

SMEDG SYDNEY

24 NOVEMBER 2016

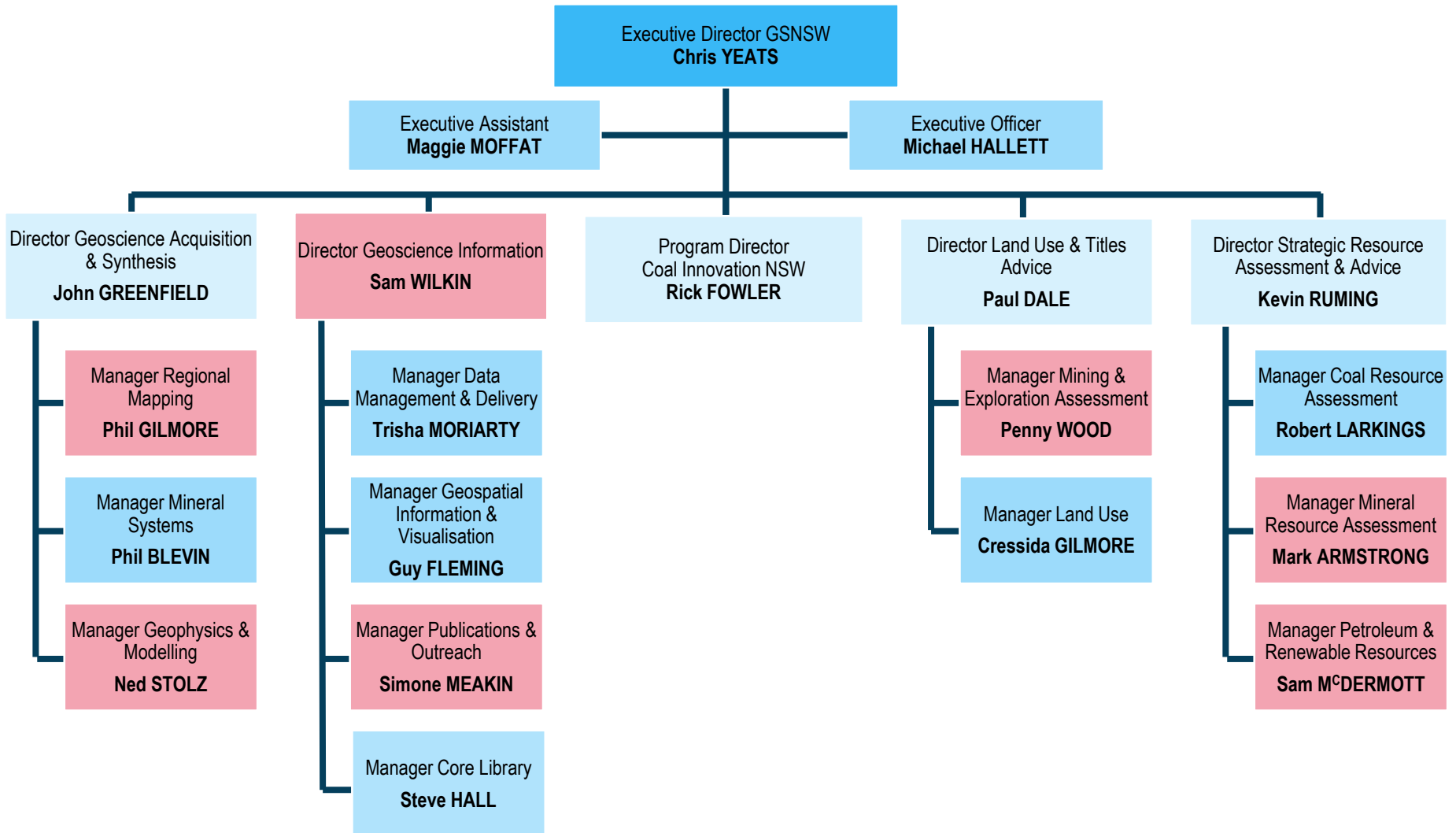
2016 Highlights from the Geological Survey of NSW

Chris Yeats
Executive Director, Geological Survey of NSW

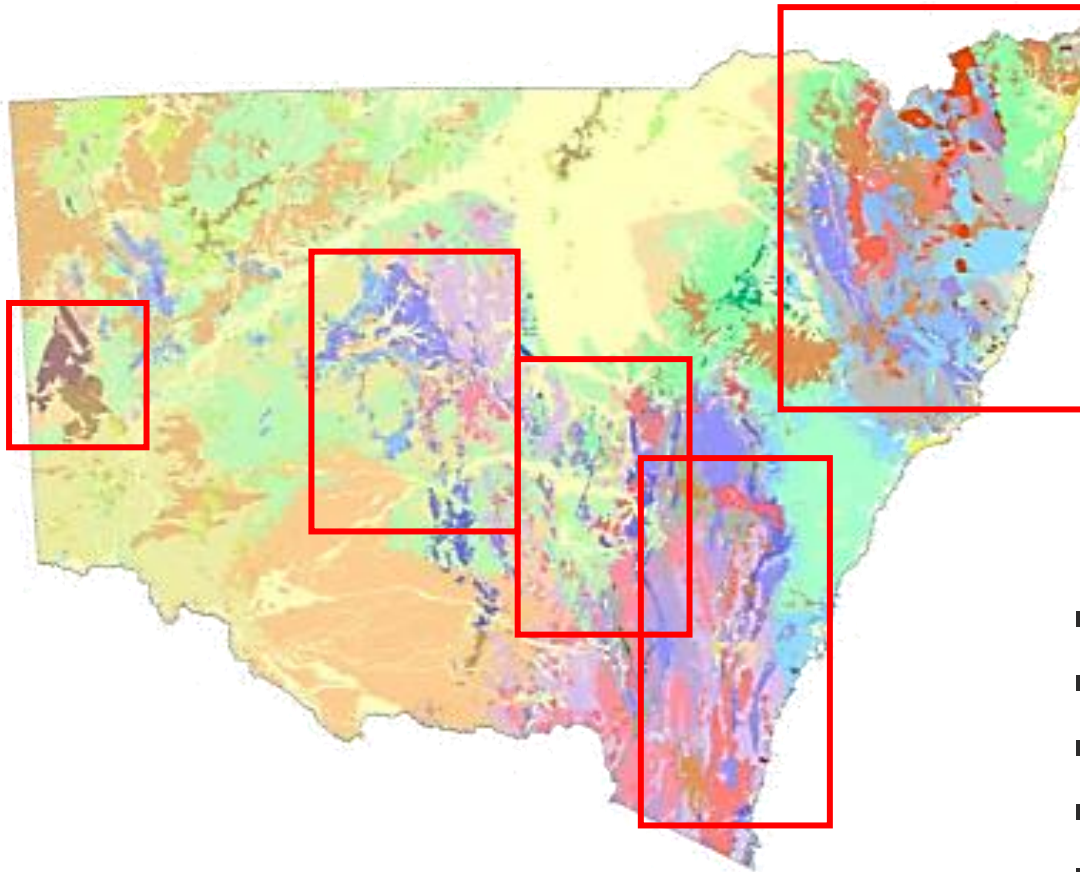
GSNSW Management Team in place



GSNSW Management Team



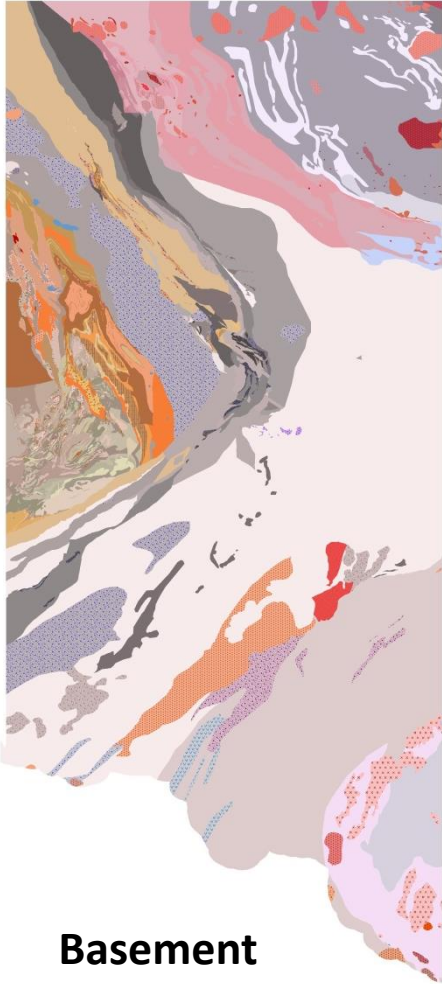
New Metallogenic Maps



- Broken Hill 250k – 2015
- Cobar – September 2016
- New England – preliminaries
- Macquarie Volcanic Province
- S.E. LFB

Where ➡ When ➡ Why ➡ Where else?

Seamless Geology Zone 54 Coming Soon !



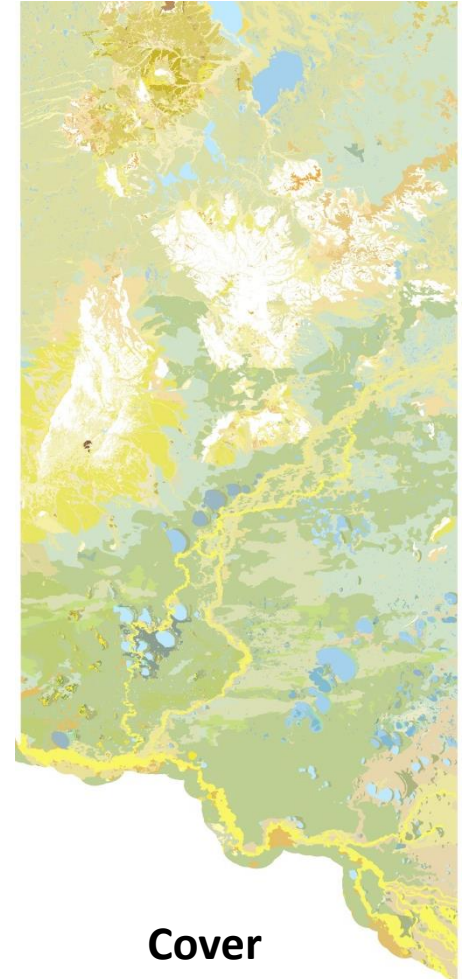
Basement

Curnamona, Thomson, Lachlan



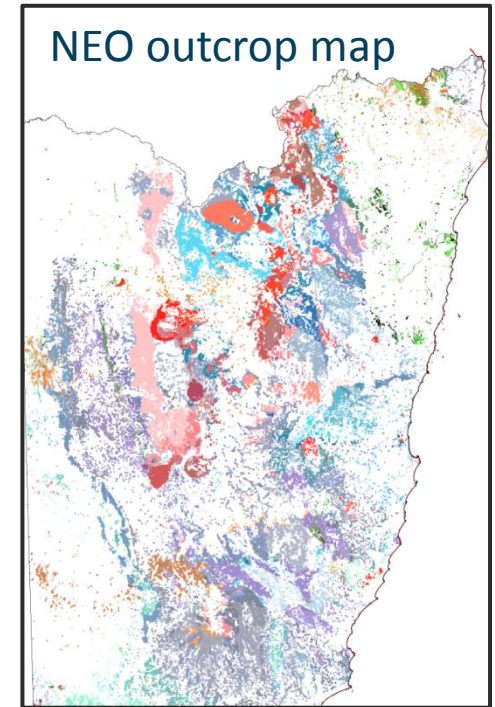
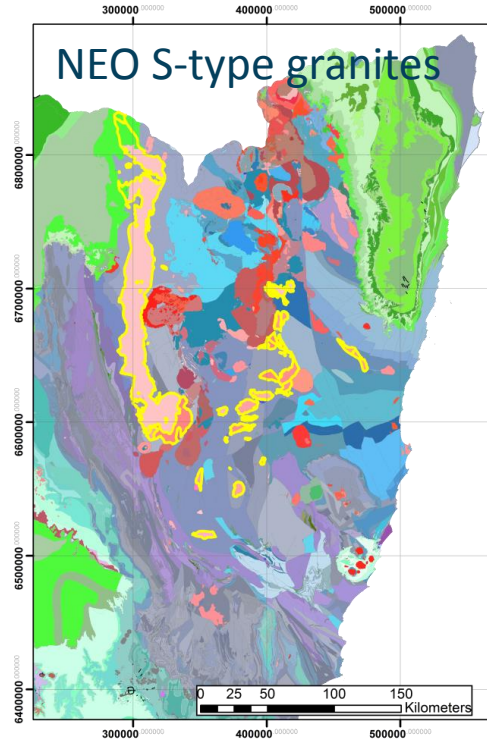
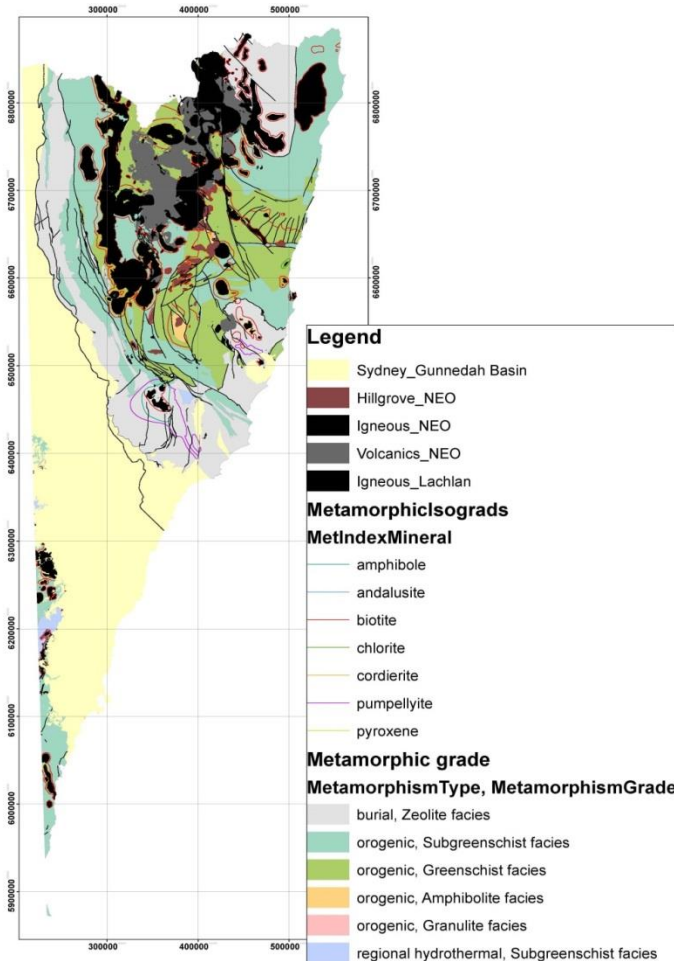
Basins

Eromanga, Devonian, Permian

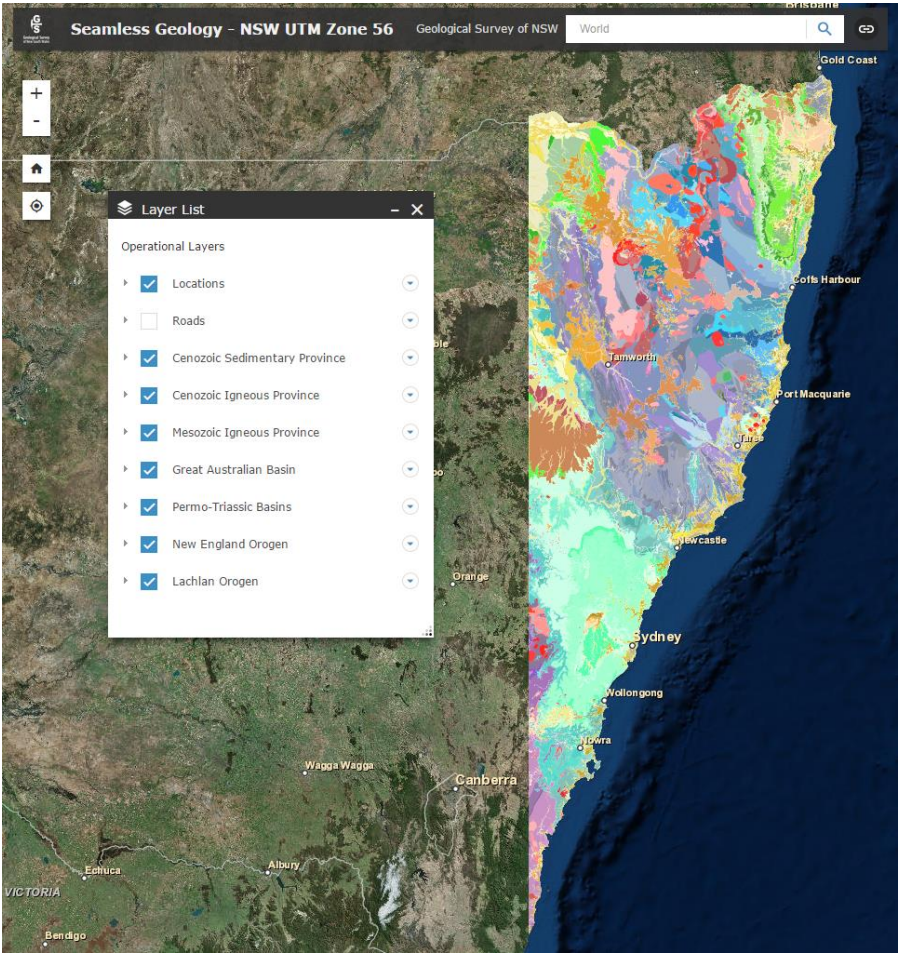
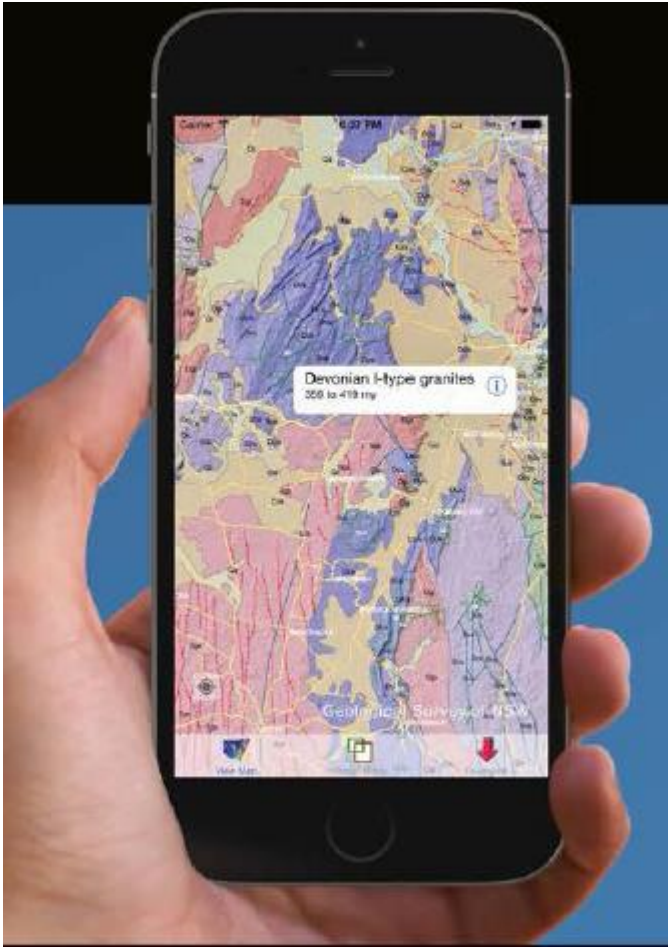


Cover

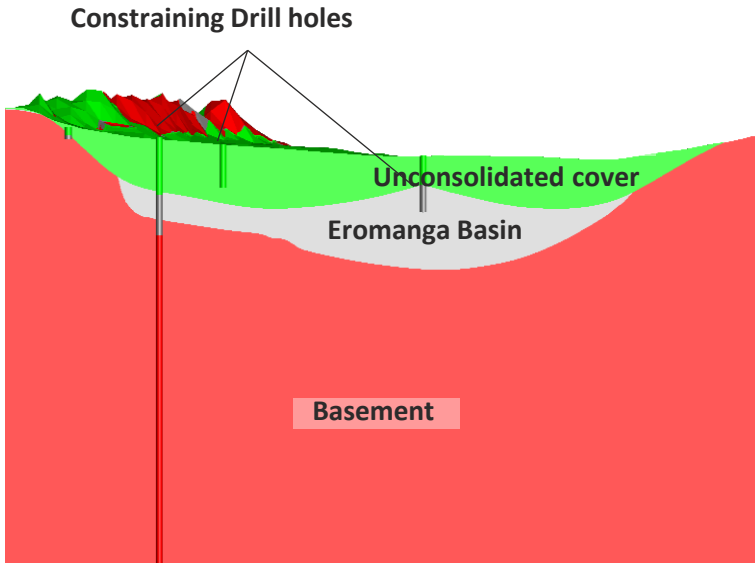
Seamless Geology of NSW – Derivative Products



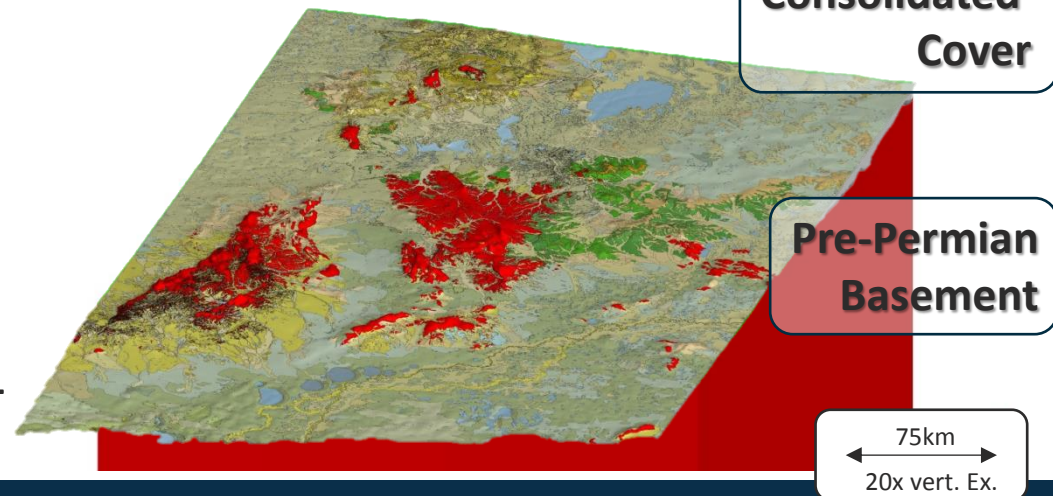
Seamless Geology of NSW – Delivery



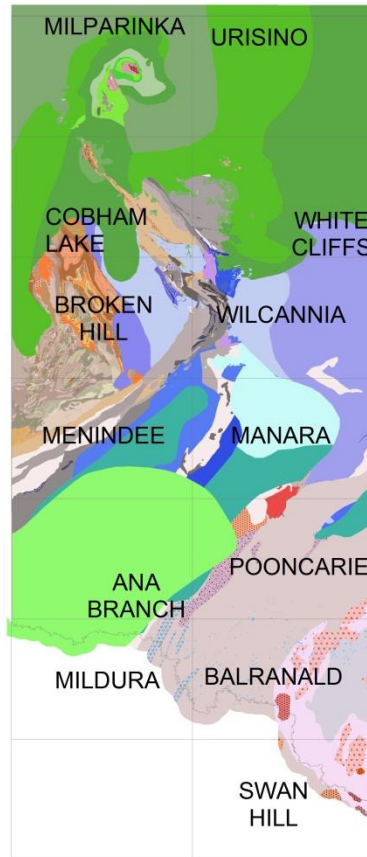
Statewide Depth to Basement Model



- **Generating 3 volumes based on:**
 - Waterbores
 - Exploration drill holes
 - Reflection seismic
 - Seamless geology
- **Anticipated completion of version 1 early 2017**

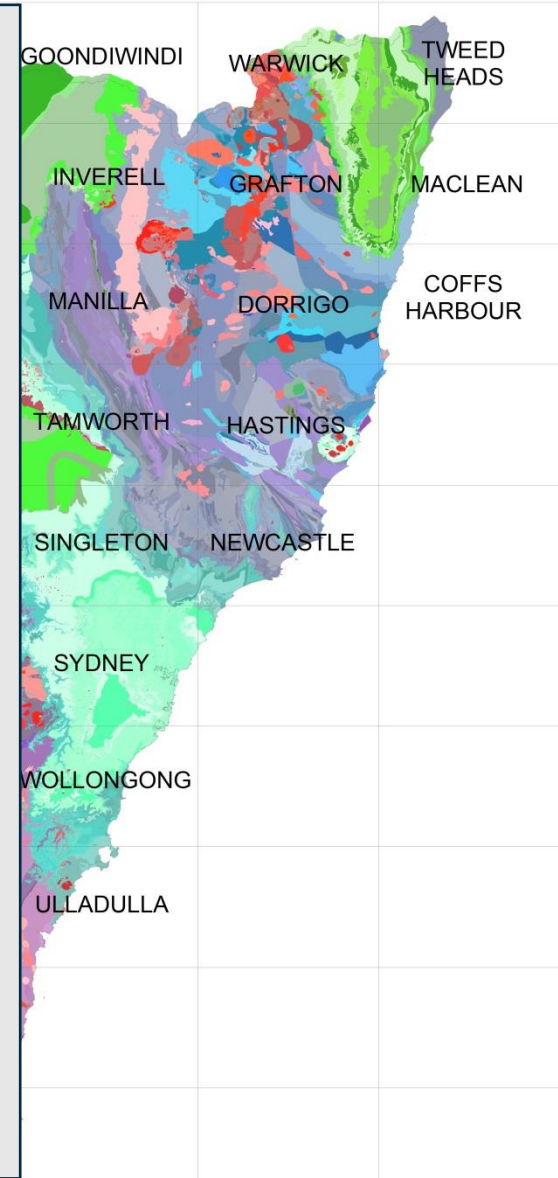


Seamless Geology Release Schedule



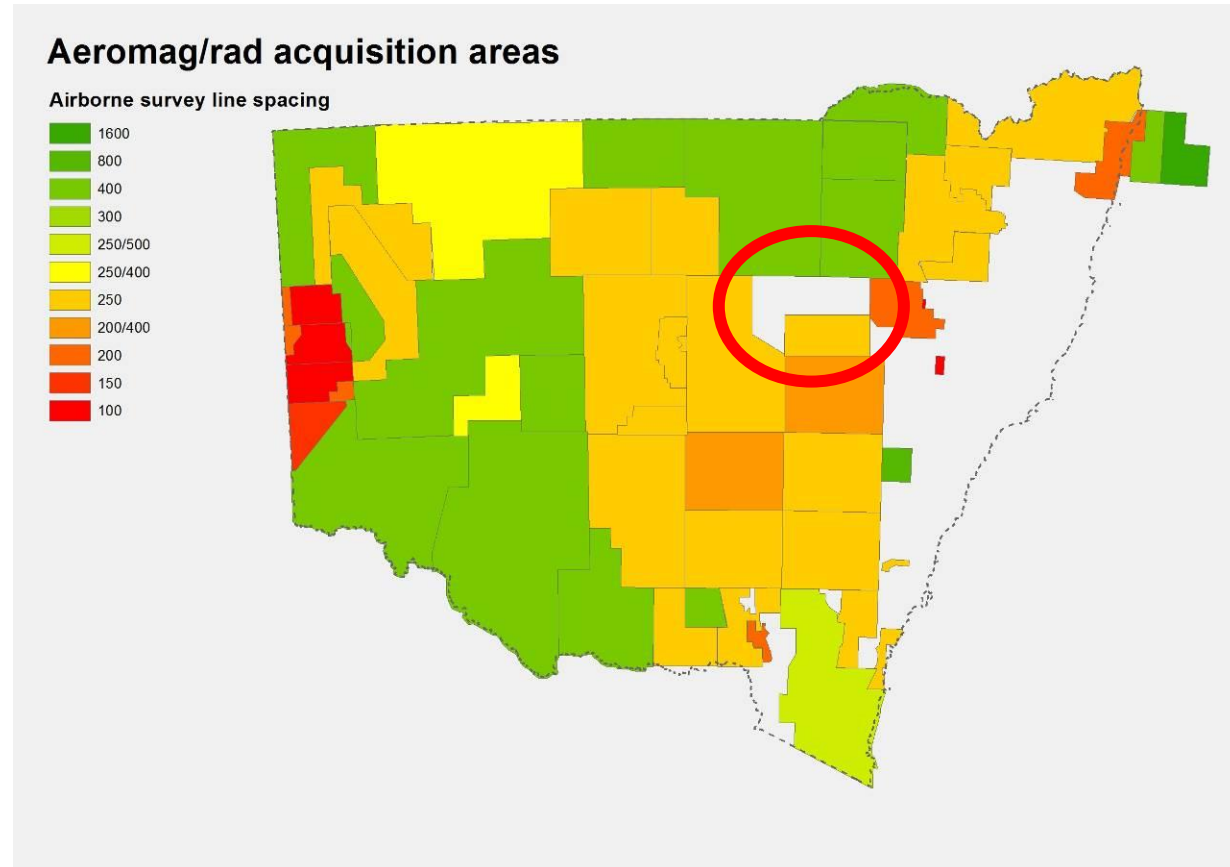
Due 2018

Due 2017



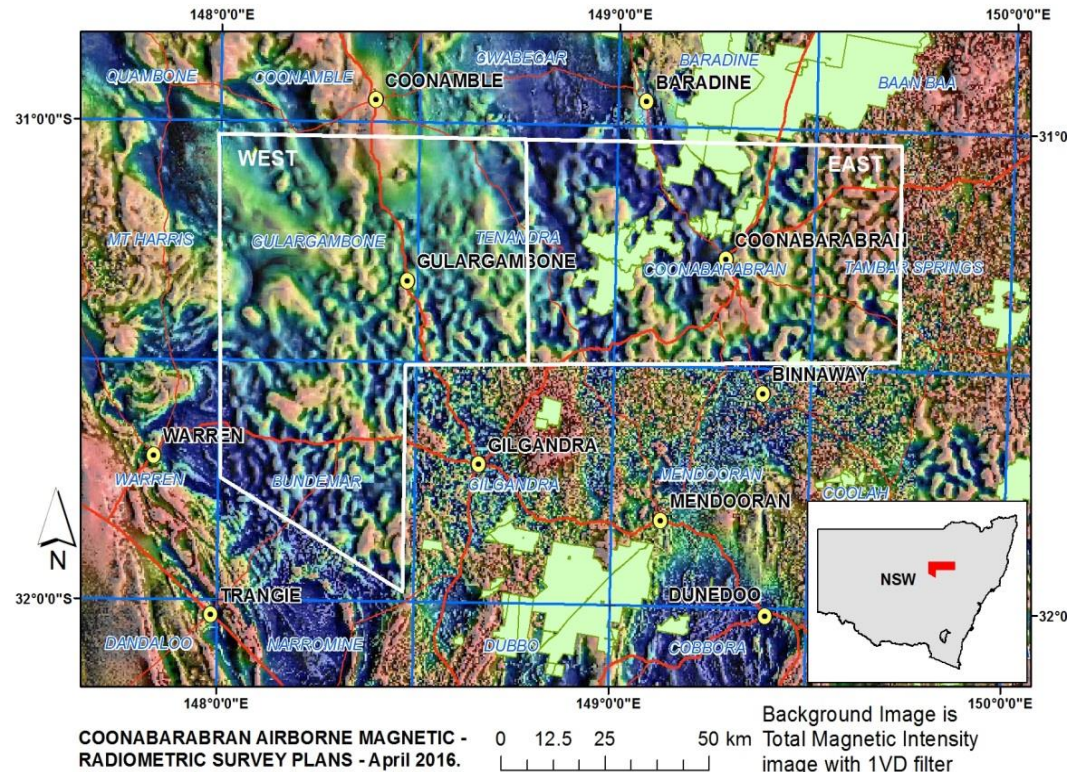
Statewide airborne magnetic/radiometric coverage

- Priority for next 5 to 10 years is infill of poor quality (>400m line spacing) areas west of the Great Dividing Range



Coonabarabran Airborne Survey

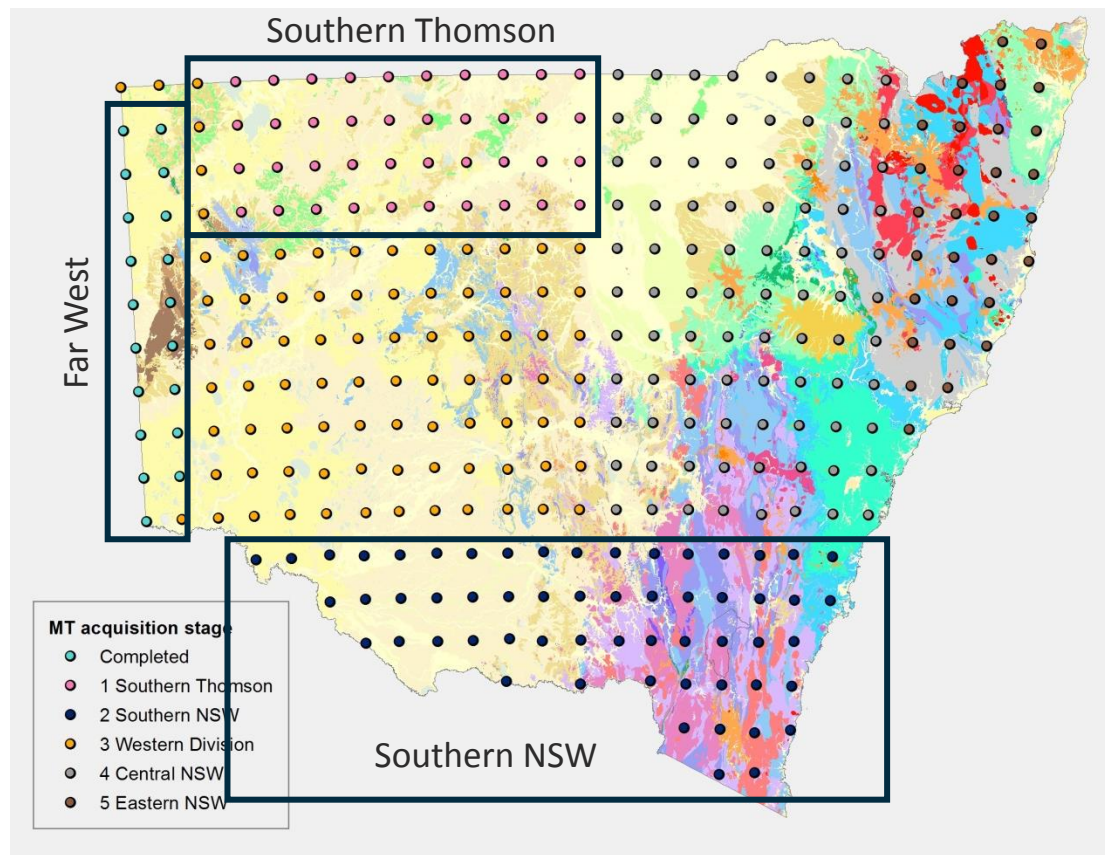
- 250m line spacing/ 60m terrain clearance
- East-west lines
- Funded by New Frontiers
- Plan to start flying in early 2017 with 2 to 3 months acquisition
- Data available in mid 2017



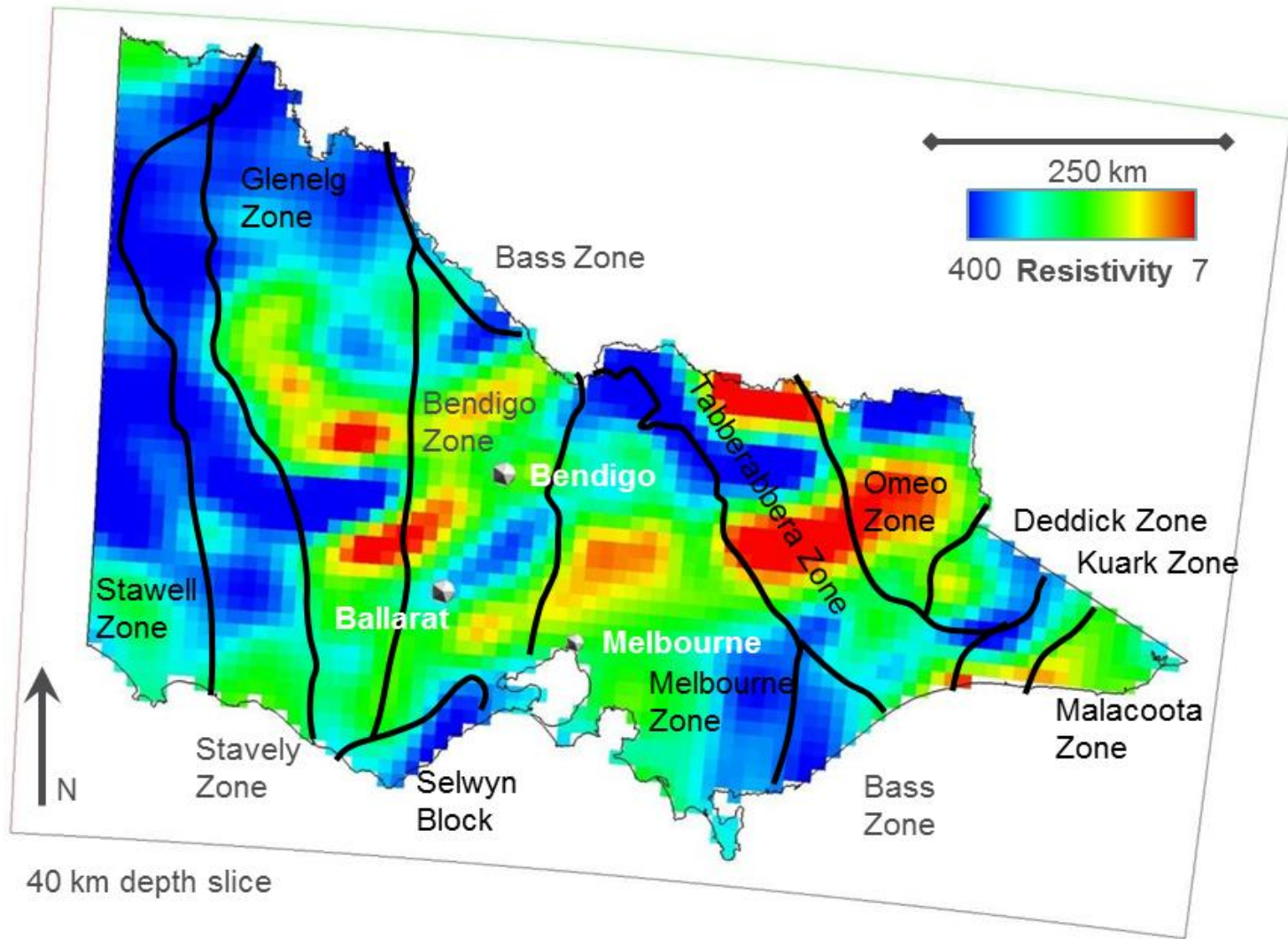
Australian Lithospheric Architecture Magnetotelluric Project (AusLAMP)

GSNSW and Geoscience Australia signed an NCF Agreement in June, funding a program that will progress to full coverage of the State in the next three years

- To establish baseline deep crustal conductivity between 11 km and 100 km depth as an UNCOVER priority
- NSW includes ~300 of the 2800 AusLAMP sites for the continent at half-degree spacing
- Southern NSW complete by end 2016
- Southern Thomson Feb – June 2017



AusLAMP results from Victoria

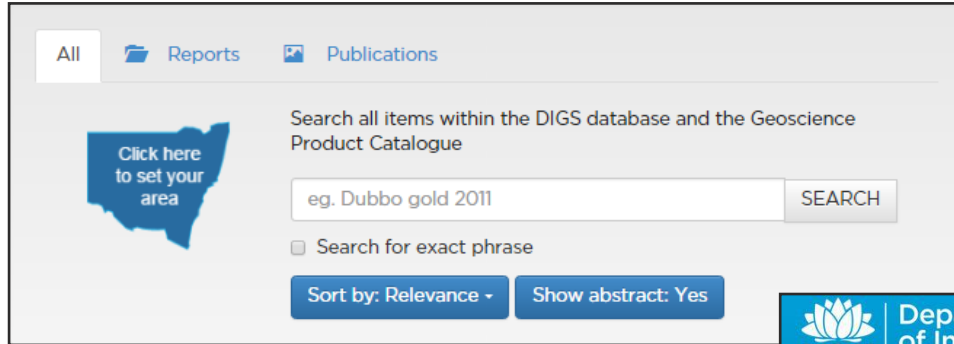


WB Clarke Geoscience Centre Expansion

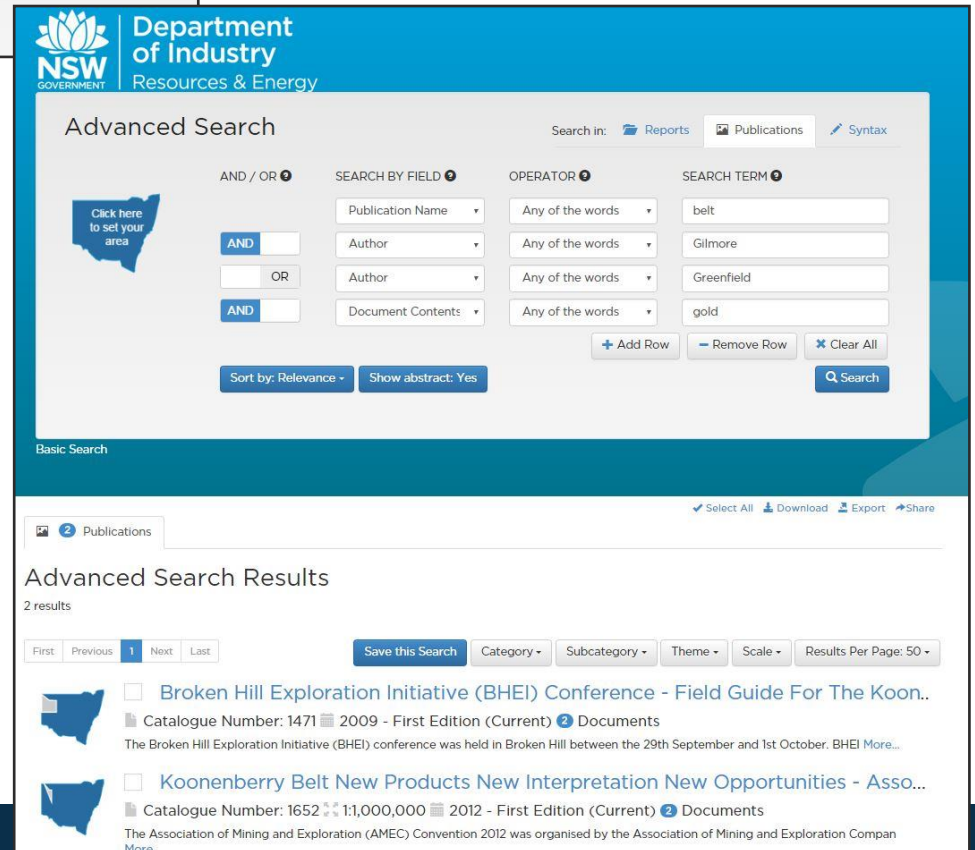
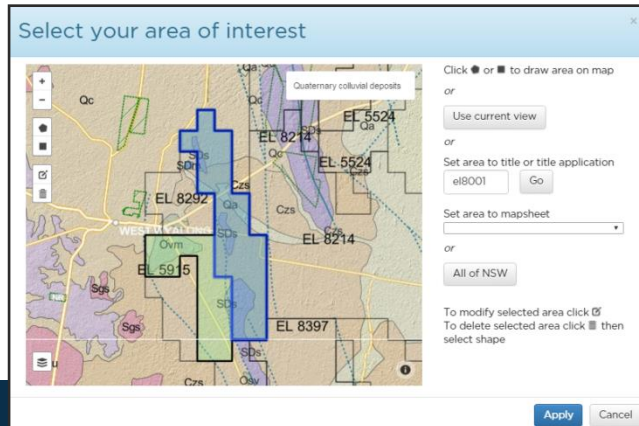
- **\$5M project completed ahead of schedule and under budget in March 2016**
- **Expands the core storage capacity from 1200 km to 1875 km of core**
- **Storage facility for naturally occurring radioactive materials**
- **Portable XRF, desktop XRD**
- **New meeting room**
- **Dedicated HyLogger™ facility**



New DIGS Search Engine



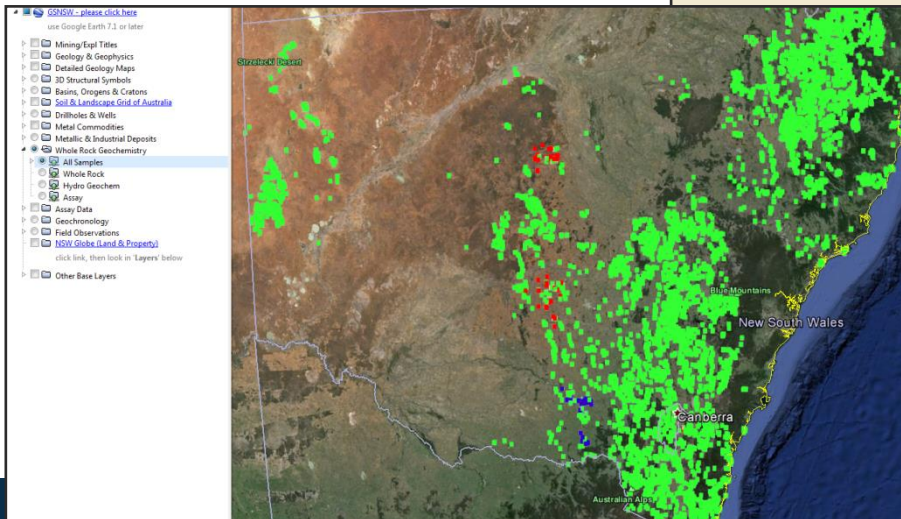
- Flexible
- Basic vs Advanced
- Spatial
- Save searches



Whole Rock Geochemistry Available on GDW

GSNSW work & academic research

- ~27,000 samples
- ~629,000 results



DIVISION OF RESOURCES AND ENERGY
Minerals and Petroleum

Trade and Investment > Resources and Energy > Geoscientific Data Warehouse

DISCOVER OUR DATA

Our data in Google Earth

Data sets

- DIGS reports
- Assay results
- Drillholes and wells
- Field observations
- Geochronology
- Mineral occurrences
- Petrology
- Whole rock geochemistry (new)

DOWNLOAD OUR DATA

CSV & GIS formats

Whole rock geochemistry

Description

The Geochemistry (Whole Rock) dataset contains information about the chemistry of rocks sampled in New South Wales and held by the Geological Survey of NSW. The data has been captured from analyses conducted by the Geological Survey of NSW and from other work including academic research, mineral exploration reports and geoscientific publications. The database contains geochemical analyses on nearly 27,000 rock samples which have been collected from field work and drilling activities dating back to the nineteenth century. There are also a small number of assay & hydro-geochemical results. It is an important dataset as the whole rock analysis of rocks for major and trace elements allows classification of the lithology of a rock and provides insight into the conditions in which the rocks formed as well as their economic potential.

Data description

Whole rock geochemistry metadata

Individual sample results

PURPOSE equals:

PROJECT equals:

LITHOLOGY equals:

STRAT_UNIT equals:

GEOL_AGE equals:

MAJOR ELEMENT analysed: & &

TRACE ELEMENT analysed: & &

The white rectangle shows your area of interest. This currently covers most of the state, so ALL data will be searched, even un-located data and data outside of the rectangle. Click on the graphic if you wish to define a smaller area.

[Sample List](#)

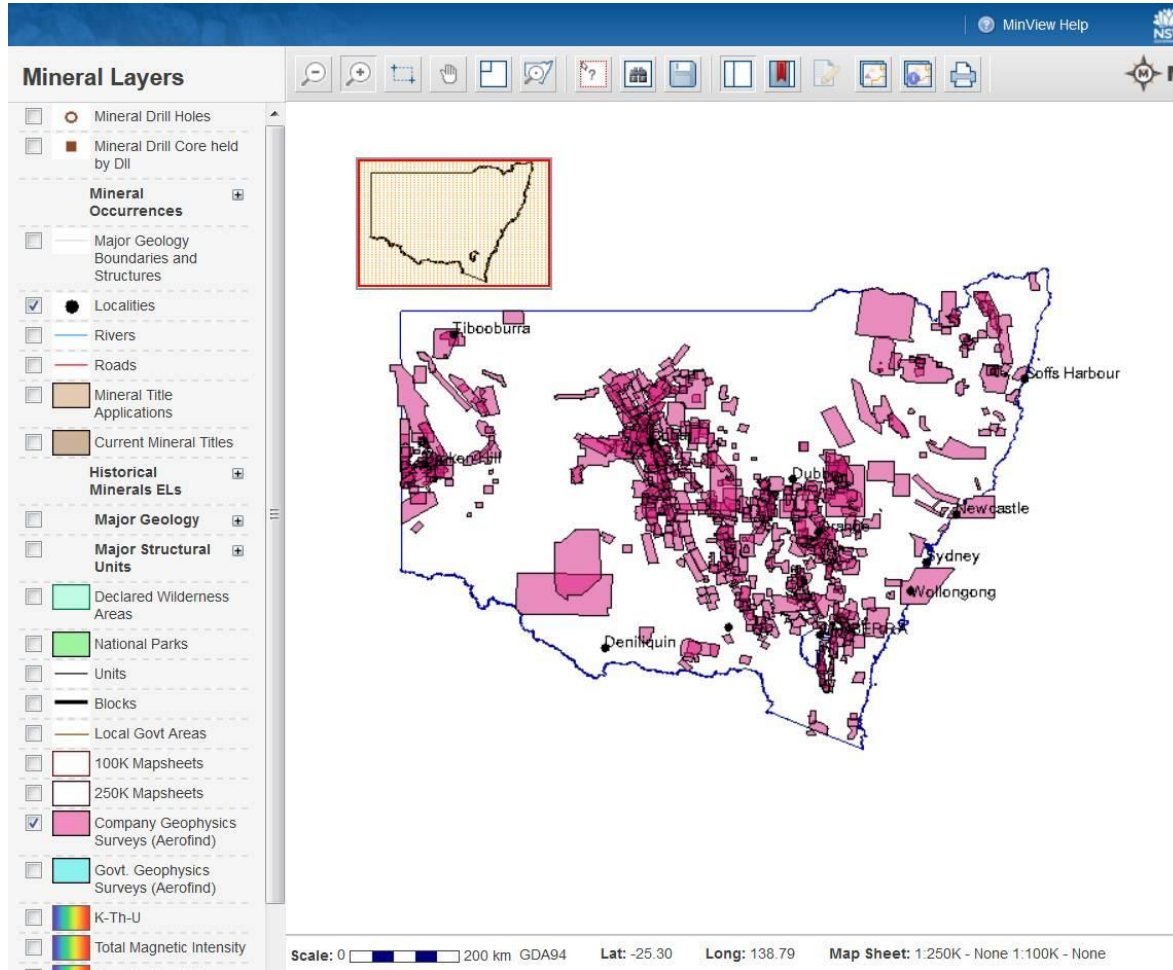
Despatch sample results - non-spatial

LABORATORY equals:

DESPATCH_ID equals:

[Despatch List](#)

AEROFIND Updated



- **Historic industry surveys being updated**
- **Will include AEM and IP**
- **Current version available on MinView**
- **Major release in 2021: enactment of the Sunset Clause on closed-file data**

GSNSW Training for Industry



**GSNSW Data Systems
Sydney, Orange, Cobar**

Drillcore Logging and HyLogging Londonderry



Geological Society
of Australia



FLSMIDTH



National Collaboration

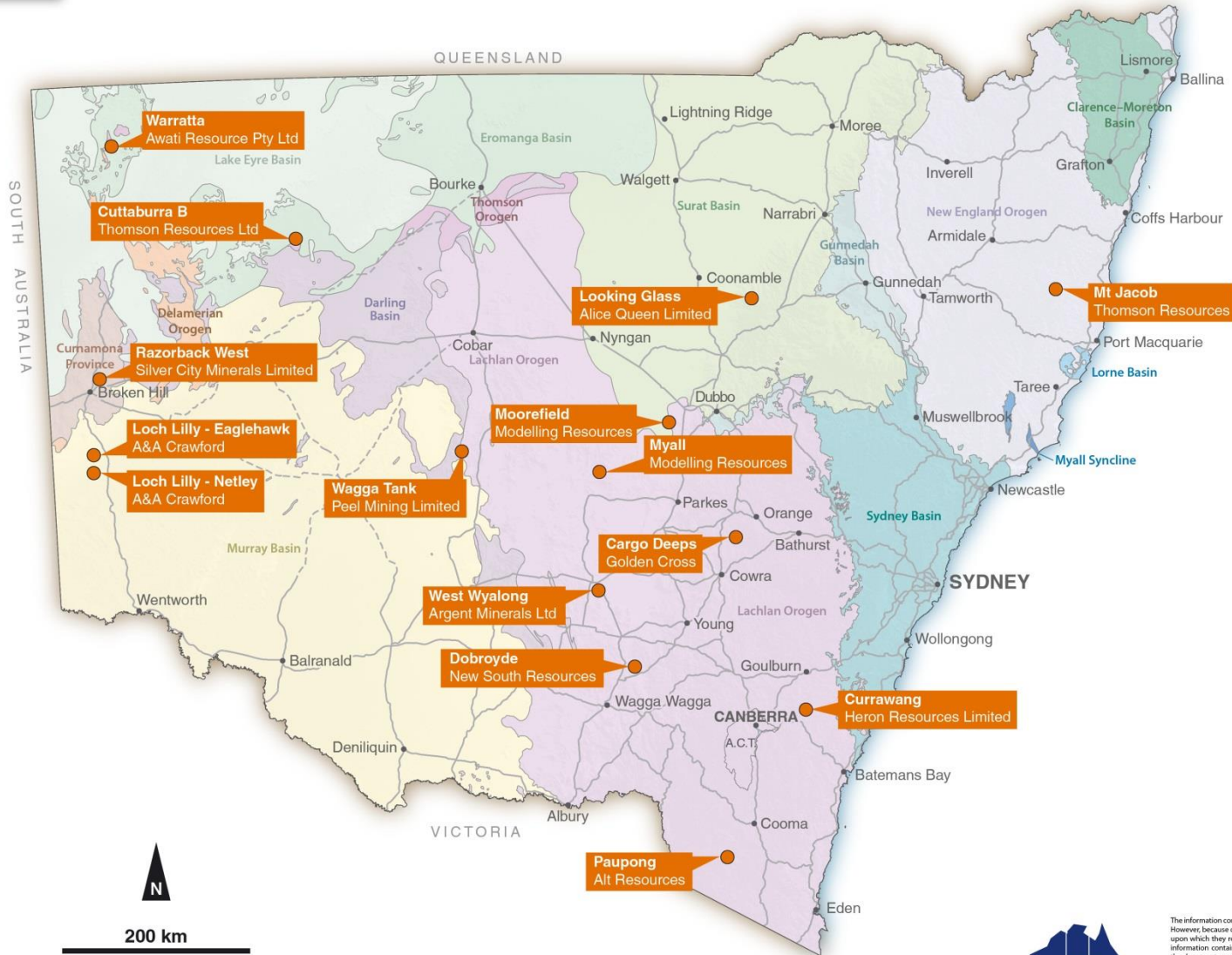
- National Mineral Exploration Strategy
- Australia Minerals
- UNCOVER
- **Deep Exploration Technologies CRC**
- **Macquarie Arc ARC Linkage Project**
- NCF Southern Thomson Orogen Project
- Southern Thomson ARC Linkage Project



New Frontiers Cooperative Drilling Round 2

- Funding available for up to 100% of per metre drilling costs
- Maximum of \$200,000 per project
- Preference given to exploration in underexplored areas, under cover and/or testing new geological concepts
- 6 agreements executed to date





Disclaimer
 The information contained in this publication is based on knowledge and understanding at August 2016. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date. No warranty about the accuracy, currency or completeness of any information contained in this document is inferred (including, without limitation, any information in the document provided by third parties). While all reasonable care has been taken in the compilation, to the extent permitted by law, NSW Department of Industry, Skills and Regional Development and the State of New South Wales exclude all liability for the accuracy or completeness of the information, or for any injury, loss or damage whatsoever (including without limitation liability for negligence and consequential losses) suffered by any person acting, or purporting to act in reliance upon anything contained herein. Users should rely upon their own advice, skills, interpretation and experience in applying information contained in this publication.

Cadia East wins gold bragging rights

BARRY FITZGERALD
RESOURCES

Western Australia has lost its long-held status as being the home of Australia's biggest gold mine.

The bragging rights have shifted to central NSW, with Newcrest's Cadia East operation near Orange eclipsing the biggest WA had to offer in the March quarter.

A survey of industry production in the quarter by Melbourne-based consultant Surbiton Associates showed Cadia East produced 192,024 ounces of gold, putting it ahead of Newmont's Boddington mine in WA (189,000 ounces), and Newmont/Barrick's Super Pit joint venture

worth more than \$15.4 billion, based on annualised March quarter production and the spot Australian dollar gold price.

Surbiton director Sandra Close explained that the lower March quarter production, compared with the preceding December quarter,

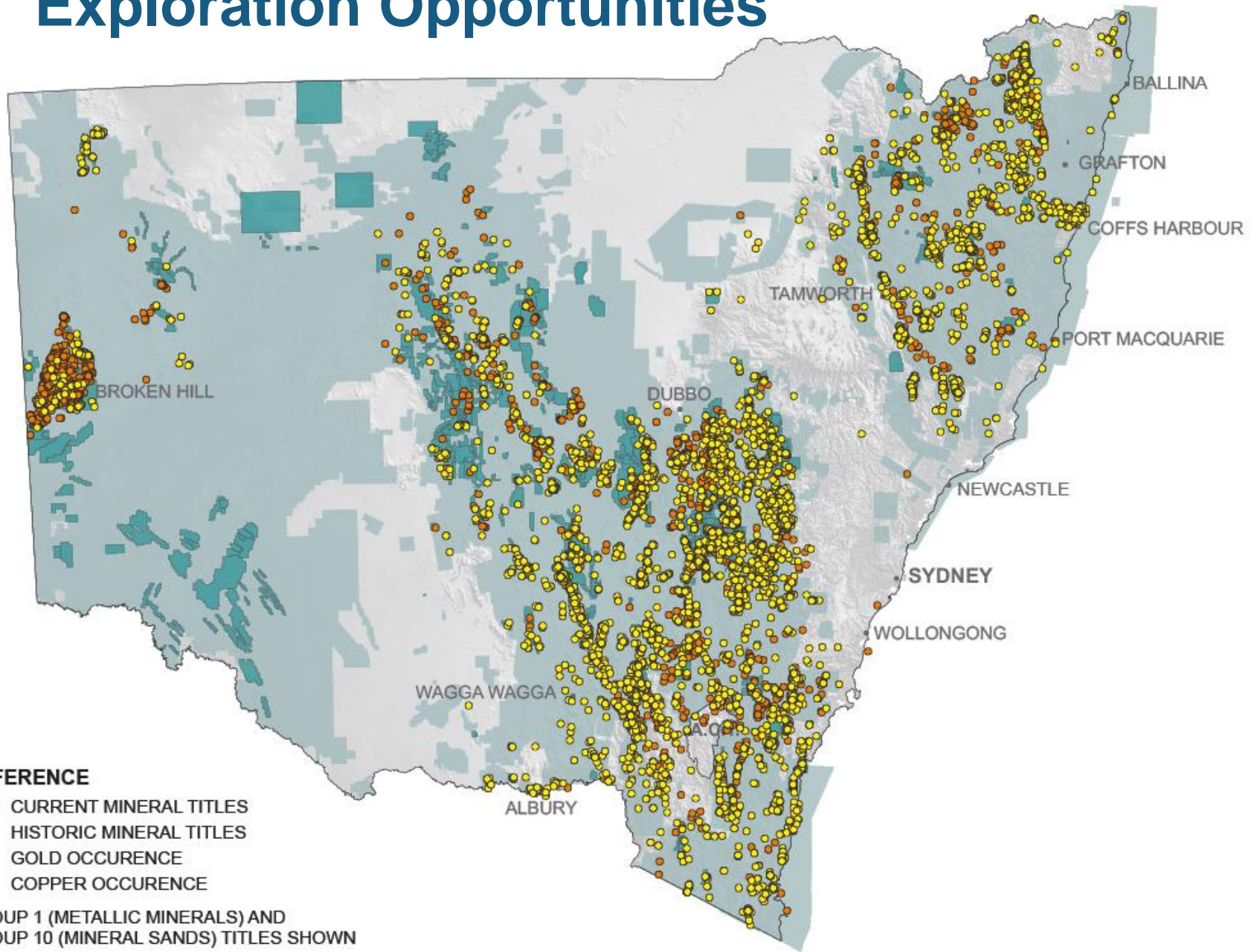
"Gold March quarter the other 1 year," she s include di weather in the fewer d the New Ye Despite the past eig renewed fe hikes the A



Newcrest's Cadia East gold mine in the central NSW led March quarter gold output

The Australian
30-5-2016

Exploration Opportunities





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