One outcome of the project is to provide each local council with a map and GIS data package showing areas of identified resources, potential resources and buffer zones. Included are details of the nature and size of resources, local geology, production statistics and mine operators.

The project represents the first complete statewide audit of mineral, coal, petroleum and construction material resources. It will provide a snapshot of the areas currently considered worthy of protection from inappropriate zoning and development.

To date, results of regional resource assessments have been provided to most local councils, especially those in the more densely populated eastern part of the state, as a provision of Section 117 (S117) of the *Environmental Planning and Assessment Act 1979* (NSW). S117 Advice takes the form of maps (both hard copy and digital) and a brief explanatory report.

The mineral exploration and mining community is encouraged to provide information about significant mineral resources. **If you wish to contribute contact:**

Cameron Ricketts, Team Leader, Land Use Assessment, cameron.ricketts@dpi.nsw.gov.au, 02 4931 6703

For more details about the audit, 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.

For the relevant legislation see [State Environmental Planning Policy \(Mining, Petroleum Production and Extractive Industries\) 2007](#) and [Direction 1.3 – Mining, Petroleum Production and Extractive Industries](#)

Minerals Geoscience

Minerals team members conduct studies into NSW mineral deposits and mineral systems. They provide technical advice to assist Land Use Assessments; contribute explanatory notes on mineralisation and resources for various GSNSW publications; and provide advice to the exploration industry, government agencies and the general public.

The Minerals team members are experienced geologists with broad ranging areas of expertise.

Phil Blevin, Research Scientist, is an international expert in **igneous-related mineral systems**. He focuses mainly on the granite-related **deposits of the New England and Lachlan orogens**. He is also working on a range of collaborative projects including a project to understand the source of Ordovician copper-bearing magmas of the resource-rich Macquarie Arc.

Peter Downes, Senior Geoscientist, is an expert on **hydrothermal-related mineral deposits of the Lachlan Orogen** and understanding the implications of **sulphur and lead isotope data for specific mineral systems**.

He has worked with Peter Lewis to develop a universal mineral systems classification scheme for application across minerals databases. Peter is custodian for the **MetIndEx (Metallic, Industrial and Exploration) mineral occurrence database**.

John Whitehouse, Senior Geoscientist, is a specialist on **industrial minerals and construction materials** with a particular emphasis on material science and marketing. He recently compiled the [Bulletin 33: Industrial Mineral Opportunities in New South Wales](#), a comprehensive coverage of industrial mineral opportunities in NSW. At present he is working on the **mineral resources of the Murray Basin** and industrial mineral developments across NSW.

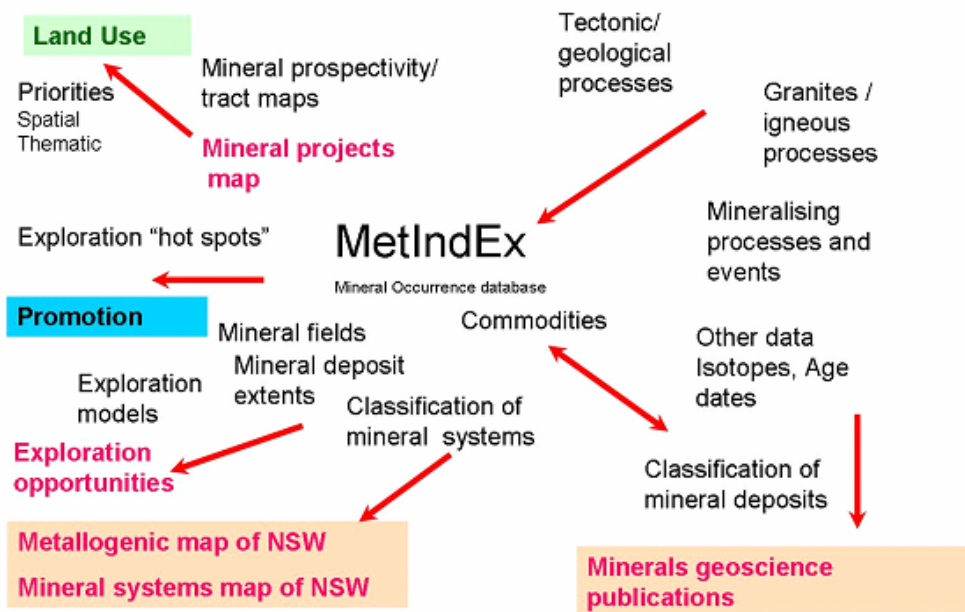
Bill Reid, Senior Geoscientist, specialises in **Broken Hill geology and mineral deposits**. He and retired Geological Survey geologist, Barney Stevens, are working on a **revised stratigraphic interpretation of the Broken Hill Block and surrounding Adelaidean sequences**. Bill also has interests in alteration and geochemistry and the use of spectral and other spatial datasets for mineral prospectivity studies.

David Forster, Geoscientist, specialises in the **geochemical and isotopic controls on Ordovician porphyry and skarn deposits** including geochronology using Pb, Sr and stable isotope analyses. He is presently working on **mineral deposit processes and genesis on the Braidwood 1:100K map sheet area** and statewide mineral commodity studies.

Mineral Systems and Processes project

The Mineral Systems and Processes project aims to identify the state's mineral systems to aid and improve exploration success. It will identify occurrences that formed as part of the same mineralising event and/or as part of the same mineral system.

Concept Map for the Mineral Systems of NSW Project



The study will be used to identify gaps in key geoscience data for NSW mineral systems in order to target these for future data acquisition. It will also add a new dimension to the existing MetIndEx database by providing additional details on the age, style and extent of individual mineral systems. Information from the Mineral Systems and Processes project will feed into the [State Resource Audit](#) conducted by the Land Use Assessment team.

A result of the study to date is a preliminary mineral system classification chart that will encourage comment and discussion. You will shortly be able to view the preliminary mineral system classification chart in Quarterly Notes No. 128 at: http://www.dpi.nsw.gov.au/aboutus/resources/periodicals/quarterly_notes

Your comments on the chart can be forwarded to: Peter Downes, peter.downes@dpi.nsw.gov.au

STAFF MOVEMENTS

Cameron Ricketts has returned from secondment to the Environmental Sustainability Branch to the position of Team Leader, Land Use Assessment. He is Acting Manager, Minerals and Land Use Assessment, while **Peter Lewis** is on leave.

Harvey Henley has accepted the position of Senior Geoscientist, Minerals and Land Use Assessment, MEA.

John Whitehouse has accepted the position of Senior Geoscientist, Minerals and Land Use Assessment.

Victoria Gleeson has commenced as Graphics Specialist in Geospatial Sciences.

Maggie Moffat has commenced as Executive Assistant to the Director, GSNSW.

PRODUCTS AND ENQUIRIES

Internet product catalogue

The online [Geoscience Products Catalogue](#) includes over 240 hard copy maps and over 70 geoscience data packages (including geophysical data) on CD or DVD ROM. Information about ordering or downloading these products is supplied on each product page.

Enquiries about purchasing products

Maps and data packages: geoscience.products@dpi.nsw.gov.au: Tel: 02 4931 6503

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

Contact: Michael Hallett, michael.hallett@dpi.nsw.gov.au: Tel: 02 4931 6724

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ontheoutcrop is a newsletter from the Geological Survey of New South Wales.

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ISSN 1835-2200