



Geological Survey of NSW e-newsletter, Issue 23, December 2014

## Londonderry drillcore library extension

A two year, \$5.987M New Frontiers funded project is underway to extend the drillcore library at the [WB Clarke Geoscience Centre](#) in Londonderry. The facility is approaching full capacity and the extension will increase storage from approximately 8,000 to 12,000 pallets and extend its life until 2030.

A new drillcore acceptance policy will establish controls on the levels of Naturally Occurring Radioactive Minerals (NORM) and Naturally Occurring Asbestos (NOA) in core that can be accepted at the library and define procedures for submitting and accessing the core. [See details about the project, timelines and possible disruption to services.](#)

**Contact:** Project Director, Graham Butt, [graham.butt@trade.nsw.gov.au](mailto:graham.butt@trade.nsw.gov.au), 0408 703 713

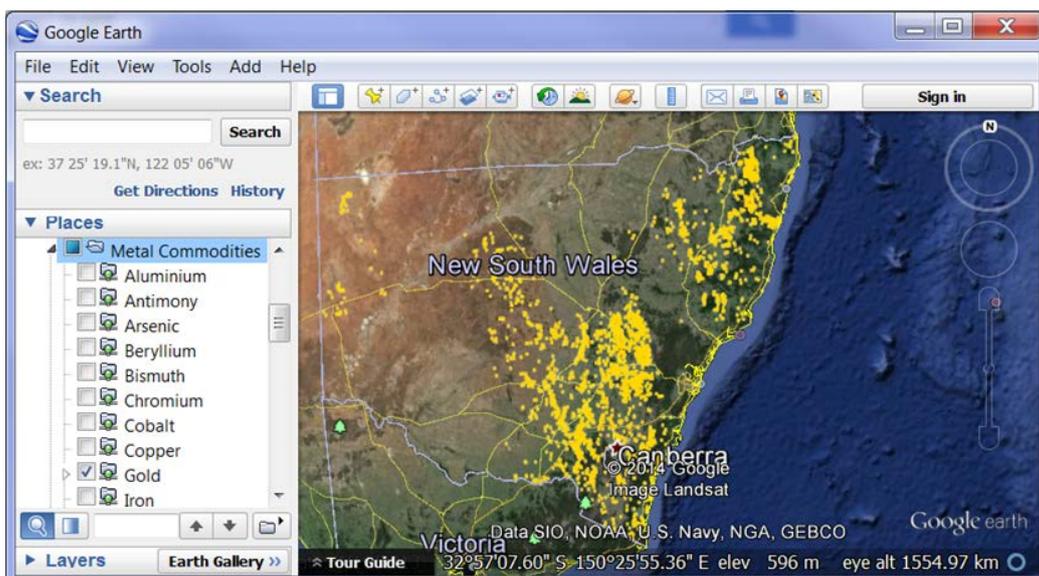
## New Frontiers Cooperative Drilling

The department announced [twenty successful applicants for the New Frontiers Cooperative Drilling program in a media release](#). Their exploration targets include gold, copper, lead, zinc, silver, tin, tungsten and platinum.

**Contact:** Executive Officer, Mike Hallett, [cooperative.drilling@trade.nsw.gov.au](mailto:cooperative.drilling@trade.nsw.gov.au), 02 4931 6724

## Metal commodities in GDW & Google Earth

The [Geoscientific Data Warehouse](#) (GDW) now has a 'Metal Commodities' layer in Google Earth™ which displays the distribution of one or more of 32 metal commodities in NSW. The 'Mineral Occurrences' simple search utility has also been made substantially more powerful.

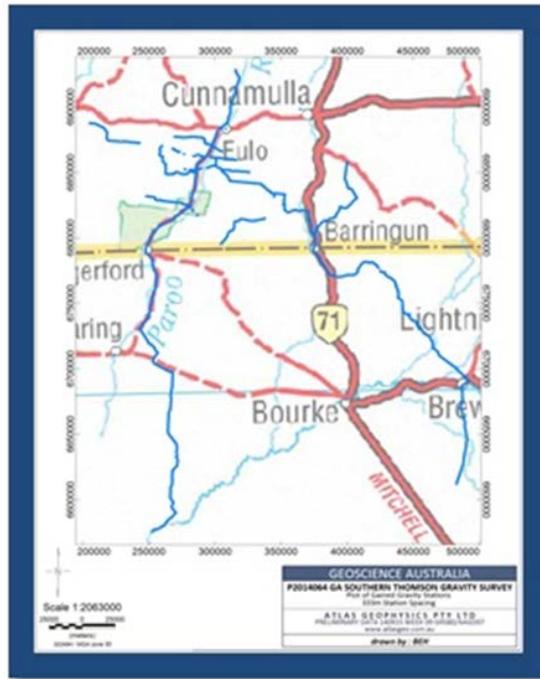


Display of metal commodity occurrences across NSW using a GDW layer in Google Earth™

## Southern Thomson geophysical surveys

Gravity and magnetotelluric (MT) surveys have been completed within NSW along public roads from Hungerford to Tilpa and Gongolgon to Barrington. They closely follow the AEM flight lines completed mid-year, and overlap the 2005 Thomson–Lachlan TL01 & 02 deep seismic reflection lines between Tilpa and Wanaaring. Processed data will be available in 2015, providing information on crustal architecture. [See details on this National Collaborative Framework project.](#)

**Contact:** Rosemary Hegarty, [rosemary.hegarty@trade.nsw.gov.au](mailto:rosemary.hegarty@trade.nsw.gov.au), 02 4931 6597



Map of Southern Thomson Orogen geophysical transect line (dark blue) crossing the NSW/Qld border (yellow line).

## Southern Thomson Project receives ARC linkage funding

An Australian Research Council Linkage Project titled, 'The missing link in the Tasmanides', will evaluate tectonic evolution and the resource exploration potential of the southern Thomson Orogen. It commences January 2015 and involves the University of Newcastle, University of Queensland, Queensland University of Technology, Geological Survey of Queensland and the GSNSW. Student projects will add detailed geology and test three geodynamic scenarios proposed for the region.

**Contact:** Rosemary Hegarty, [rosemary.hegarty@trade.nsw.gov.au](mailto:rosemary.hegarty@trade.nsw.gov.au), 02 4931 6597

## Commodity flyers

GSNSW has published eight commodity flyers promoting mining in NSW. They feature copper, gold, tin, lead-zinc, antimony, heavy mineral sands, magnesite and gypsum and show current mines, resources, reserves and grades.

**Contact:** David Forster, [david.forster@trade.nsw.gov.au](mailto:david.forster@trade.nsw.gov.au), 02 4931 6685

## GSNSW contributes to Gold Atlas of New south Wales

GSNSW contributed to the '[Gold Atlas of New South Wales](#)' by Doug Stone through providing information on gold occurrences from the MetIndEx database and background knowledge about NSW goldfields. The book comprises 25 maps of alluvial diggings and mine sites on public land and in state forests. It is also a record of historical occurrences. UTM map grids are included to facilitate GPS positioning.

## **New SHRIMP U-Pb zircon ages**

The publication, 'New SHRIMP U-Pb zircon ages from the Lachlan, southern Thomson and New England orogens, New South Wales, February 2011 – June 2013', authored by Geoff Fraser (Geoscience Australia), presents data on 27 samples. The work was conducted under a National Geoscience Agreement between GA and GSNSW. See <http://www.ga.gov.au/metadata-gateway/metadata/record/77384>

**Contact:** Phil Gilmore, [phil.gilmore@trade.nsw.gov.au](mailto:phil.gilmore@trade.nsw.gov.au), 02 4931 6533

## **Chert provenance study constrains tectonic models of the Lachlan Orogen in the Ordovician**

A recently published paper by GSNSW researchers demonstrates how geochemically fingerprinted Ordovician cherts combined with a precise biostratigraphic scale provided by associated conodonts, can be used to unravel the tectonic history of the Lachlan Orogen during the Ordovician. The research reveals distinctly different sources for contemporaneous cherts in different areas of NSW from the Early and Middle Ordovician. This new study potentially benefits mineral explorers by providing a guide to the applicability of tectonic models for the Lachlan Orogen.

[Geochemical evidence for provenance of Ordovician cherts in southeastern Australia](#) by M.C. Bruce & I.G. Percival is published in the Australian Journal of Earth Sciences.

**Contact:** Michael Bruce (geochemistry), [michael.bruce@trade.nsw.gov.au](mailto:michael.bruce@trade.nsw.gov.au) or Ian Percival (palaeontology), [ian.percival@trade.nsw.gov.au](mailto:ian.percival@trade.nsw.gov.au)

## **New drillcore accepted at Mineral Resources core libraries**

View a [list of non-confidential drillcore](#) accepted at the [W B Clarke Geoscience Centre](#), Londonderry May–November 2014. No core was accepted at the EC Andrews drillcore facility, Broken Hill, during that period.

## **Coastal Quaternary geology between Newcastle and Wollongong**

The coastal Quaternary geology between Newcastle and Wollongong has been mapped completing the [mapping of the Quaternary geology for the NSW coastline](#). A data package including the complete coastal data set and accompanying reports will be released in 2015.

**Contact:** Glen Phillips, [glen.phillips@trade.nsw.gov.au](mailto:glen.phillips@trade.nsw.gov.au), 02 4931 6683

## **Update: East Riverina Mapping Project**

Work to date includes:

- geochemical and isotopic sampling
- structural analysis
- a review of mineral systems in the area
- an Honours research project investigating metamorphic pressure–temperature conditions associated with deformation and granite emplacement in collaboration with the University of Newcastle

[See August 2014 issue of OTO for previous update](#)

[See April 2013 issue of OTO for project description](#)

**Contact:** Phil Gilmore, [phil.gilmore@trade.nsw.gov.au](mailto:phil.gilmore@trade.nsw.gov.au), 02 4931 6533

## Report highlights the importance of junior exploration companies to the NSW mining industry

NSW Trade & Investment has released a commissioned [report on the importance of junior exploration companies to the NSW mining industry](#). Key findings from the report are that junior explorers account for 86% of the discoveries made in the state and play a key role in the future of mining in NSW.

## Restructure returns Coal and Petroleum to the Geological Survey

A restructure within Resources & Energy has brought Coal and Petroleum Geoscience and Coal Innovation into the GSNSW which has been elevated to branch level. Andrew Barnicoat has been appointed as Acting Executive Director of the GSNSW whilst the recruitment process for the ED position is being finalised. Andrew is on secondment from Geoscience Australia where he is Chief of the Community Safety and Earth Monitoring Division.

## Win/Win at China Mining 2014

The [China Mining conference in Tiangin, China on 15-26 October](#) was attended by John Greenfield, Director, Geological Survey of NSW and Charlie Dowsett, Acting Executive Director, Investment Attraction & Export Services. They joined the Shanghai-based NSW Trade & Investment team which organised investment seminars and meetings with private Chinese companies. The meetings resulted in 46 significant contacts with investor interest that will be followed up by both the Shanghai and Sydney offices of NSW Trade & Investment. They also promoted investment in NSW at the Austrade-Australia Minerals Investor Forum, Beijing and at an investment seminar in Shanghai. The team met separately with the executive team of the China Geological Survey, to establish a scientific exchange program.

The Australia Minerals team, which included all state and territory geological surveys, won the best booth award at China Mining.

**Contact:** John Greenfield, [john.greenfield@trade.nsw.gov.au](mailto:john.greenfield@trade.nsw.gov.au), 02 4931 6696

## In the pipeline: Industrial Mineral Projects and Opportunities in NSW map

A new version of the 2004 Industrial Minerals New South Wales 1:1 500 000 map will highlight industrial mineral and construction material sites, showing operating mines, prospects and key statistics. A gaps analysis contributed to updating minerals databases, including MetIndEx.

**Contact:** Cameron Perks, [cameron.perks@trade.nsw.gov.au](mailto:cameron.perks@trade.nsw.gov.au), 02 4931 6403

## In the pipeline: Broken Hill 1:250 000 Metallogenic Special map

A new Broken Hill 1:250 000 Metallogenic Special map will use an updated geological base map and mineral occurrences descriptions consistent with the NSW mineral systems classification scheme. It will display revised metamorphic facies maps which place key constraints on the timing and genesis of pegmatite-related Sn, W and REE. The reverse side of the map will encapsulate the rich and economically pivotal mining history of the Broken Hill district.

**Contact:** Joel Fitzherbert, [joel.fitzherbert@trade.nsw.gov.au](mailto:joel.fitzherbert@trade.nsw.gov.au), 02 4931 6734

## Upcoming conferences

[ASEG-PESA 2015 15-18 February, Perth](#)

[PDAC 2015 1-4 March, Toronto, Canada](#)

[Mines & Money Hong Kong, 23-27 March, Hong Kong](#)

[RIU Sydney Resources Round-up 12-15 May, Sydney](#)

[2015 APPEA Conference & Exhibition 17-20 May, Melbourne](#)

## [Broken Hill Resources Investment Symposium, 24–27 May, Broken Hill](#)

Exploration in the House, 16 June, Parliament House, Sydney  
NSW Mineral Council Forum, 17 June, Parliament House, Sydney

## Staff movements

**Omar Al Shikh Ail** commenced work as a Geoscience Data officer with the Geoscience Database Unit.  
**Kate Bull** commenced work as Senior Geologist - Petrologist with Regional Mapping & Geoscience Exploration.  
**Ken McDonald** is retiring from his position as Land Information Officer.

## Products

[Geoscience Product Catalogue](#)  
[Geophysical images and data](#)  
[Online sales: \[www.shop.nsw.gov.au\]\(http://www.shop.nsw.gov.au\)](#)  
[Quarterly Notes](#)

## Enquiries

Maps and data packages: [geoscience.products@trade.nsw.gov.au](mailto:geoscience.products@trade.nsw.gov.au)  
Geophysical images and data: [geophysics.products@trade.nsw.gov.au](mailto:geophysics.products@trade.nsw.gov.au): Tel: 02 4931 6717  
Counter sales: [mineralpublication.orders@trade.nsw.gov.au](mailto:mineralpublication.orders@trade.nsw.gov.au) Free call: 1300 736 122 Tel: 02 4931 6666  
General product enquiries: Gavin Ayre, [gavin.ayre@trade.nsw.gov.au](mailto:gavin.ayre@trade.nsw.gov.au), 02 4931 6426

## Contacts

Email: [geoscience.info@trade.nsw.gov.au](mailto:geoscience.info@trade.nsw.gov.au)  
Web: [www.resourcesandenergy.nsw.gov.au](http://www.resourcesandenergy.nsw.gov.au)  
GSNSW: [www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information](http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information)  
Newsletter compilation: Joan Henley, [outcrop.newsletter@trade.nsw.gov.au](mailto:outcrop.newsletter@trade.nsw.gov.au)  
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